THE EFFECT OF CASE CONCEPTUALIZATION TRAINING ON
COMPETENCE AND ITS RELATIONSHIP TO COGNITIVE COMPLEXITY

by

Elizabeth Smith Kelsey

This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Len Sperry, Department of Counselor Education, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the College of Education and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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ABSTRACT

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In order to prepare counselor-trainees to practice competently and maximize client outcomes, counselor-trainees must develop a broader understanding and explanation, called a case conceptualization, of their clients' presenting problems, personality, and systemic dynamics. There is a limited body of research that examines the effects of training on the ability for counselors to develop an effective case conceptualization. This is the first study to train counselors to develop competence in formulating an integrative case conceptualization. This quasi-experimental study aimed to determine whether an intervention had an effect on the 85 counselors in training that participated in a 2-hour training. Data was analyzed using paired sample t-tests, an independent t-test and correlation methods. Participants’ CCEF scores significantly improved from the training ($t = -25.970$, $df = 84$, $ES = 3.67$, $p < 0.001$). Participants’ CFCCM scores significantly improved as well ($t = -21.693$, $df = 84$, $ES = 2.78$, $p < 0.001$). Participants’ scores also significantly improved with their perceptions about case
conceptualization ($t = -30.828, df=84, ES = 5.47 p < 0.001$), for items 1-5. Item 6 resulted in values of ($t = -13.295, df = 84, ES = 2.14, p < 0.001$). The level of cognitive complexity as measured by the CCQ did not have a significant effect on the quality of the counselors in training case conceptualizations. Compared to the CFCCM, the CCEF is a much shorter and easier instrument for evaluating a case conceptualization. Overall, results of this study provide support that counselors in training can improve their quality of case conceptualization skills in as little as 2 hours. This can aid in understanding and explaining their client’s situation better, which may significantly improve the treatment process and client.
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CHAPTER ONE
INTRODUCTION

A core goal of most graduate training programs in counseling is to integrate theory and practice in order to demonstrate counselor effectiveness and competency. This goal is largely being ignored in many training programs and facilitating this learning does not appear to be a priority among faculty (Sperry, 2005). Some researchers have indicated that counselor education has not integrated research about what is effective in counseling into their curricula (Sexton, 2000), and that current methods of training actually may not influence counselor effectiveness (Whiston & Coker, 2000).

Professional counselors are required to systematically guide the counseling relationship through a sequence of organized stages, intentionally aiming to achieve specific client outcome goals (Neukrug & Schwitzer, 2006). That is, professional counselors are required to become competent at using clinical thinking skills “to facilitate the provision of mental health treatment” (Seligman, 2004, p. 23). Current methods of preparing counselor-trainees for clinical experiences primarily focus on the application of theory and the utilization of distinct skills and techniques. While these are important characteristics of counselor practice, they do not represent the complexity of the therapeutic change process. In order to prepare counselor-trainees to practice competently and to maximize client outcomes, counselor-trainees must develop a broader
understanding and explanation of their clients presenting problems, personality, and systemic dynamics.

Case conceptualization is an important skill for counseling practitioners. In forming a case conceptualization, counselors take in a vast array of client data and organize this information into a model of the client.

Case conceptualization is defined as a method and clinical strategy for obtaining and organizing information about a client, understanding and explaining the client’s situation and maladaptive patterns, guiding and focusing treatment, anticipating challenges and roadblocks, and preparing for a successful termination (Sperry & Sperry, 2012, p. 4).

“A set of tools is required with which to describe the client’s functioning, gain an understanding of the person’s situation and needs, identify goals for change, and decide on the most effective interventions for reaching these goals” (Seligman, 2004, p. 23). Case conceptualization is a tool for understanding and explaining these needs.

Because of the multifarious nature of issues in counseling it may be difficult for counselors to precisely understand their clients’ needs. Effective counselors must be able to identify the multiple factors that influence a client’s presenting problem and integrate these factors into a meaningful framework (Welfare, 2007). This is a complex process that requires a high degree of cognitive complexity. A counselor’s understanding of a client is limited by his or her ability to recognize relevant client variables and comprehend their combined impact on the client’s overall needs. For example, if a counselor does not recognize a client’s lack of self-confidence and assurance, then the counselor cannot consider the impact of this characteristic on the client’s generalized
anxiety in relation to his poor grades in school. In this example, the counselor’s understanding of the client is incomplete, which may subsequently lead to ineffective treatment. The more complex their level of thinking is, the more client characteristics counselors can recognize and process, and thus the more accurate their understanding of the client can be (Blocher, 1983).

Cognitive complexity is composed of two processes (Crockett, 1965). “The number of client characteristics a counselor can recognize is the counselor’s level of differentiation and the understanding of how those characteristics fit together is the process of integration” (Welfare, 2007, p. 3). Counselors who have high levels of cognitive complexity are able to recognize many client variables, allowing for an in-depth understanding of client needs. Counselors who have low levels of cognitive complexity are more likely to see clients simplistically, focusing on concrete characteristics and using black/white decision-making (Welfare, 2007). Therefore, increasing the complexity of counseling students’ cognitions about clients and the counseling process is another goal of counselor education programs as it will assist counselors in training to produce more comprehensive and effective case conceptualizations.

**Statement of the Problem**

A counselor attempting to understand a client is faced with the challenge of considering a multitude of information such as the length and degree of the current problem, demographics (age, gender, ethnicity, socioeconomic status, physical abilities, sexual orientation, religion, marital status, and living situation), education, occupation, family history, current and past significant relationships, medical history, legal history,
personality, and emotional state (Stoltenberg, McNeil, & Delworth, 1998). This can be an arduous task for a counselor, particularly if he or she is has not been properly trained in how to collect, organize and understand important data that is meaningful and clinically useful. A counselor’s conceptual model of a client directly influences the subsequent task of selecting interventions likely to ameliorate the presented difficulties (Eells, 1997; Meier, 1999) and client ratings of counselor effectiveness (Morran, Kurpius, Brack, & Rozecki, 1994).

Understanding and explaining the depth of a client’s problem can best be attained by using an effective, comprehensive case conceptualization. Learning how to develop and use an effective case conceptualization has implications for a client’s outcome. Of particular importance is the recent movement toward empirically supported treatment within the counseling profession, which makes practitioners accountable for their actions (Eells, 2007). A major concern for the profession is that research indicates that counselors are not being properly trained in developing case conceptualizations (Eells, 2007).

Developing the skill for case conceptualization can only be acquired through didactic instruction, supervision, and continued practice (Sperry, 2005). “If training programs fail to provide opportunities for learning to conceptualize cases, and if faculty do not teach and model effective case conceptualization, trainees are less likely to develop effective treatment plans and interventions” (Sperry, 2005, p. 73). Although teaching case conceptualization is a major challenge for training programs, trainees who have developed some competency in case conceptualization have developed one of the most valuable clinical competencies necessary for effective counseling practice (Falvey, 2007).
2001). Subsequently, they will develop the skill of integrating theory and practice, which will build their level of competence and provide for effective therapeutic outcomes.

Being a competent therapist involves the capacity to appropriately and effectively utilize the knowledge, skills, and attitudes necessary to perform a wide range of therapeutic tasks and clinical tasks (Sperry, 2010). “Learning and mastering competency in case conceptualization does not occur by chance, instead it requires having an intentional plan and strategy for increasing this essential competency” (Sperry & Sperry, 2012, p. 12). Developing competence requires training, intentionality, and repeated practice. Competency involves the capacity for critical thinking, analysis, and professional judgment in assessing a situation and making clinical based decisions based on that assessment (Sperry, 2010).

Cognitive complexity has been linked with case conceptualization skills (Ladany, Marotta, & Muse-Burke, 2001). Counselors who possess a higher level of cognitive complexity generate more effective case conceptualizations because of their ability to differentiate and integrate meaningful data (Welfare, 2007). A cognitively complex counselor is better able to understand a client’s behavior from a variety of domains. “Increasing the complexity of counseling students’ cognitions about clients and the counseling process is a stated and implied goal of counselor education programs” (Welfare, 2007, p. 2). However, according to research, this goal largely is not being met.

**Contribution of the Study**

This study makes the following contributions to research and clinical literature:

1. Introduce for the first time an integrative model that incorporates key elements and components from many theoretical orientations and provides for necessary
explanatory and predictive power in a case conceptualization. To date, this type of model has not been used in case conceptualization training. This integrative model will be used during the training workshops.

2. Add to the limited body of research examining the effects of a brief training workshop on the ability for counselors in training to develop an effective case conceptualization. A review of existing research indicates training in counselor education programs has not been investigated extensively. The findings of the limited research concludes that many counselors feel inadequately trained, and this study of the effects of a specific training program on counselor improvement may serve as a model to evaluate the effectiveness of other training programs.

3. Improve upon existing research, with larger sample sizes (85 counselors in training) and different populations. A study conducted by Kendjelic (1998) investigated the effects of a brief training program on case conceptualization with counselors who have had up to 20 years of experience in the field. Kendjelic’s study was limited to a very small sample size and did not use an integrative model in his training sessions. This current study has an adequate sample size of counselors who are in training, and will utilize an integrative model during the training.

4. Provide additional conclusions to the limited existing research regarding the relationship between a subject's existing cognitive complexity and the quality of case conceptualizations. Research suggests the complexity of a counselor’s cognitive system is fundamental for effective practice and has been linked with multiple aspects of counselor effectiveness. Effective counselors are able to
identify and integrate multiple factors to reach an accurate understanding of complex client needs. This study investigates whether or not the level of cognitive complexity of a counselor in training has a significant effect on the quality of a case conceptualization.

5. Evaluate the use of a shorter, easier to use Case Conceptualization Evaluation Form (CCEF) as an instrument to evaluate the effectiveness of training for case conceptualization compared with the use of the longer, more complex Case Formulation Content Coding Method (CFCCM). The CCEF is a 7-item instrument, which is significantly shorter than the CFCCM, which is a 94-item instrument.

**Purpose of the Study**

The purpose of this study is to investigate the effect of an intervention designed to improve counselors in training skills in producing case conceptualizations. A secondary goal is to examine the relationship between cognitive complexity and counselor competence. In order to lay the foundation for the present study the importance of case conceptualization, counselor competence, and cognitive complexity is discussed in chapter two. A review of current models of case conceptualization focusing on specific theoretical orientations is addressed. A new integrative model is introduced, which highlights the key components and elements in developing a comprehensive case conceptualization.

**Research Questions and Hypotheses**

This study is designed to address the following research questions:
Research Question 1: Does a 2-hour training workshop for counselors in training increase competence among participants in developing a case conceptualization?

Null Hypothesis 1 (HO₁): Counselors in training who participate in a 2-hour training workshop will not increase their competence in developing a case conceptualization.

Research Question 2: Does a 2-hour training workshop reduce the counselor’s negative views and beliefs about case conceptualization?

Null Hypothesis 2 (HO₂): Counselors in training who participate in a 2-hour training workshop will not reduce their negative views and beliefs about case conceptualization.

Research Question 3: Does the level of cognitive complexity of a counselor in training have a significant effect on the quality of their case conceptualization?

Null Hypothesis 3 (HO₃): The level of cognitive complexity of a counselor in training will not have a significant effect on the quality of their case conceptualization.

Research Question 4: What factors (i.e., grade point average, age, gender, graduate school training, and counseling experience) influence the scores on the Case Formulation Content Coding Method and Case Conceptualization Evaluation Form?

Null Hypothesis 4 (HO₄): Grade point average, age, gender, graduate school training, and counseling experience will not be significantly related to scores on the Case Formulation Content Coding Method or the Case Conceptualization Evaluation Form.

Research Question 5: What factors (i.e., grade point average, age, gender, graduate school training, and counseling experience) influence scores on the Counselor Cognitions Questionnaire?
Null Hypothesis 5 (HO_5): Grade point average, age, gender, graduate school training, and counseling experience will not significantly be related to differentiation and integration scores on the Counselor Cognitions Questionnaire.

Research Question 6: Is the Case Conceptualization Evaluation Form (CCEF) a better instrument to use for evaluating case conceptualization quality compared to the Case Formulation Content Coding Method (CFCCM)?

Null Hypothesis 6 (HO_6): The CCEF will not be a better instrument to use for evaluating case conceptualization quality as compared with the CFCCM.

**Definition of Key Terms**

1. **Better Instrument** will be operationally defined for the purpose of this study as an instrument that is easier to use (e.g. significantly shorter in length and easier to understand), is highly correlated with the comparison instrument, and discriminates better than the comparison instrument from pretest to posttest scores.

2. **Case Conceptualization:** “Case conceptualization (formerly known as case formulation) refers to a method or clinical strategy for obtaining and organizing information about a client, understanding and explaining the clients situation and maladaptive patterns, guiding and focusing treatment, anticipating challenges and roadblocks, and preparing for successful termination” (Sperry, 2010, p. 110).

3. **Clinical Formulation** refers to the explanation of the client’s symptoms, concerns, level of functioning, and maladaptive relational problem (Sperry & Sperry, 2012).
4. **Cognitive Complexity** is the level of differentiation and integration in an individual’s cognitive system (Crockett, 1965).

5. **Competency** refers to knowledge, skills, attitudes, and their integration (Sperry, 2010). Competence refers to the capacity to evaluate and modify one’s decisions through reflective practice (Kaslow, 2004). Competency is similar, but different from competence (Sperry, 2010).

6. **Construct** refers to a cognitive template through which an individual understands or assigns meaning to her or his world. A construct also can be called a schema (Welfare, 2007).

7. **Counselor Cognitive Complexity** is “the number of client characteristics a counselor can recognize is the counselor’s level of differentiation and the understanding of how those characteristics fit together is the process of integration” (Welfare, 2007, p. 3).

8. **Counselor Competence:** Competence is the consistent and judicious use of knowledge, skills, clinical reasoning, emotions, values and reflection in clinical practice by counseling personnel (Sperry, 2010).

9. **Counselor in Training:** will be operationally defined for the purpose of this study as individuals who are enrolled in a graduate (masters level) counseling program and training to become professional counselors. They are under supervision and instruction from faculty members and advisors.

10. **Cultural Formulation** refers to the systematic review of cultural factors and dynamics (Sperry & Sperry, 2012).

11. **Diagnostic Formulation** refers to the descriptive appraisal of the client’s
presentation, precipitants, and reflects the client’s pattern (Sperry & Sperry, 2012).

12. **Differentiation** is the number of available constructs in an individual’s cognitive system about a domain (Welfare, 2007).


14. **Integration** refers to the ability to recognize relationships among cognitive constructs about a particular domain (Welfare, 2007).

15. **Integrative Case Conceptualization** is a model of case conceptualization that accounts for both the common elements of most therapeutic approaches (presenting problem, precipitants, pattern, and perpetuants) and the distinctive elements of specific approaches (predisposition or causative factors), treatment goals, and treatment interventions). It also accounts for strengths and protective factors as well as deficits and risk factors (Sperry, 1989; Sperry & Sperry, 2012; Sperry & Carlson, 2014).

16. **Pattern (Adaptive)** refers to a personality style that is flexible, appropriate, and effective (Sperry & Sperry, 2012).

17. **Pattern (Maladaptive)** refers to a personality style that is inflexible, inappropriate, and ineffective (Sperry & Sperry, 2012).

18. **Perpetuant** refers to a trigger that activates one’s pattern resulting in presentation. Perpetuants are also called maintaining factors (Sperry & Sperry, 2012).

19. **Precipitant** refers to a trigger that activates the pattern resulting in the
presenting problem (Sperry & Sperry, 2012).

20. **Predictive Power** provides anticipation of obstacles and facilitators to treatment success in a case conceptualization (Sperry & Sperry, 2012).

21. **Predisposing Factor** refers to the factors that foster adaptive and maladaptive functioning (Sperry & Sperry, 2012).

22. **Presentation** refers to the presenting problem and the characteristic responses to the precipitants (Sperry & Sperry, 2012).

23. **Treatment Formulation** refers to an explicit blueprint for intervention planning (Sperry & Sperry, 2012).

**Brief Overview of Intervention**

A nonrandom sample of 85 participants was derived by asking professors at three South Florida Universities for permission to recruit their classes in the current investigation. Participants were counselors-in-training who are enrolled in a Counseling or Counseling Psychology Program at one of three universities. Eighty-five students enrolled in core curriculum courses from each of the universities participated in this study ($n = 85$). Training consisted of a 2-hour presentation conducted in a group format. Following the training workshop, participants were allotted twenty minutes to complete three additional questionnaires. The workshop facilitator administered all pretests, posttests, and questionnaires to the participants. The training program began with 2 pretests. In the first pretest, the participants were asked to review a case vignette and instructed to write a case conceptualization. The case conceptualizations were evaluated using the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF). In the second pretest, participants
completed a questionnaire related to their views about case conceptualization (e.g., Case conceptualizations are not clinically useful). The participants were given a maximum of fifteen minutes to complete both pretests. Following completion of the pretests, case conceptualization was extensively defined and its key functions were explained. An integrative model, which was developed by Dr. Len Sperry, was used during the training workshop. Dr. Sperry is the designer of the training workshop and has previously used this workshop design and all of the training materials, which he developed. The key components and elements of the integrative model, which can be used from any theoretical perspective, were strongly emphasized. In addition to a case vignette that was presented, a training video of a counseling session was shown during the training session. Examples of effective and compelling case conceptualizations were provided, which included high levels of explanatory and predictive power. Two posttests were administered at the end of the training session. First, participants were asked to write a case conceptualization on the same case vignette used for the pretest. Second, participants were asked to complete the same questionnaire about their views of case conceptualization. In order to limit bias and avoid a social contamination factor, participants were asked to give an honest and objective rating on this evaluation form. The participants were given fifteen minutes to complete both of the posttests. After participants completed the two posttests, they were permitted to ask questions or share comments. Prior to this time, questions and comments were not permitted during the training workshop. The workshop facilitator asked for a few volunteers in each of the six training workshops to read their case conceptualizations aloud during this time. Following the two-hour training workshop, participants were given an additional twenty
minutes to complete three questionnaires. The participants were allotted ten minutes to complete the Counselor Cognitions Questionnaire. The participants were given ten minutes to complete the Demographic (Information) Questionnaire and Workshop Questionnaire. The workshop facilitator collected the pretest and posttest case conceptualizations and questionnaires at the end of each training session.

**Limitations**

One limitation is that there was not any delay between the treatment intervention and when the posttest was administered. All of the participants wrote their posttest case conceptualization at the end of the training workshop. Participating in this workshop in no way suggests that the participants will use this integrative model in their counseling practice. Another limitation is that there was not a control group used in this study. Only a treatment group was used which consisted of 85 participants in this study. Therefore, a comparison between the control and treatment group was not assessed, and any statements about causality cannot be made. Lastly, since this study is directed toward counselors in training, it is unclear of the impact this type of training could have on experienced or expert practitioners.

**Study Design**

This researcher investigated the effect of an intervention designed to improve counselors in training skills in producing case conceptualizations. A secondary goal was to investigate if the level of cognitive complexity of a counselor in training has a significant effect on the quality of a case conceptualization. The same workshop facilitator conducted all six of the training workshops. The training was standardized in order for all of the participants to be exposed to the same material. This quasi-
experimental study aimed to determine whether the intervention has an effect on the 85 participants in the study. Data was analyzed using paired sample t-tests, an independent t-test, and correlation methods.

**Dependent variables.** The following dependent variables were included in the study:

- Counselor Competence as measured by the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF)
- Counselor Perceptions about Case Conceptualization as measured by the Views and Beliefs about Case Conceptualization Evaluation Form

**Independent variables.** The following independent variables were included in the study:

- A 2-hour standardized training program
- Counselor Cognitive Complexity as measured by the Counselor Cognitions Questionnaire (CCQ)

**Summary and Organization of the Study**

Although the importance of case conceptualization seems clear, few studies indicate how clinician’s routinely use case conceptualizations, if training programs build counselor competence, and what role cognitive complexity plays in developing an effective case conceptualization. Researchers suggest case conceptualization is a skill that is neither taught nor practiced regularly (Perry, Cooper, & Michaels, 1987). In order to prepare counselor-trainees to practice competently and to maximize client outcomes, counselor-trainees must develop a broader understanding and explanation of their clients. Case conceptualization requires having an intentional plan and strategy for increasing
competency, thus indicating a strong need for this current study. This study investigated the effects of a training workshop on the ability for counselors in training to develop quality case conceptualizations while examining the relationship of cognitive complexity.

**Transition Statement**

The description and results of this study is presented in five chapters. The first chapter has provided an introduction to case conceptualization, competence, and cognitive complexity. A statement of the problem, purpose of the study, and the research questions and hypotheses has been outlined in the introduction. Additionally, definitions of key terms were included. The second chapter contains a literature review as it relates to case conceptualization, including training in graduate programs, counselors perceptions about case conceptualizations, current research models used, and an introduction to an integrative model. In addition, literature on counselor competence and cognitive complexity is included. Professional development from novice to expert, theory, and measurement are all addressed. The third chapter includes the methodology used in this study, including study design, participants, instrumentation, workshop design, procedures, variables, and data analysis. A detailed scoring protocol for the Case Formulation Content Coding Method, Case Conceptualization Evaluation Form, and Counselor Cognitions Questionnaire will be explained, and reliability and validation measures will be presented. The fourth chapter presents the results of this research as it relates to each research question. Lastly, the fifth chapter summarizes the study and includes limitations of the study, implications for counseling, and recommendations for future research in the area of case conceptualization.
CHAPTER TWO
LITERATURE REVIEW

Case Conceptualization

Case conceptualization is broadly recognized as an essential skill for psychotherapists (Binder, 2004; Caspar, Berger, & Hautle, 2004; Hersen & Porzelius, 2002). Bieling and Kuyken (2003) describe conceptualization as the heart of evidence-based practice and as occupying a fundamental place in clinical psychology. Case conceptualization enhances psychotherapy effectiveness because symptoms and problems are understood and organized by a coherent theoretical structure (Benjamin, 2003).

Definition of case conceptualization. “Case conceptualization is a method or clinical strategy for obtaining and organizing information about a client, understanding and explaining the clients situation and maladaptive patterns, guiding and focusing treatment, anticipating challenges and roadblocks, and preparing for successful termination” (Sperry, 2010, p. 110). Levenson and Strupp (2007) define case conceptualization as a hypothesis about the causes, precipitants, and maintaining influences of a person's psychological, interpersonal, and behavioral problems; it guides therapy by helping identify treatment goals, appropriate interventions, and potential problems that may arise. Psychotherapy case conceptualization is recognized as a core psychotherapy skill by diverse practitioners and researchers (Eells, 2007; MacKinnon & Yudofsky, 1991; Scheiber, Kramer, & Adamowski, 2003; Toews, 1993).
**Importance of case conceptualization.** Research on case conceptualization skills in psychotherapy training is critical because these skills have been found to directly influence psychotherapy outcomes (Johnson & Heppner, 1989; Kendjelic & Eells, 2007; Loganbill & Stoltenberg, 1983). For example, case conceptualization skills have been found to positively correlate with levels of therapeutic skill (Morran, 1986) and positively correlate with observer and client ratings of therapeutic effectiveness (Morran et al., 1994). Accuracy of therapist conceptualizations, as evidenced through interpretations, has also been found to positively correlate with client progress (Silberschatz, Fretter, & Curtis, 1986) and positive treatment outcomes (Crits-Christoph, Cooper, & Luborsky, 1988). Despite the importance of understanding how psychotherapy trainees develop in case conceptualization skills, little attention has been paid to this area (Kendjelic & Eells, 2007; Ladany, 2007; Neufeldt et al., 2006).

Although there is limited research on case conceptualization skills, some studies have found positive outcomes following a training program. Kendjelic (1998) conducted a case conceptualization-training program with 43 clinicians who were employed at a university-based psychiatric clinic. Psychotherapy case formulations were written by 20 clinicians who received a 2-hour training session in case formulation and were compared with those of 23 clinicians who did not receive training. Kendjelic (1998) reported those who participated in a 2-hour training program produced higher quality and more comprehensive formulations; elaborated more on precipitating stressors, predisposing events, and an inferred mechanism; and included more inferential categories in their formulations (Kendjelic, 1998).

A key finding is that clinicians in the training group went beyond a summary of
descriptive information and made moderate-level inferences that included a mechanism linked to symptoms and problems. Those in the control group were more likely to present primarily descriptive information consisting of identifying information, symptoms and problems, and past psychiatric history (Kendjelic, 1998, p. 79).

The effect sizes indicated that the average clinician in the training group produced a better formulation than 86% of those in the control group. The results indicated that clinicians could significantly improve their case formulation skills with as little as 2 hours of training.

Over the past twenty years, case conceptualization has become an expected part of the counseling practice. Prior to this time, counselors utilized case conceptualizations, which were formerly referred to as case formulations, however, it was not a requirement. Tracy Eells (2007), a prominent case conceptualization researcher, suggest three reasons for the recent interest and utilization of case conceptualizations in psychotherapy. First, there is an accountability demand by third party payers to justify their time with clients. This includes documentation of a goal and treatment plan within a limited amount of psychotherapy sessions. Second, Eells (2007) suggested that a movement toward empirically supported treatment has pushed for the utilization of case conceptualization. The third reason for the recent growth in using case conceptualization is that the diagnostic publication manuals (e.g. DSM-IV) are largely descriptive in nature. They do not provide an explanation for causes, precipitants, maintaining factors, or treatment interventions. Case conceptualization provides structure to hypothesize about all these factors drawing upon the theory and science available, while filling the gap between
diagnosis and treatment (Eells, 2007).

**Counselor’s perception about case conceptualization (myths).** A number of myths and distorted notions about case conceptualization exist. Sperry and Sperry (2012) attempt to dispel some of the common myths in their book *Case Conceptualization: Mastering this Competency with Ease and Confidence*. Sperry and Sperry (2012) suggest that some consider case conceptualization as simply a case summary.

A case summary is a distillation of the facts of the case and a case conceptualization draws from those facts and constructs a story that goes well beyond a summary of the facts of the case and have both explanatory and predictive power (Sperry & Sperry, 2012, p. 14).

Another common misconception is that case conceptualization is not clinically useful. Researchers suggest differently and case conceptualization is being linked to evidence-based practice and positive treatment outcomes (Sperry & Sperry, 2012). Counselor trainees and practitioners have suggested that developing a case conceptualization takes a long time and can be a complicated process (Kendjelic & Eells, 2007). Kendjelic (1998) disputes this and claims that counselors can learn to develop comprehensive, effective case conceptualizations in as little as 2 hours by attending training workshops. Another misconception is there is only one type of case conceptualization and it should be used with all clients. Sperry and Sperry (2012) report that it is useful to utilize three types of case conceptualizations, which include provisional, full-scale, and brief case conceptualizations. The final myth Sperry and Sperry (2012) address is the belief that all case conceptualizations are basically the same. “There are actually three different ways or methods for developing case
conceptualizations. The two most common are a structured or a theory based method and the third is a non-standardized case conceptualization method” (Sperry & Sperry, 2012, p. 18). Although many in the counseling field share these concerns, they are inaccurate assumptions. This is why it is imperative to train counselors in case conceptualization. Subsequently, counselors who train in case conceptualization should be able to provide effective treatment to their clients and also to maximize their competency as a counselor.

Case Conceptualization Training

Learning the skills to develop a case conceptualization can be a difficult task for counselors, particularly counselors in training. “The task of synthesizing disparate pieces of data into a meaningful and clinically useful case conceptualization is one that often seems beyond the capacity of many beginning counselors and therapists” (Sperry, 2005, p. 73). Sperry (2005) notes that individuals who have aptitude for analytical thinking and synthesis tend to approach the case conceptualization process with ease and ability; however, he claims that this is not sufficient and that training is essential.

Training in graduate programs. As previously mentioned, little attention has been paid to psychotherapy trainees in how to develop skills in case conceptualization. Two research studies conducted do suggest that many counselors feel inadequately trained. A survey of 57 psychiatry-training directors in Canada, the United States, the United Kingdom, and the Republic of Ireland found that 60% reported case conceptualization was inadequately stressed during training (Ben-Aron & McCormick, 1980). In a more recent survey, (Fleming & Patterson, 1993) found that 69% of senior psychiatry residents reported that guidelines for case conceptualization were not provided in their training programs. Fleming and Patterson (1993) found that fewer than half of
the programs provided guidelines for case conceptualization, and most respondents agreed strongly that standardized, biopsychosocially based guidelines for case formulation were needed. These findings strongly suggest a need for training in graduate programs.

**Research studies on training workshops.** As noted by Ronnestad and Ladany (2006), relatively little research has been conducted on the impact of psychotherapy training on process and outcome. This conclusion extends as well to the narrower topic of training in psychotherapy case conceptualization. Psychotherapy-training manuals have proliferated in recent decades (Freeman, Pretzer, Fleming, & Simon, 1990; Scott, Williams, & Beck, 1989), and some include a case conceptualization component (Persons, 1992; Strupp & Binder, 1984). This suggests a strong need for research in case conceptualization training.

**Novice practitioners.** Several experts have expressed concern about the level of case conceptualization skill among beginning therapists (Binder, 1993; Fleming & Patterson, 1993; Perry et al., 1987; Ross, Leichner, Matas, & Anderson, 1990; Sperry, Gudeman, Blackwell, & Falkner, 1992; Toews, 1993). Perry et al. (1987) described case conceptualization as a poorly defined skill and asserted that clinicians are neither taught the skill consistently nor practice it regularly. In their view, novice clinicians may view case conceptualization as only a training tool and not necessary in day-to-day clinical practice.

Lee and Tracey (2008) investigated the case conceptualization skills of 91 psychotherapy trainees and evaluated the participants for complexity and expertness across three case scenarios. Each participant was asked to read a case scenario and then
provide a case conceptualization including their explanation of the client's psychological difficulties and a treatment plan for the client. General case conceptualization skills were found to relate to clinical training. Across cases, advanced trainees demonstrated significantly greater complexity and expertness than beginners. Ladany et al. (2001) also found that trainee experience predicted integrative complexity of case conceptualizations. Trainees who completed more clinical training were better equipped to provide different alternatives to conceptualizing client problems, to present their ideas in a more cohesive fashion, and to offer ideas pertinent to the client (Lee & Tracey, 2008). Because of the wide range in the number of semesters of supervised practicum experienced by the trainees (ranging from 0 to 11 semesters), it is not surprising that participants who had more experience in clinical training were able to produce better case conceptualizations and display greater levels of cognitive complexity. Furthermore, little information was provided on the actual training in this study, other than the participants reviewing three case scenarios and then being asked to write a case conceptualization.

**Expert practitioners.** The literature on expertise and expert performance provides tools to improve our understanding of the process of psychotherapy case conceptualization (Ericsson, Charness, Feltovich, & Hoffman, 2006). Understanding exceptional ability of a specific type may help non-experts reach similar levels of ability. One approach is to study experts in comparison to novices (Chi, 2006). Experts may be identified by measures of academic qualifications (such as doctoral degree vs. graduate students), by years performing a task, or by some measure or index of ability in the area of study. Several studies have demonstrated that experience alone is insufficient for the development of expertise (Feltovich, Prietula, & Ericsson, 2006). They show that
acquiring expertise in an area requires specific practice activities, focused reflection with
the exploration of alternatives, repetition, and informative feedback, in addition to many
years of experience.

Simon and Simon (1978) proposed that experts use forward reasoning, which
involves moving from data to hypotheses until one reaches a solution. According to
Simon and Simon, forward reasoning leads to efficient and accurate problem solutions
when it is combined with a well-integrated and well-indexed representation of the
problem in working memory and a vast knowledge base. An example of forward
reasoning in the area of case formulation is: ”He reports anger at his wife and says that as
a child he was very close to his mother, describing her as extremely passive and doting;
so, he likely expects all women to be like his mother and becomes anxious or angry when
they are not” (Simon & Simon, 1978, p. 24).

Backward reasoning has been associated with the problem solving of novices
(Simon & Simon, 1978). It is characterized by the generation of problem solutions on the
basis of a hypothesis for which supporting data are then sought (Buchanan, Davis, &
conceptualization example is: “She is borderline therefore I expect she was sexually
abused as a child.” Here, the clinician begins with an inference that the client has
borderline personality disorder, then speculates about a possible past event.

There is conflicting data on the quality of case conceptualizations produced by
expert practitioners after attending training workshops. Kuyken, Fothergill, and
Chadwick (2005) rated the quality of a set of formulations produced by 115 mental health
practitioners attending a continuing education event and concluded that only 44% were
“at least good enough.” Eells, Lombart, Kendjelic, Turner, and Lucas (2005) found that expert clinicians produced higher quality formulations than either experienced or novice cognitive–behavioral and psychodynamic therapists. Taken as a whole, researchers have found there is considerable variability that exists in a therapists’ ability to develop psychotherapy case conceptualizations.

**Method of training.** In one study, Osborn, Dean, and Petruzzi (2004) described a case conceptualization instruction method involving the simulation of a multidisciplinary team. Instructional methods were used in a graduate-level Advanced Counseling Procedures course to teach comprehensive and individualized case conceptualization and treatment planning. Students participated in a theory-driven, simulated multidisciplinary treatment team and met with recruited client actors to bring "to life" the process of integrating multiple clinical perspectives into a cohesive service plan for a client.

Approximately 124 master's-degree and doctoral students have participated in this project within the past 5 years. Fifty-three students who participated in this project provided a narrative response indicating if they thought this method of teaching was helpful with improving their case conceptualization abilities. Of the 53 students, 47% responded this method of teaching was helpful. This study did not employ a structured mechanism for assessing student-learning outcomes. Additionally, information was not provided on the outcomes of the remaining 71 students who participated in the project.

Kendjelic (1998) conducted a brief training program, which was aimed at increasing competency in psychotherapy case formulation. In his 2-hour training workshop, he addressed the importance of case conceptualization, which included the identification, definition and description of four components in a generic case
formulation. The role of the inferred mechanism was strongly emphasized. Second, Kendjelic used the cyclical maladaptive pattern (CMP) to illustrate the inferred mechanism. The CMP method consists primarily of the identification of four categories of behavior patterns related to the patients overall maladaptive pattern. He chose this model to use in his training workshop because it contains cognitive aspects and appears amenable to multiple theoretical perspectives (Kendjelic, 1998). This model will be further discussed under research model section of this paper. Third, the training included an explanation of how the quality of a case formulation can be improved when multiple facets of the client’s life are integrated into a meaningful and coherent presentation that explains their symptoms and problems. Kendjelic and Eells (2007) further discussed the importance of using precise language with low-level inferences when describing a client. A case vignette was used in the workshop to demonstrate the construction of a case formulation using the CMP model. At the conclusion of the training session, a brief 10-question quiz was administered on the material presented. “The mean score of the 18 of 20 clinicians who returned the quiz was 9.5 ($SD = .83$), indicating that the training group clinicians understood the basic concepts of training” (Kendjelic & Eells, 2007, p. 69).

The 43 participants were asked to write two to three case formulations from intake interviews that were conducted at a university based psychiatric outpatient clinic. A total of 99 case formulations were collected and analyzed. According to Kendjelic (1998) the formulations were reliably coded for quality and content using the case formulation content coding method (CFCCM), which is a tool for reliably and comprehensively categorizing the information that a clinician uses in conceptualizing a client.
Although the researcher found that those participating in a 2-hour training workshop produced higher quality and more comprehensive formulations, there are some shortcomings to address. This study was limited to a very small sample size of counselor’s who had a wide range of clinical experience, from 0 to 20 years. It is possible that such diversity in clinical experience may have affected the outcome of the study. Additionally, the cyclical maladaptive pattern model, which is viewed from a psychodynamic approach, was used in the training sessions. This potentially limited the ability for counselors who favor a differing theoretical orientation when conceptualizing their cases.

More recently, Caspar et al. (2004) used a computerized method for teaching case conceptualization skills. Thirty-two trainees from a postgraduate psychotherapy-training program were used in this study. Sixteen of the participants were placed into the control group and 16 were placed into the training group. Each of the participants watched videotapes of clients having an intake session. The 16 participants in the training group received four training sessions (one pre-training segment and one post training assessment), each lasting an hour, and conducted weeks over time. They also completed a subjective rating at the end. The 16 participants in the control group received only the pre-training segment and the post training assessment. All of the participants watched the videos and afterwards typed in whatever relevant information they thought to be important into a computer program. Their responses were compared against expert response on the same patient in the videotape. Participants received a response showing them the percentage of covered content compared to the expert’s response. The participants were then allowed to change their responses and ask for feedback again.
Upon completion of the input, the participants in the training program were given a simple scale to rate their comfort level and profit in training with using the computer assisted program. Overall, the 16 participants in the training group rated the program as very comfortable or comfortable, 9 indicated they profited from the training, and 5 indicated very little profit from the training. There was a significant pre-test difference, where the training group had a gain and increased the content they wrote after the first training session. It was hypothesized that it would take several training sessions for the 16 participants in the training group to improve. This study did not, however, aim at evaluating the quality of the case conceptualizations that were produced in the training. This finding is critical, as the quality of a case conceptualization will likely influence psychotherapy outcomes.

From the limited research conducted thus far, researchers suggest that training can help foster the production of more comprehensive and integrative conceptualizations that could help facilitate client progress. This may be particularly useful in predicting the length and course of treatment, which would be beneficial to the counselor, client, and third party payers. Improved case conceptualization skills may also aid counselors in understanding their clients and increase both counselor and client confidence, which may ultimately improve the treatment process.

The limited research in training and how counselors use case conceptualizations in everyday clinical practice is particularly surprising. Many experts have expressed concerns that case conceptualization is a poorly defined skill, counselors are not consistently taught the skill, and thus are not practicing it regularly (Toews, 1993). Research in this area would not only provide feedback to counselors that could aid in
training, but would also serve the goal of consumer protection by ensuring that a well-thought-out understanding of the patient has been attempted and an appropriate treatment plan developed. Some counselors may view case conceptualization as only a training tool and not necessary in day-to-day clinical practice (Perry et al., 1987). This misconception, as well as several others, may be discouraging trained counselors from using case conceptualizations in their daily practice, and equally important, preventing graduate training programs from teaching the skills and providing opportunities for learning how to conceptualize cases.

**Case Conceptualization Models**

One reason that case conceptualization skills have not been studied more may be due to a lack of consensus as to what a case conceptualization should contain and what its structure and goals should be. For example, Seitz (1966) found that a group of psychoanalysts showed little agreement in the structure and content of conceptualizations they constructed using the same clinical material. This explanation has less currency today. Several systematic methods for constructing case conceptualizations have been developed in recent years. These case conceptualization construction methods have been developed within several psychotherapy orientations, including psychodynamic (Curtis & Silberschatz, 1997; Horowitz, 1997; Levenson & Strupp, 1997; Luborsky, 1997; Perry, 1997), cognitive-behavioral (Persons & Tompkins, 2007), interpersonal (Markowitz & Swartz, 1997), behavioral (Nezu, Nezu, Friedman & Haynes, 1997), and blends of orientations (Koerner & Linehan, 1997). According to (Caspar, 1995; Ryle & Bennett, 1997) most share three features: (1) they emphasize levels of inference that can readily be supported by a patient's statements in therapy, (2) the information they contain is
based largely on clinical judgment rather than patient self-report, and (3) the case conceptualization is compartmentalized into preset components that are addressed individually in the conceptualization process and then assembled into a comprehensive formulation. “Case formulation models found in the literature can be grouped into two major categories: those that stress the content and organization of data and those that stress the integration and formulation of a hypothesis, namely research models” (Kendjelic, 1998, p. 7).

**Content and organization models.** Content and organization models of comprehensive case conceptualizations are predominantly from a biopsychosocial approach (Weerasekera, 1993; Loganbill & Stoltenberg, 1983; Ben-Aron & McCormick, 1980; Houpt, Weinstein, & Russell, 1976). “Many of these models stress the collection of descriptive information during the initial interview. Few of these models place little or no evidence on the integration of this information or generation of inferences from this information” (Kendjelic, 1998, p. 7). One model viewed the conceptualization section of the intake report as a summary of previously presented information (Ross et al., 1990). These models stress the collection of data, which includes, the chief complaint, medical history, drug and alcohol history, and past psychiatric history. “Although most of the proponents of these models agree that inferential hypotheses are important, they stress the collection and structure of the presentation of the descriptive information rather than on the generation of inferential data” (Kendjelic, 1998, p. 7). McDougall and Reade (1993) report that one content and structural model did place emphasis on the generation of a hypothesis, but did not offer any concrete steps to use.

**Research models.** There are several models of case conceptualization that are
currently being used, primarily in research settings. These models predominantly focus on identifying the mechanisms that contribute to the person’s current level of functioning. “Most models attempt to identify patterns in the person’s behavior and draw inferences from these patterns that provide insight into the person’s maladaptive functioning” (Kendjelic, 1998, p. 9).

The following models of case conceptualization share four common characteristics (Luborsky et al., 1993). These characteristics include: 1) a concentration on relationship patterns expressed during psychotherapy sessions, 2) core relationship conflicts that are identified by the frequency of the pattern’s occurrence in therapy, 3) the pattern is identified through clinical judgment rather than self report alone, and 4) they provide a system that gives at least moderated inter rater reliability for agreement as to the inferred mechanism.

Eells (1997) suggested that three additional common features could also be identified. First, inferences can be drawn from observable behaviors or statements made by the client. Second, the conceptualization can be broken down into its components and each component can be evaluated for reliability through interclinician agreement. Third, many of the models lean toward an integration of psychodynamic orientations.

**Cognitive behavioral.** The most comprehensive, well-known, and widely used cognitive behavioral model of case conceptualization is that of Jacqueline Persons (Persons & Tompkins, 1997). This case conceptualization model provides both a structure for content and organization as well as concrete steps for generating a hypothesis (Kendjelic, 1998). It consists of seven components, which include, (1) the problem list, (2) core beliefs, (3) precipitants and activating situations, (4) working
hypothesis, (5) family history, (6) treatment plan, and (7) predicted obstacles to treatment. The core element of the conceptualization is the working hypotheses, which is described as a “story” that ties together the person’s problems, core beliefs, events, and situations. This model provides not only a method of viewing a working hypothesis of the patient problems, but also and organizational theme to aid in bridging the components together (Persons & Tompkins, 1997).

Cognitive behavioral models tie apparently disparate problems/symptoms together in a meaningful yet parsimonious way, “…defining apparently unrelated problems as part of one issue, or conceptualizing a mass of issues into a smaller number of problems…” (Wills & Sanders, 1997, p. 195). This saves CBT from one of the chief criticisms made by psychodynamic theorists; that it deals only with symptom reduction, having no underlying rationale (Persons, Gross, Etkin, & Madan, 1996). In fact, while the process of deriving a case conceptualization begins with a detailed and unstructured ‘problem list’ (Persons, 1989), it then proceeds to go beyond it by looking for common themes which could suggest one or a few underlying beliefs. Behaviors and automatic thoughts, even if they are not classified as problems, can also be explored with a view to discovering such central underlying themes.

Persons (1989) suggests that a complete case conceptualization will explain how current problems are being precipitated (and how they actually make sense in the light of the hypothesized underlying beliefs and current triggers), and will also suggest origins of the underlying beliefs in the client’s early life. Judith Beck (1995), Melanie Fennell (1989) and others have expanded this view of the cognitive conceptualization to include ongoing Core Beliefs and Assumptions from which spring the Automatic Thoughts.
specific to a given situation.

Cognitive-behavioral case conceptualization appears to demonstrate good reliability. Two studies found that 46 clinicians showed good accuracy in identifying patient problems from videotape recordings (Persons, Mooney, & Padesky, 1995). Clinicians’ ratings of patients’ schemas and core beliefs showed inter rater reliability coefficients of 0.76 when ratings were averaged across clinicians.

Behavioral. A behavioral case conceptualization is based on the assumption that “each individual presents a unique environmental history and behavioral reaction to it” (Wolpe & Turkat, 1985, p. 6). Wolpe and Turkat (1985) identified four key elements in a behavioral case conceptualization. They include, (1) the specification of all of the person’s problems, (2) the onset of each problem, (3) the development of each problem, and (4) the predisposing factors. Using these four components, etiological influences are examined by tracing the onset of each problem through the person’s developmental history. Finally a hypothesis of the factors maintaining the person’s problems is put forth through explicit description of antecedents and consequences.

A more recent model of behavioral case conceptualization combines the Problem-Solving and Functional-Analytic strategies (Nezu et al., 1997). These strategies use four major problem-solving steps: (1) problem definition and conceptualization, (2) generation of alternative, (3) treatment decision-making, and (4) solution implementation and verification. Nezu et al. (1997) reports the functional analysis portion of the conceptualization uses traditional casual modeling to estimate the strength of relationships among the hypothesized antecedents, consequents, covariates, mediating variables, and maintaining factors related to the client’s problems. The hypotheses
regarding these relationships form the heart of the conceptualization and guide the focus of treatment (Kendjelic, 1998). The cognitive behavioral model and the behavioral model appear to provide structure and organization, as well as a concrete method for the generation of a hypothesis. Both models appear to demonstrate good reliability.

**Core conflictual relationship theme.** Based on the psychodynamic concept of therapeutic transference (Freud, 1958a, 1958b; Luborsky, Crits-Christoph, & Friedman, 1991), the Core Conflictual Relationship Theme (CCRT) was developed by Luborsky (1977), and is the earliest and most researched relationship based structured formulation model. The CCRT assumes that early interpersonal experiences predict later interpersonal relationship patterns (Luborsky, 1977). A relatively simple and basic case formulation method, the CCRT is reliable and has convergent validity with similar, interpersonally focused methods (Luborsky & Barrett, 2007).

**Role relationship model configuration.** The Role Relationship Model’s Configuration (RRMC) method expands upon the CCRT by, among other changes, positing a set of CCRT’s formed into a configuration of wishes, fears, and compromises to those wishes and fears, and by adding inferences about the individual’s concepts of self and others (Horowitz, 2005; 1991b). The theoretical basis of the RRMC is person schemas theory (Horowitz, 1991a), which seeks to integrate elements of psychodynamic and cognitive theory. Person schemas theory assumes that an individual’s maladaptive interpersonal behavior patterns, including emotions, perceptions, memory, and actions in interpersonal situations, are organized by mental representations of the self, others, and the self with others (Horowitz, 2005). The RRMC has demonstrated good reliability and convergent validity.
**Cyclical maladaptive pattern.** The Cyclical Maladaptive Pattern method (CMP) is another model that is used in research settings. As previously mentioned, the CMP model was used in Kendjelic’s training workshop in his 1998 research study. The CMP model consists primarily in identifying four categories of behavior problems relating to the client’s overall adaptive pattern. “These categories include: 1) acts of the self, 2) expectations of others reactions, 3) acts of others towards self, and 4) acts of the self toward the self” (Kendjelic, 1998, p. 14).

Researchers have found that several reliable case conceptualization models exist. While these models approach case conceptualization from differing orientations they have a common focus in using concrete steps to assist in generating a hypothesis that explains the person’s current difficulties.

Although these models do not concentrate on the gathering of information such as past psychiatric history and medical and social histories, and its incorporation into the initial report, this does not mean that these models ignore that facet of case conceptualization (Kendjelic, 1998, p. 19).

It is assumed this information is incorporated into the conceptualization. These findings suggest that a comprehensive model of case conceptualization should include structure and organization, as well as concrete steps involved in the generation of a hypothesis.

Several theories and models have been reviewed that can be used as a basis for developing a case conceptualization. It could be a difficult task for counselors to choose which model to use with the various models available. In order to facilitate the choice among theories, models, and empirical sources, it may be most beneficial for counselors
to learn an integrative model of case conceptualization.

**Integrative model.** Sperry and Sperry (2012) offer a general case formulation model with the inclusion of 17 elements to consider when conceptualizing a case from any theoretical perspective. This integrative case conceptualization model, which was designed by Dr. Len Sperry, incorporates 14 elements common to all case conceptualization models. Three other elements include: predisposition, treatment strategy, and treatment interventions specific to particular theoretical perspectives. These include Cognitive-Behavioral Therapy, Dynamic Psychotherapy, Solution-Focused Therapy, Adlerian Psychotherapy, and the Biopsychosocial approach (Sperry & Sperry, 2012).

**Key components and elements of a case conceptualization.** A case conceptualization consists of four components: a diagnostic formulation, a clinical formulation, a cultural formulation, and a treatment formulation (Sperry et al., 1992; Sperry, 2005, 2010). “The diagnostic formulation is a descriptive appraisal of the client’s presentation, precipitants, and reflects the client’s pattern. It answers the ‘What happened’ question” (Sperry & Sperry, 2012, p. 33). This formulation is comprised of both a diagnostic assessment and a clinical assessment.

The primary focus of the diagnostic assessment is to collect information about the client that is relevant to the treatment process and outcome. “This includes data on the client’s current problems, current functioning and mental status, social, cultural, developmental, medical history and health behaviors, and, particularly, the expectations and resources the client brings to therapy” (Sperry & Sperry, 2012, p. 31). Cultural factors are also identified in the assessment, as they may impact the clients’ treatment.
The clinical assessment is a useful tool that provides an in-depth understanding of the client. It identifies personality dynamics of the client that may have contributed to the client's presenting problem (symptoms). This assessment also provides an understanding of why and how these symptoms began and what is helping to maintain them (Sperry & Sperry, 2012).

There are three key elements of the diagnostic formulation, which include, the presentation, the precipitant, and the pattern. “The presentation is referred to as the presenting problem and includes the type and severity of symptoms, personal and relational functioning or impairment, and its history and course, and includes the medical and DSM diagnoses” (Sperry & Sperry, 2012, p. 34). The precipitant refers to events that contribute to the onset of the person's current problems or symptoms or have increased their severity. The pattern, which can be adaptive or maladaptive, links the clients’ presentation with the precipitant. It is a description of a client’s characteristic way of perceiving, thinking, and responding (Sperry & Sperry, 2012). The pattern makes sense of the clients’ situation and is a fundamental construct in integrative case conceptualization model.

The clinical formulation is the central component in a case conceptualization and, along with the cultural formulation, serves to link the diagnostic and treatment formulations (Sperry & Sperry, 2012). Essentially, the clinical formulation is an appraisal of the client’s predispositions and perpetuants, which offers and provides an explanation for the client’s pattern and presenting problem (Sperry, 2010). The predisposition refers to events in the clients past that increase vulnerability to the precipitating stressor(s) and a greater likelihood of symptoms developing (Eells, 2007).
The perpetuants are the processes in which a client’s pattern is reinforced and confirmed by both the clients and the client’s environment (Sperry & Sperry, 2012). The perpetuants are also referred to as maintaining factors.

The cultural formulation is another key component of a case conceptualization. It is comprised of cultural factors and dynamics that pertain to the client that may influence their level of functioning. The cultural formulation aids the practitioner in understanding the cultural factors that may be contributing to the client’s distress. The cultural formulation statement describes clients’ cultural or ethnic identity, their level of acculturation, and their cultural explanatory mode (Sperry, 2010). There are four key elements in a cultural formulation, which include, cultural identity, acculturation level and acculturative stress, cultural explanatory model, and the impact of cultural vs. personality dynamics.

The treatment formulation is the fourth component in a case conceptualization. “It provides an explicit blueprint for intervention planning; a logical extension of the diagnostic, clinical, and cultural formulations and contains treatment goals, focus, strategy and specific interventions, and anticipates challenges and obstacles in achieving those goals” (Sperry & Sperry, 2012, p. 60). The treatment formulation consists of seven elements, which include, treatment goals, treatment focus, treatment strategy, treatment interventions, treatment obstacles, treatment-cultural, and treatment prognosis. The treatment formulation, as well as the other three components of a case conceptualization, can assist the counselor in establishing a cognitive map for their clients. Table 1 provides a description of the 4 key components in a case conceptualization. Table 2 provides a description of the 17 common elements to consider.
### Table 1

**Key Components of an Integrative Case Conceptualization**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Formation</td>
<td>Provides a description of the client’s presenting situation and its precipitants or triggering factors as well as the basic personality pattern; answers the “what” questions, i.e., “What happened?” usually includes a DSM diagnosis.</td>
</tr>
<tr>
<td>Clinical Formulation</td>
<td>Provides an explanation of the client’s pattern. Answers the “why” question, i.e., “Why did it happen?” Question; the central component in a case conceptualization, which links the diagnostic and treatment formulations.</td>
</tr>
<tr>
<td>Cultural Formulation</td>
<td>Provides an analysis of social and cultural factors; answers the “What role does culture play?” question; specifies cultural identity, level of acculturation and stress, explanatory model, and mix of cultural dynamics and personality dynamics.</td>
</tr>
<tr>
<td>Treatment Formulation</td>
<td>Provides an explicit blueprint for intervention planning; a logical extension of the diagnostic, clinical, and cultural formulations, which answers the “How can it be changes? Questions; contacts treatment goals, focus, strategy and specific interventions, and anticipates challenges and obstacles in achieving those goals.</td>
</tr>
</tbody>
</table>

*Note. Reproduced from the book *Case Conceptualization: Mastering this Competency with Ease and Confidence*, by L. Sperry and J. Sperry, 2012.*
### Table 2

*Key Elements of an Integrative Case Conceptualization*

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>Presenting problem and characteristic response to precipitants</td>
</tr>
<tr>
<td>Precipitant</td>
<td>Triggers that activate pattern resulting in presenting problem</td>
</tr>
<tr>
<td>Pattern (Maladaptive)</td>
<td>Inflexible, ineffective manner of perceiving, thinking, and acting</td>
</tr>
<tr>
<td>Predisposition</td>
<td>Factors fostering adaptive or maladaptive functioning</td>
</tr>
<tr>
<td>Perpetuants</td>
<td>Triggers that activate one’s pattern resulting in presentation</td>
</tr>
<tr>
<td>Cultural Identity</td>
<td>Sense of belonging to a particular ethnic group</td>
</tr>
<tr>
<td>Culture-Acculturation</td>
<td>Level of adaptation to the dominant culture; stress-rooted acculturation including psychosocial difficulties</td>
</tr>
<tr>
<td>Cultural Explanation</td>
<td>Beliefs regarding cause of distress, condition, or impairment</td>
</tr>
<tr>
<td>Culture vs. Personality</td>
<td>Operative mix of cultural and personality dynamics</td>
</tr>
<tr>
<td>Treatment Pattern</td>
<td>Flexible, effective manner of perceiving, thinking, acting</td>
</tr>
<tr>
<td>Treatment Goals</td>
<td>Stated short and long term outcomes of treatment</td>
</tr>
<tr>
<td>Treatment Focus</td>
<td>Central therapeutic emphasis providing directionality to treatment that is keyed to the adaptive pattern</td>
</tr>
<tr>
<td>Treatment Strategy</td>
<td>Action plan and vehicle for achieving a more adaptive pattern</td>
</tr>
<tr>
<td>Treatment Interventions</td>
<td>Specific change techniques and tactics related to the treatment strategy for achieving treatment goals and pattern change</td>
</tr>
<tr>
<td>Treatment Obstacles</td>
<td>Predictable challenges in the treatment process</td>
</tr>
</tbody>
</table>
Table 2 continued

**Key Elements of an Integrative Case Conceptualization**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment-Cultural</td>
<td>Incorporation of cultural intervention, culturally sensitive therapy or interventions when indicated</td>
</tr>
<tr>
<td>Treatment Prognosis</td>
<td>Prediction of the likely course, duration, and outcome of a mental health condition with or without treatment</td>
</tr>
</tbody>
</table>

*Note.* Reproduced from the book *Case Conceptualization: Mastering this Competency with Ease and Confidence,* by L. Sperry and J. Sperry, 2012.

**Evaluation of an integrative case conceptualization.** Evaluation of case conceptualization research models is an important factor in determining the effectiveness of a case conceptualization. “Comparisons of case formulations can be difficult both within a given orientation and between an orientation” (Kendjelic, 1998, p. 23). Comparisons within a given orientation may be challenging due to methodological differences as well as a focus on different domains. Comparisons between differing orientations are equally problematic in that the focus on a client’s presenting problem may come from an entirely different viewpoint. The utilization of an integrative model may alleviate difficulties with evaluation, in that it focuses on commonalities within and between theoretical orientations.

The Case Formulation Content Coding Method (CFCCM) was designed to provide a means for coding and comparing case formulations that can be applicable across several approaches to psychotherapy (Kendjelic, 1998). The primary purpose of the Case Formulation Content Coding Method (CFCCM) is to provide a tool for reliably and comprehensively categorizing the information that a clinician uses in conceptualizing a patient (Eells, 2007). The developers of the CFCCM reviewed several writings on case
formulation and case formulation construction methods and identified four broad categories of information that are contained in most methods: (a) symptoms and problems, (b) precipitating stressors or events, (c) predisposing life events or stressors, and (d) a mechanism that links the preceding categories together and offers an explanation of the precipitants and maintaining influences in the individual's problems.

“Formulations are prepared in batches, following a three-step procedure: (1) content coding, (2) assignment of elaboration and quality ratings, and (3) assignment of reasoning of process ratings” (Eells et al., 2005, p. 582). The goal of the content coding step is to achieve a set of reliable consensus codes for each idea unit in each formulation and is used to determine the presence or absence of a coding system element within an idea unit (Eells et al., 2005). “Coding rules permitted each idea unit, which is the expression of a complete thought, to be coded in any or all of the four major categories of descriptive, diagnostic, inferential, or treatment information” (Eells et al., 2005, p. 582). Each idea unit could therefore receive a maximum of one code for each of these major content areas, and a minimum of no codes (Eells et al., 2005). There are 87 items on the CFCCM that can be coded in the content coding section of a case formulation.

In order to measure the formulation quality, the developers of the CFCCM use the following criteria: complexity, precision of language, overall coherence, a priori structure, goodness-of-fit of the formulation to the treatment plan, and elaboration of the treatment plan (Eells et al., 2005). These measures were developed to be conceptually independent. The formulation quality ratings are measured using a 5-point Likert scale. For example, the item complexity has the following rating scale: 0 = insufficient
information, 1 = very little complexity, 2 = little complexity, 3 = moderate complexity, and 4 = high complexity.

The developers of the CFCCM define the systematic process as the degree of evidence that the clinician followed an a priori scheme, that is, a predetermined, structured method that is independent of specific patient information, in organizing clinical information into a formulation (Eells et al., 2005). The systematic process is rated using a 5-point Likert scale, where 1 = no evidence or nearly no evidence, 2 = little evidence, 3 = moderate degree of evidence, 4 = clear and convincing evidence, and 5 = evidence beyond a reasonable doubt. In total there are 94-items included in the CFCCM. All of these factors together provide insight into the overall quality of the case conceptualization.

The Case Conceptualization Evaluation Form (CCEF) is a 7-item instrument designed to evaluate the quality of case conceptualizations. The CCEF was developed by Dr. Len Sperry and can be used to assess case conceptualizations from differing theoretical approaches. The content of the 7-items include the following elements: presentation and precipitants, maladaptive pattern, predisposing factors, treatment goals and interventions, explanatory power, completeness, and coherence. The ratings of the CCEF are based on a 0 to 10 Likert scale. For example, in item 1 on the CCEF, 0 = fails to identify presentation and/or precipitant and/or link between both and 10 = fully and accurately identifies presentation and precipitant and link between both. Clear instructions are provided for the rating system on the master CCEF rubric form. The CCEF, which was developed by Dr. Len Sperry, has not been utilized in evaluating case conceptualizations to date. The instrument will be used in this study along with the
CFCCM for evaluating participants case conceptualizations. The CCEF will be evaluated and compared with the CFCCM for ease of coding (e.g., time spent coding and complexity of stated items).

Counselor Competence

Developing accurate case conceptualizations is increasingly expected of counselors today and is a critical component to being an effective counselor. Training counselors to become competent is an essential priority of all counselor education programs. Competence requires many things, including skills, professional ethics, and application of counseling theories, knowledge of treatment planning and effective interventions, and the ability to facilitate the change process. Unfortunately, counselor-training programs do not share a common set of core principles of competence with which they can train and evaluate their students.

Definition of counselor competence. Counselor competence is defined as the consistent and judicious use of knowledge, skills, clinical reasoning, emotions, values and reflection in clinical practice (Sperry, 2010). The profession’s focus on clinical supervision demonstrates the importance and relevance of maintaining standards of competence in counselor training. Central to ethical standards for clinical supervision is the preparation of counselor-trainees to master the various components necessary for competent practice (Bernard & Goodyear, 1998; Holloway, 1997). Loganbill, Hardy, and Delworth (1982) conceptualized clinical supervision as an interpersonal relationship through which the supervisor assists the counselor-trainee in the facilitation of professional growth and the development of therapeutic competence. Additionally, Goodyear and Guzzardo (2000) maintained that the ultimate objective of clinical
supervision is to facilitate competence in the counselor-trainee. Thus, the goal of supervision, and counselor training more generally, is to provide counselor-trainees with opportunities to learn attitudes, knowledge, and skills that promote the development of counseling competence (Holloway, 1997).

**Importance of counselor competence.** The Codes of Ethics of the American Counseling Association (ACA, 2005) and American Psychological Association (APA, 2002) mandate competence, and these codes are intended to hold health professionals accountable for their actions (Cottone & Tarvydas, 1998). Competence has not been an easily understood concept among counselors and the profession has had difficulty in defining its meaning. Claiborn (1982) pointed out that, while the development of standards of competence for practicing psychologists is crucial to the enforcement of ethical standards in the profession, there is no single definition of competence or any reliable mechanism to deal with incompetent practice. Similarly, Gale and Pol (1975) argued that much of the confusion surrounding competence is due to the wide variation in which competence and competencies are defined. In addition, Norris (1991) suggested that despite the practicality of developing clear standards of competence, the term itself has been shrouded in theoretical confusion and has become extremely complicated. Another complication with the concept of competence is related to the measurement of competence in the field. Wampold (2001) pointed out fundamental differences in how counseling competence is measured between the medical model and the contextual model. For the medical model, competence is measured by examining the degree to which the therapist delivering the services adheres to a particular treatment modality. Wampold (2001) indicated that measuring competence in relation to adherence does not
take into consideration the actual therapeutic outcome of the treatment for the client. To the contrary, the contextual model described by Wampold defines counseling competence by outcome. Wampold (2001) states that regardless of adherence to a particular treatment modality, competence in counseling is determined by the level of successful clinical outcomes for the client. The way competence is measured certainly contributes to the profession’s inability to consistently adhere to a shared standard of competence. With increased pressures for accountability, professionals may find it difficult to validate their competence. Then, they may be tempted to practice beyond the scope of their competence (Doll, 2007). The purpose of this study is to help assist counselors in training in the development of competence with case conceptualization. Rodolfa et al. (2005) stated, “Simply having knowledge or skill is insufficient for someone to be considered competent . . . Appropriate and effective action requires judgment, critical thinking, and decision-making” (p. 348-349).

Because clients’ issues in counseling are often complex, it is often difficult for counselors to accurately understand their clients’ needs. Understanding and practicing an evidence-based strategy is an effective tool for increasing counselor competence in order to develop an effective case conceptualization. A counselor’s understanding is also limited by his or her ability to recognize relevant client variables and comprehend their interactional impact on the client’s overall needs (Blocher, 1983). This process can be complicated and requires advanced cognitive complexity. Cognitive complexity is an important feature of counseling competence (Byars-Winston & Fouad, 2006).

**Counselor Cognitive Complexity**

Effective counselors are able to identify and integrate multiple factors to reach an
accurate understanding of complex client needs. “That process of identifying and integrating pieces of information occurs in the counselor’s cognitive system. Individuals with highly developed systems can understand varied and intricate experiences; while individuals with less developed cognitive systems understand experiences more simplistically” (Welfare, 2007, p. 13). A more cognitively complex person has available a more differentiated system of dimensions for perceiving others' behavior than does a less cognitively complex individual” (Bieri et al., 1966, p. 185).

Therefore, the complexity of a counselor’s cognitive system is fundamental for effective practice and has been linked with multiple aspects of counselor effectiveness (Borders, 1989; Fong, Borders, Ethington, & Pitts, 1997; Holloway & Wolleat, 1980).

**Definition of cognitive complexity.** Cognitive complexity refers to the level of differentiation and integration in an individual’s cognitive system (Crockett, 1965). Differentiation is the number of available constructs in an individual’s cognitive system about a domain, such as a client. Integration refers to the ability to recognize relationships among cognitive constructs in a particular domain. A construct is a cognitive template through which an individual interprets or assigns meaning to her or his world. A construct also can be called a schema. Cognitive development refers to an increase in an individual’s level of cognitive complexity.

Cognitive complexity is a construct, which is intended to indicate something about the person’s structuring of his social world. Jain and Pratap (2008) state, “cognitive complexity is considered to be an information-processing variable, which helps to predict how an individual transforms specified behavioral information into social or clinical judgment” (p.107). O’Keefe and Sypher (1981) defined cognitive complexity
as the number and differentiation of constructs in a person’s social/cognitive belief system. We can identify the cognitive complexity as a structural variable, which is intended to reflect the relative differentiation of a person’s system of dimension for constructing behavior. Bieri (1955) defined cognitive complexity as the relative degree of differentiation of an individual’s system of personal constructs for interpreting behavior. Cognitive complexity may also be defined as the capacity to construe social behavior in a multidimensional way. A more cognitively complex person has a more differentiated system of dimension for perceiving the behavior than does a less cognitively complex individual.

**Importance of cognitive complexity.** Cognitive complexity is critical to the development of competence and holds particular assurance for improving counselor training. Experts across fields seem to respond similarly to unstructured problems and distinguish themselves from novices through the types of information they consider in problem solving and how they use them (O’Byrne, Clark, & Malakuti, 1997; O’Byrne & Goodyear, 1997). For example, experts in domains as varied as chess, football, music, and physics remember more and perform better than novices partly because they can “chunk” their specialized knowledge into meaningful patterns (Jennings, Hanson, Skovholt, & Grier, 2005). Although experts easily differentiate relevant and irrelevant information, novices often base their problem-solving approaches on concrete, immaterial details (Davidson & Sternberg, 1998; Jennings et al., 2005; O’Byrne & Goodyear, 1997). Before approaching a problem, experts usually spend considerable time planning and formulating a mental representation of the issue that accounts for its important abstract features, whereas novices spend less time planning and more time
implementing solutions than do experts (Davidson & Sternberg, 1998; Dominowski, 1998; Jennings et al., 2005 & Sitko, 1998). Experts also are distinguished from novices by the organization and structure of their knowledge, depth of their problem representations, quality of their mental models, efficiency of their problem-solving procedures, perception of patterns in their realm of expertise, automaticity and speed of their task performance, their superior memory for domain-specific information, and their ability to engage in metacognition about task performance (Goodyear, 1997; Jennings et al., 2005).

It is evident that the level of cognitive complexity in counselors can vary and this may indeed affect the quality of the case conceptualization and consequently the outcome of a client. Case conceptualization skills seem to provide a central example of a trainee's cognitive ability in a clinical situation. There is a growing body of research that has investigated the relationship between counselor cognition and case conceptualization skills, providing a strong empirical base for this current study (Cummings, Hallberg, Martin, Siemon, & Hiebert, 1990; Duys & Hedstrom, 2000; Eichenfield & Stoltenberg, 1996).

**Theory and measurement of cognitive complexity.** Personal Construct Theory (Kelly, 1955) is based on the premise that individuals create conceptual templates (or constructs) that allow them to understand the things that they experience. The term construct reflects the concept’s dual role. An important element of the Personal Construct Theory is that each individual has his or her own unique set of constructs. Kelly (1955) defined a personal construct as an awareness of how two things are alike in a way that differentiates them from a third thing.
Kelly (1955) developed the Construct Grid Method (CGM) as a method to assess the complexity of an individual’s construct system about a particular domain. From the theory, Kelly used this technique to help his patients to uncover their own "constructs" with minimal intervention or interpretation by the therapist. Due to the complexity of data analysis, the CGM has not been used often. Additionally, the measure does not capture the respondent’s complete cognitions about an individual or client (Welfare, 2007). Subsequently, the constructs chosen may not represent the extent of the respondent’s understanding.

“Walter Crockett, a student of Kelly, contended that an individual’s impression of another person is a function of the behavior and appearance of the perceived person; the relationship between the perceiver and the perceived; and the cognitions, beliefs, motives, intentions, personality, and psychological state of the perceiver” (Welfare, 2007, p. 18). Crockett (1965) suggested that the perceiver only directly observes a few characteristics of the perceived, but makes extended inferences about many other characteristics. Crockett focused on the complexity of the cognitive system as it relates to the process of forming impressions of others.

Crockett developed the Role Category Questionnaire (RCQ), which measures a broader range of constructs than Kelly’s CGM measures. The RCQ captures respondent descriptions of eight different individuals in varying roles. The RCQ has demonstrated to have sufficient evidence of validity for use as a measure of interpersonal cognitive complexity in adults. It has been used in communication, psychology, and counseling research and is quick and easy to administer and relatively easy to score (Welfare, 2007). The RCQ appears to be an appropriate measure of interpersonal construct differentiation,
but not of general cognitive complexity or of interpersonal construct integration (Welfare, 2007), and therefore would not be a sufficient instrument to use in this study.

Loevinger (1976) described cognitive development in a broader context in her theory of ego development. She defined ego development as increasing differentiation and integration of one’s perception of the world (Loevinger, 1976). Ego development is a master trait that has major significance in the person’s functioning (Hy & Loevinger, 1996). Loevinger and Wessler (1970) contend that individuals at more advanced ego developmental levels are less focused on self and better able to understand others.

Loevinger developed a measure of ego developmental level called The Washington University Sentence Completion Test (Hy & Loevinger, 1996; Loevinger, 1998; Loevinger & Wessler, 1970). The SCT is a well developed; psychometrically stable measure of ego developmental level (Loevinger, 1976). Although it does capture counseling-relevant information about the respondent’s system for perceiving self, others, and relationships, it does not capture cognitions specific to clients, the counseling relationship, or the counseling process (Welfare, 2007). This is a significant limitation since cognitive complexity is context specific and can vary widely by topic within the individual (Crockett, 1965). Using a general measure of cognitive complexity to represent the complexity of counselor cognitions about clients is inadequate and may lead to faulty conclusions or underestimated effects (Welfare, 2007).

Because of the shortcomings in the previously mentioned instruments that measure cognitive complexity, Welfare (2007) developed the Counselor Cognitions Questionnaire (CCQ). She contended that there was no single, content-specific; psychometrically sound instrument that existed to measure counseling-specific cognitive
complexity. Welfare (2007) further suggested that a psychometric instrument needed to be developed that was relatively easy to administer and straightforward in scoring.

The CCQ is an instrument used to measure the complexity of a counselor’s cognitions about her or his clients (Welfare, 2006). It is based in Personal Construct Psychology (Crockett, 1965; Kelly, 1955) and models of counselor development (Blocher, 1983). Respondents identify two clients, one client with whom they feel effective and one client with whom they feel less effective. “After choosing two clients, the respondent is asked to describe each completely using words or phrases that explain the client’s defining characteristics, such as engaged in treatment, scared, passive, addicted to alcohol, self-critical, resilient” (Welfare, 2007, p. 73). The respondent reports whether each characteristic is a positive or negative characteristic of the client (e.g., engaged in treatment = positive characteristic) and assigns a Likert rating for the importance of the characteristic. Welfare (2007) instructs that in the second part of the assessment, the respondent is asked to review the characteristics listed and consider if any of them can be grouped into categories (e.g., “engaged in treatment” and “resilient” in the category “client strengths”). Welfare (2007) suggests that because the respondent provides the client stimulus, the instrument is very versatile.

In sum, the assessment methods (with the exception of the CCQ) come up lacking as a measure of complexity of counselor cognitions about clients. Some measures are appropriate and relevant for use as an assessment of overall cognitive complexity (e.g., SCT) or differentiation of cognitions about peers (RCQ), but no instrument has a specific focus on counselor cognitions about clients. Since cognitive complexity is domain specific (Crockett, 1965), a general measure may not be
representative of complexity in a specific domain. Therefore, the Counselor Cognitions Questionnaire will be used in this study for the purpose of measuring the complexity of counselor’s cognitions.

**Professional development from novice to expert.** Given the clear connection between cognitive complexity and the development of expertise, counselor education programs must seriously consider integrating cognitive components of therapy into its training programs (Welfare, 2007). Davidson and Sternberg (1998) suggest, “Teaching metacognitive skills in conjunction with the domain-specific skills seems to be more effective than teaching each type of skill separately” (p. 63). The implication is that by solely emphasizing microskills, training programs are not realizing their full potential. Morran, Kurpius, Brack, and Brack (1995) also advise some concrete techniques for integrating cognitive complexity into training curricula. These techniques include: (a) attending to and seeking information about oneself, the client, and the counseling relationship; (b) organizing and integrating this information into clinical hypotheses and conceptual models; and (c) planning, guiding, and evaluating therapeutic interventions (Morran et al, 1995). Although they have employed it successfully with novice, intermediate, and advanced trainees, they added that empirical testing is needed to validate their approach (Welfare, 2007). “Novice counselors are purported to demonstrate cognitive simplicity and rigidity, while expert counselors can form individualized conceptualizations that are congruent with their own personal approach to counseling and draw from their internal body of knowledge to understand others” (Welfare, 2007, p. 32).
Summary

Developing effective case conceptualizations is increasingly expected among counselors today. It is a critical component to being a competent counselor. However, researchers indicate that counselors are often not adequately trained in developing case conceptualizations. The review of the literature supports the need for training and the utilization of an integrative model when developing a case conceptualization. An integrative model allows for counselors to approach a case from any theoretical perspective. Researchers suggest that in order for a counselor to be effective they must be able to identify the multiple factors that influence a client’s presenting problem and integrate these factors into a meaningful framework; thus linking case conceptualization, competence, and cognitive complexity (Welfare, 2006). The impact of counselor competence and cognitive complexity on case conceptualization is significant; suggesting that future research in this area is warranted.
CHAPTER THREE

METHODOLOGY

In chapter two, the literature on case conceptualization, competence, and cognitive complexity was explored. The need for a study of the relationship between these three variables was discussed. In this chapter, the methodology for this study examining the effect of case conceptualization training on competence and its relationship to cognitive complexity will be reported. The following topics are covered in this chapter: (a) study design; (b) participants; (c) instrumentation; (d) workshop design; (e) procedures; (f) variables; (g) and data analysis.

Study Design

This study investigated the effect of an intervention designed to improve counselors in training skills in producing case conceptualizations. A secondary goal was to investigate if the level of cognitive complexity of a counselor in training has a significant effect on the quality of a case conceptualization. This quasi-experimental study aimed to determine whether the intervention has an effect on the 85 participants in the study. Data were analyzed using paired sample t-tests, an independent t-test, and correlation methods. The dependent variables included in the study are Counselor Competence as measured by the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF), and Counselor Perceptions about Case Conceptualization as measured by the Views and Beliefs about Case
Footnote

Conceptualization Evaluation Form. The independent variables in the study are a 2-hour standardized training workshop and Counselor Cognitive Complexity as measured by the Counselor Cognitions Questionnaire.

Participants

A nonrandom sample of 85 participants were derived by seeking permission from professors at three South Florida Universities to recruit their classes in the current investigation. Participants were counselors-in-training who are enrolled in a Counseling or Counseling Psychology Program at one of three universities. The first program is from a small private university. The second program is from a small, Christian-based university. The third program is from a relatively large public university. Prior to the intervention taking place, the participants were informed that this study is an investigation into the effect of a training workshop on case conceptualization. The participants were notified that they were not required to participate in the study and should they choose not to participate, their professor would not penalize them. An informed consent was obtained from each of the participants at the beginning of the training workshop.

1 An administrative oversight involving the number of participants resulted in an IRB protocol deviation. As such, the data and findings of this dissertation research cannot be referenced and are limited to the publication of this dissertation. Any subsequent reporting of results of the research is limited to the data from the original 60 participants approved by the IRB.
**Instrumentation**

The case conceptualizations were evaluated using the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF). The CFCCM is a tool for reliably and comprehensively categorizing the information that a clinician uses in conceptualizing a client (Kendjelic, 1998). The CFCCM includes provisions for coding descriptive, inferential, and treatment planning information and contains scales for rating the quality of the formulation in various dimensions (Kendjelic & Eells, 2007). The CCEF is a 7-item instrument designed to evaluate the quality of case conceptualizations. The form used in this study is derived from an earlier version of the “Case Conceptualization Evaluation Form” (Sperry & Sperry, 2012, p. 225-228). This instrument can be used to assess case conceptualizations from differing theoretical approaches and is relatively easy to use. The Counselor Cognitions Questionnaire (CCQ) was used to evaluate the descriptions of how counselors describe clients. The CCQ is appropriate for use with counselors at all levels of development and is intended for use in graduate training, supervision, and research (Welfare, 2007). A demographic questionnaire was designed by this researcher to collect information, such as age, gender, grade point average, counseling experience, and graduate school training. The views about case conceptualization evaluation were used in this study to assess counselor’s perceptions/views about case conceptualization. This instrument was administered at the beginning and the end of the training workshop. Participants were asked to complete a workshop questionnaire following the training.

**Case formulation content coding method.** The CFCCM was designed to provide a means for coding and comparing case formulations that can be applicable
across several approaches to psychotherapy (Kendjelic, 1998). The primary purpose of the CFCCM is to provide a tool for reliably and comprehensively categorizing the information that a clinician uses in conceptualizing a patient (Eells, 2007). The developers of the CFCCM reviewed several writings on case formulation and case formulation construction methods and identified four broad categories of information that are contained in most methods: (a) symptoms and problems, (b) precipitating stressors or events, (c) predisposing life events or stressors, and (d) a mechanism that links the preceding categories together and offers an explanation of the precipitants and maintaining influences in the individual's problems.

“Formulations are prepared in batches, following a three-step procedure: (1) content coding, (2) assignment of elaboration and quality ratings, and (3) assignment of reasoning of process ratings” (Eells et al., 2005, p. 582). The goal of the content coding step is to achieve a set of reliable consensus codes for each idea unit in each formulation and is used to determine the presence or absence of a coding system element within an idea unit (Eells et al., 2005). “Coding rules permitted each idea unit, which is the expression of a complete thought, to be coded in any or all of the four major categories of descriptive, diagnostic, inferential, or treatment information” (Eells et al., 2005, p. 582). Each idea unit could therefore receive a maximum of one code for each of these major content areas, and a minimum of no codes (Eells et al., 2005). There are 87 items that can be coded in the content coding section of a case formulation.

In order to measure the formulation quality, the developers of the CFCCM use the following criteria: complexity, precision of language, overall coherence, a priori structure, goodness-of-fit of the formulation to the treatment plan, and elaboration of the
treatment plan (Eells et al., 2005). These measures were developed to be conceptually independent. The formulation quality ratings are measured using a 5-point Likert scale. For example, the item complexity has the following rating scale: 0 = insufficient information, 1 = very little complexity, 2 = little complexity, 3 = moderate complexity, and 4 = high complexity. The formulation quality ratings for precision of language are measured using the following Likert scale: 0 = insufficient information, 1 = very little precision, 2 = little precision, 3 = moderate precision, and 4 = high precision. The formulation quality ratings for overall coherence are measured using the following Likert scale: 0 = insufficient information, 1 = very little coherence, 2 = little coherence, 3 = moderate coherence, and 4 = high coherence.

The A priori structure of the case formulation is measured with a yes or no response. The rater will need to determine if the participant followed an apriori structure that helps to organize clinical information. The formulation quality ratings for goodness of fit to formulation are measured using the following Likert scale: 0 = insufficient information, 1 = very little consistency, 2 = little consistency, 3 = moderate consistency, and 4 = high consistency. The formulation quality ratings for elaboration are measured using the following Likert scale: 0 = insufficient elaboration, 1 = very little elaboration, 2 = little elaboration, 3 = moderate elaboration, and 4 = high elaboration.

The developers of the CFCCM define the systematic process as the degree of evidence that the clinician followed an a priori scheme, that is, a predetermined, structured method that is independent of specific patient information, in organizing clinical information into a formulation. The systematic process is rated using a 5-point Likert scale, where 1 = no evidence or nearly no evidence, 2 = little evidence, 3 =
Kendjelic (1998) reported the CFCCM showed good inter-rater reliability (mean kappa = 0.86) across content and quality categories, with a range of 0.60 to 1.0. The mean inter-rater reliability kappas for the 7 variables coded slightly lower at 0.75 (Kendjelic, 1998). Kendjelic (1998) suggests that the findings indicate good reliability across the CFCCM categories and were consistent with the measures obtained in his pilot study. The coding manual showed good reliability (mean kappa = 0.86) across content and quality categories.

Kendjelic and Eells (2007) suggest the CFCCM has high internal validity with regard to inferential material presented. Kendjelic (1998) reported the degree of inference was highly correlated with the total number of categories of inferential information used ($r = 0.71$, $p < 0.01$) in his study. Kendjelic (1998) reported the CFCCM had good construct validity across all subscales. According to Kendjelic (1998) the CFCCM can be reliably scored and can measure an adequate range of information contained in a case formulation.

Case conceptualization evaluation form. The CCEF is a 7-item instrument that was developed by Dr. Len Sperry. The major content coding elements of the CCEF include the following: presentation and precipitants, maladaptive pattern, predisposing factors, treatment goals and interventions, explanatory power, completeness, and coherence. The content ratings of the CCEF are based on a 0 to 10 Likert-type scale. For
example, in item 1 on the CCEF, 0 = fails to identify presentation and/or precipitant and/or link between both and 10 = fully and accurately identifies presentation and precipitant and link between both. Clear instructions are provided for the rating system on the master CCEF rubric form. Some strengths of this instrument include: application to many theoretical orientations, a short instrument, and a low level of complexity for item statements. The CCEF was evaluated and compared with the CFCCM for ease of coding (i.e. time spent coding and complexity of stated items).

**Counselor cognitions questionnaire.** The responses of each participant resulted in two scores, which included cognitive differentiation and integration. “Differentiation is the number of available cognitive constructs in an individual’s cognitive system about a domain, such as a client” (Welfare, 2007, p.74). Differentiation is scored by review of the characteristics listed in the first part of the CCQ (Welfare, 2006). Any characteristic that describes a unique client belief, mannerism, quality, trait, tendency, behavior, thought, feeling, motivation, fear, or concern earns one point (Welfare, 2007). Simplistic demographic information (e.g., male, age 25) will not count toward the score (Welfare, 2007). A characteristic that describes two constructs in a single response will earn two points (e.g., “Caring and empathic”). Characteristics that are written as a phrase or have an adverb or adjective qualifier will be scored as one point (e.g., “confident student” or “motivated for treatment”). The total number of characteristics for the client in the case vignette was tallied and this represents the participant’s differentiation score.

Integration is the understanding how characteristics fit together (Welfare, 2007). Integration was scored by qualitative review of the characteristics listed in part one and qualitative and quantitative review of part two of the CCQ (Welfare, 2007). Participants
earned points based on the balance of positive and negative characteristics included, the types of characteristics listed, and inclusion of characteristics about the counseling relationship itself. The raters then used qualitative and quantitative methods to examine the categories listed by the participants in the second part of the CCQ. One point was given for each unique category listed (Welfare, 2007). “Additional points were given for inclusion of a category that indicated meta-cognition (e.g., “resilient,” “willing to try again,” and “repeatedly victimized” in the category “things that perplex me about the client”) and inclusion of a category about the counseling” (Welfare, 2007, p. 75). The sum of this score represents the respondent’s level of integration. Additional scoring details are available in the CCQ Scoring Manual (Welfare, 2006).

Raters used the detailed scoring protocol to assess cognitive complexity of each participant, which is illustrated in the rater-training manual (Welfare, 2007). According to Welfare (2007) individuals who complete the self-instruction activities and achieve an inter-rater reliability of 0.90 are able to use the CCQ in research. In a pilot study (Welfare & Borders, 2006), the CCQ used and scored by the principal investigator and a trained master’s student. The inter-rater reliability for differentiation was 0.99 and for integration was 0.95 (Pearson product moment correlation,  \( r \) [differentiation] = 0.99, \( r \) [integration] = 0.95). These two correlations suggest very high consistency between the two raters. Quantitative and qualitative review of the responses results in two scores for each respondent: cognitive differentiation and integration (Welfare, 2007).

Analysis of the data provided basic descriptive results of participants’ performance on the CCQ. “Respondents’ differentiation scores ranged from 8.00 to 50.00 with a mean of 22.00 (\( SD = 8.72 \)). Integration scores ranged from 6.00 to 15.00
differentiation and integration scores represent two distinct and very important aspects of
reveals a moderate positive correlation between differentiation and integration scores
(Pearson product moment correlation; $r = 0.48$, sig. = 0.005, $n = 33$, effect size = 23%).
This finding is supported by the low effect size for these dimensions of the scale. “This
significant correlation suggests the two indices of cognitive complexity are related, but
not sufficiently explained by one score alone” (Welfare, 2007, p. 75). The scores of
differentiation and integration are not compared to each other. For example, a score of
14 on differentiation is not necessary lower than a score of 16 on integration.
Differentiation scores theoretically can range from 0 to 75, but previous samples yield a
range of 5-50 (Welfare, 2007). A score of 10 or below represents very low construct
differentiation. According to Welfare (2007), most counselors-in-training have scored
between 10 and 20. A score of 25 or higher is suggestive of an individual with a high
degree of complex complexity. According to Welfare (2007) most counselors-in-
training have scored below 10. The CCQ was designed for use with counselors in any
track or setting. Welfare and Borders (2006) conducted univariate analyses of variance
on CCQ differentiation total and CCQ integration total scores across counseling track
(e.g., community, school, couple and family, student development, and gerontological).
Welfare (2007) found there is no evidence in this sample that the CCQ favors one
counseling setting over another.

The CCQ has had limited use in prior research studies. “There has not been
enough research on counselor cognitive complexity to fully understand what a high score
or a low score is on an instrument” (L. E. Welfare, personal communication, January 28, 2014). Welfare (2006) reported that to truly know what a high or low score is on an instrument a large, balanced norming sample is necessary. For the purpose of this study, the developer of the CCQ suggested using the data from this current study to create 3 separate groups to determine high versus low cognitive complexity (L. E. Welfare, personal communication, January 28, 2014). For example, the lowest 33% will be considered low cognitive complexity, the middle 33% will be considered medium cognitive complexity, and the top 33% will be considered high cognitive complexity. The middle 33% of scores will not be used in the data analysis. Although this will reduce the sample size, the number of participants in this study well exceeded the calculated target. Forty-two were suggested based on the G Power analysis and 85 counselors in training participated in the study. “Using this analysis may produce significant results as well as contribute to future studies, since the CCQ has not been around long enough” (L. E. Welfare, personal communication, January 28, 2014).

Welfare (2007) reports the CCQ is a psychometrically stable measure of the complexity of cognitions about clients. As reported in Welfare and Borders (2006), the measure captures client conceptualizations that can be evaluated per the scoring manual to provide a reliable cognitive differentiation score and a reliable cognitive integration score. One of the most important indices of reliability for an instrument with subjective scoring is inter-rater reliability (Welfare, 2007). The high correlations between raters ($r_{\text{Differentiation}} = 0.99$ and $r_{\text{Integration}} = 0.96$) indicate the scoring manual (Welfare, 2006) can be implemented consistently. Important evidence for the structural aspect of content validity of a rater-scored assessment is the estimation of inter-rater reliability
Scores on the CCQ are based on trained raters’ evaluation of the responses.

According to Welfare (2006) the CCQ provides evidence of good construct validity. Because of the adaptability of its stimulus and evidence of adequate validity and reliability, the Role Category Questionnaire (RCQ; Crockett, 1965) was chosen as the basis for the format and scoring protocol for the CCQ’s measure of differentiation (Welfare, 2010). “The first finding in support of the validity of the CCQ is in the relationship between differentiation and integration scores” (Welfare, 2007, p. 111). The moderate, positive correlation \((r = 0.69)\) between CCQ differentiation and integration confirms the necessity of assessing both aspects of cognitive complexity (Welfare, 2007, p. 111). They are related but distinct components of cognitive complexity. Measures that only assess differentiation do not adequately represent the cognitive complexity of the respondent. “The correlation between the scores is significant, and suggests that as differentiation increases, so does integration, but cognitive complexity cannot be fully described by either score alone” (Welfare, 2007, p. 111).

“Additional evidence of validity of the CCQ as a measure of counselor cognitive complexity can be found in the scores of subgroups of respondents” (Welfare, 2007, p. 111). Respondents who had completed a master’s degree scored significantly higher than respondents who had not completed a master’s degree, suggesting that additional training and experience enhances counselors’ cognitions about their clients (Welfare, 2007).

The CCQ provides evidence of the discriminant validity (Welfare, 2007). Welfare (2007) found a weak, positive correlation \((r = 0.166, \text{sig} = 0.08)\) of SCT score and CCQ differentiation scores, which was not significant. “The weak, positive
correlation of SCT scores and CCQ integration \( (r = 0.22, \text{sig} = 0.02) \) was significant” (Welfare, 2007, p. 113). These correlations suggest that general complexity and client-specific complexity are related, but only somewhat.

**Information (demographic) questionnaire.** The questionnaire was designed by this researcher to collect demographic information, such as age, gender, grade point average, counseling experience, and graduate school training. The level of graduate school training was measured in number of semesters. Experience in the counseling field was measured in number of months. The results of this information were used in answering research question 4 and research question 5.

**Views about case conceptualization evaluation.** This 6-item (pretest/posttest) form was designed by Dr. Len Sperry and was used to assess participant’s perceptions about case conceptualization. The item statements include the following: (1) case conceptualizations are not clinically useful; (2) there are other clinical skills that are more important than case conceptualizations; (3) formulating and writing case conceptualizations are too time consuming; (4) learning how to write case conceptualizations is too difficult; (5) a case conceptualization is basically a case summary; and (6) my knowledge and experience with formulating and writing case conceptualizations is: (a) no knowledge and no experience; (b) some knowledge and no experience; (c) some knowledge and some experience; (d) considerable knowledge and some experience; and (e) considerable knowledge and considerable experience. The rubric is based on a 7-point Likert scale (in the first 5 questions) where 1 = completely agree, 4 = moderately agree, and 7 = completely disagree. In the sixth question the participant circled a multiple-choice response.
Workshop questionnaire. This questionnaire was developed by this researcher to assess the participant’s perceptions about the 2-hour training workshop. The goal of this 9-item questionnaire was to provide information to this researcher that may be helpful with future case conceptualization training workshops. The rubric is based on a 5-point Likert scale, where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. Some of the items on this questionnaire include the following statements: (1) I was well informed about the objectives of this workshop, (2) I will be able to use what I learned in this workshop, and (3) the workshop was a good way for me to learn this content.

Workshop Design

Dr. Len Sperry developed this workshop design and all of the materials that were used in the training sessions. Two separate training sessions took place at each of the three universities, for a total of 6 workshops. Each of the training workshops was 2 hours in length. Following the 2-hour training, the participants were given an additional twenty minutes to complete three questionnaires. The workshop began with 2 pretests. In the first pretest, the participants were asked to review a case vignette and instructed to write a case conceptualization. The case conceptualizations were evaluated using the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF). In the second pretest, participants completed a questionnaire related to their views about case conceptualization (e.g., Case conceptualizations are not clinically useful). The scoring is based on a 7-point Likert scale. The participants were given a maximum of 15 minutes to complete both pretests. Following completion of the pretests, case conceptualization was extensively defined and it’s key functions were
explained. An integrative model, which was developed by (Sperry & Sperry, 2012) was used and its key components and elements were strongly emphasized. Any theoretical perspective can be incorporated in this integrative model. In addition to a case vignette that was presented, a training video of a counseling session was shown during the training session. Participants were asked 8 key questions about the video, all of which comprise an effective case conceptualization (e.g. What is the client’s presentation and what precipitates it)? A detailed explanation of each of the 8 questions was addressed. Examples of effective and compelling case conceptualizations were provided, which included high levels of explanatory and predictive power. Three different versions of explanatory power were illustrated from the case shown on the video. Participants were asked to choose which version best explains the dynamics in the case. Two posttests were conducted at the end of the training session. First, participants were asked to write a case conceptualization on the same case vignette used for the pretest. Second, participants were asked to complete another questionnaire about their views of case conceptualization. In order to limit bias and avoid a social contamination factor, participants were asked to give an honest and objective rating on this evaluation form. Participants were informed that this evaluation form (as well as all others) would be strictly anonymous. Participants were given 15 minutes to complete both posttests. After participants completed the two posttests, they were permitted to ask questions or share comments. Prior to this time, questions and comments were not permitted during the training workshop. The workshop facilitator asked for a few volunteers to read their case conceptualizations aloud during this time. At the end of the 2-hour training session, participants were given an additional twenty minutes to complete three questionnaires.
They were administered the Counselor Cognitions Questionnaire (CCQ) and allotted ten minutes to complete. Participants were asked to spend a few moments thinking about the client in the case vignette and then describing the client as fully as they could by using words or phrases that explain his or her defining characteristics. The participants were instructed to identify if the characteristics chosen were mostly positive, mostly negative, or neutral in their impression of the client. Importance of the characteristic was indicated on a 5-point Likert scale. The participants were then instructed to review all of the characteristics listed and consider if any of them group together or fit into categories. A label that describes the category was written and the number of characteristics that explain or fit within that category was identified. After the participants completed the CCQ they had ten minutes remaining to complete the demographic (information) questionnaire and the workshop questionnaire.

**Procedure and Data Collection**

Permission was secured by the internal review board (IRB) from the 3 universities prior to this investigation. Once permission was granted, the training workshops were scheduled. Two separate workshops were scheduled at each of the 3 universities in order to keep the number of participants in each training session to approximately 20 individuals. Training consisted of a 2-hour presentation conducted in a group format. Following the 2-hour training, the participants were given an additional twenty minutes to complete three questionnaires. The workshop facilitator administered the pretest and posttest case conceptualizations and questionnaires during the training workshop. The pretest and post test case conceptualizations and questionnaires were collected by the workshop facilitator at the conclusion of each training session. The workshop facilitator
delivered all material to this researcher in person following each the last workshop training session. The data was compiled and scored by two independent raters. Statistical analysis was conducted when all training sessions and scoring was complete.

**Workshop facilitator.** The individual who conducted the 6 training sessions at the 3 different universities is a 29 year old, Caucasian male. He is a graduate of a CACREP accredited Counselor Education Program and holds an Ed.S. in Mental Health Counseling and a Ph.D. in Counseling. He is a mental health counselor at a South Florida University’s Counseling Center and a visiting professor in the Counselor Education Program at a South Florida University. This facilitator coauthored the book, *Case Conceptualization: Mastering the Competency with Ease and Confidence* in 2012. He has conducted several training workshops during the past two years at local universities and at the American Counseling Association national conference. This facilitator was chosen because of his depth of knowledge on Case Conceptualization and because he does not have any vested interest in the outcome of the study. The workshop facilitator did not review any of the data collected from this investigation. The same facilitator conducted all six workshop-training sessions so this did not introduce a facilitator difference between groups. Following the 2-hour training workshop, participants completed a workshop questionnaire. The results of the questionnaire were remarkable, with 98.2 % favorability ratings. This researcher financially compensated the workshop facilitator for his time and expertise. To avoid compromising the internal validity of this study, this researcher chose not to conduct any of the 6 training sessions.

**Raters.** The raters assisting in this research study were two advanced master’s-level students specializing in mental health counseling. In this particular case, an
advanced master’s-level student refers to a student who is in his or her final year of the master’s program in mental health counseling, has nearly completed the coursework for degree requirements, and is completing his or her advanced practicum in a clinical setting. The first rater (Rater A) is a 25 year old, single Caucasian-American female. The second rater (Rater B) is a 34 year old, single Caucasian-American male. Both of the raters intend to pursue doctoral degrees in Counseling upon their graduation from the Master’s Program in Mental Health Counseling.

The raters were trained by this researcher for approximately 10 hours in the evaluating and scoring of Case Conceptualization and Cognitive Complexity, using the CFCCM, CCEF, and CCQ, respectively. During the training, raters practiced evaluating (coding) conceptualizations not used in this study, participated in weekly meetings discussing rationale and item definitions from the CFCCM scoring manual, compared codes, and discussed discrepancies. Raters also used the CCQ training manual, which is self-instructional and includes practice exercises and response examples. Raters used the detailed scoring protocol to assess cognitive complexity of each participant. When inter-rater reliability measures reached a value of at least 0.85 for the CFCCM and the CCEF, and 0.90 for the CCQ, raters began independently coding conceptualizations and questionnaires used in the study without further comparison or discussion. Raters were blind to the identity of the participant and were not aware of the research hypotheses in this study. This researcher financially compensated the raters for their time and expertise. To avoid compromising the internal validity of this study, this researcher chose not to evaluate any of the case conceptualizations or the counselor cognitions questionnaires collected from this investigation.
Variables

**Dependent variables.** The following dependent variables were included in the study:

- Counselor Competence as measured by the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF)
- Counselor Perceptions about Case Conceptualization as measured by the Views and Beliefs about Case Conceptualization Evaluation Form

**Independent variables.** The following independent variables were included in the study:

- A 2-hour standardized training workshop
- Counselor Cognitive Complexity as measured by the Counselor Cognitions Questionnaire (CCQ)

Data Analysis

Descriptive statistics were calculated using the Statistical Package for the Social Sciences (SPSS; Release 14.0.0, 2005) to provide a profile of the sample. Inter-rater reliabilities for the CFCCM, CCEF, and the CCQ were calculated using a Pearson product moment correlation. In the first question, the effect of the 2-hour training workshop (independent variable) on competence (dependent variable) as measured by the CFCCM and CCEF was determined by using a paired sample t-test. This method was used to make a comparison between pretest-posttest differences as an index of treatment effect. Prior to making the decision of using the paired sample t-test (a parametric test), checking for violations of assumptions of normality and equal variances was performed.
because the CCEF evaluation is based on a Likert rating scale, and the CFCCM
evaluation is scored by the presence or absence of an item. The results for pretest the
CFCCM revealed a $SD$ of 4.7. The median and mode for the CFCCM pretest were very
close in range. The result for skewness in the CFCCM pretest was 0.089 ± 0.261. The
results of the posttest for the CFCCM revealed a $SD$ of 4.6. The median and mode for the
CFCCM posttest were very close in range. The result for skewness in the CFCCM
posttest was -0.075 ± 0.263. The results of the pretest for the CCEF revealed a $SD$ of 5.3.
The median and mode for the CCEF pretest were very close in range. The result for
skewness in the CCEF pretest was -0.063 ± -0.261. The results of the posttest for the
CCEF revealed a $SD$ of 6.8. The median and mode for the CCEF posttest were very
close in range. The result for skewness in the CCEF posttest was -0.071 ± -0.261.
Based on these findings, it was determined that a parametric test (paired sample t-test)
would be appropriate to use for analyzing research question one. Effect sizes were
determined by using Cohen’s $d$, which is calculated by dividing the difference in the 2
mean groups and the pooled standard deviations.

The second research question was addressed using 2 separate paired sample t-
tests. The effect of the 2-hour training program (independent variable) on counselor’s
belief about myths (dependent variable) was analyzed. The first 5 items on the
instrument used for this question are on a 7-point Likert rating scale. The 6th item on this
instrument is based on a multiple-choice question, which is a subjective response. There
is no correct or incorrect response for item number 6, and this particular item is asking
something completely different than items 1-5. Therefore, a paired sample t-test was
performed on items 1-5, and a separate paired sample t-test was performed on item 6.
Effect sizes were determined by using Cohen’s d, which is calculated by dividing the difference in the 2 mean groups and the pooled standard deviations.

An independent t-test was used in research question 3 to determine if high versus low cognitive complexity produced a better case conceptualization. Cognitive complexity was the independent variable and the quality of the case conceptualization was the dependent variable. An effect size was not calculated for this research question because all of the $p$ values were well above 0.05.

Bivariate correlations were conducted amongst all of the independent and criterion variables in the fourth research question. The independent variables included: grade point average, age, gender, graduate school training (as measured by number of semesters self reported on the information questionnaire), and counseling experience (as measured in number of months by self-report on the information questionnaire). The criterion (dependent) variable was competence as measured by the CFCCM and the CCEF. Pearson’s correlation was used to determine the effect size. Pearson’s $r$ can vary in magnitude from -1 to 1, with -1 indicating a perfect negative linear correlation, 1 indicating a perfect positive linear correlation, and 0 indicating no linear relation between 2 variables.

Bivariate correlations were conducted amongst all of the independent and criterion variables in the fifth research question to determine if the independent variables influenced scores on the Counselor Cognitions Questionnaire. The same independent variables indicated in research question 4 applied to research question 5. Pearson’s correlation was used to determine the effect size.
In the sixth research question a correlation between the 2 instruments (CCEF and CFCCM) was conducted to establish criterion related validity and an examination of the respective Cronbach’s Alpha reliability coefficients of the 2 instruments to compare their respective internal consistencies. Pearson’s correlation was used to determine the effect size.

**Summary**

The following topics were extensively covered in this chapter: (a) study design; (b) participants; (c) instrumentation; (d) workshop design; (e) procedures; (f) variables; (g) and data analysis. The statistical analysis was used in this study to answer all 6 research questions stated in chapter one. Of particular interest in this study was the utilization of the new CCEF instrument and its comparison to the CFCCM. If the two instruments are highly correlated, a conclusion can be drawn that the CCEF would be a better test to use compared to the CFCCM due to parsimony with the advantage that it is a much shorter and easier instrument to administer.
CHAPTER FOUR

RESULTS

In this chapter the results of the study are presented using descriptive and inferential statistics. First, the characteristics of the sample population are described. Second, the psychometric information for each instrument is reported. Third, the results of the hypothesis testing are presented. Finally, the chapter concludes with a summary of the results.

Sample Characteristics

The universities varied in size and in public or private status. The first university is a larger public university. Fourteen students participated in the first training workshop at this university. An additional 4 students attended the first training workshop, but declined to participate in this research study. Eleven students participated in the second training workshop at this same university. A total of 25 students at the larger public university participated in the training workshop \( n = 25 \).

The third and fourth training workshops were conducted at a smaller private university. In the third training workshop, all 15 students participated in the research study. During the fourth training workshop at the same university, all 8 students participated in the research study. A total of 23 students at the smaller private university participated in the training workshop \( n = 23 \). The fifth and sixth training workshops were conducted at a small, private, Christian based university. In the fifth training
workshop, all 18 students participated in the research study. In the sixth training workshop, all 19 students participated in the research study. A total of 37 students from the small, private, Christian based university participated in the training workshop ($n = 37$).

A G Power Analysis was performed prior to conducting this research study. A sample size of 42 was needed for this study, using an effect size of 0.5, power of 0.95, and alpha 0.05. The total number of participants well exceeded the calculated target. Eighty-five counselors in training from 3 South Florida Universities participated in this study ($n= 85$).

Of the 85 counselors in training who participated in this research study 71 were female and 14 were male ($M = 1.16$, $SD = 0.37$). The participants ranged in age from 21 to 58 years ($M = 31.01$, $SD = 10.94$). The race of the participants varied across the sample in this research study. Twelve reported their race as Black, 38 as White, 5 as Asian/Pacific Islander, 17 as Latino(a), 5 as Multiracial, and 8 as Other ($M = 2.87$, $SD = 1.52$). Seventy-six of the participants reported their highest educational degree as a bachelor’s degree and 9 reported having a master’s degree ($M = 1.11$, $SD = 0.309$). Thirty-eight of the participants indicated that they were currently enrolled in a masters level counseling program and 47 indicated they were enrolled in a masters level counseling psychology program ($M = 1.55$, $SD = 0.500$). The number of semesters the participants has been enrolled in their respective programs ranged from 1 to 9. The majority (59 participants) was enrolled in their first semester ($M = 2.28$, $SD = 2.32$). The grade point average across all participants ranged from 2.80 to 4.00 ($M = 3.46$, $SD = 0.373$). The number of months the participants had with counseling experience ranged
from 0 to 72 ($M = 3.4, SD = 9.79$). The number of direct contact hours in counseling the participants reported ranged from 0 to 3,000 ($M = 93.27, SD = 371.87$). Each of the participants was asked on the demographic/information questionnaire whether they had read the book *Case Conceptualization: Mastering This Competency with Ease and Confidence*. Although some participants indicated they had purchased the book prior to the workshop for courses they were enrolled in, all 85 participants responded they had not read the textbook ($M = 1, SD = 0.000$). If any of the participants had responded yes to this question on the demographic/information questionnaire, they would have been eliminated from participating in this research study, as their data would be a contamination to the study.

A summary of each of the demographic and categorical characteristics of the sample population is provided in the tables 3 and 4 below. The sample of participants from the three different universities used in this study is representative of the population of interest and therefore it can be assumed the results of this study may be generalizable to counselors-in-training.

**Table 3**

*Gender Distribution of Sample*

<table>
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<th>Gender</th>
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<th>Cumulative Percent</th>
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**Age Distribution of Sample**

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### Table 6

**Highest Degree Achieved Distribution of Sample**

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### Table 7

**Current Program Type Distribution of Sample**

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Table 8

Number of Semesters in Program Distribution of Sample

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*Note.* No. = number

Table 9

Grade Point Average Distribution of Sample

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Table 9 continued

*Grade Point Average Distribution of Sample*

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Table 10

*Number of Months with Counseling Experience Distribution of Sample*

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82
**Table 10 continued**

*Number of Months with Counseling Experience Distribution of Sample*

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**Table 11**

*Number of Direct Contact Hours in Counseling Distribution of Sample*

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<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>87.1</td>
</tr>
<tr>
<td>70.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>88.2</td>
</tr>
<tr>
<td>100.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>89.4</td>
</tr>
<tr>
<td>200.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>90.6</td>
</tr>
<tr>
<td>250.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>91.8</td>
</tr>
<tr>
<td>300.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>92.9</td>
</tr>
<tr>
<td>500.00</td>
<td>2</td>
<td>2.4</td>
<td>2.4</td>
<td>95.3</td>
</tr>
<tr>
<td>800.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>96.5</td>
</tr>
<tr>
<td>1000.00</td>
<td>2</td>
<td>2.4</td>
<td>2.4</td>
<td>98.8</td>
</tr>
<tr>
<td>3000.00</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* No. = number
Table 12

Read Book: Case Conceptualization: Mastering This Competency with Ease and Confidence

<table>
<thead>
<tr>
<th>Case Conceptualization Textbook</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has not read text book</td>
<td>85</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Instrument Psychometrics

Two raters completed a thorough and intensive training on the instruments they used during the evaluation process. The Pearson Product Correlation was used on 3 instruments to determine inter rater reliability measures for the CFCCM, the CCEF, and the CCQ. The raters were provided training manuals two weeks prior to the training session for their review. The training took an excess of 10 hours, during which time the raters were allowed to ask any questions regarding the evaluation process as described in each of the manuals. The raters were provided with standardized case vignettes, which were used to score the CFCCM and CCEF. Discrepancies among the raters were addressed and the raters reviewed another case vignette to evaluate. Subsequently, the rater’s scores resulted in high agreement among all items on the 2 instruments. The raters used case examples from the CCQ training manual and the results of the scores indicated very high level of agreement. Effect sizes were calculated based on the results of the inter rater reliability for each of the three instruments. Tables 13-18 summarize the inter rater reliability measurements for all three instruments.

**Inter rater reliability.** The inter rater reliability measure for the CFCCM (pre-test case conceptualization) was 0.898. The inter rater reliability measure for the CFCCM (posttest case conceptualization) was 0.860. The absolute value of each of these
correlations reveals the degree of association between the raters. The effect size for the CFCCM (pre-test case conceptualization) was 0.81. The effect size for the CFCCM (post-test case conceptualization) was 0.74. These large effect sizes reflect the actual degree of agreement between the rater’s scores on this particular instrument.

Table 13

*Inter Rater Reliability CFCCM: Pre-Test Case Conceptualization*

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>n</td>
</tr>
<tr>
<td><strong>0.898</strong>*</td>
</tr>
<tr>
<td>0.000</td>
</tr>
<tr>
<td>94</td>
</tr>
</tbody>
</table>

*Note. Sig. = p value, n = sample **p < .01.*

Table 14

*Inter Rater Reliability CFCCM: Post-Test Case Conceptualization*

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>n</td>
</tr>
<tr>
<td><strong>0.860</strong>*</td>
</tr>
<tr>
<td>0.000</td>
</tr>
<tr>
<td>94</td>
</tr>
</tbody>
</table>

*Note. Sig. = p value, n = sample **p < .01.*

The inter rater reliability measure for the CCEF (pre-test case conceptualization) was 0.910. The inter rater reliability measure for the CCEF (post-test case conceptualization) was 0.887. The absolute value of each of these correlations reveals the degree of association between the raters. The effect size for the CCEF (pre-test case conceptualization) was 0.83. The effect size for the CCEF (post-test case conceptualization) was 0.79. These large effect sizes reflect the actual degree of agreement between the rater’s scores on this particular instrument.
Table 15

Inter Rater Reliability CCEF: Pre-Test Case Conceptualization

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation 0.910**</td>
</tr>
<tr>
<td>Sig. (2-tailed) 0.004</td>
</tr>
<tr>
<td>(n) 7</td>
</tr>
</tbody>
</table>

*Note.* Sig. = \(p\) value, \(n\) = sample

\(*p < .01.*

Table 16

Inter Rater Reliability CCEF: Post-Test Case Conceptualization

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation 0.887**</td>
</tr>
<tr>
<td>Sig. (2-tailed) 0.008</td>
</tr>
<tr>
<td>(n) 7</td>
</tr>
</tbody>
</table>

*Note.* Sig. = \(p\) value, \(n\) = sample

\(*p < .01.*

The inter rater reliability measure for the CCQ, for both the differentiation and integration scores were 1.0, which indicated a very high level of agreement between raters. The effect size for the CCQ was very large at 1.0, which reflects the actual degree of agreement between the rater’s scores on this particular instrument.

Table 17

Inter Rater Reliability CCQ Differentiation

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation 1.000**</td>
</tr>
<tr>
<td>Sig. (2-tailed) 0.000</td>
</tr>
<tr>
<td>(n) 4</td>
</tr>
</tbody>
</table>

*Note.* Sig. = \(p\) value, \(n\) = sample

\(*p < .01.*
The inter rater reliability measures on the CFCCM, the CCEF, and the CCQ resulted in high levels of agreement between the two raters. The Pearson Correlations ranged from 0.86 to 1.0, which indicated a very strong level of agreement between the raters. The effect sizes ranged from 0.74 to 1.0, which indicated a medium to large actual degree of agreement between the rater’s scores on these particular instruments.

**Instrumentation reliability.** Reliability for each of the measurement instruments was assessed using Cronbach’s Alpha coefficient as a measure of internal consistency. The Cronbach’s Alpha reliability measure on the Pre-Test CFCCM was 0.708. The Cronbach’s Alpha reliability measure on the Post-Test CFCCM was 0.703. These values indicated very good internal consistency among the items on the instrument. The Cronbach’s Alpha reliability measure on the Pre-Test CCEF was 0.709. The Cronbach’s Alpha reliability measure on the Post-Test CCEF was 0.815. These values indicated very good internal consistency among the items on the instrument. The Cronbach’s Alpha reliability measure on the CCQ (differentiation) was 0.603. The Cronbach’s Alpha reliability measure on the CCQ (integration) was 0.664. These values indicated moderate levels of internal consistency among the items on the instrument. The Cronbach’s Alpha reliability measure on the Pre-Test “Views/Beliefs about Case

Table 18

*Inter Rater Reliability CCQ Integration*

<table>
<thead>
<tr>
<th></th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.000**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
<tr>
<td>n</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note.* Sig. = p value, n = sample

**p < .01.
Conceptualization” was 0.863. The Cronbach’s Alpha reliability measure on the Post-Test “Views/Beliefs about Case Conceptualization” was 0.707. These values indicated very good internal consistency among the items on the instrument. Table 19 summarizes the Cronbach’s Alpha Coefficient for the instruments used in the current study.

**Table 19**

*Cronbach’s Alpha Coefficient for Instruments*

<table>
<thead>
<tr>
<th>Instrument on Scale</th>
<th>Cronbach’s Alpha</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM Pretest</td>
<td>.708</td>
<td>94</td>
</tr>
<tr>
<td>CFCCM Posttest</td>
<td>.703</td>
<td>94</td>
</tr>
<tr>
<td>CCEF Pretest</td>
<td>.709</td>
<td>7</td>
</tr>
<tr>
<td>CCEF Posttest</td>
<td>.815</td>
<td>7</td>
</tr>
<tr>
<td>CCQ Differentiation</td>
<td>.603</td>
<td>56</td>
</tr>
<tr>
<td>CCQ Integration</td>
<td>.664</td>
<td>5</td>
</tr>
<tr>
<td>Views about Case Conceptualization Pretest</td>
<td>.863</td>
<td>6</td>
</tr>
<tr>
<td>Views about Case Conceptualization Posttest</td>
<td>.707</td>
<td>6</td>
</tr>
</tbody>
</table>

**Results of Hypothesis Testing**

This section identifies the results of the hypothesis testing. The first and second research questions were analyzed by performing paired sample t-tests. The third question was analyzed by conducting an independent t-test. The fourth and fifth questions were analyzed by performing bivariate correlations amongst independent and criterion variables. In the sixth research question a correlation between the CCEF and the CFCCM was conducted to establish criterion related validity and an examination of the respective Cronbach’s Alpha reliability coefficients of the 2 instruments to compare their respective internal consistencies.

**Hypothesis 1.** The first research question addressed whether a 2-hour training
workshop for counselors in training would increase competence among participants in developing a case conceptualization. This question was analyzed using a paired sample t-test to determine the effect of a 2-hour training workshop (independent variable) on competence (dependent variable) as measured by the CFCCM and CCEF. This method was used to make a comparison between pretest-posttest differences as an index of treatment. The Null Hypothesis 1 (HO₁) indicated that counselors in training who participated in a 2-hour training workshop would not increase their competence in developing a case conceptualization.

Table 20

*Paired Samples Statistics (CFCCM Pre-Test and Post-Test)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>n</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM pretest</td>
<td>12.9059</td>
<td>85</td>
<td>4.73996</td>
<td>0.51412</td>
</tr>
<tr>
<td>CFCCM posttest</td>
<td>25.8118</td>
<td>85</td>
<td>4.52636</td>
<td>0.49095</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample

Table 21

*Paired Samples Correlation (CFCCM Pre-Test and Post-Test)*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM pretest and posttest</td>
<td>85</td>
<td>0.300</td>
<td>0.005</td>
</tr>
</tbody>
</table>

*Note.* Sig. = p value, n = sample

Table 22

*Statistical Analysis of Change in CFCCM Test Results, Pre-training to Post-training*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>Lower</th>
<th>Upper</th>
<th>t-value</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-12.89412</td>
<td>5.48162</td>
<td>0.59457</td>
<td>-14.0748</td>
<td>-11.71176</td>
<td>-21.687</td>
<td>84</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, df = degrees of freedom, Sig. = p value
The CFCCM pretest results averaged a score of 12.9059 ± 0.51412. The CFCCM posttest results concluded an average score of 25.8118 ± 0.49095. Participants’ CFCCM scores significantly improved by 12.90588 ± 0.59494 on average ($t = -21.693$, $df = 84$, $p < 0.001$). Using Cohen’s d, the effect size for the CFCCM pretest and posttest was 2.78, which indicated a very strong treatment effect.

**Table 23**

*Paired Samples Statistics (CCEF Pre-Test and Post-Test)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>$n$</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF pretest</td>
<td>14.8353</td>
<td>85</td>
<td>7.26840</td>
<td>0.78837</td>
</tr>
<tr>
<td>CCEF posttest</td>
<td>40.8941</td>
<td>85</td>
<td>6.95055</td>
<td>0.75389</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, $n$ = sample

**Table 24**

*Paired Samples Correlation (CCEF Pre-Test and Post-Test)*

<table>
<thead>
<tr>
<th></th>
<th>$n$</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF pretest and posttest</td>
<td>85</td>
<td>0.154</td>
<td>0.159</td>
</tr>
</tbody>
</table>

*Note.* Sig. = $p$ value, $n$ = sample

**Table 25**

*Statistical Analysis of Change in CCEF Test Results, Pre-training to Post-training*

<table>
<thead>
<tr>
<th></th>
<th>95% Confidence Interval of the Difference</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td></td>
<td>-26.0588</td>
<td>9.25094</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, $df$ = degrees of freedom, Sig. = $p$ value

The CFCCCM pretest results averaged a score of 14.8353 ± 0.78837. The CCEF posttest results concluded an average score of 40.8941 ± 0.75389. Participants’ CCEF
scores significantly improved by 26.05882 ± 1.00340 on average ($t = -25.970$, $df = 84$, $p < 0.001$). Using Cohen’s $d$, the effect size for the CCEF pretest and posttest was 3.67, which indicated a very strong treatment effect.

Results indicated significant improvement in the participants’ competence in their written case conceptualizations after completion of the training workshop. The effect sizes for both the CCEF and CFCCM (pretest and posttest) were very large. For Cohen’s $d$ an effect size of 0.2 to 0.3 is considered a small effect. An effect size around 0.5 is considered to be a medium effect. An effect size of 0.8 to infinity is considered to be a large effect. The Null Hypothesis 1 (HO$_1$) can be rejected based on the results from the analysis performed on both the CFCCM and CCEF instruments. Figure 1 displays the results of the CFCCM (pretest and posttest) and the CCEF (pretest and posttest) scores.

*Figure 1.* Mean ± Standard Deviation for CFCCM and CCEF (Pre-Test and Post-Test Scores)

**Hypothesis 2.** The second research question addressed whether a 2-hour training workshop would reduce the counselor’s negative views and beliefs about case
conceptualization. This question was analyzed using 2 paired sample t-tests to determine the effect of a 2-hour training workshop and whether or not counselor’s negative beliefs were reduced following the training workshop. The first 5 items on this instrument used a Likert rating scale. The sixth item on this instrument was a multiple-choice question, where there was no right or wrong answer. Therefore, 2 separate paired samples t-test were performed. The Null Hypothesis 2 (HO$_2$) indicated that counselors in training who participated in a 2-hour training workshop would not reduce their beliefs about case conceptualization.

**Table 26**

*Paired Samples Statistics (Views about Case Conceptualization: Pre-Test and Post-Test, Items 1-5)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>n</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Views pretest</td>
<td>17.7024</td>
<td>85</td>
<td>3.09597</td>
<td>0.33780</td>
</tr>
<tr>
<td>Views posttest</td>
<td>32.8330</td>
<td>85</td>
<td>2.38890</td>
<td>0.26065</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample

**Table 27**

*Paired Samples Correlation (Views About Case Conceptualization, Items 1-5)*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF pretest and posttest</td>
<td>85</td>
<td>.154</td>
<td>0.159</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample
Table 28

Statistical Analysis of Change in Views About Case Conceptualization Test Results (Pre-training to Post-training, Items 1-5)

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>Lower</th>
<th>Upper</th>
<th>t-value</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.13095</td>
<td>4.49841</td>
<td>.49082</td>
<td>-16.10717</td>
<td>14.15474</td>
<td>-30.828</td>
<td>84</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note. Std. = standard, df = degrees of freedom, Sig. = p value

The results for the “Views About Case Conceptualization” pretest (items 1-5) concluded an average score of 17.7024 ± 0.33780. The “Views About Case Conceptualization” posttest results concluded an average score of 32.8333 ± 0.26065. Participants’ scores significantly improved by 15.13095 ± 0.49082 on average ($t = -30.828, df = 84, p < 0.001$). Using Cohen’s $d$ the paired sample statistics effect size $d = 5.47$, which indicated a very strong treatment effect. Figure 2 displays the results of the pretest and posttest views about case conceptualization for items 1-5.

![Figure 2. Mean ± Standard Deviation for Views about Case Conceptualization Items 1-5 (Pre-Test and Post-Test Scores)](image-url)
The results for the “Views About Case Conceptualization” pretest (item 6) concluded an average score of 2.1765 ± 0.07518. The “Views About Case Conceptualization” posttest (item 6) results concluded an average score of 3.4706 ± 0.05446. Participant’s scores significantly improved by 1.29412 ± 0.09734 on average \((t = -13.295, df = 84, p < 0.001)\). Using Cohen’s d the paired sample statistics effect size = 2.14, which indicated a very strong treatment effect.
Results indicated significant improvement in attitudes and beliefs in counselors in training about case conceptualization after completion of the training workshop. The effect sizes for items 1-5 and item 6 were very large. For Cohen’s d an effect size of 0.2 to 0.3 is considered a small effect. An effect size around 0.5 is considered to be a medium effect. An effect size of 0.8 to infinity is considered to be a large effect. The Null Hypothesis 2 (HO$_2$) can be rejected based on these significant results. Figure 3 displays the results of the pretest and posttest views about case conceptualization for item 6.

![Figure 3](image)

*Figure 3.* Mean ± Standard Deviation for Views about Case Conceptualization Item 6 (Pre-Test and Post-Test Scores)

**Hypothesis 3.** The third hypothesis addressed whether the level of cognitive complexity (high vs. low) of a counselor in training had a significant effect on the quality of their case conceptualization. For the differentiation scores, the data was grouped by either the lowest 33% or highest 33% of participant’s scores, while discarding the middle
33% of scores. A score less than or equal to 8 represented low differentiation. Twenty-four participants results indicated having low cognitive complexity for differentiation \((n = 24)\). Scores above or equal to 11 represented high differentiation. Twenty-seven participants resulted in high cognitive complexity scores for differentiation \((n = 27)\). For the integration scores, the data was grouped by either lowest 33% or highest 33% of participant’s scores, while discarding the middle 33% of scores. Scores less than or equal to 6 represented low integration. Twenty-five participants results indicated having low integration scores \((n = 25)\). Scores above or equal to 9 represented high integration. Thirty-three participants results indicated having high integration scores \((n = 33)\). 

This research question was analyzed by using an independent t-test in order to determine if the level of cognitive complexity of a counselor in training has a significant effect on the quality of their case conceptualization. The Levene’s Test was used to assess the equality of variances for the variables calculated. The Levene’s test assesses this assumption. If the significance level (p value) is above 0.05, then equal variances can be assumed. The Null Hypothesis 3 \(H_0_3\) indicated that the level of cognitive complexity of a counselor in training would not have a significant effect on the quality of their case conceptualization.

Table 32

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>n</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF Post-Test Scores</td>
<td>1.00</td>
<td>24</td>
<td>41.2083</td>
<td>7.37787</td>
</tr>
<tr>
<td></td>
<td>3.00</td>
<td>27</td>
<td>41.5556</td>
<td>7.15936</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, \(n = \) sample
Table 33

*Independent Samples T Test (CCEF Post-Test Scores)*

<table>
<thead>
<tr>
<th></th>
<th>95% Confidence Interval of the Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene's Test for Equality of Variances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCEF Post Test Scores</td>
<td>.006</td>
<td>.937</td>
<td>-.170</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCEF Post Test Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Diff. = difference, Std. = standard, df = degrees of freedom, F = Variance of group means, Sig. = p value

Table 34

*Differentiation Split on CCQ (CFCCM Post-Test Scores)*

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM Post Test Scores</td>
<td>1.00</td>
<td>24</td>
<td>25.9167</td>
<td>5.37237</td>
</tr>
<tr>
<td></td>
<td>3.00</td>
<td>27</td>
<td>25.5926</td>
<td>4.15340</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample
Table 35

**Independent Samples Test (Differentiation: CFCCM Post-Test Scores)**

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>T</td>
</tr>
<tr>
<td>CCEF Post Test Scores</td>
<td>.528</td>
<td>.471</td>
<td>.242</td>
</tr>
<tr>
<td></td>
<td>.239</td>
<td></td>
<td>.812</td>
</tr>
</tbody>
</table>

*Note.* Diff. = difference, Std. = standard, df = degrees of freedom, F = Variance of group means, Sig. = p value

Table 36

**Integration Split on CCQ (CCEF Post-Test Scores)**

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF Post-Test Scores</td>
<td>1.00</td>
<td>25</td>
<td>39.2800</td>
<td>7.90843</td>
</tr>
<tr>
<td></td>
<td>3.00</td>
<td>33</td>
<td>42.0606</td>
<td>6.42719</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample
Table 37

*Independent Samples Test (Integration CCEF Post-Test Scores)*

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>T</td>
</tr>
<tr>
<td>CCEF Post Test Scores</td>
<td>1.97</td>
<td>.166</td>
<td>-.147</td>
</tr>
<tr>
<td></td>
<td>-1.43</td>
<td>45</td>
<td>.158</td>
</tr>
</tbody>
</table>

*Note.* Diff. = difference, Std. = standard, df = degrees of freedom, F = Variance of group means, Sig. = p value

Table 38

*Integration Split on CCQ (CFCCM Post-Test Scores)*

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM Post-Test</td>
<td>1.00</td>
<td>25</td>
<td>24.5600</td>
<td>4.97561</td>
</tr>
<tr>
<td></td>
<td>3.00</td>
<td>41</td>
<td>26.4146</td>
<td>3.89856</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, n = sample
Table 39

Independent Samples Test (Integration CFCCM Post-Test Scores)

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>T</td>
</tr>
<tr>
<td>CCEF Post Test Scores</td>
<td>Equal variances assumed</td>
<td>1.11</td>
<td>.295</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-1.47</td>
</tr>
</tbody>
</table>

Note. Diff. = difference, Std. = standard, df = degrees of freedom, F = Variance of group means, Sig. = p value

The findings for research question 3 indicated there was no difference between participants’ with low and high cognitive complexity differentiation scores and their CCEF posttest scores \( (t = -0.17, df = 49, p = 0.865) \). There was no difference between participants’ with low and high cognitive complexity differentiation scores and their CFCCM posttest scores \( (t = 0.242, df = 49, p = 0.809) \). The findings showed there was no difference between participants’ with low and high cognitive complexity integration scores and their CCEF posttest scores \( (t = -1.477, df = 56, p = 0.145) \). There was no difference between participants’ with low and high cognitive complexity integration scores and their CFCCM posttest scores \( (t = -1.521, df = 56, p = 0.134) \). The Levene’s Test for the equality of variances assumed equal variances for the data analysis in Null
Hypothesis 3. All of the \( p \) values were well above 0.05. Based on these results, the Null Hypothesis 3 (HO\(_3\)) cannot be rejected.

**Hypothesis 4.** The fourth hypothesis addressed what independent variables influenced the scores on the CCEF and on the CFCCM. The independent variables included: grade point average, age, gender, graduate school training, and counseling experience. Bivariate correlations were used to determine if the independent variables influenced the scores on the CCEF and on the CFCCM. The Null Hypothesis 4 (HO\(_4\)) indicated that grade point average, age, gender, graduate school training, and counseling experience would not be significantly related to scores on the CCEF or on the CFCCM.

**Table 40**

*Correlation Between Grade Point Average and CCEF Post-Test Scores*

<table>
<thead>
<tr>
<th></th>
<th>Grade Point Average</th>
<th>CCEF Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point Average</td>
<td>Pearson Correlation</td>
<td>-0.015</td>
<td>( r = -0.015 )</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( n )</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CCEF Summated Rating</td>
<td>Pearson Correlation</td>
<td>-0.015</td>
<td>( r = -0.015 )</td>
</tr>
<tr>
<td>(Post-Test Score)</td>
<td>Sig. (2-tailed)</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( n )</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, \( n \) = sample

Results indicated that there was a weak negative correlation between participants' grade point average and posttest CCEF scores (\( r = -0.015, p = 0.895, n = 85 \)). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \( r = -0.015 \), which is indicative of a very small effect. This finding suggested there was a very
weak relationship between grade point average and the CCEF posttest scores among the participants’ involved in this study.

**Table 41**

*Correlation Between Age and CCEF Post-Test Scores*

<table>
<thead>
<tr>
<th></th>
<th>Grade Point Average</th>
<th>CCEF Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.086</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.431</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>n</strong></td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td><strong>CCEF Summated Rating (Post-Test Score)</strong></td>
<td>Pearson Correlation</td>
<td>0.086</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.431</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>n</strong></td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note.* Std. = standard, *n* = sample

Results indicated that there was a weak positive correlation between participants’ age and posttest CCEF scores (*r* = .086, *p* = 0.431, *n* =85). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was *r* = .086, which is indicative of a very small effect. This finding suggested there was a very weak relationship between age and the CCEF posttest scores among the participants’ involved in this study.
Table 42

Correlation Between Gender and CCEF Post-Test Scores

<table>
<thead>
<tr>
<th>Gender</th>
<th>CCEF Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Correlation</td>
<td>-.022</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.844</td>
<td>.844</td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CCEF Summated Rating (Post-Test Scores)</td>
<td>Gender Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.844</td>
<td>85</td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Std. = standard, n = sample

Results indicated that there was a weak negative correlation between participants’ gender and posttest CCEF scores ($r = -.022$, $p = 0.844$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = -.022$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between gender and the CCEF posttest scores among the participants’ involved in this study.
Table 43

Correlation Between Number of Semesters in Graduate Program and CCEF Post-Test Scores

<table>
<thead>
<tr>
<th></th>
<th>Number of Semesters in Program</th>
<th>CCEF Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Semesters in Program</td>
<td>Pearson Correlation</td>
<td>.014</td>
<td>$r = .014$</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.901</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CCEF Summated Rating (Post-Test Scores)</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>$r = .014$</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note. Sig. = p value, n = sample*

Results indicated that there was a weak positive correlation between participants’ number of semesters in their graduate training program and posttest CCEF scores ($r = 0.014, p = 0.901, n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = .901$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between the number of semesters in a graduate training program and the CCEF posttest scores among the participants’ involved in this study.
Table 44

*Correlation Between Number of Months with Counseling Experience and CCEF Post-Test Scores*

<table>
<thead>
<tr>
<th></th>
<th>Number in Months with Counseling Experience</th>
<th>CCEF Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF Summated Rating</td>
<td>Pearson Correlation</td>
<td>.098</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.374</td>
<td>$r = .098$</td>
</tr>
<tr>
<td>Number in Months with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counseling Experience</td>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.098</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.374</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note. Sig. = p value, n = sample*

Results indicated that there was a weak positive correlation between participants’ number of months with counseling experience and posttest CCEF scores ($r = 0.098, p = 0.374, n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = 0.098$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between the number of months with counseling experience and the CCEF posttest scores among the participants’ involved in this study.
Table 45

Correlation Between Grade Point Average and CFCCM Post-Test Scores

<table>
<thead>
<tr>
<th></th>
<th>Grade Point Average</th>
<th>CFCCM Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point Average</td>
<td>Pearson Correlation</td>
<td>.045</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.681</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CFCCM Summated Rating</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.045</td>
</tr>
<tr>
<td>(Post-Test Scores)</td>
<td>Sig. (2-tailed)</td>
<td>.681</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = p value, n = sample

Results indicated that there was a weak positive correlation between participants’ grade point average and posttest CFCCM scores \((r = .045, p = 0.681, n = 85)\). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \(r = .045\), which is indicative of a very small effect. This finding suggested there was a very weak relationship between grade point average and the CFCCM posttest scores among the participants’ involved in this study.
Table 46

Correlations Between Age and CFCCM Post-Test Scores

<table>
<thead>
<tr>
<th></th>
<th>CFCCM Summed Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Pearson Correlation</td>
<td>-.078</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.477</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
</tr>
<tr>
<td>CFCCM Summated Rating (Post-Test Scores)</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>-.078</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = p value, n = sample

Results indicated that there was a weak negative correlation between participants’ age and posttest CFCCM scores ($r = -.078, p = 0.477, n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = -.078$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between age and the CFCCM posttest scores among the participants’ involved in this study.
Table 47

Correlations Between Gender and CFCCM Post-Test Scores

<table>
<thead>
<tr>
<th></th>
<th>CCEF Summated Rating</th>
<th>Gender</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF Summated Rating</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.022</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.844</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Gender</td>
<td>Pearson Correlation</td>
<td>-.022</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.844</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = p value, n = sample

Results indicated that there was a weak negative correlation between participants’ gender and posttest CFCCM scores ($r = -.022$, $p = 0.844$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = -.022$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between gender and the CFCCM posttest scores among the participants’ involved in this study.
Table 48

Correlation Between Number of Semesters in Graduate Program and CFCCM Post-Test Scores

<table>
<thead>
<tr>
<th>Number of Semesters in Program</th>
<th>Pearson Correlation</th>
<th>CFCCM Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.866</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Number of Semesters in Program</td>
<td>-.019</td>
<td>1</td>
<td>(R = -.019)</td>
</tr>
<tr>
<td>CFCCM Summated Rating (Post-Test Scores)</td>
<td>1</td>
<td>-.019</td>
<td>(r = -.019)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.866</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = p value, n = sample

Results indicated that there was a weak negative correlation between participants’ number of semesters in their graduate training program and posttest CFCCM scores \((r = -.019, p = 0.866, n = 85)\). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \(r = -.019\), which is indicative of a very small effect. This finding suggested there was a very weak relationship between participants’ number of semesters in their graduate training program and the CFCCM posttest scores among the participants’ involved in this study.
Table 49

Correlation Between Number of Months with Counseling Experience and CFCCM Post-Test Scores

<table>
<thead>
<tr>
<th>Number in Months with Counseling Experience</th>
<th>CFCCM Summated Rating</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td><strong>n</strong></td>
<td><strong>r = 0.086</strong></td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td><strong>0.436</strong></td>
</tr>
<tr>
<td><strong>CFCCM Summated Rating (Post-Test Scores)</strong></td>
<td><strong>n</strong></td>
<td><strong>r = 0.086</strong></td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td><strong>0.436</strong></td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td><strong>0.436</strong></td>
</tr>
</tbody>
</table>

*Note: Sig. = p value, n = sample*

Results indicated that there was a weak positive correlation between participants’ number of months with counseling experience and posttest CFCCM scores ($r = 0.086, p = 0.436, n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = 0.086$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between participants’ number of months with counseling experience and the CFCCM posttest scores among the participants’ involved in this study.

The Bonferroni Correction was not performed in research question 4 because none of the results were statistically significant ($p > 0.05$). Results indicated weak correlations with the independent variables and the CCEF posttest scores. All of the correlations ranged from ± .015 and ± .098. The effect sizes ranged from .015 to .098. Each of the effect sizes was very small. For the Pearson’s correlation an effect size of 0.10 is considered a small effect. An effect size of 0.30 is considered to be a medium.
effect. An effect size of 0.50 is considered a large effect.

Results indicated weak correlations with the independent variables and the CFCCM posttest scores. All of the correlations ranged from \( \pm 0.019 \) and \( \pm 0.086 \). Each of the effect sizes was very small. Due to the fact that there were very weak correlations, the effect sizes were very small, and lack of statistical significance, it can be concluded that the independent variables are not significantly related to the scores on the CCEF and CFCCM. Based on the findings the Null Hypothesis 4 (HO\(_4\)) cannot be rejected.

**Hypothesis 5.** The fifth hypothesis addressed what independent variables influenced the scores on the Counselor Cognitions Questionnaire. The independent variables included: grade point average, age, gender, graduate school training, and counseling experience. Bivariate correlations were used to determine if the independent variables influenced the scores on the CCQ (for differentiation and/or integration). The Null Hypothesis 5 (HO\(_5\)) indicated that grade point average, age, gender, graduate school training, and counseling experience would not significantly be related to the differentiation and/or integration scores on the CCQ.
Table 50

Correlation Between Grade Point Average and CCQ Differentiation

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>Grade Point Average</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.212</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.052</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Grade Point Average

| Pearson Correlation | -.212               | 1           |
| Sig. (2-tailed)     | 0.052               |             |
| n                   | 85                  | 85          |

Note. Sig. = p value, n = sample

Results indicated that there was a weak negative correlation between participants’ grade point average and Counselor Cognitions Differentiation scores (\( r = -.212, p = 0.052, n = 85 \)). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \( r = -.212 \), which is indicative of a very small effect. This finding suggested there was a very weak relationship between participants’ grade point average and Counselor Cognitions Differentiation scores among the participants’ involved in this study.
Table 51

**Correlation Between Age and CCQ Differentiation**

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>Pearson Correlation</th>
<th>Age</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.096</td>
<td>$r = .096$</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.380</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td></td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

| Age                    | Pearson Correlation | 1   | $r = .096$ |
| Sig. (2-tailed)        |                     |     | 0.380      |
| $n$                   |                     | 85  | 85          |

Note. Sig. = p value, $n =$ sample

Results indicated that there was a weak positive correlation between participants’ age and Counselor Cognitions Differentiation scores ($r = .096$, $p = 0.380$, $n = 85$).

Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = .096$, which is indicative of a very small effect. This finding suggested there was a very weak relationship between participants’ age and Counselor Cognitions Differentiation scores among the participants’ involved in this study.

Table 52

**Correlation Between Gender and CCQ Differentiation**

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>Pearson Correlation</th>
<th>Gender</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-.102</td>
<td>$r = -.102$</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.352</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td></td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

| Gender                | Pearson Correlation | 1     | $r = -.102$ |
| Sig. (2-tailed)       |                     | 0.352  |             |
| $n$                   |                     | 85     | 85          |

Note. Sig. = p value, $n =$ sample
Results indicated that there was a weak negative correlation between participants’
gender and Counselor Cognitions Differentiation scores ($r = -.102, p = 0.352, n = 85$).

Pearson’s correlation was used to determine the effect size. The effect size for this
analysis was $r = -.102$, which is indicative of a small effect. This finding suggested there
was a very weak relationship between participants’ gender and Counselor Cognitions
Differentiation scores among the participants’ involved in this study.

Table 53

*Correlation Between Number of Semesters in Graduate Program and CCQ
Differentiation*

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>Number of Semesters in Program</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.360**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>85</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Semesters of Graduate Training</th>
<th>Pearson Correlation</th>
<th>1</th>
<th>-.360**</th>
<th>$r = -.360$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>85</td>
<td></td>
<td>85</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Sig. = $p$ value, $n =$ sample
**$p < .01$.*

Results indicated that there was a weak to moderate negative correlation between
participants’ number of semesters in their graduate training programs and Counselor
Cognitions Differentiation scores ($r = -.360, p = 0.001, n = 85$). Pearson’s correlation
was used to determine the effect size. The effect size for this analysis was $r = -.360$,
which is indicative of a medium effect. This finding suggested there was a weak to
moderate relationship between participants’ number of semesters in their graduate
training programs and Counselor Cognitions Differentiation scores.
Table 54

**Correlation Between Number of Semesters with Counseling Experience and CCQ Differentiation**

<table>
<thead>
<tr>
<th>Differentiation Split</th>
<th>Number of Months with Counseling Experience</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>-0.061</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.578</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number in Months with Counseling Experience</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.061</td>
<td>0.578</td>
<td>85</td>
<td></td>
</tr>
</tbody>
</table>

*Notes. Sig. = p value, n = sample*

Results indicated that there was a weak negative correlation between participants’ number of months with counseling experience and Counselor Cognitions Differentiation scores ($r = -0.061$, $p = 0.578$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = -0.061$, which is indicative of a very small effect. This finding suggested there was a weak relationship between participants’ number of months with counseling experience and Counselor Cognitions Differentiation scores.
Table 55

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>Grade Point Average</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.233*</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade Point Average Split</th>
<th>Integration Split</th>
<th>Age</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.233*</td>
<td>.103</td>
<td>$r = -.233$</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.349</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = $p$ value, $n$ = sample

*p < .05.

Results indicated that there was a weak negative correlation between participants’ grade point average and Counselor Cognitions Integration scores ($r = -.233$, $p = 0.032$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = -.233$, which is indicative of a small effect. This finding suggested there was a weak relationship between participants’ grade point average and Counselor Cognitions Integration scores.

Table 56

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>Age</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.103</td>
<td>$r = .103$</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.349</td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

Note. Sig. = $p$ value, $n$ = sample

Results indicated that there was a weak positive correlation between participants’
age and Counselor Cognitions Integration scores \((r = .103, p = 0.349, n = 85)\). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \(r = .103\), which is indicative of a small effect. This finding suggested there was a weak relationship between participants’ age and Counselor Cognitions Integration scores.

**Table 57**

*Correlation Between Gender and CCQ Integration*

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.220*</td>
<td>.043</td>
<td>(r = .220)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration Split</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.220*</td>
<td>.043</td>
<td>(r = .220)</td>
</tr>
</tbody>
</table>

*Note.* Sig. = \(p\) value, \(n\) = sample

\(*p < .05.\)

Results indicated that there was a weak positive correlation between participants’ gender and Counselor Cognitions Integration scores \((r = .220, p = 0.043, n = 85)\). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \(r = .220\), which is indicative of a small effect. This finding suggested there was a weak relationship between participants’ gender and Counselor Cognitions Integration scores.
Results indicated that there was a weak negative correlation between participants’ number of semesters in their graduate training program and Counselor Cognitions Integration scores \((r = -0.206, p = 0.059, n = 85)\). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was \(r = -0.206\), which is indicative of a small effect. This finding suggested there was a weak relationship between participants’ number of semesters in their graduate training program and Counselor Cognitions Integration scores.
Results indicated that there was a weak positive correlation between participants’ number of months with counseling experience and Counselor Cognitions Integration scores ($r = .016$, $p = 0.885$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for this analysis was $r = .016$, which is indicative of a very small effect. This finding suggested there was a weak relationship between participants’ number of months with counseling experience and Counselor Cognitions Integration scores.

Results indicated weak correlations with the independent variables and the CCQ differentiation scores. All of the correlations ranged from $\pm .096$ and $\pm .360$. The effect sizes ranged from .096 to .360. For the Pearson’s correlation an effect size of 0.10 is considered a small effect. An effect size of 0.30 is considered to be a medium effect. An effect size of 0.50 is considered a large effect. Results indicated weak correlations with the independent variables with the CCQ integration scores. All of the correlations ranged
from ± .016 and ± .233. The effect sizes ranged from .016 to .233. Each of the effect sizes was small. The Bonferroni Correction was used in this analysis; however, the corrected values indicated there was no statistical significance for gender and integration \((p = 0.215)\) and for grade point average and integration \((p = 0.160)\). The Bonferroni Correction was used for number of semesters in a graduate training program and the new corrected value was \(p = 0.005\). Although this independent variable had statistical significance, results indicated a small to medium effect size. Due to the fact that there were very weak correlations in this analysis, the effect sizes were small, and lack of statistical significance among variables, it can be concluded that the independent variables are not significantly related to the differentiation or integration scores on the CCQ. Based on the findings the Null Hypothesis 5 (HO_5) cannot be rejected.

**Hypothesis 6.** The sixth hypothesis addressed whether the Case Conceptualization Evaluation Form (CCEF) was a better instrument to use for evaluating case conceptualization quality compared to the Case Formulation Content Coding Method (CFCCM). This question was analyzed by performing a correlation between the two instruments (CCEF and CFCCM) in order to establish criterion relation validity. An examination of the respective Cronbach’s Alpha reliability coefficients of the two instruments to compare their respective internal consistencies was also conducted. The Null Hypothesis 6 (HO_6) indicated that the CCEF would not be a better instrument to use for evaluating case conceptualization quality as compared with the CFCCM.
Table 60

**Correlation Between CCEF and CFCCM (Pre-Test)**

<table>
<thead>
<tr>
<th></th>
<th>CCEF Pre-Test</th>
<th>CFCCM Pre-Test</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEF Pre-Test</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.631**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CFCCM Pre-Test</td>
<td>Pearson Correlation</td>
<td>.631**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note.* Sig. = p value, n = sample

**p < .01.

Results indicated there was a strong positive correlation between the CCEF pretest and the CFCCM pretest scores \( r = .631, p = 0.001, n = 85 \). Pearson’s correlation was used to determine the effect size. The effect size for the CFCCM and CCEF Pretest was 0.631, which is indicative of a very large effect. As one evaluation increases in score the other evaluation increases in score.

Table 61

**Correlation Between CCEF and CFCCM (Post-Test)**

<table>
<thead>
<tr>
<th></th>
<th>CFCCM Post Test</th>
<th>CCEF Post Test</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFCCM Post Test</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.680**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>CCEF Post Test</td>
<td>Pearson Correlation</td>
<td>.680**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Note.* Sig. = p value, n = sample

**p < .01.

121
Results indicated there was a strong positive correlation between the CCEF posttest and the CFCCM posttest scores ($r = .680$, $p = 0.001$, $n = 85$). Pearson’s correlation was used to determine the effect size. The effect size for the CFCCM and CCEF posttest was 0.680, which is indicative of a very large effect. As one evaluation increases in score the other evaluation increases in score.

Results indicated there were strong positive correlations between the CCEF and CFCCM pretest and posttest scores. The effect sizes for CCEF and CFCCM pretest and posttest scores resulted in very large effect sizes. The Cronbach’s reliability for CCEF pretest = 0.70 and posttest = 0.815. Cronbach’s reliability for CFCCM pretest = 0.708 and posttest = 0.703. The results of the Cronbach’s Alpha reliability coefficients of the 2 instruments indicate that the CCEF discriminated better because the reliability measure increased from pretest to posttest scores for the participants’ in this study. These findings suggested that the participants increased their level of competence in writing a case conceptualization. Compared to the CFCCM, the CCEF is a much shorter and easier instrument for evaluating a case conceptualization compared to the CFCCM. Based on these findings, the Null Hypothesis 6 (HO₆) can be rejected.

**Summary of Results**

A total of six hypotheses were tested in this chapter. The first hypothesis investigated whether counselors in training who participated in a 2-hour training workshop would increase their competence in developing a case conceptualization. Participants CCEF and CFCCM scores significantly improved from pretest to posttest. Using Cohen’s $d$ to calculate the effect size, the CCEF pretest and posttest resulted in a value of 3.67. Using Cohen’s $d$ to calculate the effect size, the CCEF pretest and posttest
resulted in a value of 2.78. Both of these effect sizes indicated a very strong treatment effect.

The second hypothesis investigated whether counselors in training who participated in a 2-hour training workshop would reduce their negative views and beliefs about case conceptualization. Two paired sample t-tests were conducted, for items 1-5 and item 6, respectfully. Participant’s scores significantly improved from pretest to posttest on items 1-5 and on item 6. The effect size (using Cohen’s d) for items 1-5 was 5.11 and the effect size for item 6 (using Cohen’s d) was 2.14, both of which indicated a very strong treatment effect.

The third hypothesis investigated whether the level of cognitive complexity of a counselor in training would have a significant effect on the quality of their case conceptualization. The findings showed there was no difference between participants with low or high cognitive complexity differentiation and/or integration scores and their CCEF and CFCCM posttest scores.

The fourth hypothesis investigated whether grade point average, age, gender, graduate school training, and counseling experience would be significantly related to scores on the CCEF or the CFCCM. The findings showed very weak correlations among all independent variables. The effect sizes using Pearson’s correlation were all small, and additionally there was a lack of statistical significance in the data analysis. According to J. D. Morris (personal communication, 2014), effect sizes for these correlations must be conducted because the sample of participants used in this study is very large and even relatively small r values may result in being statistically significant. It can be concluded
that the independent variables are not significantly related to the scores on the CCEF and CFCCM.

The fifth hypothesis investigated whether grade point average, age, gender, graduate school training, and/or counseling experience would significantly be related to differentiation and integration scores on the CCQ. The Bonferroni Correction was used for number of semesters in a graduate training program and the new corrected value was $p = 0.005$. Although this independent variable had statistical significance, the correlation was relatively weak and the effect size was small to medium. None of the other independent variables had statistical significance. The findings showed very weak correlations among all independent variables. The Pearson’s correlation effect sizes were all very small. It can be concluded that the independent variables are not significantly related to differentiation and integration scores on the CCQ.

The sixth hypothesis investigated whether the CCEF would be a better instrument to use for evaluating case conceptualization quality as compared with the CFCCM. Results indicated there was a strong positive correlation between the CCEF and the CFCCM pretest and posttest scores. Pearson’s correlation was used to determine the effect size. The effect sizes for the pretest and the posttest correlations were 0.631 and 0.680, respectively, which are indicative of very large effects. The results of the Cronbach’s Alpha reliability coefficients of the 2 instruments indicated that the CCEF discriminated better because the reliability measure increased from pretest to posttest scores for the participants in this study. The CFCCM is longer but less valid in terms of Cronbach’s Alpha Reliabilities. The two instruments scored very similarly indicating high internal consistency. There was evidence of construct validity for the CCEF in that
this instrument measures what it purports to measure. Additionally, the CCEF is a much shorter and easier instrument to use to evaluate case conceptualizations.
CHAPTER FIVE

DISCUSSION

To date, this is the first study is to investigate the effect of a case conceptualization training workshop on competence and its relationship to cognitive complexity. Chapter 4 described the findings of this study; particularly the significant improvement the intervention had on written case conceptualizations using a new integrative model. The relationship between the cognitive complexity and the quality of a case conceptualization was also reported. This chapter includes the bases for counselor competence and a discussion on increasing counselor competence in case conceptualization. The contributions and implications of the present study for counseling theory, counseling practice, and future research will be addressed. Next, it discusses the limitations of the study. Finally, the chapter will conclude with a summary of the findings.

The Bases of Counselor Competence: Theory

Since the 1960’s there has been an emphasis on the competencies in the counseling profession. David McClelland, who is considered to be the father of the competency movement, helped to establish competencies for psychotherapy training and practice. “An ongoing initiative of the American Psychological Association (APA) has been to shift professional training in psychology from a core curriculum model to a core competency model of learning” (Sperry, 2010, p. 9). The shift has been a move toward
measuring trainee learning outcomes, which have been articulated as core competencies, which serve as primary focus of the education and training process (Nelson, 2007).

Six core competencies have been identified in counseling and psychotherapy. “These competencies include: 1) conceptual foundation, 2) relationship building and maintenance, 3) intervention planning, 4) intervention implementation, 5) intervention evaluation and termination, and 6) culturally and ethically sensitive practice” (Sperry, 2010, p. 13).

The conceptual foundation provides a framework to understand and guide the treatment process (Sperry, 2010). “Such a conceptual map will help guide the therapist in determining which clinical data to observe and elicit and how to understand the data” (Sperry, 2010, p. 9). The framework will help guide the therapist to understand the general processes of normal growth and development (Sperry, 2010). It guides the therapist in recognizing client patterns and framing diagnostic, clinical, cultural, and treatment formulations, on the basis of which the therapist specifies a treatment focus and interventions strategies and then implements and evaluates them (Binder, 2004). Therapists need this “conceptual map” of the immediate therapeutic situations that will help guide their thoughts and actions about their client about their clients (Sperry, 2010).

Competent therapy also requires a strong therapeutic relationship between the therapist (counselor) and the client. “An effective therapeutic relationship is important because it fosters a bond of trust between therapist and client and a mutual agreement about the goals, roles, and method of the treatment process” (Sperry, 2010, p. 14). There are two clinical competencies involved in the relationship building, which include establishing a positive relationship or therapeutic alliance and the ability to foster
treatment-promoting behaviors (Sperry, 2010). Three competencies are involved in maintaining the therapeutic relationship, which include recognizing and resolving resistance and ambivalence, recognizing and resolving therapeutic strains, and recognizing and repairing transference and counter transference issues (Sperry, 2010).

Intervention planning is another core competency in counseling and psychotherapy. This core competency involves performing a comprehensive diagnostic assessment, developing a DSM-5 diagnosis, developing an effective case formulation and effective treatment plan, and the integration of a clinical case report (Sperry, 2010). Implementation of the intervention is an important part of the process. Using modalities and techniques that focus on intended goals will be helpful in mastering this competency. “Furthermore, competent therapy requires the capacity for evaluating treatment and preparing the client for termination” (Sperry, 2010, p. 15). Continuous monitoring of the client is essential in order to evaluate treatment progress. This core competency assists the therapist in preparing the client for termination, while focusing on relapse prevention methods.

“Finally, competent therapy requires the clinician’s capacity to practice in a culturally and ethically sensitive manner” (Sperry, 2010, p. 15). This practice requires the ability to develop a cultural formulation and plan and implement interventions consistent with the formulation (Sperry, 2010). Cultural competence will help to foster a strong therapeutic alliance.
Increasing Competence in Case Conceptualization

Sperry and Sperry (2012) recommend using a six-step evidence-based strategy in teaching and supervising counselors. The first step is for the counselor to be aware of the requisites for performing high-level case conceptualizations. While inclusion to all or most of the key elements in case conceptualization is necessary, more criteria are needed. Other criteria, such as comprehensiveness, coherence, language, precision, and the degree to which formulation themes and the treatment plans are elaborated are important factors to include in order to effectively evaluate a conceptualization (Eells, 2010). Research also shows that expert therapists produced more comprehensive, systematic, complex, and elaborate formulations than experienced therapists or trainees, although trainees produced better quality clinical formulations than experienced therapists (Eells & Lombart, 2003; Eells et al., 2005).

The second step in this evidence-based strategy is for the counselor to be able to dispel any myths that may undermine the value of case conceptualizations. A discussion about myths and distorted notions with case conceptualization has been addressed in this review, and “It is important to recognize if any of these myths or other myths are limiting your motivation and capacity to master this competency, then dispel them” (Sperry & Sperry, 2012, p. 20). If a counselor trainee or practitioner is having thoughts that doing case conceptualization takes a long time and is a complicated process, this may affect the value of their case conceptualization.

The third step for a counselor to increase their competence with developing a case conceptualization is to be able to engage in deliberate practice. Deliberate practice is essential in learning and mastering the competency of case conceptualization (Casper et
al., 2004). Repeated practice of a key element or factor of case conceptualization will enable the counselor to master this skill. “Ideally, deliberate practice will be incorporated in graduate training programs as a learning strategy along with systematic learning and coaching by instructors and supervisors who have sufficient expertise in constructing, implementing, and evaluating case conceptualization” (Sperry & Sperry, 2012, p. 20).

Providing continuous feedback to trainees on their case conceptualizations is another important factor for mastering this competence. It is imperative that the feedback be delivered in a timely manner and that the information is accurate. Sperry and Sperry (2012) suggest trainees need feedback that is intense and systematic, particularly when it is combined with practice, in constructing, improving, and elaborating case conceptualizations. Because it is often lacking, such feedback need to be intentionally incorporated into mental health programs that are committed to this competency (Casper et al., 2004).

A fifth step for increasing counselor competence with case conceptualization is to study and review various case conceptualizations. The book *Case Conceptualization: Mastering This Competency with Ease and Competence* by Sperry and Sperry (2012) provides 25 excellent full-scale case conceptualizations, which can be used as exemplars from which to model. Read, study, discuss, question, compare, and contrast various case conceptualizations. This will be clinically useful for fully understanding their structure, explanatory power, and predictive power (Sperry & Sperry, 2012). After reviewing several different case conceptualizations and developing a good understanding, the counselor can then model them, and continue to engage in deliberate practice.
The last step that Sperry and Sperry (2012) recommend counselors to use to increase their competence is to be able to learn an integrative method of case conceptualization and practice it often. “Structured and theory-based case conceptualization methods provide unique, signature elements that can add or reduce explanatory or predictive power to a particular case” (Sperry & Sperry, 2012, p. 21). Explanatory power provides a compelling explanation for a client's presenting problem. Predictive power provides anticipation of obstacles and facilitators to treatment success. Sperry and Sperry (2012) claim the challenge for the trainee and the practitioner is to determine which structured conceptualization elements are the best fit in a particular case. Using an integrative method allows the counselor to use key elements (i.e., predisposition, treatment focus, treatment strategy, and treatment interventions) of specific structured methods, such as Cognitive Behavioral or Solution-Focused, which can increase the case conceptualization's explanatory and predictive power over a non-integrative method (Sperry & Sperry, 2012).

**Contributions**

This section describes the contributions the present study makes to research and clinical literature. First, it introduced an integrative model that incorporates key elements and components from several theoretical orientations and provides for necessary explanatory and predictive power in a case conceptualization. To this date, this type of model has not been used in case conceptualization research. This integrative model was developed by Dr. Len Sperry and was used during the 6 training workshops.

Second, this research study adds to the limited body of research examining the effects of a brief training workshop on the ability for counselors in training to develop an
effective case conceptualization. The findings of this study are very significant. Counselors in training who participated in the 2-hour training workshop increased their competence in developing a case conceptualization. Participants CCEF and CFCCM scores significantly improved from pretest to posttest. The effect size for the CCEF pretest and posttest was 3.67. The effect size for the CFCCM pretest and posttest was 2.78. Both of these effect sizes indicated a very strong treatment effect. As a result of these significant findings, this study may serve as a model to evaluate the effectiveness of other training programs.

Third, a large sample size (85 counselors in training) and a different population were used in this study, which improves upon and adds to the existing research. A study conducted by Kendjelic (1998) investigated the effects of a brief training program on case conceptualization with counselors who have had up to 20 years of experience in the field. Kendjelic’s study was limited to a very small sample size and did not use an integrative model during his training sessions. This current study had over double the sample size needed. A G Power Analysis was performed and the total number of participants exceeded the calculated target of 42 participants. This study was limited to counselors-in-training who are enrolled in a Counseling Program at one of three universities. The sample of participants from the three different universities used in this study is representative of the population of interest and therefore it can be assumed the results of this study may be generalizable to counselors-in-training.

Fourth, this study provided additional conclusions to the limited existing research regarding the relationship between a subject's existing cognitive complexity and the quality of case conceptualizations. Research suggests the complexity of a counselor’s
cognitive system is fundamental for effective practice and has been linked with multiple aspects of counselor effectiveness. Effective counselors are able to identify and integrate multiple factors to reach an accurate understanding of complex client needs. This study investigated whether or not the level of cognitive complexity of a counselor in training had a significant effect on the quality of a case conceptualization. This study did not result in any significant findings in the relationship between counselor cognitive complexity and quality of case conceptualizations. This study also did not result in any significant findings in the relationship between the independent variables and the differentiation and integration scores for the CCQ. This may be due to the fact that a majority of the participants were in their first semester of their graduate counseling programs. Additionally, the artifact of differentiation scores had a very small range. The scores were very close to each other and there were really no cut off limits between high and low differentiation. As mentioned in Chapter 2, cognitive complexity has been linked with case conceptualization skills (Ladany et al., 2001). Counselor cognitions increase with more graduate school training and subsequently this will lead to a more enhanced and developed cognitive system. In addition to the majority of participants being enrolled in their first semester of their graduate training, at least one third of participants who resulted in “medium levels” of cognitive complexity were eliminated from the study. Perhaps if this study was conducted with more advanced counseling students or experienced counselors significant findings would have resulted as they are expected to have higher levels of cognitive complexity.

Fifth, the reliability for each of the measurement instruments used in this study was assessed using Cronbach’s Alpha coefficient as a measure of internal consistency.
To date, there is no research that reports any of the reliability measures for internal consistency with any of these instruments. The Cronbach’s Alpha reliability measure on the Pre-Test CFCCM was 0.708. The Cronbach’s Alpha reliability measure on the Post-Test CFCCM was 0.703. These values indicated very good internal consistency among the items on this instrument. The Cronbach’s Alpha reliability measure on the Pre-Test CCEF was 0.709. The Cronbach’s Alpha reliability measure on the Post-Test CCEF was 0.815. Again, these values indicated very good internal consistency among the items on this instrument. The Cronbach’s Alpha reliability measure on the CCQ (differentiation) was 0.603. The Cronbach’s Alpha reliability measure on the CCQ (integration) was 0.664. These values indicated moderate levels of internal consistency among the items on the instrument. The Cronbach’s Alpha reliability measure on the Pre-Test “Views/Beliefs about Case Conceptualization” was 0.863. The Cronbach’s Alpha reliability measure on the Post-Test “Views/Beliefs about Case Conceptualization” was 0.707. These values indicated very good internal consistency among the items on this instrument.

Lastly, an evaluation was conducted on the CCEF and CFCCM in order to determine which would be a better instrument to use for evaluating case conceptualization quality. The CCEF is a 7-item instrument, which is significantly shorter than the CFCCM, which is a 94-item instrument. The two raters who were involved in this research study used both instruments for evaluating case conceptualizations and reported that the CCEF was much easier to use for the evaluation process and the CFCCM was highly complex. Additionally, the raters reported that evaluating each case conceptualization with the CCEF took approximately 15 minutes.
and evaluating with the CFCCM took approximately 45 to 60 minutes. In order to
determine which instrument would be better to use for evaluating case conceptualization
quality, a correlation was conducted between the two instruments in order to establish
criterion relation validity. Additionally, an examination of the respective Cronbach’s
Alpha reliability coefficients of the two instruments to compare their respective internal
consistencies was also performed. Results indicated there is a positive correlation
between the CCEF and the CFCCM pretest and posttest scores. The effect sizes for the
pretest and the posttest correlations were 0.33 and 2.52, respectively. The results of the
Cronbach’s Alpha reliability coefficients of the 2 instruments indicated that the CCEF
discriminated better because the reliability measure increased from pretest to posttest
scores for the participants in this study. The two instruments are highly correlated and
both have good measures of internal consistency. Therefore, it appears that the CCEF is
preferable to the CFCCM because of its brevity and ease of administration.

Implications

Understanding and explaining the depth of a client’s problem can best be attained
by using an effective, comprehensive case conceptualization. Learning how to develop
and use an effective case conceptualization has implications for a client’s outcome. Of
particular importance is the recent movement toward empirically supported treatment
within the counseling profession, which makes practitioners accountable for their actions
(Eells, 2007). A big concern for the profession is that research indicates that counselors
are not being properly trained in developing case conceptualizations. One very important
implication is the need for more training in case conceptualization. Without proper
training in case conceptualization, counselors will have difficulty with understanding
how to collect, organize and integrate important pieces of data that is meaningful and clinically useful. With the significant findings in this study, it is apparent that a brief training program can improve a counselor’s ability to write an effective case conceptualization. This new integrative model that was used in this research study could be implemented as a regular part of curriculum in graduate training programs and in training workshops. This section discusses the theoretical, clinical practice, and research implications for the counseling profession.

**Theoretical implications.** This dissertation adds to the understanding of case conceptualization, competence, and cognitive complexity. Developing accurate case conceptualizations is increasingly expected of counselors today and is a critical component to being an effective counselor. Training counselors to become competent is an essential priority of all counselor education programs. Competence requires many things, including skills, professional ethics, and application of counseling theories, knowledge of treatment planning and effective interventions, and the ability to facilitate the change process.

The Codes of Ethics of the American Counseling Association (ACA, 2005) and American Psychological Association (APA, 2002) mandate competence, and these codes are intended to hold health professionals accountable for their actions (Cottone & Tarvydas, 1998). Recently, the APA has shifted emphasis in professional training from a core curriculum to core competency model of learning (Sperry, 2010, p. 9). The shift has been a move toward measuring trainee learning outcomes, which have been articulated as core competencies, and serve as primary focus of the education and training process (Nelson, 2007). Six core competencies have been identified in counseling and
psychotherapy. “These competencies include: 1) conceptual foundation, 2) relationship building and maintenance, 3) intervention planning, 4) intervention implementation, 5) intervention evaluation and termination, and 6) culturally and ethically sensitive practice” (Sperry, 2010, p. 13).

The way competence is measured certainly contributes to the profession’s inability to consistently adhere to a shared standard of competence. With increased pressures for accountability, professionals may find it difficult to validate their competence. Then, they may be tempted to practice beyond the scope of their competence (Doll, 2007). This study helped to assist counselors in training with the development of competence with case conceptualization. Rodolfa et al. (2005) stated, “Simply having knowledge or skill is insufficient for someone to be considered competent . . . Appropriate and effective action requires judgment, critical thinking, and decision-making” (p. 348–349). This study supports the literature that understanding and practicing an evidence-based strategy is an effective tool for increasing counselor competence in order to develop an effective case conceptualization.

**Implications for counseling.** The findings in this research study produced some very significant results. First, results indicated that counselors in training could improve their case conceptualization skills with as little as 2 hours of training. Second, the findings in this research study indicated that counselors in training can significantly decrease their negative views and beliefs about case conceptualization as a result of the training. Third, the integrative model used in this study allows for counselors to approach a case from any theoretical perspective.

“Learning and mastering the case conceptualization competency does not occur
by chance, instead it requires having an intentional plan and strategy for increasing this
essential competency” (Sperry & Sperry, 2012, p. 19), which can only be acquired
through didactic instruction, supervision, and continued practice (Sperry, 2005). Case
conceptualization enhances psychotherapy effectiveness because symptoms and problems
are understood and organized by a coherent theoretical structure (Benjamin, 2003).
Research on case conceptualization skills in psychotherapy training is critical because
these skills have been found to directly influence psychotherapy outcomes (Johnson &
Heppner, 1989; Kendjelic & Eells, 2007; Loganbill & Stoltenberg, 1983). For example,
case conceptualization skills have been found to positively correlate with levels of
therapeutic skill (Morran, 1986) and positively correlate with observer and client ratings
of therapeutic effectiveness (Morran et al., 1994). Accuracy of therapist
conceptualizations, as evidenced through interpretations, has also been found to
positively correlate with client progress (Silberschatz et al., 1986) and positive treatment
outcomes (Crits-Cristoph et al., 1988).

Another implication to the counseling practice is that case conceptualization is
now expected in the counseling profession with the recent movement toward evidenced
based practice. There is now an accountability demand by third party payers to justify
their time with clients. This includes documentation of a goal and treatment plan within a
limited amount of psychotherapy sessions. The recent growth in using case
conceptualization is also due to the fact that the diagnostic publication manuals (e.g.
DSM) are largely descriptive in nature. They do not provide an explanation for causes,
precipitants, maintaining factors, or treatment interventions. Case conceptualization
provides structure to hypothesize about all these factors drawing upon the theory and
Implications for future research. Besides theoretical and clinical implications, this study has research implications. First, this study was limited to using only a treatment group. Future research studies may want to explore using a control group and an experimental group. A comparison between a control group and an experimental group will allow for statements about causality to be made. By using a control group, researchers are able to isolate the independent variable and look at the impact it had. The control group is used to determine the value of the dependent variable without and experimental manipulation of the independent variable. Control groups are important in research because it is practically impossible to eliminate all confounding variables and bias. Since this was the first time this research study has been conducted, only a treatment group was used to see if the independent variables had an effect on the dependent variables.

Second, using a different sample in case conceptualization training may be an avenue for exploration. For example, 59 of the 85 participants were enrolled in their first semester of graduate counseling programs. Using a sample of participants in their final semester of their graduate training program may be of interest, especially when exploring the relationship between case conceptualization quality and cognitive complexity. Training workshops with postgraduate students, who are experienced or expert practitioners is another area to explore. As summarized throughout Chapter 2, research studies indicate that many training programs are failing to provide opportunities for learning to conceptualize cases. Faculty are not teaching and modeling effective case conceptualization and, therefore, trainees are less likely developing effective treatment
plans and interventions (Sperry, 2005). Perry and colleagues (1987) described case conceptualization as a poorly defined skill and asserted that clinicians are neither taught the skill consistently nor practice it regularly. It is equally important for those who are currently practicing in the counseling profession to acquire the skills on how to develop an effective case conceptualization, as it is to implement this training into the curriculum in graduate programs.

Third, using another dependent variable with case conceptualization training may be of interest. As reported in Chapter 2, very few studies have been conducted on case conceptualization training and none have been done to date using the integrative model that was used in this current study. Investigating the effect on a case conceptualization training program on self-efficacy or confidence may be worth investigating in the counseling profession and would add to the limited literature currently available.

Fourth, future research could explore the effect of case conceptualization quality on treatment outcome for clients. Inadequate case conceptualization is a contributing factor in partial or complete therapy failures, which can be very harmful to the client population. This type of study would obviously take more time to conduct than the current research study, however, it could produce significant findings. Several factors would have to be taken into account that may influence treatment outcome, such as the therapeutic alliance between the counselor and client, length of treatment, and the client’s willingness to actively participate and engage in the therapeutic process.

Fifth, based on the significant findings in this research study, it is the intention of this researcher to write several articles to be published in counseling journals. One article may exclusively focus on the results of the workshop training. Another article may focus
on the 2 instruments (the CCEF and CFCCM) investigated in this study. As mentioned the CCEF is a better instrument to use for evaluating case conceptualizations. Additionally, it is the intention of this research to present the findings of this research study at local conferences and national conferences, particularly at the American Counseling Association Conference.

Limitations of the Study

The limitations of the present study included the following:

- There was not any delay between the treatment intervention and when the posttest was administered and additionally, this in no way suggests that the participants will use this integrative model in their counseling practice.
- There was not a control group used in this study (a comparison between the control and treatment group was not assessed), and therefore any statements about causality cannot be made.
- Since this study was directed toward counselors in training, it is unclear of the impact this type of training program would have on experienced or expert practitioners.

Conclusion

This study contributes to counseling research and practice with its significant findings. Based on the preceding discussion of the results, several conclusions were drawn from this study. First, it appears that this study achieved one of its primary goals with the findings that case conceptualization training can significantly improve counselors in training level of competence. The data suggested that a training workshop, specifically using the new integrative model, can remarkably improve case
conceptualization skills in as little as 2 hours. Participants’ scores on both the CCEF and CFCCM significantly improved from pretest to posttest. The effect sizes for the CCEF and CFCCM were 3.67 and 2.87, respectfully, which indicates a very strong treatment effect. Although the independent variables (grade point average, age, gender, graduate school training, and counseling experience) used in this study were not significantly related to the participant’s scores on the CCEF and on the CFCCM, it can be concluded that it was the 2-hour training workshop that had a positive effect on the quality of participant’s case conceptualizations.

Some counselors may view case conceptualization as only a training tool and not necessary in day-to-day clinical practice (Perry et al., 1987). This misconception may be discouraging trained practitioners from using case conceptualizations in their daily practice, and equally important, preventing graduate training programs from teaching the skills and providing opportunities for learning how to conceptualize cases. It was concluded in this study that participants negative views and beliefs about case conceptualization significantly decreased as a result of the 2-hour training workshop. Scores significantly improved from pretest to posttest and very strong effect sizes were obtained. Prior to the training, many participants reported that case conceptualizations were not clinically useful, were too time consuming and difficult, and basically a case summary.

The results of this study concluded that the level of cognitive complexity of a counselor in training did not have a significant effect on the quality of their case conceptualizations. Again, this may be due to the fact that a majority of the participants were in their first semester of their graduate counseling program. Counselor cognitions
increase with more graduate school training and subsequently this will lead to a more enhanced and developed cognitive system. These findings were not surprising since the CCQ has had limited use in prior research studies and there has not been enough research on counselor cognitive complexity to fully know what a high score or a low score is on the instrument. For the purpose of this study, the lowest 33% was considered to be low cognitive complexity, the middle 33% was considered to be medium cognitive complexity, and the top 33% was considered to be high cognitive complexity. The middle 33% of scores were eliminated from the data analysis. As a result of eliminating the middle scores, the sample size was reduced. Perhaps using a larger sample size with counselors in training who are near completion of their graduate programs, a relationship between counselor cognitive complexity and the quality of case conceptualization may result in some significant findings.

A conclusion can be drawn from this study that the CCEF is a better instrument to use for evaluating a case conceptualization as compared to the CFCCM due to parsimony with the advantage that it is a much shorter and easier instrument to administer. Results indicated a strong, positive correlation between the CCEF and the CFCCM pretest and posttest scores. Using the Pearson’s correlation, the effect sizes for the pretest and the posttest correlations were .631 and .680, respectively. The results of the Cronbach’s Alpha reliability coefficients of the 2 instruments indicated that the CCEF discriminated better because the reliability measure increased from pretest to posttest scores for the participants in this study.

The limited research in training and how counselors use case conceptualizations in everyday clinical practice is particularly surprising. Many experts have expressed
concerns that case conceptualization is a poorly defined skill, counselors are not consistently taught the skill, and thus are not practicing it regularly. Further research in this area would not only provide feedback to clinicians that could aid in training, but would also serve the goal of consumer protection by ensuring that a well-thought-out understanding of the client has been attempted and an appropriate treatment plan developed. As a result of the 2-hour training workshop, participants in the study gave an overall favorability rating of 98.2% for the training on the Workshop Questionnaire.

Developing effective case conceptualizations is increasingly expected among counselors today. It is a critical component to being a competent counselor. The impact of counselor competence on case conceptualization is significant. Due to the lack of significant findings between the relationship of case conceptualization and cognitive complexity with the sample used in this study, future research in this area is warranted. It is hoped that the findings in this research study will support the need for case conceptualization training using the integrative model. Counselors will have a better understanding of how to collect, organize and integrate important pieces of data that is meaningful and clinically useful to their clients. Improving a counselor's case conceptualization skills will aid in understanding and explaining their clients situation better, which may significantly improve the treatment process and client outcome.
APPENDIX A

Adult Consent Form
ADULT CONSENT FORM

1) **Title of Research Study:** The Effect of a Case Conceptualization Training Workshop on Competence and Its Relationship to Cognitive Complexity

2) **Investigator(s):** Len Sperry, Ph.D. & Elizabeth Kelsey, MHC

3) **Purpose:** The purpose of this research study is to investigate the effect of an intervention designed to improve counselors in training skills in producing case conceptualizations. A secondary goal is to investigate if the level of cognitive complexity of a counselor in training has a significant effect on the quality of a case conceptualization. This study will provide theoretical and clinical support for linking case conceptualization training with competence and cognitive complexity. This study will also propose future recommendations on case conceptualization training for counselors and educators.

4) **Procedures:**
   - You will participate in a case conceptualization training workshop. You will be asked to develop 2 written case conceptualizations, complete a demographic/information questionnaire, beliefs about case conceptualization evaluation form, counselor cognitions questionnaire, and a workshop questionnaire.
   - You will attend one, 2-hour training workshop on case conceptualization. Following the 2-hour training workshop, you will be given an additional twenty minutes to complete three questionnaires. The date for the workshop will be scheduled with your course instructor on a day that you normally meet for class.
   - The training workshop will be held at your university in your usual class setting.
   - No monetary compensation or extra credit will be provided. You can choose to participate if you want to and may withdraw at any time with no penalties.

5) **Risks:** The risks involved with participation in this study are no more than you would experience in one of your courses in your graduate program. It is possible that you may experience some feelings of frustration due to the limited time frame in which you will be able to write your case conceptualizations. Because this is a 2-hour training workshop, you will be asked to write your case conceptualizations and complete three questionnaires within a limited time frame. We acknowledge that you may feel somewhat rushed and we simply request you do the best job possible in this short period of time.

6) **Benefits:** The potential benefits to you are a new understanding and knowledge in being able to effectively write a written case conceptualization. This current study intends to improve upon existing research by using an adequate sample size of counselors who are in training, while utilizing an integrative model during the training. The findings of this study

**Institutional Review Board**

**Initials** ________

FAU

Approved on: 6/14/2013
Expires on: 6/13/2014

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will provide information regarding the relationship of an individual’s cognitive
complexity and the ability to write an effective case conceptualization. These findings
could be very beneficial to Counselor Education Programs as results may indicate that
cognitive development is an important factor in a counselor competency. Counselors who
learn and master competency in case conceptualization will have the capacity to
appropriately and effectively utilize the knowledge, skills, and attitudes necessary to
perform a wide range of therapeutic tasks and clinical tasks. This will provide for better
treatment outcome for clients.

7) **Data Collection & Storage:** Any information collected about you will be kept confidential
and secure and only the people working with the study will see your data, unless required by
law. The data will be kept for 5 years in a locked cabinet and/or password-protected computer
in the investigator’s office. After 5 years, shredding will destroy paper copies and electronic
data will be deleted. We may publish and present what we learn from this study. If we do, we
will not let anyone know your name/identity unless you give us permission.

*For questions or problems regarding your rights as a research subject, you can contact the
Florida Atlantic University Division of Research at (561) 297-0777. For other questions
about the study, you should call the Principal Investigators:
Elizabeth Kelsey at (561) 351-5844 or Len Sperry at (561) 297-3507.

8) **Consent Statement:**
*I have read or had read to me the preceding information describing this study. All my
questions have been answered to my satisfaction. I am 18 years of age or older and freely
consent to participate. I understand that I am free to withdraw from the study at any time
without penalty. I have received a copy of this consent form.*

Signature of Subject: ___________________________ Date: __________________________

Printed Name of Subject: First Name: ___________________________

Last Name: ___________________________

Signature of Investigator: ___________________________ Date: ___________________________
APPENDIX B

Approval Letters for Research Study
DATE: June 14, 2013

TO:  Len Sperry, Ph.D., Elizabeth Kelsey, MHC
FROM: Florida Atlantic University IRB

IRBNET ID #: 472541-1

PROTOCOL TITLE: [472541-1] THE EFFECT OF A CASE CONCEPTUALIZATION TRAINING WORKSHOP ON COMPETENCE AND ITS RELATIONSHIP TO COGNITIVE COMPLEXITY

PROJECT TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: June 14, 2013
EXPIRATION DATE: June 13, 2014

REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # B7

Thank you for your submission of New Project materials for this research study. The Florida Atlantic University IRB has APPROVED your New Project. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.
Footnote

• This study is approved for a maximum of 60 subjects.
• It is important that you use the approved, stamped consent documents or procedures included with this letter.
• Data collection may not begin at the Lynn University or Palm Beach Atlantic University sites until approval has been secured from those institutions.
• **Please note that any revision to previously approved materials or procedures, including modifications to numbers of subjects, must be approved by the IRB before it is initiated. Please use the amendment form to request IRB approval of a proposed revision.**
• All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All regulatory and sponsor reporting requirements should also be followed, if applicable.
• Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.
• Please note that all research records must be retained for a minimum of three years.
• This approval is valid for one year. A Continuing Review form will be required prior to the expiration date if this project will continue beyond one year.

1 An administrative oversight involving the number of participants resulted in an IRB protocol deviation. As such, the data and findings of this dissertation research cannot be referenced and are limited to the publication of this dissertation. Any subsequent reporting of results of the research is limited to the data from the original 60 participants approved by the IRB.
Letter of Cooperation
June 28, 2013

To the Florida Atlantic University (IRB):

I am familiar with Elizabeth Kelsey’s research project entitled “The Effect of a Case Conceptualization Training Workshop on Competence and Cognitive Complexity.” I understand Lynn University’s involvement in this study to be the utilization of 2 core curriculum classes from the Graduate Psychology Program. The training workshops will be scheduled with the instructors of the courses who agree to allow their counseling students to participate in this study. Two separate workshops will be scheduled at Lynn University and the number of participants in each training session will be approximately 10 individuals. Participants will only attend one training workshop. This study will employ a quasi-experimental design with one treatment group (no control group). The intervention (case conceptualization workshop) will be a 2-hour training session. Participants will be given twenty minutes following the training workshop to complete three additional questionnaires.

The training program will begin with 2 pretests. In the first pretest, the participants will be asked to review a case vignette and instructed to write a case conceptualization. The case conceptualizations will be evaluated using the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF). These two instruments will be used to measure the quality of a case conceptualization. In the second pretest, participants will complete a questionnaire related to their views about case conceptualization (e.g., Case conceptualizations are not clinically useful). This is a 6-item instrument used to assess a counselor’s perceptions/views about case conceptualization. The participants will also complete an Information (Demographic) Questionnaire. This questionnaire was designed by this researcher to collect information about each participant, such as age, gender, GPA, counseling experience, and graduate school training. Level of graduate school training will be measured in number of semesters. Experience in the counseling field will be measured in number of months. Following completion of the pretests and the demographic questionnaire, case conceptualization will extensively be defined and it’s key functions will be explained. An integrative model, one that can be used from any theoretical perspective, will be used and its key components and elements will be strongly emphasized. Participants will be encouraged to ask questions throughout the training workshop. In addition to a case vignette that will be presented, a training video of a
A counseling session will be shown during the training session. Participants will be asked 8 key questions about the video, all of which comprise an effective case conceptualization (e.g. What is the client’s presentation and what precipitates it?). A detailed explanation of each of the 8 questions will be addressed. Examples of effective and compelling case conceptualizations will be provided, which will include high levels of explanatory and predictive power. This workshop will be engaging and interactive. Three different versions of explanatory power will be illustrated from the case shown on the video. Participants will be asked to choose which version best explains the dynamics in the case. Two posttests will be conducted at the end of the training session. First, participants will be asked to write a case conceptualization on the same case vignette used for the pretest. Second, participants will be asked to complete another questionnaire about their views of case conceptualization. At the conclusion of the training session, participants will complete the Counselor Cognitions Questionnaire. Participants will be asked to spend a few moments thinking about the client in the case vignette and then describing the client as fully as they can by using words or phrases that explain his or her defining characteristics. The participants will identify if the characteristics chosen are mostly positive, mostly negative, or neutral in their impression of the client. The participants will then be instructed to review all of the characteristics listed and consider if any of them group together or fit into categories. A label that describes the category will be written and the number of characteristics that explain or fit within that category will be identified. The pretest and post test case conceptualizations and questionnaires will be collected by the workshop facilitator at the conclusion of each training session. The workshop facilitator will deliver all material to this researcher in person following each training. The data will be compiled and scored by two independent raters.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research study is strictly voluntary and provides confidentiality of research data, as described in the protocol. Therefore, as the institutional authority of Lynn University, I agree that Elizabeth Kelsey’s research project may be conducted at Lynn University in the Department of Psychology.

Sincerely,

Craig A. Mertler

Dr. Craig A. Mertler
Chair, Institutional Review Board
Dear Colleagues:

I am familiar with Elizabeth Kelsey’s research project entitled “The Effect of a Case Conceptualization Training Workshop on Competence and Cognitive Complexity.” I understand Palm Beach Atlantic University’s involvement in this study to be the utilization of 2 core curriculum classes from the Graduate Counseling Psychology Program. The training workshops will be scheduled with the instructors of the courses who agree to allow their counseling students to participate in this study. Two separate workshops will be scheduled at Palm Beach Atlantic University and the number of participants in each training session will be approximately 10 individuals. Participants will only attend one training workshop. This study will employ a quasi-experimental design with one treatment group (no control group). The intervention (case conceptualization workshop) will be a 2-hour training session. Participants will be given twenty minutes following the training workshop to complete three additional questionnaires. The training program will begin with 2 pretests. In the first pretest, the participants will be asked to review a case vignette and instructed to write a case conceptualization. The case conceptualizations will be evaluated using the Case Formulation Content Coding Method (CFCCM) and the Case Conceptualization Evaluation Form (CCEF). These two instruments will be used to measure the quality of a case conceptualization. In the second pretest, participants will complete a questionnaire related to their views about case conceptualization (e.g., Case conceptualizations are not clinically useful). This is a 6-item instrument used to assess a counselor’s perceptions/views about case conceptualization. The participants will also complete an Information (Demographic) Questionnaire. This questionnaire was designed by this researcher to collect information about each participant, such as age, gender, GPA, counseling experience, and graduate school training. Level of graduate school training will be measured in number of semesters. Experience in the counseling field will be measured in number of months.
Following completion of the pretests and the demographic questionnaire, case conceptualization will extensively be defined and its key functions will be explained. An integrative model, one that can be used from any theoretical perspective, will be used and its key components and elements will be strongly emphasized. Participants will be encouraged to ask questions throughout the training workshop. In addition to a case vignette that will be presented, a training video of a counseling session will be shown during the training session. Participants will be asked 8 key questions about the video, all of which comprise an effective case conceptualization (e.g., What is the client’s presentation and what precipitates it?). A detailed explanation of each of the 8 questions will be addressed. Examples of effective and compelling case conceptualizations will be provided, which will include high levels of explanatory and predictive power. This workshop will be engaging and interactive. Three different versions of explanatory power will be illustrated from the case shown on the video. Participants will be asked to choose which version best explains the dynamics in the case. Two posttests will be conducted at the end of the training session. First, participants will be asked to write a case conceptualization on the same case vignette used for the pretest. Second, participants will be asked to complete another questionnaire about their views of case conceptualization. At the conclusion of the training session, participants will complete the Counselor Cognitions Questionnaire. Participants will be asked to spend a few moments thinking about the client in the case vignette and then describing the client as fully as they can by using words or phrases that explain his or her defining characteristics. The participants will identify if the characteristics chosen are mostly positive, mostly negative, or neutral in their impression of the client. The participants will then be instructed to review all of the characteristics listed and consider if any of them group together or fit into categories. A label that describes the category will be written and the number of characteristics that explain or fit within that category will be identified. The pretest and post test case conceptualizations and questionnaires will be collected by the workshop facilitator at the conclusion of each training session. The workshop facilitator will deliver all material to this researcher in person following each training session. The data will be compiled and scored by two independent raters.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research study is strictly voluntary and provides confidentiality of research data, as described in the protocol. Therefore, as the institutional authority of Palm Beach Atlantic University, I agree that Elizabeth Kelsey’s research project may be conducted at Palm Beach Atlantic University in the Department of Counseling Psychology.

Sincerely,

David Comptom, Ph.D.
Chair, IRB
APPENDIX C

Permission to Use Instruments
PERMISSION TO USE INSTRUMENTS

February 5, 2013

Dear Dr. Eells,

It is an honor to be writing an email to you. I am currently a second year doctoral student studying at Florida Atlantic University in Boca Raton, Florida. My focus of study (dissertation) is on case conceptualization and cognitive complexity. I will be working with counselors in training at 3 universities in South Florida. I will be conducting a two-hour training workshop teaching counselors how to develop written case conceptualizations. My dissertation chair, Dr. Len Sperry, has pointed me in the direction of several of your articles on case formulation and I am very interested in using the Case Formulation Content Coding Manual as an instrument in my study. I have already received permission from Dr. Laura Welfare to use the Cognitive Complexity Questionnaire (CCQ).

Would it be possible to obtain a copy of the instrument from you to see if this would be appropriate for my study (with your permission to use)? If you have any information on the psychometrics or anything else that you think that may be helpful I would certainly appreciate it. I look forward to hearing from you.

Sincerely,

Elizabeth Kelsey
February 6, 2013

Dear Elizabeth,

You are more than welcome to use the CFCCM in your dissertation. I am attaching the manual and some scoring forms. If you have any questions after reviewing, just let me know.

Best,

Tracy D. Eells, MBA, PhD
Vice Provost for Faculty Affairs
Professor, Department of Psychiatry and Behavioral Sciences
University of Louisville
Louisville, KY 40292 USA

P: 502.852.6720
February 1, 2013

Dear Dr. Welfare,

It is an honor to be writing an email to you. I am currently a second year doctoral student studying at Florida Atlantic University in Boca Raton, Florida. My focus of study (dissertation) is on case conceptualization. I will be working with counselors in training at 3 universities in South Florida. I will be conducting a two-hour training workshop teaching counselors how to develop written case conceptualizations. I will be measuring their level of competency using the CFCCM instrument. I am also looking at cognitive complexity among the counselors in training. I recently reviewed some of your studies on “Cognitive Complexity,” and I am very interested in the Counselor Cognitions Questionnaire (CCQ) you developed.

Would it be possible to obtain a copy of the instrument from you to see if this would be appropriate for my study (with your permission to use)? If you have any information on the psychometrics or anything else that you think that may be helpful I would certainly appreciate it. I look forward to hearing from you.

Sincerely,

Elizabeth Kelsey
February 1, 2013

Elizabeth,

Certainly! It sounds like you have a great study in mind. I attached the instrument itself and the rater-training manual. There are many other ways the instrument can be used so if you have other ideas do not hesitate to ask. I don’t have any other rules for use of the instrument except that you keep these materials to yourself and send any other interested people to me directly.

Best wishes,

Laura

----------------------------------------------------
Laura E. Welfare, PhD, LPC, ACS
Assistant Professor of Counselor Education
Virginia Tech
Assistant Professor of Interprofessionalism
Virginia Tech Carilion School of Medicine
309 East Eggleston Hall (0302)
Blacksburg, VA 24061
(540) 819-7551
welfare@vt.edu
APPENDIX D

Case Conceptualization Statement Sheet: Pre-Test
Case Conceptualization Statement Sheet: Pre-Test

Katie is a 39 y/o Caucasian female who is a full-time graduate student who was self-referred for counseling due to chronic worrying, anxious mood, significant depressive symptoms, and increased social isolation in response to recent news that she is going to be evicted from her apartment of 25 years. Her history reveals that she has experienced a significant amount of loss throughout her life: her parents died in a car accident when she was 5, and in 2001 her husband left her for another woman, her grandmother died, and she lost her job. She recalls her emotional response to moving out of her home the day that her parents died and remembered feeling extremely anxious and worried about "what will happen next?" She reported a life-long history of interpersonal avoidance to prevent losing people who became close to her. She is extremely sensitive and uncomfortable around critical and demanding people, and believes that she has felt that way her entire life and even has avoided most opportunities for relationships. She currently copes with stress by avoiding-relationships and spending time alone in nature. She also reported feeling undeserving of positive events or supportive people in her life, and consequently has a support system that consists of two friends. Her thyroid condition was evaluated and found to be non-contributory. A paternal family history of depression and alcoholism was reported, and she denied any use of alcohol or recreational drugs. Katie meets DSM-IV-TR criteria for Generalized Anxiety Disorder, Depressive Disorder NOS, and Avoidant Personality Disorder.
APPENDIX E

Case Conceptualization Statement Sheet: Post-Test
CASE CONCEPTUALIZATION STATEMENT SHEET: POST-TEST

Case Conceptualization Statement Sheet: Case of: Katie--Post-Test

Instructions: Please read the background information on the case and write then write a case conceptualization statement (also called a case formulation) on the lines below. First, write a phrase or sentence for each of the four points below. Then, use these to guide your writing of a case conceptualization statement. You have a maximum of 15 minutes. Thank you.

1. Link the presenting problem(s) [Presentation] to the trigger(s) [Precipitant]

2. Specify her movement and purpose [Maladaptive Pattern]

3. Specify an explanation of the origin or causes of the pattern &presentation [Predisposing Factors].
   biological factor(s): (if present) ____________________________________________
   psychological factors: _____________________________________________________
   socio-cultural factors: ___________________________________________________

4. Specify appropriate treatment goals & interventions [Treatment Goals]

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
Write your **Case Conceptualization statement** here by combining your responses to #1-4:

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

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APPENDIX F

Case Conceptualization Evaluation Form
### Case Conceptualization Evaluation Form (Master Rubric)

**Instructions:** Circle the number (0-10 scale) that best evaluates the written case conceptualization statement in terms of the following items.

1. **Presenting Problem (Presentation) and Triggers (Precipitant)**
   - **0** fails to identify presentation &/or precipitant &/or link between both
   - **1** Partially identifies presentation & precipitant & link between both
   - **2** fully and accurately identifies presentation & precipitant & link between both

2. **Maladaptive Pattern**
   - **0** fails to fully identify client's maladaptive pattern (explain precipitant-presentation link); or is not stated or easily inferred in a short memorable phrase
   - **1** Partially identifies client's maladaptive pattern (explain precipitant-presentation link); somewhat stated or inferred in a short memorable phrase
   - **2** fully and accurately identifies maladaptive pattern (explain precipitant-presentation link); stated and easily inferred in a short memorable phrase

3. **Predisposing Factors**
   - **0** fails to or poorly identifies an explanation of origins/cause (biological factors, psychological factors, socio-cultural factors) for the client's presentation and pattern
   - **1** Partially identifies an explanation of origins/cause (biological factors, psychological factors, socio-cultural factors) for the client's presentation and pattern
   - **2** fully and accurately identifies an explanation of origins/cause (biological factors, psychological factors, socio-cultural factors) for the client's presentation and pattern
4. **Treatment Goals and Interventions**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fails to identify the presenting problem, diagnosis if one is given, &amp;/or the maladaptive pattern. Adaptive pattern is not specified or implied &amp;/or does not specify appropriate 1st &amp; 2nd order goals nor corresponding interventions.</td>
</tr>
<tr>
<td>1</td>
<td>Partially identifies the presenting problem, diagnosis if one is given, and the maladaptive pattern. Adaptive pattern is partially specified or implied; partially appropriate 1st &amp; 2nd order goals and corresponding interventions.</td>
</tr>
<tr>
<td>2</td>
<td>Fully and accurately identifies the presenting problem, diagnosis if one is given, and the maladaptive pattern. Adaptive pattern is fully and accurately specified or implied; specifies appropriate 1st &amp; 2nd order goals and corresponding interventions.</td>
</tr>
</tbody>
</table>

5. **Explanatory Power**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Explanation is not realistic &amp;/or inadequately links Presentation/Precipitant/Pattern/Predisposition/Perpetuants; <strong>poor or low explanatory power:</strong> does not provide a compelling explanation which reflects the client’s personality dynamics &amp;/or does not or poorly “fits” all the data of the case.</td>
</tr>
<tr>
<td>4</td>
<td>Explanation is somewhat realistic and partially links Presentation/Precipitant/Pattern/Predisposition/Perpetuants; <strong>moderate explanatory power:</strong> somewhat provides a compelling explanation which reflects the client’s personality dynamics and partially “fits” all the data of the case.</td>
</tr>
<tr>
<td>8</td>
<td>Explanation is realistic and accurately links Presentation/Precipitant/Pattern/Predisposition/Perpetuants; <strong>high explanatory power:</strong> provides a compelling explanation which reflects the client’s personality dynamics and accurately “fits” all the data of the case.</td>
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</table>

6. **Completeness**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Fails to identify and incorporate any case conceptualization elements or fails to identify and incorporate a sufficient number of case conceptualization elements [presentation, precipitant, pattern, predisposition, perpetuants, treatment goals &amp; interventions] in the case conceptualization.</td>
</tr>
<tr>
<td>4</td>
<td>Partially identifies and incorporates a sufficient number of case conceptualization elements [presentation, precipitant, pattern, predisposition, perpetuants, treatment goals &amp; interventions] and partially/moderately provides a complete case conceptualization.</td>
</tr>
<tr>
<td>8</td>
<td>Fully and accurately identifies and incorporates a sufficient number of case conceptualization elements [presentation, precipitant, pattern, predisposition, perpetuants, treatment goals &amp; interventions] and fully and accurately provides a complete case conceptualization.</td>
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### 7. Coherence

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<td>10</td>
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<tr>
<td>fails to coherently &amp;/or logically articulate all the included case conceptualization elements: low level of coherence</td>
<td>Partially coherent and logical articulation of all the included case conceptualization elements; moderate level of coherence</td>
<td>fully coherent and logical explanation of all the included case conceptualization elements; high level of coherence</td>
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© Len Sperry, M.D., Ph.D.
<table>
<thead>
<tr>
<th>CCEF-Pre-test-Scoring Form</th>
<th>Score</th>
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<tbody>
<tr>
<td>1. Presenting Problem (Presentation) and Triggers (Precipitant)</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>2. Maladaptive Pattern</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>3. Predisposing Factors</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>4. Treatment Goals and Interventions</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>5. Explanatory Power</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>6. Completeness</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>7. Coherence</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
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<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>2. Maladaptive Pattern</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>3. Predisposing Factors</td>
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<tr>
<td>4. Treatment Goals and Interventions</td>
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</tr>
<tr>
<td>5. Explanatory Power</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>6. Completeness</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>7. Coherence</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>
APPENDIX G

Case Formulation Content Coding Method
# CASE FORMULATION CONTENT CODING METHOD

## FORMULATION AND TREATMENT PLAN CODING SHEET

### A. DESCRIPTIVE INFORMATION  (Not Presented As Explanatory)
1. Identifying Information
2. Symptom Identification (Information Given in Vignette)
3. History of Present or Previous Episode of Mental Health Problems or Care (Including Drug & Alcohol Abuse)
   3.1 Family history of mental health care or problems (including drug & alcohol abuse)
4. Medical / Health History – Adulthood
   4.1 Medical history in current family
5. Developmental History (Individual or Family)
6. Adult Life History (Current and Past Relationships)
7. Mental Status Information / Appearance
8. Other Descriptive Information
9. Need More Descriptive Information On: (Code as 9 if subcategory does not apply)
   9.1 Identifying information
   9.2 Symptom identification
   9.3 History of present or previous episode of mental health care or problems (include drug/alcohol abuse and family history of mental health care or problems)
   9.4 Medical history – Adulthood or current family
   9.5 Developmental history (infancy through adolescence)
   9.6 Adult life history (including social and sexual history)

### B. DIAGNOSTIC INFORMATION
10. Axis I DSM-III-R or DSM-IV Diagnosis
11. Axis II DSM-III-R or DSM-IV Diagnosis
12. Axis I & Axis II Diagnosis in Same IU
13. Alcohol / Substance Abuse or Dependency

### C. FORMULATION / INFERRED INFORMATION
14. Problems in Global Psychological, Social, or Occupational Functioning
15. Symptoms / Problem Identification Inferred from Vignette
16. Predisposing Experiences, Events, Traumas, Stressors Inferred as Explanatory (must be explicit)
   16.1 Childhood and/or adolescence (0-18 years)
   16.2 Adulthood (past or recent and not stated as precipitant to current symptoms, which would be coded 18)
17. Precipitating or Current Stressors And/or Events (primary)
18. Inferred Mechanisms: Psychological
   18.1 Problematic aspects/trait of the self
   18.2 Problematic aspects of relatedness to others
   19.3 Dysfunctional thoughts and/or core beliefs (not specifically self or others)
   19.4 Affect regulation or dysregulation
   19.5 Defense mechanisms / problematic coping style
   19.6 Skills or social learning deficit
19. Inferred Mechanisms: Biological
20. Inferred Mechanisms: Social or Cultural Factors
   20.1 Absence of or poor psychosocial support
   20.2 Demographic/cultural factors (e.g., SES, gender) as source of a problem
   20.3 Role conflict: role strain, role transition, role dispute
21. Strengths in Global Psychological, Social, or Occupational Functioning
21.1 Strengths/adaptive skills, aspects, or traits of self
21.2 Adaptive perceptions of or beliefs about others
21.3 Positive motivation for treatment
21.4 Adaptive wishes, hopes
21.5 Good psychosocial support

D. TREATMENT PLANNING
23 Type of Treatment Considered (Code only when you cannot code as 32-40!)
23.1 Individual therapy (no specific type stated)
23.2 Individual cognitive-behavioral therapy
23.3 Individual psychodynamic or interpersonal therapy
23.4 Group therapy
23.5 Couples, marital and/or family therapy
23.6 Inpatient psychiatric hospitalization
23.7 Refer elsewhere for psychotherapy
23.8 No psychotherapy recommended

24 Evaluation/Assessment (Pre-therapy, extra-therapy, or concurrent with therapy) (Code only when you cannot code as 32-40!)
24.1 Referral for physical / general medical evaluation (not psychiatric medication evaluation)
24.2 Referral for psychometric testing
24.3 Further develop case conceptualization
24.4 Ongoing use of scales to monitor symptoms, problems, progress

25 Specific (e.g., Structured) Techniques (Code only when you cannot code as 32-40!)
25.1 Relaxation exercises
25.2 Exposure: in vivo or in session
25.3 Assign homework (intersession activities for patient)
25.4 Role playing
25.5 Provide explicit psychoeducation

FOCUS ON / EXPLORE / ATTEND TO:
26 Possible Current Red Flag Issues (incl. danger to self or other; suspect sexual/physical abuse or neglect; suspect organic problems; suspect drug or alcohol abuse; confidentiality or privilege issues; ethical or legal issues)

27 Treatment Contract/Expectations (e.g., length of treatment, frequency of meetings, prognosis, goals)

28 Therapist–Patient Relationship (e.g., rapport, transference, therapist-patient gender match)

29 Signs and Symptoms

30 Predisposing Experiences, Events, Traumas (Code 36 if referent is unclear)
30.1 Childhood and/or adolescence
30.2 Adulthood
30.4 Precipitating or current stressors (including current problematic relationships)
30.5 Past therapy relationships
30.6 Family psychiatric history

31 Psychological Mechanisms
31.1 Problematic aspects / traits of the self
31.2 Problematic aspects of relatedness to others
31.3 Dysfunctional thoughts, schemas, automatic thoughts, or core beliefs (not specifically self/other)
31.4 Affect regulation or disregulation; encourage expression or control of affect
31.5 Defenses/coping mechanisms
31.6 Skills or social learning deficit

32 Social and/or Cultural Factors (Role Conflicts, Poor Psychosocial Support, Demographics)

33 Biological Factors / Psychopharmacology

34 Strengths in Global Psychological, Social, or Occupational Functioning

35 Signs and Symptoms

36 Predisposing Experiences, Events, Traumas (Code 36 if referent is unclear)
   36.1 Childhood and/or adolescence
   36.2 Adulthood
   36.4 Precipitating or current stressors (including current problematic relationships)
   36.5 Past therapy relationships
   36.6 Family psychiatric history

37 Psychological Mechanisms
   37.1 Problematic aspects / traits of the self
   37.2 Problematic aspects of relatedness to others
   37.3 Dysfunctional thoughts, schemas, automatic thoughts, or core beliefs (not specifically self/other)
   37.4 Affect regulation or disregulation; encourage expression or control of affect
   37.5 Defenses/coping mechanisms
   37.6 Skills or social learning deficit

38 Social and/or Cultural Factors (Role Conflicts, Poor Psychosocial Support, Demographics)

39 Biological Factors / Psychopharmacology

40 Strengths in Global Psychological, Social, or Occupational Functioning
CASE FORMULATION CONTENT CODING METHOD

RATING SYSTEMATIC PROCESS

How much evidence exists that this clinician is following an *a priori* scheme for developing his/her case formulations? That is, to what extent does the clinician seem to be using a pre-set and systematic structure for organizing clinical information that is evident across the six formulations and is relatively independent of specific patient information?

**Systematic Process:**

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<th>2</th>
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</thead>
<tbody>
<tr>
<td>No Evidence</td>
<td>Little Evidence</td>
<td>Moderate Degree of Evidence</td>
<td>Clear and Convincing Evidence</td>
<td>Evidence Beyond a Reasonable Doubt</td>
</tr>
<tr>
<td>No Evidence</td>
<td>or Nearly Evidence</td>
<td>of Evidence</td>
<td>Evidence</td>
<td></td>
</tr>
</tbody>
</table>

**Considerations:**

1. Subject may say he/she likes to follow a particular process, but must actually do it.
2. Do not "penalize" a subject if he/she is unable to go through all steps in a process. Due to the five-minute time limit, some clinicians with pre-set systems may not have sufficient time to present a complete formulation.
3. Base your judgment on the complete set of six formulations.
4. Give the highest score your judgment permits, in light of the evidence.
CASE FORMULATION CONTENT CODING METHOD

Formulation Quality Ratings:    Formulation number: __________

1. Complexity:

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<tbody>
<tr>
<td>Insufficient Information Complexity</td>
<td>Very Little Complexity</td>
<td>Little Complexity</td>
<td>Moderate Complexity</td>
<td>High Complexity</td>
<td></td>
</tr>
</tbody>
</table>

Rate the overall complexity of the formulation. Highly complex formulations take into account several facets of the person’s problems and functioning, integrating them into a meaningful presentation. Note: Disregard the Elaboration or specificity of the language.

2. Precision of Language:

<table>
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<tr>
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<th>1</th>
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<tbody>
<tr>
<td>Insufficient Information Precision</td>
<td>Very Little Precision</td>
<td>Little Precision</td>
<td>Moderate Precision</td>
<td>High Precision</td>
<td></td>
</tr>
</tbody>
</table>

Rate the overall precision of the language used in the formulation. Highly precise language is used to construct a formulation that is tailored to a unique individual. Language with little precision is used to construct a general formulation that could apply to almost anyone (Barnum effect). Do not be overly influenced by jargon that the clinician does not explain. Note: This refers only to the quality and specificity of the language, not the quality or the amount of information covered.

3. Overall Coherence:

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<tr>
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<th>3</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Insufficient Information Coherence</td>
<td>Very Little Coherence</td>
<td>Little Coherence</td>
<td>Moderate Coherence</td>
<td>High Coherence</td>
<td></td>
</tr>
</tbody>
</table>

Rate the extent to which the formulation seems to "hang together," providing an internally consistent account of the individual’s problems. One way of judging coherence is attempting to summarize the formulation in a short sentence.
4. A priori Structure: Does the clinician seem to be following an a priori structure, independent of the particular patient, that helps organize the clinical information? (Disregard breaks in the systematic process imposed by the interviewers questions.)
   yes (1) ______
   no (2) ______

5. Goodness-of-fit to formulation:

   0        1        2        3        4
Insufficient  Very Little  Little  Moderate  High
Information    Consistency  Consistency  Consistency  Consistency

Rate the extent to which the treatment plan is consistent with the formulation that is the extent to which it addresses the issues raised in the formulation?

6. Elaboration of treatment plan:

   0        1        2        3        4
Insufficient  Very Little  Little  Moderate  High
Information    Elaboration  Elaboration  Elaboration  Elaboration

Rate how well the clinician explains or elaborates on the treatment plan.
APPENDIX H

Counselor Cognitions Questionnaire: Single Form
COUNSELOR COGNITIONS QUESTIONNAIRE: SINGLE FORM

INSTRUMENT

Counselor Cognitions Questionnaire: Single Client Form

This questionnaire is designed to explore how counselors describe their clients. Please list a client whom you know well. Use only an initial or symbol to represent him or her.

Client: “Katie”

Spend a few moments thinking about this client and comparing and contrasting him or her with other clients. Think about your interactions with this client and any attributes or characteristics, which you might use to describe him or her.

In the first column, describe the client as fully as you can by writing words or phrases that explain his or her defining characteristics. Do not simply put those characteristics that distinguish this client from other clients; rather, include all that come to mind. Describe the client completely so that a stranger would be able to determine the kind of person he or she is from your description only. You do not have to use all of the space provided.

In the second column, indicate if the characteristic you listed is mostly positive (+) or mostly negative (-) in your impression of the client. If the characteristic is neutral, leave column two blank.

In the third column, indicate the importance of the characteristic to your overall impression of the client. A score of 1 = not at all important while 5 = extremely important.
1. Client: ___________________

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>+/-</th>
<th>Importance of the Characteristic</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>Low</td>
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</table>
Now review the characteristics you listed. Consider if any of them group together or fit into categories. If so, write a **label that describes the category** and write the **numbers of the characteristics** that explain or fit within that category. You may use each characteristic in more than one category. You do not have to use all of the space provided.
APPENDIX I

Views About Case Conceptualizations: Pre-Test
VIEWS ABOUT CASE CONCEPTUALIZATIONS: PRE-TEST

Name_____________________________ Date ____________________

Directions: Circle the number that best reflects the extent to which you agree with the following statements.

1. Case conceptualizations are **not** clinically useful.
   
   completely agree  moderately agree  completely disagree
   1               2               3               4               5               6               7

2. There are other clinical skills that are more important than case conceptualizations.

   completely agree  moderately agree  completely disagree
   1               2               3               4               5               6               7

3. Formulating and writing case conceptualization is too time consuming.

   completely agree  moderately agree  completely disagree
   1               2               3               4               5               6               7

4. Learning how to write case conceptualizations is too difficult.

   completely agree  moderately agree  completely disagree
   1               2               3               4               5               6               7

5. A case conceptualization is basically a case summary

   completely agree  moderately agree  completely disagree
   1               2               3               4               5               6               7
6. My knowledge and experiences with formulating and writing case conceptualizations is:
(circle one)

a. no knowledge and no experience
b. some knowledge and no experience
c. some knowledge and some experience
d. considerable knowledge and some experience
e. considerable knowledge and considerable experience
APPENDIX J

Views About Case Conceptualizations: Post-Test
# VIEWS ABOUT CASE CONCEPTUALIZATIONS: POST-TEST

**Name______________________________  Date ________________**

**Directions:** Circle the number that best reflects the extent to which you agree with the following statements.

1. **Case conceptualizations are not clinically useful.**
   - completely agree   - moderately agree   - completely disagree
   1  2  3  4  5  6  7

2. **There are other clinical skills that are more important than case conceptualizations.**
   - completely agree   - moderately agree   - completely disagree
   1  2  3  4  5  6  7

3. **Formulating and writing case conceptualization is too time consuming.**
   - completely agree   - moderately agree   - completely disagree
   1  2  3  4  5  6  7

4. **Learning how to write case conceptualizations is too difficult.**
   - completely agree   - moderately agree   - completely disagree
   1  2  3  4  5  6  7

5. **A case conceptualization is basically a case summary**
   - completely agree   - moderately agree   - completely disagree
   1  2  3  4  5  6  7
6. As a result of this training, my knowledge and experiences with formulating and writing case conceptualizations is now: (circle one)

a. no knowledge and no experience  
b. some knowledge and no experience  
c. some knowledge and some experience  
d. considerable knowledge and some experience  
e. considerable knowledge and considerable experience
APPENDIX K

Demographic/Information Questionnaire
Please answer all of the questions as accurately as possible.

(1) **Gender:** (please circle) Male or Female

(2) **Age:** (in years): ________

(3) **Race:** (please circle):
   
   (a) Black
   (b) White
   (c) Asian/Pacific Islander
   (d) Latino(a)
   (e) Multiracial
   (f) Other: (please specify): ______________________

(4) **Highest Degree:**
   
   (a) Bachelor's
   (b) Master's
   (c) Post Master's

(5) **Current Program Type:**
   
   (a) Counseling
   (b) Counseling Psychology
   (c) Other: (please specify): ______________________

(6) **Number of Semesters in Program:** (please fill in): ________

(7) **Current Grade Point Average (GPA):** (please fill in): ________

(8) **Number of Months with Counseling Experience:** (please fill in): ________

(9) **Please Estimate the Number of Direct Contact Hours in Counseling:** (please fill in) ________

(10) Have you read any or all of the book “*Case Conceptualization: Mastering this Competency with Ease and Confidence*?” (please circle: Yes or No)
APPENDIX L

Workshop Questionnaire
WORKSHOP QUESTIONNAIRE

INSTRUCTIONS: Please circle your response to the items. Rate aspects of the workshop on a 1 to 5 scale:

1=Strongly disagree
2=Disagree
3=Neither agree nor disagree
4=Agree
5=Strongly agree

1. I was well informed about the objectives of this workshop.  
   1  2  3  4  5

2. This workshop lived up to my expectations.  
   1  2  3  4  5

3. The workshop activities stimulated my learning.  
   1  2  3  4  5

4. The difficulty level of this workshop was appropriate.  
   1  2  3  4  5

5. The pace of this workshop was appropriate.  
   1  2  3  4  5

6. The instructor was well prepared.  
   1  2  3  4  5

7. The instructor was helpful.  
   1  2  3  4  5

8. I will be able to use what I learned in this workshop.  
   1  2  3  4  5

9. The workshop was a good way for me to learn this content.  
   1  2  3  4  5

Your feedback is sincerely appreciated. Thank you!
REFERENCES


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Handbook of psychotherapy case formulation (pp. 137–165). New York: Guilford.


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