

Electronic Theses and Dissertations, 2004-2019

2013

The Development Of The Counselor Intuition Scale

Jesse Fox
University of Central Florida

 Part of the [Counselor Education Commons](#), and the [Education Commons](#)
Find similar works at: <https://stars.library.ucf.edu/etd>
University of Central Florida Libraries <http://library.ucf.edu>

This Doctoral Dissertation (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Electronic Theses and Dissertations, 2004-2019 by an authorized administrator of STARS. For more information, please contact STARS@ucf.edu.

STARS Citation

Fox, Jesse, "The Development Of The Counselor Intuition Scale" (2013). *Electronic Theses and Dissertations, 2004-2019*. 2626.
<https://stars.library.ucf.edu/etd/2626>

THE DEVELOPMENT OF THE COUNSELOR INTUITION SCALE

by

JESSE FOX

B.A. Cedarville University, 2007

M.A. Trinity Evangelical Divinity School, 2010

A dissertation submitted in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy
in the College of Education and Human Performance
at the University of Central Florida
Orlando, Florida

Summer Term
2013

Major Professors: W. Bryce Hagedorn & Stephen Sivo

© 2013 Jesse Fox

ABSTRACT

Intuition is an important aspect of counseling, several revered counselors have either attested to the powers of their intuition or have had such powers attributed to them by their contemporaries. Moreover, many counselors believe that their intuition is more influential in their work with clients than are evidence-based practices (EBPs). However, the academy criticizes intuition for its susceptibility to cognitive errors and its poor performance when compared to statistical methods. In addition, the exact nature of intuition's role in counseling is largely unknown. Therefore, its contribution to client outcomes is equally a mystery, making it difficult for counselors to justify their reliance on its powers. Until this study, counselor intuition has been regarded as a, more or less, phantom construct in need of evidence to even suggest that it does in fact exist. Therefore, the purpose of this study was to develop the Counselor Intuition Scale (CIS).

The construction of the CIS began by adapting the methodology of instruments already in existence and whose purpose was to measure interpersonal and emotional sensitivity. The construction of the CIS began by creating a series of 39 video segments (lasting approximately two minutes each) depicting a client discussing a presenting problem. The video segments were then reviewed by two rounds of counseling experts ($N = 45$) whose intuitive responses to the clients featured in the CIS were used to create the criterion responses of the instrument. The expert responses were analyzed using Q-Methodology, the results of which suggested that the counseling experts approached the clients from a unidimensional perspective, which the researcher named "counselor intuition." The expert ratings were also analyzed using generalizability theory to assess the consistency of expert responses, the results of which

suggested that interrater reliability was excellent, ranging from .88 to .85. Lastly, the experts identified 263 criterion responses that can be used for the future development of the instrument. The implications of the study's findings, as well as the recommendations for future research are discussed.

For my wife, Amanda, and for my newborn son, Jaden.

ACKNOWLEDGMENTS

As I think about the efforts I have put into this project, I am reminded of Aquinas' words as he surveyed his own work, "It reminds me of straw." This is no *Summa Theologica*, but it does represent the best of my academic energy, and yet I cannot help but reflect upon the limitations of my own knowledge. Which is why I must begin these acknowledgements with, "As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts" (Jeremiah 55:9, NIV). Truer words have never been spoken. Therefore, I recognize that none of this would have been possible without the faith I have in the love of Christ. And so my thanksgivings begin there, and with him I say, "May you be ever more in me, and I in you" (John 17:21, NIV).

This moment is also a testament to the love and support I have received from countless friends and family members who have sacrificed their time and energy to see me finish my education and care for my wellbeing. To my wife, Amanda, you have been a constant source of strength and encouragement throughout this entire journey. There is no one who has been a better example to me of God's love. Without your tireless support I would have given up long ago. To my son, Jaden, we welcomed you into the world only a short time ago but you have already taught me so much about love and seeing you everyday has helped me continue on. To my parents, Tom and Sam, you have loved me my entire life and without such a strong foundation for my life and faith I would not be who I am today. The same goes for my sisters, Danielle and Nicole, you both were there to help me from my earliest days and have always been on my side. To my Papa, Claude, you have taught me how to be tenacious and to never give up. To my Nana, you have taught me how much influence there is in a gentle and abiding spirit. To

my newfound family, Mike and Carin, you have been an example to me of unconditional love and have always made me feel like family. Your joy has helped me focus on what is ahead, not what is behind. To my sisters, Lisa and Kim, your quick minds have always encouraged me to continue learning and growing, and your generosity has always been an example to me. To my mentor, Dr. William Moulder, you have been a guide to me in the life of the spirit and have directed me in ways that few are capable. If there were more men like you in the world, it would be a much better place.

During my time at UCF I have had the wonderful opportunity to learn from some of the best professors in the country. To my co-chair, Dr. W. Bryce Hagedorn, you have been an example of grace, character, resilience and balance to me. You were the first one to encourage me to pursue this topic and you have been a constant source of encouragement throughout the entire process (which I guess I can trust now). To my co-chair, Dr. Stephen Sivo, without your intelligence, quick wit, enthusiasm for statistics, and sincere belief in my abilities, I never would have been accomplishes what I did. I have enjoyed our many talks about research design, eigenvalues and family. To Dr. Mark E. Young, your humility, generosity and excellence have always encouraged me to do likewise. Thank you for all of the opportunities you provided me to learn and grow. Your insights have never failed to surprise me and have helped me think beyond what I was capable of. To Dr. Gulnora Hundley, never has a student been prouder to have a “triple doctor” on their committee. Thank you for the chance to work alongside you and glean what I can only image is a small proportion of your knowledge and wisdom during my time at UCF. Your positivity and humor helped me to stay grounded and get through what you have done three times over. I must also express my sincere thanks to the rest of the faculty at UCF,

you helped me grow in significant ways: Dr. E. H. Mike Robinson, Dr. Glenn Lambie, Dr. K. Dayle Jones, Dr. Andrew Daire, Dr. Stacy Van Horn, Dr. S. Kent Butler, Dr. B. Grant Hayes, and Dr. Sejal Barden.

My doctoral program would not have been complete without the love and support of my cohort: John Super, Chris Christmas, Dodie Limberg, Lamerial Jacobson, Hope Bell, and Kristina DePue. Each one of you stood behind me and told me that I could keep going. You were eager to celebrate with me, and quick to lift me up if I was discouraged. I respect each one of you and look forward to seeing your life's work.

Last but not least, I would like to thank every expert who I was able to rely upon to help develop this instrument, including but not limited to: Ed Brand, Ph.D., LMHC, LMFT, CAP, CCFC; Bruce A. Robertson, M.S., LMHC; Janice Ann Hughes, LCSW, ED.D.; Patrica Adams, LCSW, CCHP; Marni Feuerman, LCSW, LMFT; James Beller; Lesley LeBaron, PhD, LMFT, LMHC; Frances V. Saxenberg, LCSW, BCD; Linda P. Mitchell, LMHC; Madonna J. Wise, LMHC; James R. (Jim) Davis; Pamela Krake Fletcher, M.S., LMHC; Marina Oppenheimer; Carla Bresnahan; J. Richard Crossfield, LMHC, MAC; and Barbara B. Welsch, DVM, Ph.D.

Jesse Fox, June 2013

TABLE OF CONTENTS

LIST OF FIGURES	xvi
LIST OF TABLES	xvii
CHAPTER ONE: INTRODUCTION.....	1
Background of the Study	3
Need for the Study	8
Purpose of the Study and Research Questions.....	15
Research Question One.....	16
Research Question Two.....	16
Post Hoc Questions.....	17
Research Design.....	17
Assumptions.....	21
Definitions.....	22
Delimitations.....	23
Limitations	23
Chapter Summary	26
CHAPTER TWO: LITERATURE REVIEW.....	30
Section One: Overview of Intuition.....	30
Creative Cognition and Creativity	31
Tacit Knowledge.....	32
Implicit Learning and Implicit Memory.....	33
Insight.....	34

Flow	35
Summary of Related Terms	36
Intuition Defined	36
Theoretical Foundations of Counselor Intuition.....	41
The Fallibility of Intuition.....	56
Section Summary	62
Section Two: Empirical Studies of Intuition.....	63
Chess Master Studies.....	63
Qualitative Studies of Experts.....	68
Intuition in Counseling Studies	74
Section Summary	82
Section Three: Intuition in Counselor Education and Supervision	82
Intuition in Counselor Education	83
Intuition in Counselor Supervision.....	86
Section Summary	94
Section Four: Measures of Intuition	94
Westcott’s Test of Intuitive Ability	96
The Dyads of Triads Task	98
The Waterloo Gestalt Closure Task	101
The Remote Associates Test.....	102
The Accumulated Clues Task.....	104
The MiniPONS.....	105
The Interpersonal Perception Task.....	110
Section Summary	115

Section Five: Instrument Development.....	115
Step one: Identify the Primary Purpose(s) for which the Test Scores will be Used.....	117
Step Two: Identify Behaviors that Represent the Construct or Define the Domain	117
Step Three: Prepare a Set of Test Specifications, Delineating the Proportion of Items that Should Focus on Each Type of Behavior Identified in Step 2	118
Step Four: Construct an Initial Pool of Items.....	119
Step Five: Have Items Reviewed (and Revise as Necessary)	120
Step Six: Hold Preliminary Item Tryouts (and Revise as Necessary).....	122
Step Seven: Field Test the Items on a Large Sample Representative of the Examinee Population for Whom the Test is Intended.....	122
Step Eight: Determine Statistical Properties of Item Scores and, When Appropriate, Eliminate Items that do not Meet Preestablished Criteria	123
Step Nine: Design and Conduct Reliability and Validity Studies for the Final Form of the Test	124
Step Ten: Develop Guidelines for Administration, Scoring, and Interpretation of the Test Scores.....	131
Section Summary	132
Section Six: Q-Methodology	132
Step One: P-Set.....	134
Step Two: Q-Sample or Q-Set.....	134
Step Three: Q-Sorting.....	135
Step Four: Analysis.....	135
Step Five: Interpretation.....	136
Section Summary	136

Section Seven: Thin Slice Data	136
Section Summary	139
Chapter Summary	140
CHAPTER THREE: METHODOLOGY	142
Research Questions and Hypotheses	144
Research Question One.....	144
Research Question Two.....	144
Post Hoc Questions.....	145
Research Design.....	145
Procedure	146
Step One: Identify the Primary Purpose(s) for Which the Test Scores will be Used	146
Step Two: Identify Behaviors to Represent the Construct.....	146
Step Three: Prepare a Set of Test Specifications.....	150
Step Four: Construct an Initial Pool of Items.....	151
Step Five: Have Items Reviewed.....	157
Population and Sampling	158
Data Collection Procedures/Data Gathering.....	161
Video Selection Protocol	161
Video Segment Development.....	165
Expert Review	170
Data Analysis Procedures	172
Chapter Summary	173
CHAPTER FOUR: DATA ANALYSIS.....	175

Descriptive Statistics	175
Descriptive Statistics of Counselor-Client Pairs	175
Descriptive Statistics of Round One Experts	177
Descriptive Statistics of Round Two Experts	180
Data Analysis.....	183
Video Segment Analysis	184
Q-Method Factor Analysis	191
Generalizability Theory Analysis.....	203
Post Hoc Questions.....	207
Chapter Summary	215
CHAPTER FIVE: CONCLUSION.....	217
Summary of the Study	217
Discussion.....	223
Research Question One.....	223
Research Question Two.....	226
Post Hoc Questions.....	227
Limitations	230
Instrument Design	230
Criterion Response	231
Client Sample	232
Expert Sample	232
Recommendations for Future Research	233
Step Six: Hold Preliminary Item Tryouts (and Revise as Necessary).....	235

Step Seven: Field Test the Items on a Large Sample Representative of the Examinee Population for Whom the Test is Intended.....	235
Step Eight: Determine Statistical Properties of Item Scores and, When Appropriate, Eliminate Items that do not Meet Preestablished Criteria	236
Step Nine: Design and Conduct Reliability and Validity Studies for the Final Form of the Test	236
Step Ten: Develop Guidelines for Administration, Scoring, and Interpretation of the Test Scores.....	237
Implications.....	237
Counseling Field	237
Counselor Educators and Supervisors	239
Chapter Summary	241
Conclusion.....	241
APPENDIX A: DOCTORAL STUDENT COUNSELORS INFORMED CONSENT	243
APPENDIX B: MASTERS STUDENT CLIENT INFORMED CONSENT	248
APPENDIX C: QUALITATIVE EXPERT REVIEW INFORMED CONSENT	255
APPENDIX D: QUANTITATIVE EXPERT REVIEW INFORMED CONSENT	260
APPENDIX E: EXPERT REVIEWER QUALITATIVE FEEDBACK INSTRUCTIONS.....	265
APPENDIX F: EXPERT REVIEWER QUANTITATIVE RATING INSTRUCTIONS.....	268
APPENDIX G: INITIAL EMAIL TO QUALITATIVE EXPERT REVIEWERS	270
APPENDIX H: INITIAL EMAIL TO QUANTITATIVE EXPERT REVIEWERS	272

APPENDIX I: VIDEO SEGMENT SELECTION PROTOCOL AND TRIAL RUN	274
APPENDIX J: INSTITUTIONAL REVIEW BOARD PERMISSION LETTER	281
APPENDIX K: VIDEO RELEASE FORM	283
APPENDIX L: EXPERT QUALITATIVE RESPONSES	286
APPENDIX M: ANECDOTAL QUALITATIVE EXPERT FEEDBACK	311
APPENDIX N: INSTRUCTIONS FOR DOCTORAL STUDENTS AS COUNSELORS	313
APPENDIX O: INSTRUCTIONS FOR MASTERS STUDENTS AS CLIENTS.....	315
APPENDIX P: COMPILED STATEMENTS FOR ROUND TWO EXPERT REVIEW	317
APPENDIX Q: DESCRIPTIVE STATISTICS OF CIS STATEMENT RATINGS.....	333
LIST OF REFERENCES	358

LIST OF FIGURES

Figure 1. Likert-Type Scale Screen-Shot.....	190
Figure 2. Cattell's Scree Plot for CIS Q-Factor Analysis	196
Figure 3. Generalizability Coefficient Equation for Fully Crossed Design (Crocker & Algina, 2008)	205
Figure 4. Calculated Generalizability Coefficient	206
Figure 5. Cattell's Scree Plot for CIS Q-Factor Analysis	224

LIST OF TABLES

Table 1. Welling’s (2005) Model of Counselor Intuition.....	55
Table 2. The Clinical Intuition Exploration Guide (Jeffrey, 2012, pp. 39-40).....	93
Table 3. Video Selection Protocol Strategy One Trial Run.....	164
Table 4. Counselor Participant Demographics	176
Table 5 Client Participant Demographics.....	177
Table 6. Round One Experts Demographics.....	179
Table 7. Round Two Experts Demographics.....	182
Table 8. Demographic Information for Client and Counselor Pairs.....	185
Table 9. CIS Blueprint	187
Table 10. Initial Factor Loading of CIS Review.....	193
Table 11. Velicer’s (1976) MAP Test Results.....	198
Table 12. Parallel Analysis Results	200
Table 13. Expected Mean Squares and Variance Components for Single Facet G-Study	205
Table 14. Expected Mean Squares and Variance Components for Two-Facet G-Study.....	207
Table 15. Response Frequency for Type of Intuition Experienced by Experts	209
Table 16. Frequency of Coded Responses for Expert Perceptual Cues.....	211
Table 17. Frequency of Coded Responses for Experts’ Confidence in Their Intuition.....	214
Table 18. Frequency of Responses for the Development of Expert Intuition	215

CHAPTER ONE: INTRODUCTION

Intuition is a vital component of all social interactions and interpersonal relationships (Ambady, 2010). In any interpersonal interaction, several variables are potentially at work and must be assessed rapidly and unconsciously to bring about a smooth and successful transaction. Forming these unconscious social impressions involves perceiving the way in which people “move, talk and gesture—their facial expressions, postures and speech” (Ambady & Rosenthal, 1992, p. 256). In other words, the foundation of social impressions, and therefore intuition, consists in perceiving the subtle nuances of people’s verbal and non-verbal patterns of communication. As such, social perception is a key component of social intelligence as it is manifested as “social awareness” (Goleman, 2006, p.84) to the thoughts, feelings and behaviors of other people. Drawing from Goleman’s model of social intelligence, it can be said that to facilitate a social encounter, an individual must be able to read social cues and then respond appropriately.

Given that intuition is operating within most social contexts (Ambady, 2010), it is reasonable to contend that intuition is equally at work within counseling relationships. For instance, Carl Rogers (1986) valued his intuition while working with clients, saying:

When I am at my best, as a group facilitator or a therapist, I discover another characteristic. As a therapist, I find that when I am closest to my inner, intuitive self, when I am somehow in touch with the unknown in me, when perhaps I am in a slightly altered state of consciousness in the relationship, then whatever I do seems to be full of healing. Then simply my *presences* is releasing and helpful. There is nothing I can do to force this experience, but when I can relax and be

close to the transcendental core of me, then I may behave in strange, and impulsive ways in the relationship, ways which I cannot justify rationally, which have nothing to do with my thought processes. But these strange behaviors turn out to be *right* in some odd way. At those moments it seems that my inner spirit has reached out and touched the inner spirit of the other. Our relationship transcends itself and becomes a part of something larger. Profound growth and healing and energy are present. (pp. 198-199)

Rogers went on to suggest that these experiences of intuition are the result of empathy in its highest form, literally “indwelling in the client’s world” (1986, p. 206). Further, Rogers (see Rogers & Traux, 1967) suggested that the counselor’s ability to accurately read and respond to the client’s experiences and emotions “and their meaning” in each unfolding moment of a session “constitutes what can perhaps be described as the ‘work’ of the therapist” (p. 104). Bohart’s (1999) exhaustive discussion of counselor intuition is compelling. He made the assertion that intuition is actually the norm of therapy: when the interaction between counselor and client is flowing smoothly, it is then that the counselor is reacting intuitively from the recognition of the perceived pattern of social cues. Bohart concluded that it is only when the client communicates something unexpected or outside the expected norm that the counselor must devote conscious thought to the relationship.

This chapter serves as an introduction to the proposed study; it will begin with the background of intuition as it relates to counseling. This background will cover three primary areas of concern: (a) intuition in counseling theory, (b) intuition in supervision theories, and (c) research in cognitive psychology suggesting that intuition is a result of

expert pattern matching. Next, the need for developing a quantitative measure of counselor intuition will be addressed. The need for such an instrument stems from the lack of any sufficient measure that quantifies counselor intuition, thus rendering any quantitative research design incompatible with the investigation of counselor intuition and, thereby, any generalization of findings to the counseling profession. It will be shown that the inability to generalize the power of intuition in counseling presents a dilemma for counselors who claim to use it in modern day practice. After establishing the need to quantify counselor intuition, the purpose of this study will be discussed, namely the intent to develop an instrument specifically designed to measure counselor intuition. Subsequently, the research design for developing a psychological instrument as well as the specific considerations for the instrument being proposed in this study will be explored. Most notably, the instrument's design and unique use of digital, video-based items as the preferred method of measuring counselor intuition will be discussed. Lastly, the researcher's assumptions will be explained as well as the delimitations and limitations of the study.

Background of the Study

The idea that human beings possess an unconscious component of their psyche can be found in several theories of psychotherapy, and it is in the unconscious that we find intuition. For instance, a core therapeutic task in psychodynamic theory is making the unconscious-conscious (Gurman & Messer, 2003). Berne (1949) and Reik (1948), both coming from the psychodynamic tradition and both writing at about the same time, connected the idea of the unconscious to therapeutic intuition. Berne (1949) hypothesized that intuitive moments during therapy are a function of knowledge gained from past

experience and “acquired by means of pre-verbal unconscious or preconscious functions through sensory contact with the subject” (p. 205). Reik (1948) in *Listening with the Third Ear: The Inner Experience of the Psychotherapist* vividly described the subtle patterns of unconscious perception that clinicians use to form intuitive insights into their clients’ interior and relational dynamics, including how a client feels while shaking hands or in noticing small muscular movements in the face. In particular, Reik highlighted the importance of both putting together all patterns of communication, and then accurately identifying those patterns that serve as the essence of therapeutic intuition.

From the passage quoted earlier from Rogers (1986), it should be clear that person-centered therapy also valued both the unconscious and use of intuition. Rogers’ close associate, Gendlin (1970; 1981), connected unconscious experience to what he called the *felt-sense*—unconscious physical sensations; he later developed a method called *focusing* for making the felt-sense conscious.

Counselor intuition has also been the topic the counseling supervision theory known as Interpersonal Process Recall (IPR; Kagan & Kagan, 1997). Whereas IPR is often thought of simply as a technique, it serves as an example of a supervision model that is based on the theoretical tenets of reflective philosophy of learning (Bernard & Goodyear, 2009). IPR is built upon the theoretical tenet that in order for counselors to develop their expertise and progress through higher levels of professional ability, they must devote conscious reflection to their work (Schön, 1983; Ward & House, 1989). Therefore, supervisees learn to make conscious their intuitions that are sometimes based upon powerful, though misleading, past experiences that interrupt the free flow of communication between counselor and client. Upon reorganizing these faulty intuitions

through recall sessions, the supervisee is better equipped to facilitate the therapeutic encounter through accurate use of their gut level responses to the client. IPR's tenets are consistent with qualitative findings that as counselors develop professionally, they progress from reliance upon external direction from experts (the supervisor) to an internalized expertise known as *accumulated wisdom* (Skovholt & Ronnestad, 1992). It is this idea, that counselors rely upon accumulated wisdom, that is also consistent with what experts believe to be the source of intuition—thousands of stored patterns of clinical experience accessed almost instantly and unconsciously (Kahneman & Klein, 2009)

The idea that people unconsciously process information is also supported by the field of cognitive psychology. The pioneering studies by de Groot (1965) and later Chase and Simon (1973) found several important differences between the cognitive processing speeds of Grandmaster and non-master chess players. First, de Groot (1965) asked chess Grandmasters and non-masters to verbalize their decision making about what move to make next while viewing strategic positions on a chess board. Surprisingly, de Groot found that there was little difference between the two groups in the alternative moves they verbalized. In fact, de Groot went so far as to say, "It is not generally possible to distinguish the protocol of a grandmaster from the protocol of an expert player solely on structural and/or formal grounds" (p. 319). However, de Groot found that Grandmasters spent less time than non-masters thinking through bad alternatives, and thus were able to cut through distracting or inconsequential information and discern the heart of the board positioning as compared to non-masters. Moreover, Grandmasters were able to reconstruct a chessboard almost perfectly after viewing it for only five seconds, whereas non-masters failed to do so and were frustrated by the activity. These findings

suggested that Grandmasters memorize more patterns of play and are able to access them quicker as compared to non-masters. Similarly, Simon and Barenfeld (1969) found that Grandmasters have the capacity to store up to 100,000 known patterns of play and thus were able to access these patterns unconsciously and with faster speed as compared to non-masters. These two significant contributions to the literature of mastery and expertise were later generalized to other domains of expertise by the theory popularized by scholars like Gary Klein known as the Naturalistic Decision Making (NDM) approach of expertise (Kahneman & Klein, 2009; Klein, 1993). NDM posits that intuition occurs when an individual obtains mastery in a field of study, and that mastery is a result of a rapid recognition of environmental cues that are matched almost instantaneously to patterns stored in memory from prior experience. As Kahneman and Klein (2009) pointed out, “A central goal of NDM is to demystify intuition by identifying the cues that experts use to make their judgments, even if those cues involve tacit knowledge and are difficult for the expert to articulate” (p. 516).

Kahneman and Klein’s (2009) conclusion that intuition is the result of expert pattern matching were consistent with the relevant literature in counseling and psychotherapy. Berne’s (1949) definition of clinical intuition was somewhat prophetic in this sense given its consistency to the findings of cognitive psychology. Bohart (1999) concluded that therapists respond intuitively as they recognize patterns in their client’s behaviors and, much like an athlete putting into action hours of practice, respond without conscious reflection on what they are doing when patterns match their prior learning. However, when a client’s pattern of relating ventures outside those identified patterns, the counselor must devote conscious reflection to his/her experience with the client and shift

into a rationalistic processing mode. Therefore, with more experience and with more stored patterns to retrieve in the moment, counselors would theoretically intuit more often and rely less upon rationalistic methods of working with their clients. Williams and Irving (1996) echoed this insight, stating that in counseling, “acting intuitively is seen as the hallmark of expertise which is only to be expected from an experienced counsellor in an empathic relationship with a client” (p. 221). Qualitative investigations within the counseling field have confirmed these theoretical tenets (Skovholt & Ronnestad, 1992; Weis, 2009).

Through the study of expertise, a consensus has developed that states that expert status requires a large amount of time and concerted effort to obtain (Hoffman, Shadbolt, Burton, & Klein, 1995). Prietula and Simon (1989) estimated that it requires experts approximately 10 years of concentrated study in any field to amass enough information to respond intuitively. The “ten year rule” for developing expertise has received support from a variety of research endeavors and has become a standard in the study of expertise (see Ericsson & Lehmann, 1996). Skovholt, Rønneestad, and Jennings (1997) estimation was not far from that mark for expert counselors; they hypothesized that it requires an average of 15 years of intentional practice to reach the realms of expertise in counseling. However, without a reliable method of quantifying counselor intuition, it is difficult if not impossible to provide evidence of how intuition contributes to developing expertise. Moreover, it is equally impossible to understand intuition’s influence in the therapeutic process or to determine its growth and development as a result of intentional effort on the part of the counselor. Indeed, Spengler and colleagues (2009) concluded that despite there being extensive efforts to map out the novice-expert continuum in counseling,

“there are no examples of longitudinal data on the development of clinical judgment to advance clinical judgment decision-making research” (p. 383). Moreover, though research has investigated the development of expertise in counseling using rigorous research methods, the study of clinical judgment and decision-making has not received near as much consideration. They concluded that, “We know of no similar studies of the development of clinical judgment expertise and make a call for such a research program to determine if and how clinicians develop expertise over time” (p. 383).

Need for the Study

The pressure for counselors to provide empirical support for the work they do with clients has grown increasingly prominent (Patel, 2010), partly due to third party payers demanding that mental health care providers prove that what they do in therapy positively influences client outcomes (Smith, 1999). In 2009, the American Psychological Association (APA) commissioned a second interdivisional task force comprised of the Division of Psychotherapy and the Division of Clinical Psychology to re-investigate the therapeutic relationship as it contributes to client outcomes (Norcross, 2011). The findings of this task force suggested that relational factors between the therapist and client are preeminent in accounting for client outcomes. More specifically, common factors (i.e. the relational dynamics between the therapist and client, therapist characteristics, and client characteristics) accounts for approximately 30% of the variance in client outcomes as compared to specific techniques, which account for roughly 15% of the variance in client outcomes. Furthermore, corroborating evidence has suggested that the skill level of the clinician is a vital variable to account for treatment outcomes when implementing any intervention or treatment approach (APA, 2002). The implication of

the task force's findings is a call to further investigate the common factors, specifically characteristics of the therapeutic relationship (i.e., the person of the therapist, the person of the client, and the relationship between the two) since they contribute significantly more variance to client outcomes as compared to any one technique or manualized approach to counseling.

Within the call to provide reason and evidence for what counselors do to contribute to their clients' outcomes stands a dilemma. Though counselors are ethically required to adhere to evidenced based practices (EBPs; see American Counseling Association [ACA], 2005, C.6.e.), they tend to rate the use of their intuition as more influential in their positive work with clients as compared to EBPs (Baker, McFall, & Shoham, 2008; Gaudiano, Brown, & Miller, 2011; Lucock, Hall, & Noble, 2006), gravitate toward intuitive understanding as opposed to categorical or positivistic logic (Zachar & Leong, 1992), and at the very least see their intuition as a complimentary avenue of effective practice (Heaton, 2001). Based on their findings that counselors favor their intuition over EBPs, Lucock and colleagues (2006) stated:

It is possible that what therapists refer to as intuition and judgment may be defined and measured more clearly to see how it does in fact influence client outcome. This could lead to training and supervision approaches that enhance this aspect of a therapist's practice. (p. 128)

Moreover, viewing intuition as antithetical to EBP's is a misunderstanding of what an EBP actually is. The APA (2005) defined an EBP as "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and

preferences” (p. 1). An EBP is therefore an integration of methodical research with the accumulated wisdom (i.e. intuition) of clinical expertise. However, even when this false-dichotomy is called into question, it does not negate the fact that clinicians value their intuitive judgment over and against EBPs when they see them as antithetical (Baker, McFall, & Shoham, 2008; Lucock, et al., 2006).

The follow up to Lucock and colleagues’ (2006) call to measure intuition and assess its role in client outcomes is noticeably lacking in empirically based literature of intuition. This vacuum of information is especially startling in the light of Norcross’ (2011) findings that common factors, in particular the characteristics of the counselor (intuition being one of those characteristics), contribute most of the explained variance of client outcomes. Beyond qualitative descriptions of counselor intuition (see Jeffrey & Stone Fish, 2011; Skovholt & Ronnestad, 1992; Weis, 2006), empirical studies of intuition within the context of therapy are limited. The lack of research investigating counselor intuition is not without reason. To begin with, the academy has traditionally been critical of intuition (broadly defined), viewing it as a nebulous and un-measurable construct (Cloninger 2006; Kahneman & Klein, 2009). Part of this suspicion also stems from evidence suggesting that clinical decision-making underperforms significantly when compared to statistical models (Myers, 2002). Meehl’s (1954) meta-analytic review found that when clinicians make decisions limited to their expertise, they consistently fail to measure up to statistical models assessing those same constructs. Meehl’s work inspired Goldberg (1970) to ask similar questions about clinical decision-making. Goldberg argued that clinicians’ decisions are based upon their perception of environmental cues and, as in the case of the counselor working for a suicide prevention

call center, must make important decisions that influence client welfare based upon the accuracy of their perception of a phone intake interview. To study the veracity of clinical decision making, Goldberg developed linear regression equations (statistical models) representing the cues (MMPI profiles of real clients) that clinicians used to make diagnostic decisions of a client being either neurotic or psychotic. However, when Golberg tested a new set of environmental cues on the derived statistical models and compared them to the same human judges they were derived from, the human judges succumbed to error and were ultimately less accurate as compared to the statistical models. Meehl's findings (1954) as well as Golberg's findings (1970) casted serious doubt upon clinical judgment when it is limited to the perception of the clinician.

An additional challenge to the study of counselor intuition is defining the criterion by which to judge it's accuracy. Counselor intuition is by definition either accurate or inaccurate, giving it power to enhance therapy or to mislead the clinician and ultimately derail the therapeutic process (Myers, 2002). The problem, however, is knowing when an intuitive insight is right and when it is wrong. Judging the accuracy of social perception is notoriously difficult because the criteria by which to measure it are often equally subjective (Ambady & Rosenthal, 1992). Furthermore, the therapeutic relationship is complex (i.e. the environment that activates counselor intuition); the relationship between a client's verbal and non-verbal variables are not always clearly perceived, making it difficult for a counselor to judge the accuracy of their intuition when it does occur (Kahneman & Klein, 2009).

An inherent problem in quantifying counselor intuition is finding a suitable instrument by which to measure it. Langan-Fox and Shirley (2003) reviewed several

instruments intended to measure the three primary domains of intuition (cognitive, emotional and behavioral): the vast majority of those measures were based on self-report and therefore are measures of self-perception and not necessarily intuitive ability. In other words, just because counselors believe that they have intuitive expertise does not necessarily mean that they actually are accurate when they experience intuitive moments. However, there were some exceptions to this limitation, including Westcott's Test of Intuitive Ability (Westcott, 1961), the Dyads of Triads Task and the Waterloo Gestalt Closure Task (see Bowers, Regehr, Balthazard, & Parker, 1990; Shirley & Langan-Fox, 1996), the Accumulated Clues Task (ACT; Bowers, et al., 1990; Shirley & Langan-Fox, 1996), and the Remote Associates Test (RAT; Mednick, 1962).

Furthermore, there were two innovative instruments that also met this exception not reviewed by Langan-Fox and Shirley (2003). The first, The Mini Profile of Non-Verbal Sensitivity (MiniPONS; Bänziger, Scherer, Hall, & Rosenthal, 2011), helped to measure how sensitive participants were to non-verbal cues. The MiniPONS will be discussed in the literature review for two reasons. First, the MiniPONS was consistent with research of intuition by requiring participants to make intuitive leaps based upon limited information. Second, as opposed to the instruments listed above, the MiniPONS required participants to view video clips of an individual expressing emotion. Therefore, in measuring non-verbal sensitivity, the MiniPONS approximated the environment that counselor intuition manifests by replicating emotional cues. The second instrument, the Interpersonal Perception Task (IPT), developed by Costanzo and Archer (1989) used a similar methodology as the MiniPONS in the creation of each item. However, instead of using a single actor to encode an emotion (as does the MiniPONS), the IPT depicted a

variety of individuals in naturalistic settings displaying genuine emotion and interpersonal behavior. The IPT therefore improved upon previous attempts at measuring interpersonal perception and will be discussed in greater detail because of its contribution to the study of social perception in general and this study in particular. Though the MiniPONS and the IPT will be analyzed further in Chapter Two, it should be noted here that both instruments do not purport to measure counselor intuition; they arguable measure similar constructs (emotional and interpersonal sensitivity), yet they do not approximate the environment of counseling as it is conceptualized by the current investigation and therefore lack the practical significance needed to measure counselor intuition.

The aforementioned instruments are limited in assessing counselor intuition due to their design: the majority used word and image associations as a means of assessing the accuracy of intuitive leaps as they relate to cognitive associations and perceived patterns of words and images. Though counselor intuition, as it is defined in this study, stems from a cognitive process of matching verbal patterns, those patterns are simultaneously being matched with non-verbal patterns. Though each scale may have value assessing the cognitive domains of counselor intuition, they fail to address the complex social environment in which counselor intuition transpires. The study of any psychological phenomenon, in this instance counselor intuition, requires a scale uniquely suited to measure the construct in question within the environment it exists (Crocker & Algina, 2008). Therefore, given that intuitive ability is hypothesized to be domain specific (Hogarth, 2001; Gore, & Sadler-Smith, 2011; Kahneman & Klein, 2009), to

directly measure counselor intuition would require a scale uniquely designed to assess counseling related contexts (i.e., socially based intuitions).

Without a suitable measure to quantify counselor intuition, empirically validating developmental (e.g., Hogarth, 2001) and supervision (e.g., Kagan & Kagan, 1997; Jeffery, 2012) models espousing to cultivate intuitive ability is a practical impossibility using scientific methodologies. To reasonably claim that a particular approach to improving the efficacy of a student's or supervisee's intuitive ability requires defined criterion to plot the growth of that ability from beginning to end, data points that researchers have yet to identify (Spengler, et al., 2009). Therefore, understanding and judging the relative effect of a particular intervention from a professor or supervisor on a counselor's intuition is currently impossible. Furthermore, judging the relative intuitive ability of applicants entering into the counseling profession is equally futile; whereas if a measure existed that could reliably estimate this ability amongst counseling novitiates it would enable faculty of counseling programs to better identify when certain applicants have the potential for developing expertise quicker than others and thus potentially impact admission decisions.

Therefore, given the blend between: (a) the importance intuition has in clinical practice (Baker, McFall, & Shoham, 2008; Heaton, 2001; Lucock, et al., 2006; Zachar & Leong, 1992) and supervision (Jeffery, 2012; Kagan & Kagan, 1997), (b) the paucity of research showing its effect in therapeutic outcomes, and (c) the lack of a suitable instrument that measures counselor intuition (which detracts from its credibility as an EBP), the current study proposed to develop the Counselor Intuition Scale (CIS). The instrument is based upon pattern recognition theory, namely that counselors who are

intuitive experts have stored patterns of interpersonal experience to draw from instantaneously and unconsciously to assess the core elements of a client's presentation.

Purpose of the Study and Research Questions

The purpose of this study was to develop an instrument measuring the intuitive expertise of counselors. The nature of this study was exploratory since it executed the necessary first steps in developing such an instrument. The first research question for this study was: To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts' ratings of the items unidimensional)? Since the study was exploratory, it did not propose a directional hypothesis to test.

The intended purpose of the CIS was to quantify the ability of counselors to form intuitive insights into their clients' presenting problems. Therefore, once it is fully developed the CIS will potentially serve to validate the intuitive development of counselors through the duration of training programs, through the course of their supervision experience, or beyond into their career as professional counselors. Furthermore, the CIS would have potential to better understand the influence of—as of yet unknown—variables that lead to the intuitive expertise of counselors (e.g., counselors with a past history of abuse may develop intuition related to their clients' abuse earlier than those who do not). Also, the CIS could potentially fulfill the need for a measure to better understand the effect intuition has on client outcomes, thereby guiding its use in counseling. Lastly, though it could one day be possible to use the CIS to establish cut-off scores identifying individuals who would likely excel or perform poorly in counseling programs (since intuition is a sign of developing expertise in a given field of study), that was not the intended purpose of the current investigation. Instead, judging the reliability

and validity of the CIS to predict performance is left for the purposes of future research investigations of its psychometric properties.

There were two research questions that guided this study. The first research questions investigated how counseling experts viewed the clients featured in the CIS. The second question tested the constancy of expert ratings of each statement describing possible directions that could be explored with each client. Lastly, experts were provided the opportunity to answer several follow-up questions regarding their intuition. The two primary research questions and post hoc questions are as follows.

Research Question One

To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts' ratings of the items unidimensional)? This question was addressed using Q-Method factor analysis by correlating expert ratings of each statement describing the video segments of the CIS. The use of Q-Method factor analysis is exploratory and therefore does not test or prove hypotheses (Watts & Stenner, 2005).

Research Question Two

How consistent were the expert intuitions as measured by interrater reliability of the statements within the video segments of the CIS? This question was addressed using generalizability theory analyses of expert ratings of each statement describing the video segments of the CIS.

Hypothesis One

The results of the generalizability theory analysis will yield a generalizability coefficient of at least .75. An interrater reliability coefficient of .75 is needed to demonstrate “excellent” reliability (Cicchetti & Sparrow, 1981).

Post Hoc Questions

Intuition has been described in a variety of ways in the literature, which of the following best describes how you experienced your intuitive moments in viewing the clips? Select all that apply.

What perceptual cues guided your intuitive responses to each client?

Was the time length sufficient for you to develop an intuitive moment with each client?

How do you know your intuition was accurate with each client?

In general, what has influenced the development of your clinical intuition the most? Select all that apply

Research Design

The proposed study was designed to develop a scale to measure counselor intuition. There is good evidence to suggest that human beings have the capacity to make accurate judgments based upon thin slices of social data—defined as a partial representation of the complete verbal and nonverbal communication pattern. Of particular relevance are the studies conducted by Carl Rogers and his colleagues who found that fundamental components of the therapeutic relationship (warmth, accurate empathy, and rapport) can be accurately identified by viewing two to five minute segments of behaviors during a counseling session (Ambady & Rosenthal, 1992; Burstein

& Carkhuff, 1968; Truax, 1966). Furthermore, thin slice data is indicative of the intuitive process (Ambady, 2010) by requiring the participant to rapidly assess complex combinations of social stimuli (patterns) and intuit the correct insight listed in a response set of alternative insights. As discussed earlier, Rosenthal and colleagues (1979) successfully used thin slice data to develop the Profile of Non-Verbal Sensitivity (PONS), an instrument meant to assess individual differences in the ability to recognize emotions, interpersonal attitudes, and communicative intentions using non-verbal stimuli. The PONS was later shortened by Bänziger and colleagues (2011) from its original 220 items to 64, significantly shortening the time for administration while still maintaining acceptable levels of reliability. This shortened version, called the MiniPONS can be viewed at <http://www.affective-sciences.org/webexperimentation>. Moreover, Castanzo and Archer (1989) developed a more complex social perception test, the IPT, using the same methodology. Castanzo and Archer used thin slice data to capture a construct that is arguably a close relative to counselor intuition, the ability of participants to correctly deduce an objective criterion based on clips of social behavior ranging between 28 to 124 seconds.

The CIS proposed to adapt the methodology of the PONS and the IPT for a scale that uses video based items to measure counselor intuition. The CIS was developed using the established stages of scale development outlined by Crocker and Algina (2008) with supplementary information integrated from DeVellis (2003) and Allen and Yen (2002). Each item on the instrument consisted of a video segment lasting approximately two minutes depicting a “client” (a recruited masters level counseling student) self-disclosing about a counseling related issue; these segments were drawn from a larger data bank

consisting of hour-long sessions facilitated by a “counselor” (a recruited doctoral student). During the hour-long sessions, each client was instructed to be as genuine and authentic during the encounter as he/she would be seeing a counselor for an initial session. Moreover the clients were directed to choose a topic that was either real or *could be real*, meaning that if they decided to discuss something that was improvised that it was at least a plausible topic and was within the realm of possible real-life scenarios that a client would regularly discuss in counseling.

After recording the sessions, each item (i.e. segment) was then identified using three criterion: (a) the segment had to be at least two minutes long but no longer than five minutes, (b) the counselor was not speaking (or was only using minimal encouragers), and (c) the segment had the potential to elicit an intuitive response. Thirty-nine segments were identified and assembled into a web-based portal (Qualtrics^(c)) and sent out for two rounds (Round One and Round Two) of expert reviewers. Round One expert review consisted of four experts reviewing each item of the scale and then defining the item qualitatively using the following prompt: *Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.* The identified experts formulated several possible directions to take the client based upon their intuitive insight, which therefore helped determine several possible meanings of each segment (a process comparable to *empirical criterion keying* [see Meehl, 1945]).

Round Two expert review consisted of 40 experts reviewing each clip and then rating (on a five point Likert scale) how appropriate each statement from the Round One expert review was for that item using the following prompt: *Please indicate the extent to*

which you agree or disagree that the statement is an appropriate direction to take the client. The expert feedback was then analyzed using a procedure called Q-Methodology to determine correlational consensus (Dziopa & Ahern's, 2011) amongst the expert reviewers. Therefore, Q-Methodology helped determine "how" experts viewed each client depicted in each video segment. Using the theoretical assumptions outlined in Chapter Two, NDM posits that experts view stimuli based upon their accumulated experience with domain specific patterns. The purpose of Q-Methodology is to analyze participant viewpoints and determine how many identifiable factors explain their collective perspectives. Therefore, Q-Methodology helped explain if the identified experts "approached" clients from similar, or from significantly divergent perspectives. If there were any similarities in their approach, it would suggest that experts possess intuitive abilities that can be attributed to their accumulated experience in the form of pattern matching schemas. However, demonstrating that participants used similar schemas as they conceptualized how to proceed with each client in the CIS would not address the reliability of the specific directions they rated. The consistency (i.e., how trustworthy they would be to rate the clients similarly in the future) would still be a question in need of exploration. Therefore, expert ratings were analyzed through a statistical procedure called generalizability theory (see Crocker and Algina, 2008). Moreover, generalizability theory also helped to establish the trustworthiness of expert ratings of the CIS beyond the sample of experts who participated in this study. The essential concepts of Q-Methodology, generalizability theory and how they were applied to this study will be explained in chapters Two, Three and Four.

The purposes of the current study ended with determining which statements generated by expert viewpoints of each video segment should be retained. Future investigations will seek to establish the level of reliability and validity of the compiled CIS after expert review has determined which statements for each video segment were suitable to create criterion responses. Therefore, administration of the CIS to a development sample for subsequent item analysis and exploratory factor analysis to assess the reliability and validity of the instrument will be left up to future studies.

Assumptions

There are three important assumptions that require attention before constructing the CIS. First, it is assumed from the outset that intuition can be measured using standardized procedures of psychological instrument development (see Allen & Yen, 2002; Croker & Algina, 2008; DeVellis, 2003). That is to say, it is assumed that counselor intuition is manifested in some way that can be verified using scientific methods. Similar to other psychological constructs (e.g., intelligence, depression, anxiety, creativity, etc.) that have a long history of mental measurement, counselor intuition can be quantified at a distance (Croker & Algina, 2008) using manifest variables (i.e. behaviors) that are assumed to be representative of the latent variable (i.e. counselor intuition).

Second, if it can be assumed that counselor intuition can be verified, it can also be assumed that an accurate account of counselor intuition can be differentiated from an inaccurate one. When a counselor's intuition manifests during the course of therapy, it does not exist in the context of a social vacuum. Instead, counselor intuition is a dynamic

response to the perceptual cues of the client and can therefore error to varying degrees in its accurate perception of those patterns being presented.

Third, in line with the research of counselor expertise, an assumption is being made that the best way to analyze and measure counselor intuition is to do so using counseling experts. The available research seems to indicate that counselor intuition is the result of stored patterns of social experience that require time and reflection to cultivate. Therefore, the best chances of capturing this construct using scientific principles are to elicit the participation of identified experts as study participants given that they would be the most likely candidates to possess and accurately identify this construct.

Definitions

There are three definitions that require clarification to avoid confusion in the process of conducting this research study. Each appears here and will be developed further in Chapter Two of this study. These definitions are described as follows:

Counselor Intuition is (a) an insight that is formulated unconsciously, (b) based upon stored patterns from past experience, (c) triggered by context-associated stimulus (the client), and (d) processed quickly as compared to rationalistic processes (see Berne, 1949; Gore, & Sadler-Smith, 2011; Hogarth, 2001; Roger's, 1986).

Thin Slice Data refers to “random samples of the behavioral stream, less than 5 minutes in length, that provide information regarding personality, affect, and interpersonal relations” (Ambady, 2010, p. 271).

Expert is a counselor with at least 10 years (including their post-graduate education) of concentrated study in the field of counseling or a closely related field of study and who is currently involved in clinical work (see; Ericsson & Lehmann, 1996; Skovholt, et al., 1997; Prietula & Simon, 1989).

Counselor is a student or practitioner who is either preparing to, or currently involved in, the delivery of mental health services to either individuals, groups, couples or families.

Delimitations

The parameters surrounding this study are as follows. First, this study did not propose to measure the degree of rightness in any intuitive response. Though a case could be made that there are degrees of accuracy of any counselor's intuition, the degree of accuracy is not the question this study proposed to investigate. Second, this study did not propose to investigate the facilitative techniques that transpire after a counselor experiences intuitive insight regarding the direction to take with a client. There are undoubtedly intuitive processes at work whenever a counselor chooses an intervention (e.g., empathic reflection, probe, challenge, etc.) based upon their perception of the client's disclosure. However, the purpose of this study is to develop a measurement of intuitive perception or insight and not the facilitative responses they can lead to. The aforementioned delimitations therefore define the boundaries of the proposed investigation.

Limitations

There were several potential limitations to the proposed study that required clarification. First, due to the complexity of constructing the CIS using video based

items, it was anticipated that completing all stages of scale development outlined by Crocker and Algina (2008), DeVellis (2003), and Allen and Yen (2002) will be a practical impossibility for the present study. Instead, this study proposed to develop the video based items using expert consensus that would make up the CIS. To accomplish this, the study used Q-Methodology to analyze expert review of each item on the scale, thereby enhancing construct related validity of the CIS. The scale, at this point, is far from complete and will require more time to administer the expert reviewed scale to a development sample for subsequent item analysis and exploratory factor analysis. However, without a solid criterion (i.e., expert consensus) for each item, developing a criterion referenced instrument would be impossible, weakening the validity of the scale even if it were developed beyond expert review. Future research of the CIS will involve submission of the scale to participant samples for item analysis and factor analysis.

Second, though consensus about intuition seems to be developing (Hodgkinson, et al., 2008) there is no universally agreed upon definition or explanation of this construct. The scale proposed in this study is based upon pattern recognition theory and the empirical support for its primary tenets. However, other definitions and explanations of intuition exist and may have merit that yet to be discovered evidence may at some time support; nevertheless the preponderance of theoretical and empirical evidence favors the validity of pattern recognition theory of intuition. Both self-report from experts and cognitive science investigations of expert decision making suggest that intuition is a function of stored patterns of experience that are rapidly accessed when salient environmental cues are perceived. Therefore, the theoretical definition of counselor

intuition endorsed by this study is founded in established theoretical and empirical literature and can provide a solid foundation for the development of the CIS.

Third, the proposed study is the first of its kind to measure social intuition using a criterion-referenced instrument within the context of counseling. Any attempt to develop concurrent validity with similar scales will therefore possess inherent difficulties. The closest relative to the newly developed CIS is the PONS, Mini PONS, and the IPT. However, the PONS and the Mini PONS were meant to be measures of non-verbal sensitivity, thought to be a factor of emotional intelligence (Goleman, 2006) and, though it is related in method, it has a different purpose than the CIS. Nevertheless, one measure of counselor competence, the Counseling Competencies Scale (CCS; Swank, Lambie, & Witta, 2012) may show promise for comparative, contextual analysis.

Finally, the proposed scale has inherent high risks in its design. Determining how much data is needed for a counselor to trigger his/her intuition in a video clip is somewhat arbitrary and may pose an insurmountable difficulty in gathering expert consensus on items. However, three empirical studies offer guidance on this point. Using two-minute video clips, Waxer (1974, 1976, 1977) found that participants were able to accurately differentiate levels of depression and anxiety among psychiatric patients who were filmed during their intake interviews. In particular, Waxer (1974) found significant differences in the ability of undergraduate psychology students, graduate counseling students, and clinical faculty in their ability to accurately identify the pathological condition of the aforementioned patients using this methodology. These findings suggested that at the very least two-minute clips of clients would be enough to generate intuitive insight amongst experts.

Thus, there are four anticipated limitations to the proposed study: (a) at the conclusion of the study the scale will not complete all the necessary steps to establish the initial validity and reliability of the instrument, (b) there is no universally agreed upon definition of intuition, (c) establishing concurrent validity of the completed instrument poses a difficulty, and (d) determining the length of video needed to stimulate expert intuition has never been firmly established. Though each limitation poses a possible threat to the validity the study's findings, each has been accounted for by counter measures to hedge their subsequent influence on the integrity of the instrument's design.

Chapter Summary

Intuition is a vital component of interpersonal relationships (Ambady, 2010). Since counseling is at its foundation a social relationship, it comes as no surprise that several counselors, including Carl Rogers (1986), valued the role their intuition played in their work with clients. Bohart (1999), in particular, went so far as to claim that intuitive level processing was actually the norm of an effective therapeutic relationship. Moreover, in addition to Rogers (1986) and Bohart (1999) several scholars (e.g., Berne, 1949; Reik, 1948) theorized that therapeutic intuition was a function of high levels of empathic attunement, the ability to read the client's patterns of communication both quickly and unconsciously based upon their accumulated expertise. Similar theoretical models of intuition have also surfaced in counseling supervision theory (Jeffery, 2012; Kagan & Kagan, 1997) and qualitative investigations of counselor development (Skovholt & Ronnestad, 1992). What foundational theorists have postulated, cognitive psychology has helped to confirm by first studying the intuitive expertise of chess masters (Chase & Simon, 1973; de Groot, 1965; Gobet and Simon, 1996; Simon and Barenfeld, 1969).

Based upon the findings of chess masters intuition, Gary Klein helped develop NDM that concluded that intuition is a function of expertise, when a person has developed enough stored patterns of prior experience to match with their present context (Kahneman & Klein, 2009; Klein, 1993)

Given the responsibility to provide empirical evidence demonstrating the efficacy of their work with clients (Patel, 2010), counselors are faced with a dilemma. Though counselors are required to adhere to EBP's when working with clients (ACA, 2005, C.6.e.), they tend to see their intuition as more influential in their work with clients (Baker, McFall, & Shoham, 2008; Lucock, et al., 2006), are naturally drawn to intuitive processing (Zachar & Leong, 1992), and see their intuition as a compliment to researched based interventions (Heaton, 2001). What makes this dilemma particularly acute is the lack of research investigating the efficacy of intuition in counseling. A primary obstacle to studying the effect of counselor intuition in promoting client outcomes is due to the fact that no viable instrument exists to quantify it. Without such an instrument, understanding how intuitive a counselor is cannot be measured therefore rendering generalizability impossible, including any attempts to understand its influence on the outcomes of therapy. Moreover, though some scholars have developed models intended to cultivate intuitive ability (e.g. Hogarth, 2001; Jeffrey, 2012; Kagan & Kagan, 1997), determining the efficacy of those models to foster intuitive ability is equally impossible without a valid and reliable measure.

Given the importance of understanding how influential intuition is in promoting effective therapeutic outcomes and the inability to study it using quantitative methods, this study proposed to develop the CIS. The instrument is grounded in the pattern

recognition theory articulated in NDM and is consistent with both empirical studies investigating intuition in several domains of professional practice as well as with the available, albeit limited, research investigating counselor intuition specifically. The stated purpose of the CIS is to quantify the intuitive ability of counselor using established methods of psychometric instrument development. More specifically, the purpose of the CIS is threefold: (a) to validate the intuitive development of counselors through educational and supervisory experiences, (b) to identify and understand the influences of the, to date unknown, variables that contribute to the intuitive expertise of counselors and (c) to fulfill the need for a measure that better understands the effect intuition has on client outcomes.

The next four chapters of this investigation will articulate several essential components of the proposed study. Chapter Two will discuss in detail the relevant literature to begin the development of the CIS and will consist of the following seven major sections: (a) an overview of intuition including relevant definitions and theoretical explanations, (b) a critical review of the empirical studies investigating intuition, (c) a review of the available models of teaching intuition in counselor education and supervision, (d) an analysis of comparable psychological instruments purported to measure intuition or related constructs, (e) a section devoted to explaining the established methods of instrument development, (f) an introduction to Q-Methodology, the preferred method for creating the items of the instrument, and (g) a review of thin slice data research, its relationship to intuition, and its adaption to the CIS. Chapter Three is an explanation of the methodology for developing the CIS, including the development of the video based items by applying Q-Methodology (Dziopa and Ahern, 2011), thin slice data

(Ambady, 2010) and generalizability theory (Crocker & Algina, 2008). Chapter Four will report the results of the video segment development, Round One expert review, and Round Two expert review. Finally, Chapter Five will discuss the revised instrument based upon results obtained in Chapter Four with recommendations for future investigations of the CIS.

CHAPTER TWO: LITERATURE REVIEW

This literature review will consist of seven sections. First, due to the common confusion regarding the definition of intuition, the first section of the literature review includes an overview of the various proposed definitions of intuition, its related constructs, and various theoretical explanations of intuition found in the scholarly literature. The second section reviews the salient empirical research of intuition as it relates to this study. The third section covers the role intuition plays in counselor education and supervision. The fourth section discusses the strengths and weakness of published instruments purported to measure intuition. Since the purpose of the study is to begin the process of developing a scale that measures counselors' intuitive ability, the fifth section reviews scale development as outlined by Crocker and Algina (2008), with supporting material from Allen and Yen (2002) and DeVellis (2003). The sixth section discusses the primary data collection and data analysis technique used in this study's method—Q-Methodology. Lastly, the seventh section will review thin slice data and its application to the social sciences and to the current study.

Section One: Overview of Intuition

To avoid confusion and set a firm understanding of the construct being investigated in this study, counselor intuition must first be defined. However, it is not enough to define the construct broadly as such definitions are too nebulous for serious scientific inquiry. Therefore, it is the purpose of this overview to begin with casting a wide net around the construct, including the explanation of associated terms, but then narrow the definition to its precise meaning for counseling. Arriving at a clear definition will avoid the confusion that has plagued the study of intuition in the past and will also

provide the foundation for developing an instrument to measure it. Lastly, as will be demonstrated, the constitutional definition of counselor intuition endorsed by this study is not new. Instead, it is founded in the theoretical literature of intuition and will therefore be discussed at length to demonstrate its origin.

In the broadest sense, the word ‘intuition’ comes from the Latin *intueri*, meaning “to look at, contemplate” referring to a “mode of perception or knowing” (Cloninger, 2006, p. 16) or alternatively as “looking, regarding or knowing from within” (Hodgkinson, Lagan-Fox, & Sadler-Smith, 2008, p. 2). However, clarity surrounding intuition as a construct is lacking and is often viewed with skepticism by the academy due to its discursive qualities (Cloninger 2006; Kahneman & Klein, 2009). Some of the uncertainty may stem from the abundance of associated terms that share common elements with the term ‘intuition’ and are sometimes used in similar contexts. In their review of the literature, Hodgkinson and colleagues (2008) summarized four related constructs in particular that are worth discussing: (a) creative cognition (Finke, Ward, & Smith, 1992) and creativity (Sternberg & Lubart, 1996), (b) tacit knowledge (Polanyi, 1964), (c) implicit learning and implicit memory (Reber, 1989; Roediger, 1990; Seger, 1994), (d) insight (Bowden, 1997). The final associated term, flow (Csikszentmihalyi, 2008), was not included in Hodgkinson and colleagues (2008) review but will be discussed here because of its similarities to intuition.

Creative Cognition and Creativity

Intuition and its associated terms, creative cognition and creativity, share several similarities. Finke and colleagues (1992) defined creative cognition by three factors. First, creative cognition is the product of a complex interplay of several psychological

processes that encompass the raw material for creative insight and discovery. Second, creative cognition involves what the authors called “preinventive structures,” unarticulated mental representations of “novel visual patterns, object forms, mental blends, category exemplars, mental models and verbal combinations” (Fink, et al., 1992, p. 2). And third, creative cognition relies upon the identification and manipulation of those mental properties resulting in “novelty, ambiguity, implicit meaningfulness, emergence, incongruity and divergence” (Fink, et al., 1992, p. 2).

Much like intuition, the academy has traditionally viewed creativity with skepticism, believing it to be antithetical to pragmatic empiricism (Sternberg & Lubart, 1996). However, with the advance of psychometrics, creativity has also come under the auspices of empiricism. Sternberg and Lubart theorized that creativity is comprised of six primary factors: (a) intellectual abilities, (b) knowledge, (c) styles of thinking, (d) personality, (e) motivation, and (f) environment. Hodgkinson and colleagues (2008) contended that intuition, creative cognition and creativity are related in the sense that intuition may be involved in the preliminary stages of the creative process by providing kinesthetic signals that ultimately influence the trajectory of subsequent judgment and action.

Tacit Knowledge

Intuition and tacit knowledge share similar characteristics in that they are both described as unconscious and unknowable. Polanyi (1964), one of the first scholars to define tacit knowledge, argued that scientific discoveries are often the result of knowledge that is out of conscious awareness or is, within the mind of the knower, unarticulated. Based upon Polanyi’s original explanation, Henry (2010) defined tacit

knowledge as, “knowledge that functions at the periphery of attention and makes possible the conventionally recognized explicit domains of human knowledge” (p. 293).

Therefore, tacit knowledge has two primary characteristics: (a) it provides the background or context for explicit knowledge and (b) it is impossible to articulate how and in what steps tacit knowledge gives way to explicit knowledge. Some have made the connection that intuition draws upon tacit knowledge as stored experience or expertise (Hodgkinson, et al., colleagues, 2008). In Simon’s (1987) words, intuition is, “analyses frozen into habit and into the capacity for rapid response through recognition” (p. 63).

Implicit Learning and Implicit Memory

Implicit learning and implicit memory are so closely associated to intuition that they may share a part in the overall process of arriving at an intuitive insight. Reber (1989) summarized the definition of implicit learning by two attributes: (a) it is unconscious and (b) its end product is abstract learning. Seger (1994) added a third criterion: implicit learning is not achieved through conscious testing of hypotheses; rather it is an “incidental consequence of the type and amount of cognitive processing performed on the stimuli” (p. 164). As opposed to explicit learning, implicit learning is not the result of conscious reflection. Instead, it “results from the induction of an abstract representation of the structure that the stimulus environment displays” (Reber, 1989, p. 219). Likewise, implicit memory refers to unconscious recall or unconscious task performance (Roediger, 1990). As an example, Roediger remarked that while performing a complex task (e.g., gymnastics or ice-skating) the person does not devote conscious effort to recalling how to do the task. In fact, if the person did pay such explicit attention to their actions, performance would likely suffer. Furthermore, Roediger observed that

interest in implicit memory was reignited after several studies found that traumatic brain injury patients with amnesia performed similarly on implicit memory tests when compared to participants without any past trauma (see Warrington, & Weiskrantz, 1968; Warrington, & Weiskrantz, 1970; Graf, Squire, & Mandler, 1984; Jacoby, & Witherspoon, 1982). Hodgkinson and colleagues (2008) concluded that intuition is likely the result or end product of implicit learning “stored below the level of conscious awareness” (p. 3).

Insight

As the aforementioned Latin etymology of the word intuition hinted, intuition can sometimes be understood as an insight. Bowden (1997) identified three characteristics of insight-based solutions. First, though the person experiencing the insight possesses vital information to solve a problem, he/she still experiences an impasse based upon a misunderstanding of the problem. In other words, though the person may already possess the necessary knowledge to eventually solve the problem, they still experience a sense that they do not know the answer until the problem is reformulated. Second, when an insight occurs it is both sudden and affectively charged. Lastly, after experiencing the insight, the problem solver cannot explain how they arrived at the solution. Intuition shares the sudden and affectively charged quality of an insight (Hodgkinson, et al., 2008). However, as Hodgkinson and colleagues’ review concluded, intuition does not involve a period of rational and deliberate processing that insight requires. Additionally, they concluded that intuition is more complex than insight because it involves a somatic process in addition to an affect sense.

Flow

Though it was not included in Hodgkinson and colleagues' (2008) review, there is one final associated term that requires some explanation. The psychologist Csikszentmihalyi (2008) developed a concept of optimal human functioning he coined as *flow* and described it as “a phenomenological model of consciousness based on information theory” (p. 25). In short, flow is a state of consciousness in which the “information that keeps coming into awareness is congruent with goals” and “psychic energy flows effortlessly” (p. 39). Ullen and colleagues (2012) described flow as a state in which:

Actions feel effortless and automatic although there is a subjective sense of high control and concentration, or even absorption in the task. Goals are clear and there is unambiguous feedback on performance. Self-reflective thoughts and fear of evaluation by others are low. Time perception may be altered. Finally, flow is highly enjoyable, i.e. performance is accompanied by positive affect. (p. 167)

There are two commonalities between flow and intuition that beg mention. First, flow and intuition share an unconscious element, at least in the sense that the person experiences a loss of reflective self-consciousness. Second, flow and intuition are both interpreted as signs and indications of high functioning performance or expertise. However, intuition is generally defined by its speed of processing (see Dane & Pratt, 2007; Gore & Sadler-Smith, 2011) whereas flow is not defined by speed but rather its longevity and duration amidst task performance.

Summary of Related Terms

To summarize, intuition has several related terms that share great similarity yet are described with important semantic differences that sometimes cause confusion if left unexplained. Some associated constructs, as in the case of creative cognition and creativity, may be underlying processes of intuition. In other instances, as in the case of insight, the associated term is closely related to the end product of intuition while at the same time possessing some different conditions required to manifest. After thoroughly discussing the most relevant terms used in association to intuition, it is now possible to avoid some unneeded confusion about the definition of intuition as it relates to this study.

Intuition Defined

The following review of the term intuition covers several definitions of the construct in the scholarly literature. It is the author's intent to begin broadly, articulating the appeal that intuition has for several domains of inquiry as well as historical attempts to define the construct. Though intuition can be (and has been) defined both broadly and generically, this study endorses a specific definition that is well established in the counseling literature, drawing primarily from the definition of clinical intuition endorsed by Berne (1949).

For several years, consensus about the precise definition of intuition had eluded scholars (Hodgkinson, et al., 2008). Bastick (1982) described intuition as, "a powerful human faculty, perhaps the most universal natural ability we possess" (p. 2) and contended that intuition is the master of reason and is responsible for civilization's greatest advancements; as the mathematician Henri Poincare quipped, "It is by logic that we prove, but by intuition that we discover" (Arnheim, 1969, p. 274). However, other

scholars (e.g., Myers, 2002) noted that the wide appeal of intuition's powers across domains and academic disciplines has contributed to the semantic misunderstanding of the construct. In other words, though intuition may have a wide appeal as a ubiquitous human experience, it seems clear that its qualities can also be specified to such an extent that it becomes exclusive to the discipline in which it is being defined, thereby losing its former application across disciplines. Therefore, what intuition means to the philosopher in the university is not what it means to the firefighter extinguishing a house fire.

Adding even more confusion to the systematic study of intuition, scholars have sometimes chosen different ways of defining the construct. Dane and Pratt (2007) remarked that intuition is sometimes defined by its process (Raidl & Lubart, 2000) and at other times by its outcomes (Rorty, 1967). Furthermore, intuition is often defined what it is *not* rather than what it *is*. In an attempt to resolve this dilemma, Epstein (2010) defined intuition from both ends as “a sense of knowing without knowing how one knows. Intuition involves a sense of knowing based on unconscious information processing” (p. 296). Epstein's definition sought to strike a balance between polemics by describing both what intuition is and what it is not in related statements. However, despite making a step in a positive direction, Epstein's definition is still too broad to base any sound, empirical investigation of the construct within the counseling realm.

Bowers and colleagues (1990) defined intuition as an initial, non-conscious perception of a pattern, meaning or structure that guides hunches and hypotheses of the nature of the phenomena under study. Furthermore, the authors hypothesized that intuition has two stages: (a) the guiding stage and (b) the integrative stage. In the guiding stage, the person's unconscious perceptions of a coherent pattern activates mnemonic

networks that serve as an implicit guide toward explicit coherence (i.e., understanding). Afterwards, the integrative stage “involves integrating into consciousness a plausible representation of the coherence in question; it occurs when sufficient activation has accumulated to cross a threshold of awareness” (Bowers et al., 1990, p. 74). Lastly, when intuition transfers from the guiding stage to the integrative stage it is experienced as both sudden and self-validating. Though Bowers and colleagues’ definition added a level of complexity (as well as accuracy) to the idea of intuition, it nevertheless failed to reach the level of specificity to serve as guide for inquiry for this study. However, it is worth reiterating that the authors’ definition is inherently linked to a theory of how intuition functions—an unconscious perception of a significant pattern. This contribution is tied to the findings of cognitive science, which will be discussed in greater detail later on in this chapter, and is mentioned here because it also serves as a primary tenet of the definition of intuition endorsed by this study.

Dane and Pratt (2007) defined intuition using four characteristics: (a) intuition is non-conscious, (b) intuition involves making holistic associations, (c) intuition is fast, and (d) intuition results in affectively charged judgments. First, the process of intuiting is non-conscious, meaning that cognitive resources are not taxed in the process and the intuiter is not aware of how they came to the judgment they arrived at. The authors also made the distinction between intuition-based processes and intuition-based outcomes. Though the outcome of intuition (i.e., the judgment) is conscious, the process of arriving at that outcome is below the thresholds of awareness. Second, intuition involves matching environmental cues with a pre-established, non-conscious “category, pattern, or feature” (Dane & Pratt, 2007, p. 37). Third, the intuitive decision-making process is fast,

especially in comparison to rationalistic decision-making processes. Lastly, when an intuition surfaces in conscious awareness in the form of a judgment based outcome, it is also accompanied by emotion. Dane and Pratt's definition represents further refinement in attempting to define intuition, in particular the connection between the speed in which intuition is experienced as well as its connection to human emotion. However, the same criticism of the afore mentioned definitions holds true of Dane and Pratt—intuition is still too broad a construct to be studied empirically within a specific discipline. However, the last definition reviewed here by Gore and Sadler-Smith (2011) helped to narrow the focus of intuition to the point that it would make sense to study it within the context of counseling.

As alluded to above, Gore and Sadler-Smith (2011) suggested that intuition be defined more specifically by its primary outcomes. On that reasoning, they identified at least four primary types of intuition: (a) problem-solving intuitions, (b) social intuitions, (c) moral intuitions, and (d) creative intuitions. Problem-solving intuitions are domain specific, unconscious, and based upon the implicit recognition of key environmental cues stored in long-term memory. Their end result is a solution to a highly complex and specific problem. Similarly, social intuitions are the rapid recognition of “another person's cognitive and/or affective state through the perception and nonconscious processing of verbal and/or nonverbal indicators” (Gore & Sadler-Smith, 2011, p. 310). Moral intuitions are automatic, unconscious and affective responses to ethical dilemmas that are particularly resilient when presented with contradicting information. Lastly, creative intuitions are affectively charged judgments combining information in unique ways that precede insight and direct behaviors toward a creative outcome. Gore and

Sadler-Smith's definition of intuition is particularly useful because it is consistent with prior hypotheses regarding the nature of intuition, most notably Hogarth (2001) and Myers (2002) who postulated that intuition is best understood as manifesting within specific domains of experience. More specifically, the definition articulates that some intuitions are socially based, therefore creating a potential for intuition to be studied empirically within interpersonal contexts. Given that counseling is inherently an interpersonal relationship, it would make sense to refine a definition of intuition to focus on socially based phenomenon. At the same time, counseling is one type of social relationship and requires further refinement to capture its unique nuances.

This brief survey of prior definitions of intuition therefore serves as a context for the definition of intuition as it is used in this study. Though a consensus seems to be forming amongst scholars (Hodgkinson, et al, 2008), there is still no universally agreed upon definition for intuition. However, intuition is considered to be domain specific (Gore, & Sadler-Smith, 2011; Hogarth, 2001), meaning one's intuition is specific to the context in question. It is therefore reasonable to assert that a theoretical definition of intuition be articulated within the context of counseling. The closest definition of counselor intuition comes from Berne's (1949) definition of *clinical intuition*. He stated that clinical intuition is "knowledge based on experience and acquired by means of pre-verbal unconscious or preconscious functions through sensory contact with the subject" (p. 205). Berne's definition aligns with Gore and Sadler-Smith's (2011) definition of social intuition, which is understandable given that counseling is a socially based domain and the intuitive experience would therefore be manifested socially. Berne's definition is also consistent with Roger's (1986) description of intuition as peak awareness of the

client's internal subjective experience. Therefore, for the purposes of this investigation, counselor intuition will be defined in four parts: (a) it is an insight that is formulated unconsciously, (b) it is based upon recognition of stored patterns from past social experience, (c) it is triggered by context-associated stimulus (i.e., the client), and (d) it is processed quickly as compared to rationalistic processes.

In conclusion, several definitions of intuition exist. However, with the exception of Berne (1949), prior attempts to define the construct have been too broad to capture the precise nature of intuition as it occurs within the context of counseling. The definition of counselor intuition endorsed by this study incorporates several prior criterion that other definitions of intuition have used to categorize the construct while at the same time synthesizing them so as to relate specifically to counseling. Having now provided a theoretical definition of counselor intuition that will serve as the foundation of the current investigation, it is now necessary to explain the theoretical roots of that definition.

Theoretical Foundations of Counselor Intuition

The theoretical origin of counselor intuition used by this study stems from two primary sources: (a) dual process theory and (b) pattern recognition theory. The dual process theory enjoys a relatively lengthy history within the world of cognitive science. Dual process theory is not without its criticisms, however, which will be addressed. In the meantime, suffice it to say that dual process models of information processing suggest that human beings possess two systems of information gathering and retrieval, one of those systems being responsible for intuition. Additionally, counselor intuition is commonly conceptualized to be the result of the perception of contextual patterns (in this case, patterns of verbal and nonverbal communication) that are rapidly matched to

patterns that are stored in memory. Pattern recognition theory is therefore the second primary philosophical system that provides the theoretical foundation for counselor intuition and consequently the development of the Counselor Intuition Scale (CIS).

Dual Process Theory

Dual process models represent the most prevalent theoretical orientations postulating how human beings process information (Kruglanski & Orehek, 2007). Several theorists (e.g., Epstein, 1994; Evans, 2006; Hammond, 1996; Kahneman, 2003; Klein, 1998; Levinson, 1995; Pollock, 1991; Reber, 1993; Shiffrin & Schneider, 1977; Sloman, 1996) developed different models explaining dual process theory, all of which share several common tenets (Stanovich & West, 2000; Thompson, Prowse Turner, & Pennycook, 2011). Dual process theory posits that there are two different ways of knowing or perceiving information, one rational and the other experiential (Myers, 2002), or as Epstein (1994) said, “one associated with feelings and experience and the other with intellect” (p. 710). The experiential-intuitive and rational-analytic modes of knowing are sometimes referred to as System 1 and System 2 respectively.

After reviewing the seminal models of Dual Process Theory, Stanovich and West (2000) suggested that the two systems are identified by the following properties. System 1 is associative, holistic, automatic, relatively undemanding of cognitive capacity and fast (compared to System 2), and is attained through biology, exposure, and experience. On the other hand, System 2 is rule-based, analytic, controlled, relatively demanding of cognitive capacity, slower (compared to System 1), and attained through culture and formal education. Furthermore, the two systems can be distinguished by the way in which the person interprets information they perceive. System 1 is driven by context,

personalization, and highly social and conversational. Because System 1 is highly dependent upon context, it is also prone to fundamental computational bias—the cognitive error that tends to place all problems into a pre-existing context even though it is not appropriate to do so (Stanovich, 1999). System 2, conversely, is decontextualized, depersonalized and controlled because it is better at applying abstract principles to the information being perceived. As a result, it is not as limited to social contexts. Epstein (1994) also claimed that System 1 has a longer evolutionary history as compared to System 2.

However, dual-process theory is not without criticism. Instead of conceptualizing intuition and analytic reasoning as dichotomous constructs, Hammond, Hamm, Grassia, and Pearson (1997) contended that they can better be explained as lying upon a single, cognitive continuum—intuitive processing on one end and analytic processing on the other. They further postulated that the cognitive continuum is activated as a result of tasks properties—the characteristics of a task that are indicative of intuitive or rational analysis. Therefore, the extent to which a cognitive process is either intuitive or analytic depends upon the nature of the task. Furthermore, a task can contain varying degrees of either end of the continuum, allowing for quasi-intuitive or quasi-rational tasks and the cognitive processes they activate. However, conceptualizing information processing as lying upon a continuum still retains a polarity in which intuition and analysis represent opposing constructs or processes.

Taking Hammond and colleagues (1997) into account, dual process theorists do offer some evidence to stake their claims. In particular, Epstein (1994) and Reber (1993) pointed out that dual process theory makes sense from an evolutionary perspective.

System 1 developed first in the evolutionary cycle and is present in both human and non-human species. It is rapid and therefore efficient, allowing organisms to make in-the-moment decisions about their environment through direct experience. As Myers (2002) observed, when our ancestors met a stranger in their land, they needed to swiftly assess whether or not the person was safe or dangerous. System 2, however, developed later as human beings evolved to the point of acquiring the ability to reason abstractly using symbols and logic. Based upon evolutionary theory it would appear as though System 2 replaced or at least superseded System 1. Epstein (1994) argued, however, that System 2 refined System 1 by giving human beings the ability to organize their experience and make it more accurate and efficient, thereby giving birth to modern intuition and creativity.

Eisengart and Faiver (1996) connected dual process theory to counselor intuition. They contended that counselor intuition functions off the unconscious and holistic associations of System 1 as opposed to the analytic processes that characterized System 2. Moreover, in line with Hammond and colleagues (1997), Eisengart and Faiver (1996) noted that System 1 and System 2, though distinct, are complimentary. As an example, Eisengart and Faiver suggested that intuition helps counselors develop an initial insight into their clients' presenting problem and possible solution, then uses analytic logic to evaluate and expand upon their initial intuitive hunch. Their example is also consistent with Hogarth (2001) who surmised that intuition is developed by exercising sound logic and conscious reflection. However, the same criticism of Hammond and colleagues can be applied to Eisengart and Faiver's conclusions. Claiming that counselors oscillate between intuition and conscious analysis is still consistent with the overall thrust of dual

process theory, that there are two primary ways of processing information and the nature of the context determines which system is initiated into action.

In sum, dual process theory argues for the existence of two distinct systems that human beings use to receive and retrieve information. System 1 is postulated to predate System 2, and is based upon holistic associations that are matched contextually and is faster and less demanding of cognitive resources compared to System 2. On the other hand, System 2 is thought to be a relatively newer in the history of human evolution and is subject to the rules of analytic logic, culture and formalized intellectual pursuits in addition to requiring greater mental stamina and resources, not to mention time, as compared to System 1. It is important at this time to note that System 1 responds to the holistic recognition of patterns in context. In other words, dual process theory proposes that System 1 is triggered when a person recognizes a familiar pattern that they have experienced in their past experience. In the next section, the discussion will focus on pattern recognition theory and its contribution to the construct of intuition.

Pattern Recognition Theory

As Berne's (1949) definition of clinical intuition surmised, counselors' intuition is based upon stored patterns of experience that are matched with the present, relational experience of the client. Berne's initial theory was later popularized and supported by the field of cognitive psychology. In particular, Berne's conclusions were supported by a theoretical explanation of intuition broadly referred to as the Naturalistic Decision Making (NDM; Klein, 1993) model, which focuses on the success of intuitive expertise (Kahneman & Klein, 2009). Klein (1993) based NDM (first referred to as the Recognition-Primed Decision [RPD] model) on the foundational studies by de Groot

(1965), as well as Chase and Simon (1973), who investigated the executive decision making of chess Grandmasters. The chess studies will be explored in greater detail later on in this literature review, however several important findings from those studies gave birth to modern pattern recognition theory and therefore will be highlighted here briefly.

The most significant finding from de Groot (1965) was that when chess Grandmasters and non-masters were asked to verbalize their assessment of a chess board, including what next move would be best based upon the pieces on the board, little to no difference was found between the two groups in how many moves they contemplated before making a decision. As Chase and Simon (1988) later observed, the fact that de Groot (1965) found little difference dispelled the belief that Grandmasters are more proficient because they consider more moves in advance as compared to non-masters.

However, de Groot (1965) did find that Grandmasters and non-masters differed in two significant ways. First, Grandmasters considered fewer alternatives than non-masters before suggesting effective moves, whereas non-masters spent more time considering fruitless alternatives. In examining de Groot's findings, Chase and Simon (1988) later concluded that, "The best move, or at least a very good one, just seems to come to the top of the Master's list of possible moves for analysis" (p. 462). Second, de Groot (1965) found that though Grandmasters were restricted to the same limitations of short-term memory as non-masters, they were able to reconstruct with near perfection the exact positioning of a chessboard they viewed for only five seconds; players below Master level consistently failed to recreate the exact positioning they viewed.

De Groot's (1965) study led Simon and Barenfeld (1969) to ask similar questions about Grandmasters' cognitive processes. Their findings added an additional layer to the

role of intuition in expertise, reporting that Grandmasters stored between 10,000 and 100,000 patterns of play, with each pattern (or chunk of information) being comprised of three to four chess pieces. Moreover, Grandmasters were able to access those patterns relatively quickly based on perceptual cues of the specific positioning of chess pieces. Simon (1992) later concluded that a Grandmasters' rapid perception and recognition of chess patterns is ultimately how intuition works, stating that, "Intuition is nothing more and nothing less than recognition" (p. 155). Though Simon's conclusions were persuasive in light of the evidence, the generalization of these findings to other domains remained a question in need of further exploration. This ultimately led Klein (1993) to investigate several other domains to test for the same evidence. In a series of studies by Klein and his associates, the conclusion that experts use patterns to execute rapid decision-making was confirmed amongst firefighters (Klein, Calderwood, & Clinton-Cirocco, 1986), military personnel (Thordsen, Galushka, Klein, Young, & Brezovic, 1990), critical care nursing (Crandall & Calderwood, 1989), and (again) chess Masters (Calderwood, Klein, & Crandall, Beth, 1988).

To clarify the distinction between intuitive processes and outcomes, Gore and Sadler-Smith (2011) suggested that intuition can be conceptualized using a multisystem approach that separates domain-general mechanisms and domain-specific processes from primary and secondary outcomes of intuition. They contended that intuition relies upon three domain general mechanisms: "the application of heuristics under conditions of uncertainty; the acquisition and activation of complex domain-relevant schemas; the infusion of affect into decision making" (Gore & Sadler-Smith, 2011, p. 305). They posited that domain-general mechanisms are essential for human functioning because

they enable people to transfer their abilities between domains. Gore and Sadler-Smith's model is in essence a pattern recognition model. At the same time, it posits that there are certain types of intuitions (problem-solving, social, moral, and creative) that can be verified. Social intuitions are the most salient and possess significant implications for the study of counselor intuition.

Similar to the definition of counselor intuition adopted by this study, social intuitions are the result of rapid and unconscious recognition of verbal and non-verbal patterns of communication (Gore & Sadler-Smith, 2011). There is evidence to suggest that non-verbal communication is enacted implicitly through a myriad of gestures (e.g., facial expressions, bodily orientation, movement, posture and tone of voice) and are perceived intuitively (DePaulo, 1992) making them difficult to consciously control (Gore & Sadler-Smith, 2011). Alternatively, skilled liars are able to manipulate said channels of non-verbal communication to give the impression they are telling the truth (Porter, Doucette, Woodworth, Earle, & Macneil, 2008). Therefore, social intuitions ultimately involve coding and decoding a broad range of cues, not just nonverbal patterns (Lieberman, 2000).

Remarkably, Berne's (1949) theoretical assertion remained largely unchanged when it resurfaced under Welling's (2005) more recent explanatory model. Welling's model is described at length because it serves as the only example of identifying the process in which a counselor's intuition develops from an unconscious recognition of a pattern to its final manifestation in conscious awareness. Furthermore, the model represents a phenomenological approach to studying the counselor intuition, logically

leading to the assertion that if counselor intuition can be described, it can also be systematically studied given the existence of an appropriate psychological instrument.

Building upon Berne's (1949) as well as Bohart's (1999) belief that clinical intuition is the result of unconscious pattern recognition, Welling (2005) articulated five distinct phases through which counselors' intuition progresses that eventually manifest into conscious insight. Therefore, Welling developed the following five stages of intuition: (a) Detection Phase, (b) Dichotomic Awareness Phase, (c) Related Object Phase, (d) Metaphorical Solution Phase, and (e) Explicit Verbal Understanding Phase. Each phase in the development of intuitive insight is the result of increasing amounts of information in consciousness. Therefore, the phases outlined here grow during each successive stage in their potentiality for specificity and discrimination of whatever phenomena is being experienced. Welling's model is also summarized in Table 1 for clarity.

Detection Phase. During the Detection Phase, intuition is in its earliest formation. That being the case, this stage of intuition is experienced as a vague sense (referred to as the 'felt-sense') that something significant is happening or has happened sometime in the past. Because the intuition cannot yet be articulated, it is best described as knowing something has happened without knowing what cues have given rise to the felt-sense. Welling (2005) stated that when intuition surfaces in the Detection Phase that the counselor often experiences *lingering feelings* (sub-conscious emotions activated through contact with the client that are later raised into consciousness), *feeling confused* (the client's disclosure leaving the counselor with an overall sense of confusion), and a *sense of importance* (a sense that the counselor should stay with the topic the client is

discussing). Therefore, intuition in the Detection Phase is primordial, yet is strong enough for the counselor to continue the introspective investigation necessary for conscious awareness.

Dichotomic Awareness Phase. Welling (2005) postulated that if intuition is indeed a function of recognizing patterns, then intuition would logically manifest in one of two forms: (a) perceiving a pattern match or (b) perceiving a diversion from an expected pattern. The Dichotomic Awareness Phase, therefore, is typified by a sense of either a vague problem (a pattern mismatch) or a vague solution (pattern match) and is often expressed using several common linguistic phrases including, “there is something missing” in the negative sense and “something important is happening” in the positive sense (Welling, 2005). As in the case of the Detection Phase, dichotomic awareness can take several different forms. The first, *feeling of contradiction*, is apparent when the flow of the client’s logic or reasoning is flawed. It is only after actively reflecting upon the client’s logic that the perceived contradiction is pinpointed. The second, *global feeling of the case*, arises when the counselor’s general assessment of the client’s case gives the counselor a sense of being off or on the expected “track.” The third, *feeling of incompleteness*, occurs when the counselor senses that a client’s story lacks connection, as if a key detail is being excluded. The fourth, *change in the process*, can happen within or between sessions and is a sense that the therapeutic process has changed in some significant way. Lastly, the dichotomic awareness can be a *sensation of oddness*, and can include “uncalled for justifications, unexpected acts, unexpected emotions, odd phrasing, and the use of an unexpected verbal tense” (Welling, 2005, p. 35). Thus, the Dichotomous Awareness Phase represents the next step in intuitive insight. Though not

as ambiguous as the Detection Phase, the Dichotomous Awareness Phase is still too vague for precise understanding of the intuition's meaning.

Related Objects Phase. During this pivotal phase, it becomes clear which objects (observations, ideas or events) an intuition is related to; the related objects give the counselor a direction to continue his/her introspective analysis of the original felt-sense (Welling, 2005). However, the nature of the intuitive insight still remains elusive. For instance, Welling gave the example of a person who had a conversation with a friend that left him with a lingering sense that something was wrong (dichotomic awareness). He could pinpoint certain remarks (related object) that gave rise to his feeling of oddness without being able to articulate what exactly was wrong with the relationship. More specifically, Welling asserted that the related objects primarily appear in two ways. The first, *standing out*, happens when in the course of the client's many words (and/or movements, gestures, thoughts, mannerisms etc.) one object stands out from the others as especially important or at least indicative of latent meaning. The second, *incongruence*, refers to when a counselor finds a discrepancy within the client's communication of self (e.g., marked difference between verbal and non-verbal channels of communication). It is in the Related Objects Phase, then, that the counselor becomes aware that his/her intuition is related to some tangible stimulus. However, specifically *why* the intuition is attached to that particular object is the subject of the fourth phase of Welling's model.

Metaphorical Solution Phase. In the Related Objects Phase, the exact relationship between the intuitive sense and the object remains unresolved (Welling, 2005). However, during the Metaphorical Solution Phase the connection between the dichotomic awareness and the related object is formed as a gestalt (images, words, or feelings).

Though the connection is made, the gestalt is still veiled and the precise meaning must be processed and deciphered. It is the gestalt-association, however, that enables the intuition to eventually be consciously verbalized in the final stage. As in the previous stages, Welling identified several instances of how the metaphorical solution can be manifested. However, the manifestations in this phase provide more complex information than the previous stages and therefore require a relatively longer explanation.

Among the many manifestations in this phase, the first, “*knowing*” *facts about the client’s life*, is simply a counselor knowing something about the client’s past (e.g., having a miscarriage) without being able to express how they know that particular fact. *Physical sensations*, are mirrored sensations such as “a tendency to cry, pain in the stomach, tense shoulders, and difficulty in breathing” (Welling, 2005, p. 37), which take place within the counselor’s body and provide insight into the client’s condition. *Images* represent visual aspects of an intuitive gestalt that can take one of many forms like art or visual memory. Similarly the next two forms of the gestalt, *words* and *melodies*, are poems, phrases, songs, etc., which add information and meaning to the client’s disclosure that are not yet apparent. *Distractions* are tangential thoughts that arise in the counselor’s mind that seem to lack any connection to the therapeutic process that later turn out to have the greatest significance. *Fantasies* are dreams of doing something with a client like hugging, having a meal together or walking together. Welling gave the example of daydreaming about dancing with his client, later giving him the insight that the client wanted someone to lead them after he was able to verbalize the intuition. *Comparisons* are ways in which a client resembles a known figure in the counselor’s life. The eighth, *impressions*, includes “experiencing the client during a particular session as childlike,

old, beautiful, strong, vulnerable, badly dressed, or sexy” (p. 38). *Emotions* are poignant feeling states like pride, sorrow, and fear or the feeling of being pressured, seduced, or flattered that go beyond the counselor’s insecurities and are actually reflections of the client’s internal state. *Action Tendencies* are desires to respond in a specific manner toward the client, including retaliation, canceling a session or calling a client between sessions. *Stereotypes* are archetypes that symbolize the client’s persona, such as a character from a fairytale or a historical figure. Lastly, *warnings* are misgivings about the therapeutic process such as a client who’s smile seems less than genuine when asked to complete a homework assignment. The gestalts that Welling identified therefore represent various ways in which the Metaphorical Solution Phase can manifest. At this stage the counselor’s intuition has made significant progress in becoming fully conscious, yet there is one final step needed before the gestalt, and subsequently the initial intuition, is clarified.

Explicit Verbal Understanding Phase. It is during this final stage that the intuition comes into perfect clarity; a connection is made between the original felt-sense and the various manifestations of the stimuli or objects, and the meaning to the metaphor is finally understood in the present context (Welling, 2005). For example “The husband understands that his feeling of being trapped in his marriage can be exemplified by many instances in which he inhibited his wishes and abstained from certain behaviors for fear of criticism by his wife” (Welling, 2005, p. 28). Therefore, when the intuition reaches consciousness, it creates a connection between past experience and whatever stimulus is triggering the felt-sense. It is the connection between past patterns of experience and the

present context that enables the counselor to draw on insight previously held in the unconscious.

Table 1. Welling's (2005) Model of Counselor Intuition

Stage	Description
<i>Detection Phase</i>	<ul style="list-style-type: none"> • The counselor's attention is drawn to something or believes something significant is happening without being able to say what or why. • Includes feeling confused, alert, disturbed, or troubled. • Manifested as <i>lingering feelings, feeling confused, or sense of importance.</i>
<i>Dichotomic Awareness Phase</i>	<ul style="list-style-type: none"> • The counselor has a feeling that something is wrong or that a solution is immanent before it happens without knowing why. • Common negative phrases include "there is something missing," "something smells bad," "something odd is going on," "it doesn't feel right," or "something is wrong." • Common positive phrases include "a sense of solution," "something important is happening," or "things are falling into place." • Manifested as <i>feeling of contradiction, global feeling of the case, feeling of incompleteness, change in the process or sensation of oddness.</i>
<i>Related Objects Phase</i>	<ul style="list-style-type: none"> • The associated objects (observations, ideas, or events) of the intuition become apparent to the counselor. • However, the precise meaning of the object and its relationship to the intuition is not entirely understood. • Manifested as <i>standing out or incongruence.</i>
<i>Metaphorical Solution Phase</i>	<ul style="list-style-type: none"> • The relationship between the counselor's intuitive sense and the related object is understood in the form of a metaphor or gestalt. • However, the meaning of the gestalt is still unclear and must be deciphered. • Manifested as "<i>knowing</i>" <i>facts about the client's life, physical sensations, images, words, melodies, distractions, fantasies, comparisons, impressions, action tendencies, stereotypes and warnings.</i>

Stage	Description
<i>Explicit Verbal Phase</i>	<ul style="list-style-type: none"> <li data-bbox="592 262 1383 350">• A final connection is made between the intuitive felt-sense, related object and the meaning behind the gestalt.

The Fallibility of Intuition

Myers (2002) suggested that part of the appeal of intuition is the powerful potential it has to quickly and effortlessly develop knowledge and insight, which then has potential for influencing performance. However, Myers also noted that intuition, much like conscious rational analysis, could fall prey to several forms of cognitive error. Myers' criticisms of intuition echoed the insights of Daniel Kahneman (see Kahneman & Klein, 2009), who helped develop the Heuristics and Bias (HB) perspective of intuition. In contrast to NDM, the HB approach views expert decision-making in general, and therefore intuition specifically, with skepticism due to research concluding the superiority of statistical models over and against human judgment.

The origin of the HB perspective can be traced back to the foundational work of Paul Meehl (1954). In his monograph, Meehl systematically reviewed 20 studies comparing human judgment and simple regression equations assessing the same material from subjects (e.g., scores on high school percentile rank and scores on a college aptitude test), many of which investigated populations of direct clinical relevance (e.g., client outcomes). Meehl's findings: out of the 20 studies reviewed, human predictions performed superior to statistical calculations in only one case. The overwhelming support for the superiority of simple math over human decision-making harbored skepticism toward clinical judgment when it is limited to the expertise of the practitioner. However, in Meehl's conclusions he acknowledged that a confounding variable likely influencing the accumulated findings of the 20 studies he reviewed was the fact that none of the

investigations controlled for the quality of the clinician. In other words, the level of clinical expertise was not accounted for. Therefore, it would be reasonable to suggest that the ability of the practitioner to make accurate clinical judgments would influence their performance compared to statistical models. Meehl argued, however, that empirical evidence supporting this logic was yet to be discovered, leaving it open for future investigations to answer this vexing validity question.

Though it failed to take into account the practitioners' level of expertise, Meehl's (1954) monograph leveled an indictment against human decision making that required an explanation to the following question: Why is it that statistical models are more accurate than human judgment when they assess the same information? Myers (2002) suggested that the answer is primarily due to intuition's (and really human judgment in general) susceptibility to cognitive error, whereas statistical models are not. For instance, Myers contended that the cognitive errors that are most salient for counselor intuition are: (a) *hindsight bias* (Rosenhan, 1973), (b) *illusory correlation* (Chapman & Chapman, 1967; Yates, McGahan, & Williamson, 2000), (c) *belief perseverance* (Lichtenberg, 1984), and (d) *self-confirming diagnosis* (Mendel et al., 2011). A short description of each error and its effect on the accuracy of counselor intuition will be provided here.

Myers (2002) explained that hindsight bias is the notion that after experiencing an outcome, we tend to believe that we knew all along what the outcome would be when in fact we did not. For instance, Rosenhan (1973) hired eight pseudo patients to check into a variety of different psychiatric hospitals. During the intake interviews each pseudo patient was instructed to act as they normally would with the exception of mentioning that they had heard voices saying "empty," "hollow," and "thud." Each pseudopatient

was diagnosed as schizophrenic and remained in treatment for an average of 19 days. The truly disturbing fact is that none of the hospital staff ever picked up on their genuine sanity with the exception of the genuinely psychotic patients. Rosenhan concluded that the hospitals' psychiatrists' and nurses' inability to spot normal behavior was the power of hindsight bias; once labeled schizophrenic the staff concluded that they must be, so that "there is nothing the pseudopatient can do to overcome the tag. The tag profoundly colors other's perception of him and his behavior" (p. 253). Therefore, a counselor's intuition is adversely effected by hindsight bias by allowing misinformation to cloud the counselor's ability to accurately perceive and empathize with the client while at the same time being overconfident in their initial judgment.

Illusory correlation, Meyers (2002) explained, occurs when we "intuitively perceive relationships where none exist" (p. 128). This is certainly nothing new to the study of human judgment. In 1967 Chapman and Chapman demonstrated through a series of experiments that when people believe that subjects taking the Draw a Person Test will draw certain features based upon descriptions of their personality, they inevitably report finding what they expected. The problem: The correlations they reported seeing never surfaced. As Myers (2002) remarked, "To believe is to see" (p. 176). Or as Yates and colleagues (2000) extrapolated, illusory correlation can influence a counselor's belief in stereotypic behavior of clients by falsely associating undesirable behavior as indicative of a minority group.

Belief perseverance refers to the resilience of a belief, once formed, to continue to be held as valid in the face of disconfirming evidence (Myers, 2002). Lichtenberg (1984) credited the work of Lee Ross, Mark Lepper and their colleagues at Stanford University

with expanding our understanding of our tendency to hold on tightly to discredited conclusions. More specifically, they found that when exposed to mixed evidence or, at best inconclusive evidence, we tend to not only hold on to our original belief but our initial judgment actually becomes stronger than it was before (Lord, Ross, & Lepper, 1979). Self-perceptions (beliefs about oneself) demonstrated comparable levels of perseverance. Ross, Lepper, and Hubbard (1975) assigned participants to complete a task and then provided them feedback about their performance. However, the feedback they initially provided subjects was false. After varying the time frame that subjects received true feedback (how they actually performed on the task), the authors found that participants continued to believe the initial feedback regardless of treatment (in this case time) condition. The implication for a counselor's intuition is clear: Once forming an impression or belief about a client it is likely to persist even after evidence invalidates its veracity (Myers, 2002).

The final cognitive error Myers (2002) suggested is particularly salient for a counselor's intuition is self-confirming diagnosis. Self-confirming diagnosis, also referred to as confirmation bias, is a "tendency to confirm a favored hypothesis" (Mendel, et al., 2011). In other words, instead of looking for evidence that contradicts an initial hunch, human beings have the tendency to only search after information that is consistent with their belief. Mendel and colleagues tested for self-confirming diagnosis amongst practicing psychiatrists and medical students. They presented a case vignette to each participant revealing symptoms indicative of Major Depression. However, the participants were able to search supplementary clinical information that suggested a secondary diagnosis of Alzheimer's disease. The authors found that both licensed

psychiatrists and medical students evidenced some form of self-confirming diagnosis in their decision and their bias lead to inaccurate diagnosis. Though the sample Mendel and colleagues used was psychiatrists, the scenarios they used are analogous to the kind of diagnostic errors counselors are viable to commit in their search to understand the nature of their client's maladies and maladjustments.

In light of the research on cognitive error and its potential effects on counselor intuition, it is clear that intuition is not perfect and its power to influence the counseling process is a double-edged sword. Though the evidence indicates that intuition is susceptible to error, Myers (2002) cautioned against an overly fatalistic view of intuition. Indeed, the available research on decision-making has failed to control for the experience level and expertise of the practitioner. After examining 86 studies investigating human judgment, Karelaia and Hogarth (2008) concluded that it is reasonable to believe that (a) human judgment is capable of achieving high levels of decision making accuracy, (b) people's judgment can be influenced best when people receive feedback about their task performance and (c) because human decision-making is prone to inconsistency, linear statistical models of human judgment are more accurate than the individual they are fashioned after. However, after roughly five decades of research looking into human decision-making, the authors also concluded "The extent to which such tacit decision processes can be represented by linear models remains an open question" (Karelaia & Hogarth, 2008, p. 420). In other words, the available research has not yet determined how expert decision-making, based upon accumulated experience, performs in comparison to statistical models, and, in parallel, how experts' performance might differ in comparison to novices when looking at those same models.

Though experts are likely prone to the same cognitive errors that were described earlier by Myers (2002), the level to which they are prone to misuse their intuition for inaccurate decision-making remains open to speculation and further investigation (Karelaia & Hogarth, 2008). In fact, some more recent evidence found that counselors' judgments become more accurate with education and experience. Spengler and colleagues' (2009) meta-analysis of 75 studies investigating the accuracy of clinical judgment demonstrated a small but significant effect size ($d = 0.12$) of education and experience on the accuracy of clinical decision-making. To put their effect size into perspective, they compared their findings to the fact that when Aspirin's effect on heart attack prevention was estimated to be $r = 0.034$, it was deemed unethical to use double blind experiments because it required providing people with a placebo thereby denying them a medication that could potentially save their lives (Rosenthal, 1990). Spengler and colleagues (2008) contended that clinicians often make decisions of similar magnitude and therefore "Where decisions have a higher degree of importance, consumers of mental health services (e.g., clients, judges, hospital administrators, and custody litigants) may correctly assume that there is a practical gain achieved by having more experienced clinicians making these judgments" (p. 280). Furthermore, Prentice and Miller (1992) noted that the practical significance of an effect size could be understood by examining its effect on the thinking within the field. Spengler and colleagues' (2009) noted that their findings went against common consensus in the field of clinical decision-making and human judgment; up until that time study after study suggested that the accuracy of clinical decision making was not related to the amount of experience a clinician had. Therefore, Spengler and colleagues' (2009) meta-analysis may have shifted the scientific

perspective of clinical judgment in favor of the view that more education and experience can indeed lead to higher levels of accuracy. However, they acknowledged that education and experience is not everything, and continued efforts are needed to better understand what mediating variables ultimately lead to decision-making accuracy. In fact, they recommended that one of the most efficacious practices to help counselors be better decision makers might be to teach basic statistical reasoning. Therefore, when judging the accuracy and effectiveness of one's intuition, Myers' (2002) recommendations are still relevant:

Monitor the predictive powers of your intuition. Beware the tendency to see associations you expect to see. Recognize the seductiveness of hindsight, which can lead you to feel overconfident (but sometimes also to judge yourself too harshly for not having foreseen and averted catastrophe). Recognize that theories, once formed, tend to persevere even if groundless. Guard against the tendency to ask questions that assume your ideas are correct; consider opposing ideas and test them too. (p. 179)

Section Summary

In summary, Section One of this literature review covered several topics related to intuition in general and counselor intuition in particular. The theoretical definition of counselor intuition endorsed by this study was founded in the scholarly literature and prior definitions used to categorize intuition both broadly (between disciplines) and specifically (within mental health). Moreover, the theoretical foundation of counselor intuition stems from two primary streams: (a) dual process theory and (b) pattern recognition theory. Dual process theory holds that intuitive and analytical information

processing represent two distinct ways in which human beings think. In turn, pattern matching theory exemplified by NDM and Welling's (2005) model provided further explanation for how a counselor's intuition functions by linking prior learning to the counselor's current experience of unconscious insight. Lastly, the fallibility of intuition and clinical decision-making in general was called into question by a series of investigations of how it can be adversely affected through cognitive error. The following section will discuss the empirical studies used to provide a foundation for counselor intuition by detailing their contributions as well as their respective limitations.

Section Two: Empirical Studies of Intuition

In this section, several studies employing both qualitative and quantitative methodologies investigating intuition will be reviewed. Similar to the first section of this literature review, the research studies discussed here will begin broadly, addressing the very first investigations of intuition, and then narrow in focus to cover those studies specifically addressing counselor intuition. A discussion of the contributions of each study along with their limitations will be provided.

Chess Master Studies

The theoretical basis of intuition endorsed by this study (i.e., NDM), can be traced back to the foundational work of de Groot (1965), Simon and Barenfeld (1969) and Chase and Simon (1973; 1988) who investigated the executive decision making of chess Grandmasters. Though it may seem strange to begin a review of counselor intuition by analyzing the decision making of chess players, these foundational studies are discussed here for two primary reasons. First, NDM derives its primarily theoretical tenets from the studies referred to above (see Klein, 1993; Kaneman & Klein, 2009). Since NDM is a

primary theoretical foundation for the CIS, it is therefore advantageous to provide some empirical basis for its validity. Second, studying chess players also provided methodological basis for using thin slice data (see Ambady, 2010) as the best practice for studying intuition and was adapted into the research design of the current investigation. Thin slice data, as will be reviewed in Section Seven of this chapter, posits that intuition can be measured by presenting participants with incomplete information knowing that only an expert will be able to draw the correct conclusion based upon their accumulative experience. Therefore, this section will begin with de Groot's (1965) study, establishing the foundation of pattern matching theory and end with research applying thin slice data techniques to the study of counselor intuition.

In de Groot's (1965) foundational work, the author sought to address a particular problem in chess mastery: How do experts in chess think and make decisions? To help answer that question, de Groot recruited chess players of varying ability, consisting of the following (ordered here from highest to lowest level of skill): Grandmasters ($N = 6$); Masters ($N = 4$), Female National Champions ($N = 2$), Experts ($N = 5$), and Skilled Players ($N = 5$). First, de Groot showed each participant a series of chess positions taken from tournament competitions and asked them to verbalize their thought process about what move they would make next. De Groot then quantified the protocol participants verbalized using the following scale:

T = the amount of time (in minutes) used for the decision process; N = the number of fresh starts in the protocol; n_0 = the number of different first moves considered; D_{\max} = the maximum depth to which the subject has calculated any variation in the protocol, expressed in half moves (that is $1. B \times N/5$, $N \times B$; $2. N \times$

N gives $D = 3$); M = the total number of Black and White move possibilities mentioned; $m = M/T$ = the number of different move possibilities mentioned per minute; $n = n_0/T$ = the number of different first moves considered per minute, on the average; R = the value of the move made as rated according to the method discussed in Section 8. (p. 318)

Surprisingly, there were no systematic differences in any one category between participants, not even between skill levels. This begged the question: If chess players do not differ in terms of the search protocol they use to make their next move, what then accounts for the different levels of chess mastery?

De Groot's second experimental procedure helped shed light on that very question. De Groot created several chessboards consisting of various strategic positions. Each participant was asked to view the chessboard for only five seconds and then to reconstruct the exact positioning they had seen from memory. As de Groot expected, participant's level of accuracy was consistent with their chess ranking: Grandmasters, $M = 93.4\%$; Masters, $M = 91.4\%$; Experts, $M = 69.6\%$; Skilled Players, $M = 52.5\%$. De Groot concluded that what explains chess mastery is the level of retained experience available to each player. It is their experience with patterns of play that enables them to "quickly integrate the picture of the position and through this to imprint and retain it within a very short period" (p. 329). Acknowledging that differences do not exist in verbalized protocol between master and non-master, de Groot stated "The master does not necessarily calculate deeper, but the variations he does calculate are much more to the point; he sizes up positions more easily and especially more accurately" (p. 320). Lastly, de Groot concluded that chess thinking is primarily non-verbal and non-conscious for the

Master, the information being intuitively available to them without need of rational decision making. Understanding what exactly a Master does when they size up a position and how many patterns are readily available to them was a limitation of de Groot's study and the subject of the next two investigations reviewed here.

After analyzing de Groot's (1965) results, Simon and Barenfeld (1969) attempted to estimate just how many patterns a chess Master is able to store in long-term memory. The authors used a theory of cognition known as the Elementary Perceiver and Memorizer (EPAM; Greg & Simon, 1967) model to reanalyze de Groot's (1965) original data. Using the principles of EPAM, Simon and Barenfeld (1969) theorized that chess masters create chunks of information, each chunk consisting of three to four chess pieces. Therefore, they estimated that in comparing Masters and non-masters that the former store between 10,000 and 100,000 patterns of play in their memory and are able to access this information almost instantly based upon the positioning of pieces they see on the chessboard. Through a reanalysis of an earlier investigation, Simon and Barenfeld's conclusions helped estimate just how much information is required for Masters to develop intuitive expertise, an estimate that is still respected in the field of expert decision making (see Kahneman and Klein, 2009).

De Groot's (1965) findings were so important that Chase and Simon (1973) reasoned that the replication was needed to ensure its accuracy. They decided to replicate de Groot's (1965) work using three chess players (one Master, one Class A player, and one Beginner), adding one additional test, called the *perception task*. First, Chase and Simon (1973) asked participants in the perception task to reconstruct the exact positioning of a chessboard while keeping it in plain sight. The authors hypothesized that

the number of chunks players stored in memory is unrelated to their playing level. Instead, they predicted that superior players store more information per chunk. However, contrary to their origin hypothesis the authors found that players with superior skill levels stored “both more chunks and larger chunks” (p. 77). In the second procedure, called the *memory task*, Chase and Simon replicated de Groot’s (1965) original design with several different trials. They asked all three classes of players to reconstruct a chessboard representing middle game, end game and random positioning’s that they viewed for five seconds. As expected, the authors found that Masters performed superior to Class A and beginners in both the middle game and end game positioning’s but found no relationship between ranking and the random positioning. In contrast to de Groot’s (1965) results, where Grandmasters and Masters were able to perfectly reconstruct a position upon one viewing, Chase and Simon (1973) found that it required Masters multiple trials to reconstruct the exact positioning. The author’s suggested that the reason for this discrepancy is that they used positions that were more complex as compared to de Groot’s (1965). With this small caveat, Chase and Simon (1973) concluded that their findings “unequivocally replicate de Groot’s important results” (p. 62). Chase and Simon’s work is important because it confirmed that a Master’s level of performance is consistent with their superior level of information chunks (patterns) stored in long-term memory. This was particularly evident when players were asked to reconstruct random positions; there were no significant differences between skill level because players could not rely upon patterns they had encountered in the past to assess random positions.

Chess Masters’ ability to instantaneously access vast amounts of stored patterns of recognized play was also confirmed by an experimental study conducted by Gobet and

Simon (1996). They compared three classes of chess players, Masters ($N = 3$), Experts ($N = 4$) and Class A Players ($N = 6$). After controlling for the effects of short-term memory, each participant was systematically exposed to computer-based chessboards that displayed both random positions and strategic positions. The participants were then asked to reconstruct the positions they were exposed to. As hypothesized, they found that Masters were able to correctly position up to 60 pieces, Experts up to 40, and Class A Players up to 20. Furthermore, they found that Masters were able to understand the meaning of the positioning within five seconds of exposure and were even able to formulate good moves based upon their rapid analysis. On the other hand, lower level players complained that the positions were too complex to understand within the time permitted and they were only able to understand the superficial elements of each positioning before exposure to the next pattern.

By studying chess mastery, Groot (1965), Simon and Barenfeld (1969), Chase and Simon (1973), and finally Gobet and Simon (1996) helped to firmly establish the role of intuitive level of information processing in expertise as a process of pattern matching. Furthermore, their findings indicated that it requires a vast storage of patterns requiring intense and concentrated study to acquire. However, the question remains: How generalizable are their findings to fields of study other than chess? Therefore, a review of studies investigating intuition from other disciplines, including counseling, is necessarily to establish the generalizability of pattern recognition of intuitive expertise.

Qualitative Studies of Experts

The studies reviewed in this section were seminal works that helped establish NDM as a serious approach to conceptualizing intuition as an aspect of expertise. Though

not an exhaustive review of studies that could fit into this section, the studies reviewed here are often cited in the NDM literature and therefore merit in depth analysis.

In line with the chess studies described earlier, Klein, Calderwood, and Clinton-Cirocco (1986) conducted a qualitative investigation using semi-structured interviews of what environmental cues expert firefighters ($N = 26$) used to make decisions during structural fires. More specifically, they probed participants to find answers to the following: (a) what cues they used to make their decisions, (b) what other options they believed were available, (c) how they went about selecting that option, (d) how much time it took them to make the decision, (e) what level of experience was needed to make the decision, and (f) what important cues they believed were missing. One of the most striking findings of their study was that of the 156 decision points identified, only 19% of those decisions were made using a conscious, pairwise-comparison of alternatives. In most cases, participants were not aware of making a decision, and instead stated they made their decisions based upon prototypical experience of fires they had encountered in the past. Upon retrospective analysis, Klein and colleagues confirmed that in 80% of the 156 cases expert fire fighters used match/mismatch processes to make decisions over deliberate processes (i.e., consciously reasoning through alternative options). A potential limitation to this study was that expert firefighters failed to recall their deliberate reasoning through alternatives while making their decisions. However, Klein and colleagues highlighted two reasons they believed this was not the case. First, despite probing for evidence of deliberate and conscious decision making, the researchers found little evidence to suggest that expert firefighters consciously reasoned through alternatives. Second, given the time constraints firefighters worked within, there simply

was not enough time to consciously exam all the available alternatives. Though their design was less rigorous compared to the chess studies already reviewed, Klein and his colleagues' findings were consistent with the pattern recognition of chess Masters and therefore demonstrated emerging consistency between professions.

Intuitive expertise, based upon accumulated experience, was also verified in the nursing field through two seminal studies. In the first study, Benner (1982) interviewed and observed 51 experienced nurse clinicians, 11 new graduate nurses, and five senior nursing students to verify the validity of the Dreyfus Model of Adult Skill Acquisition (Dreyfus, 2004). In short, the Dreyfus model posits that people acquire skills in five distinct phases, progressing as follows: (a) beginner, (b) advanced beginner, (c) competent, (d) proficient, and (e) expert. They found overwhelming evidence to confirm this model. Of particular relevance to the topic of intuitive expertise, Benner (1982) concluded "The expert nurse, with her/his enormous background of experience, has an intuitive grasp of the situation and zeros in on the accurate region of the problem without wasteful consideration of a large range of unfruitful possible problem situations" (p. 405). After storing several patterns of patient problems, expert nurses were no longer limited to strict analytical reasoning and instead based their interventions and decisions upon a holistic, felt-sense. One expert nurse stated:

When I say to a doctor, 'The patient is psychotic,' I don't always know how to legitimize that statement. But I am never wrong because I know psychosis from the inside out. And I feel that, and I know it, and I trust it.

Benner (1982) acknowledged, however, that expert nurses did use finely tuned, analytic reasoning during novel scenarios or when their initial intuition turned out to be wrong. A

potential limitation to this study is its qualitative design. The authors interviewed nurses about their experiences and ultimately found support for the Dreyfus Model. However, the design of the study is limited to the accuracy of the participants self-report which could have exaggerated the accuracy of the experts' intuitions. At the same time, Benner addressed this limitation through independent observation to validate the nurses' description of their assessment processes.

The second study looked specifically at how expert nurses make clinical judgments. Crandall and Calderwood (1989) used the Critical Decision Model (CDM), a method for eliciting tacit knowledge from experts, to study the decision making processes of experienced neonatal nurses. They gathered 19 nurses with a minimum of 5 years experience working in a neonatal intensive care unit. The mean years of experience for the sample far exceeded this selection criterion ($M = 8.1$ years). Using individual, semi-structured interviews that lasted between one and one half to two hours, Crandall and Calderwood gathered information from each participant about "assessment parameters and salient cues surrounding critical decisions, including options evaluated and chosen, cue utilization, contextual elements, and the assessment factors specific to clinical judgments, and patient evaluation" (p. 3). To elicit that information, they first asked nurses to walk through a particularly difficult case that they believed required the work of a seasoned practitioner and which they had to rely upon their intuition to intervene. Second, they asked them to discuss a similar incident, but this time asked them to describe any technological assistance they used; in particular they wanted participants to discuss when their judgment contradicted the results of any lab tests.

Crandall and Calderwood (1989) identified a total of 33 critical incidents addressing a variety of issues in 17 interviews. Each incident was coded using a matrix that then quantified the expert nurses' recollection of each incident, allowing the authors to systematize the accounts. Surprisingly, during the first interviews with each nurse, they found a noticeable lack of comparisons made to prototypical cases (they expected to find many given that this was a major hypothesis stemming from NDM). Instead, they found that nurses primarily referenced changes in diagnostic assessments for individual patients over the course of repeated administrations. However, assuming that an expert's tacit knowledge would be difficult to sometimes verbalize, these findings made sense. It is for that very reason that Crandall and Calderwood conducted a second interview in which they probed for more information within each identified incident. After asking pointed questions about what helped the nurses make in-the-moment decisions about their patients (decisions that were often time sensitive), they found that "perceptually based cues more than doubled and there were large increases in reports of diagnostic indicators as well" (p. 8). Their results suggested that CDM was an effective means of eliciting expert knowledge and helped establish that expert nurses use domain-specific cues to pattern match during treatment. At the same time, expert nurses also relied heavily upon ipsative comparisons with diagnostic instrumentation in their decision-making process, suggesting that prototypical comparisons are a part but not the whole of expert nurses' overall decision-making process. Similar to the Benner (1982) study reviewed earlier, the primary limitation of the Crandall and Calderwood (1989) study is its qualitative design and its reliance upon accurate recall.

The final study reviewed in this section is the work of Thordsen, Galushka, Klein, Young, and Brezovic (1990). The authors also used CDM to investigate the expert decision making of military commanders using three different samples: (a) a classroom setting at Ft. Leavenworth, Kansas, (b) a field training setting at Ft. Riley, Kansas, and (c) a computer simulated battleground at Ft. Hood, Texas. The first setting was used to trial run CDM in a military decision-making domain to test if it was capable of eliciting tacit knowledge, which the authors concluded that it did. The second setting allowed the authors to test CDM in a more realistic battleground environment than the first and where they were able to observe and elicit information from military personnel working in the tactical operations center (the department responsible for making in-the-moment decisions during military conflicts). In the final setting, the authors conducted CDM based interviews over the course of a three day simulated battle which they noted offered the richest information and whose setting was the most conducive to elicit tacit knowledge. Concluding that the last interview possessed several superior qualities for the purposes of their investigation, they spent all of their analytic resources on the data collected from the Ft. Hood simulation.

The findings set forth by Thordsen and colleagues (1990) supported the conclusions of studies already reviewed here. The overall process of data analysis and reporting of results were exhaustive. However, one finding stands out as salient for the present discussion. After analyzing data taken from in-depth observations and interviews with tactical operations personnel, the authors were able to identify a total of 27 decision points made over the course of a three day simulated battle. They categorized each decision as following into one of two primary types: (a) decisions based upon the

recognition of a pattern participants had encountered previously or (b) the analysis of two or more alternatives that were then weighed for their relative merit. They found that 26 of the 27 decisions they identified were a function of pattern recognition, suggesting that analytical decision-making strategies were not used due to the familiarity of the domain for each participant. In other words, they had encountered the scenarios previously in their experience to disregard the use of decision trees as an aid to tactical decision-making.

Intuition in Counseling Studies

As counselors develop, they tend to move from reliance upon external expertise to a trust in their accumulated wisdom. Skovholt and Ronnestad (1992) conducted a qualitative study of how counselors develop through the duration of their professional career. The entire study required five years and included a sample of counselors ranging from the first year of graduate study to 40 years of post-graduate experience ($N = 100$). Each participant was interviewed individually for one hour to one and one half hours using a 23-item semi-structured questionnaire. During analysis, the participants were grouped together based upon education and years of experience to capture key themes within each developmental stage. The authors used constant comparison analysis to extract themes from the interviews and found several themes pertaining to counselor development. However, what is most relevant to the discussion of counselor intuition was a theme they found contrasting novice and seasoned professionals use of expertise. In working with clients, beginning counselors relied upon the external direction and expertise of their supervisor. As counselors develop, however, they tended to rely upon what Skovholt and Ronnestad called *accumulated wisdom*—thousands of hours working

with clients that formed a knowledge base that could be accessed in the moment without external consultation. They connected their findings to the conclusions of notable researchers on intuition including Herbert Simon, Robert Glaser, and Micheal Prietula who have argued that such accumulated wisdom is ultimately the source of intuition (Benderly, 1989). Skovholt and Ronnestad (1992) noted that the primary limitations of their study are due to its cross-sectional design, including the possibility “of cohort differences confounding stage differences” (p. 514), a homogenous sample, and the inability to make causal inferences from qualitative methods. In spite of these limitations, Skovholt and Ronnestad’s study opened the door for understanding how counselors apply prior learning to their work with clients in the form of accumulated patterns.

The concept of accumulated expertise and the experience of intuition as an unconscious process in counselor insight and decision-making were also supported by Weis (2009). Weis conducted a phenomenological investigation of counselors’ experiences with intuition using purposive and snowball sampling strategies to recruit participants ($N = 9$) who were licensed professional counselors (LPC’s) in North Carolina. Each participant had acquired at least 100 hours of supervision and 2,000 hours of client contact to be eligible for the state license. She chose this sample parameter based upon the connection between pattern recognition theory of clinical intuition (Welling, 2005) and the finding that counselors who are able to reflect upon and describe their experiences with clinical intuition must first have accumulated enough clinical hours to store those patterns (Skovholt & Ronnestad, 1992). Weis (2009) collected data through 10 in-depth, semi-structured interviews that asked participants to first define

clinical intuition and then describe their experiences with it. The study's findings revealed six primary themes: (a) unconscious associations, (b) conscious associations, (c) moments preceding the arrival of intuitive knowledge, (d) initial appearance, (e) manifestation of intuitive knowledge, and (d) the nature of intuitive information.

Of all six themes noted above, Weis (2009) identified three themes that were especially saturated and captured what the intuitive experience was like in her sample. First, participants described the moments preceding intuitive insight as a silencing of the mind's chatter so that prior judgments and biases about the client were abandoned in favor of a direct focus upon contextual cues. Instead of the counselor listening for expected information, they were open to whatever information would be communicated by the client so that they could perceive even subtle messages or cues. Second, participants described the initial appearance of intuition as arriving of its' own accord; like Roger's (1986) description of his intuitive experience, participants did not believe that intuition arrived by any special or conscious effort they had control over. Lastly, after becoming aware of their intuitive knowledge, participants described the manifestation of intuitive insight in more dynamic terms than previous theoretical models suggested. They stated that their intuitive experience seemed to flow from a felt-sense, to a gut feeling, to a recognition of a pattern and finally to a symbolic representation. Furthermore, participants did not describe their intuitive experience as a linear progression from unconscious processes to conscious awareness. Instead, the intuitive experience that participants described seemed to suggest a dynamic wave that flows between unconscious processes and conscious awareness, to cognitive pattern recognition and emotional arousal; suggesting that the actual experience of intuition in therapy is

more difficult to dissect than some models (e.g. Gore & Sadler-Smith, 2011) would seem to implicate.

Weis (2009) identified several limitations to her study. For instance, this study was a phenomenological investigation of counselor's intuitions; though it effectively elicited participants' experiences of intuition in their work with clients, it never sought to check these recollections with clients' accounts. Also, participants' recall of their experiences with intuition could have also been subject to inaccuracy. For example, participants could have made connection in hindsight about information that was originally unconscious but they believed was always conscious after becoming aware of it. Furthermore, counselors could have recalled cues that were never there, and instead created them upon recollection while trying to make sense of their intuitive experiences during the interviews.

In a later qualitative study, Jeffrey and Stone Fish (2011) used a modified phenomenological approach to study marriage and family therapists beliefs, opinions and experiences of clinical intuition. Using a snowball sampling strategy, the authors collected an initial pool of 16 participants. However, they narrowed this group down to eight participants (female = 5 and male =3) after applying the following criteria: (a) they received a degree in marriage and family therapy from the Commission on Accreditation for Marriage and Family Therapy Education, (b) they were currently active clinically with at least three years of experience, (c) they reported experiencing intuition in their work, and (d) they lived reasonably close to conduct interviews. The participants varied from 30 to 68 years of age with a range of 8 to 40 years of clinical practice . The authors conducted individual, semi-structure interviews with each participant lasting between 35

and 75 minutes focusing on three areas: (a) participants' views of intuition, (b) how intuition is used in clinical work, and (c) the implications for how intuition to can be applied to clinical training.

Jeffrey and Stone Fish (2011) used Moustakas' (1994) method of phenomenological data analysis in reviewing the transcribed interviews and arrived at the following five domains to categorize their findings: (a) the nature of intuition in marriage and family therapy, (b) intuition and the therapist-client relationship, (c) intuition as a spiritual process, (d) training and development of intuition, and (e) reluctance toward intuition in marriage and family therapy. Though the findings of the study were extensive, a few key elements of the data are worth mentioning as they relate to the current investigation. First, despite defining intuition differently from each other, it seemed clear from the interviews that participants believed that intuition was a viable source of gathering valuable information in counseling, as the authors summarized "Intuitive information may prove influential in conceptualizing cases and developing interventions, as it has been stated to be a source of guidance" (Jeffrey & Stone Fish, 2011, p. 358). Second, and though it may sound obvious in light of the first observation, clinicians also indicated that they used their intuition regularly in their work with clients. Jeffrey and Stone Fish noted that this is particularly important in light of the absence of peer-reviewed research discussing how intuition can be used ethically and effectively in counseling. Lastly, the data suggested that intuition in the context of therapy is a relationally based phenomenon. More specifically, participants reported that intuition occurs while "getting a sense of clients' dynamics, their situations, and their presence"

(Jeffrey & Stone Fish, 2011, p. 359). Such language harkens back to the first definition of clinical intuition put forth by Berne (1949).

The results of Jeffrey and Stone Fish (2011) study were limited to the lack of generalizability of qualitative methods. In addition, the authors acknowledged that, despite reaching saturation in the data, that if other participants were used there may have been useful information that was not discovered in the sample represented in their study. However, the Jeffrey and Stone Fish study represented a valuable addition to the literature of counselor intuition because it is the first study to narrow the specialty of construct in therapy, in this case marriage and family therapy. This is consistent with prior theory and research suggesting that intuition is limited to the discipline or profession within which it manifests (see Hogarth, 2001; Kanehmen & Klein, 2009). At the same time, the authors findings should not be reasoned to be limited strictly to marriage and family therapy because of the fact that all counseling happens in the context of human relationships.

Using a mixed method design, Witteman, Spaanjaars and Aarts (2012) had clinicians who were completing an in-service training volunteer to fill out the Diagnostic Decision Making (DDM) questionnaire, write answers to three questions concerning intuition, and participate in two focus groups discussing questions related to their beliefs and experiences with intuition. There were a total of 19 participants (Female = 17 and Male = 2) who completed the DDM. The DDM is an 18-item questionnaire with three subscales, including: (a) DSM Use ($\alpha = .78$), (b) Intuition ($\alpha = .72$) and (c) Self-Monitoring ($\alpha = .71$). They found no correlation between subscales and no statistically significant differences between subscale scores. The findings of the DDM

were limited primarily by a small sample size that put significant constraint to the number of analyses the authors were able to conduct.

Next, Witteman and colleagues (2012) asked participants to write down and discuss in focus groups answers to the following three open-ended questions: (a) *What is clinical intuition?* (b) *When does intuition play a role?* and (c) *How is intuition used?* In answering the first question (*What is clinical intuition?*), almost every participant mentioned ‘feeling’ as part of his or her definition of intuition (e.g., using one’s feelings as an instrument to assess the client). However, several participants also combined feeling with experience and prior learning in their definitions. They also mentioned that there were three sources to their intuition: (a) observations, (b) what people call up in you, and (c) training and experiences. In answering the second question, (*When does intuition play a role?*), participants stated that intuition plays a role during three moments in counseling: (a) directly at the first contact, (b) when in doubt or uncertain, and (c) always. Furthermore, Witteman and colleagues could distinguish two conditions when intuition plays a role. First, it depends upon the features of the situation, including the first impression of the client and when time is of the essence (e.g., deciding to hospitalize a client). Second, they stated that the extent to which intuition plays a role depends upon the theoretical orientation of the counselor and the quality of relationship between the counselor and client. The third and final question (*How is intuition used?*), participants responded by saying that they used their intuitions by discussing them with colleagues during supervision and also by discussing them directly with their clients. In particular, participants reported using their intuitions as hypotheses to be tested and later verified or rejected. If they did not think it would be appropriate to share their intuition at that

specific moment with the client, participants stated they would record them either on paper or in the back of their mind to revisit at a later time. Lastly, unrelated to the DDM and the discussion questions, participants mentioned two features of clinical intuition that were worth recording: (a) leaning and (b) risks of intuition. The majority of the participants believed that intuition could be learned and fostered with only one participant stating that it could not. Lastly, participants warned that there are also several risks to using intuition, including confirmation bias, tunnel vision, and projective identification, that may require correction.

The Witteman and colleagues (2012) study had several strengths. Perhaps their greatest contribution to the study of counselor intuition was that their research utilized both quantitative and qualitative approaches, a noteworthy advance compared to previous attempts to study counselor intuition reviewed thus far. Though their statistical findings were not significant, they should not discourage future inquiry because of the small sample size they had available; larger samples may yield significant results. Furthermore, the findings of the open ended written questions and focus groups demonstrated that clinicians reported that they not only were able to define counselor intuition based upon their experience with it, but that it also played a significant role in their work with clients. Along with these strengths there were also weakness to the study that beg mention. For one, in addition to fact that the findings of the DDM were insignificant, the instrument itself is a self-reported scale. The DDM, in addition to investigating information apart from intuition, is not a criterion measure and is not a measure of the counselor's actual ability to use intuition effectively. Therefore, its utility is limited by the counselor's self-perception, which is not the subject of the current investigation. Moreover, though the

qualitative discussions were helpful in providing information about how counselors use their intuition, the inherent nature of qualitative inquiry limits these results their results to the condition of the sample they recruited.

Section Summary

This section reviewed several empirical studies of intuition. Beginning with the foundational studies investigating the intuitive judgments of chess Masters, the experiments conducted by de Groot (1965) and later Simon and Barenfeld (1969) and Chase and Simon (1973, 1988) suggested that intuition is a function of expert pattern recognition. Pattern recognition was later confirmed using qualitative methods, for expert firefighters (Klein, et al., 1986), nurses (Benner, 1982; Crandall & Calderwood, 1989), and military personnel (Thordsen et al., 1990). Similar findings were confirmed within the context of counseling (Jeffrey & Stone Fish, 2011; Skovholt & Ronnestad, 1992; Weis, 2009; Witteman, et al., 2012) suggesting that NDM is a unifying theory between specialties. The most apparent weakness of the studies of intuition within counseling is the inherent limitation of qualitative research. Though transferability of each study suggested a common theme of pattern recognition, they do not offer any direction in assessing the role intuition plays in counseling beyond self-report. Finding and using a method of quantifying the intuitive ability of counselors, as was demonstrated in the chess studies, has eluded scholars to date.

Section Three: Intuition in Counselor Education and Supervision

Intuition in the context of counselor education and supervision will be divided here into two sections. The first section exams the scholarly literature wherein intuition is explicitly discussed within educational or workshop settings specifically targeting

counselors. The second section will discuss intuition within the context of clinical supervision and, in particular, literature discussing how intuition can be developed through the practical experiences of facilitating counseling.

Intuition in Counselor Education

Within counselor education, there is a significant gap in the scholarly literature that specifically discusses how counselor intuition can be taught in educational settings. The only exception is the weeklong workshop developed by Faiver, McNally, and Nims (2000) to teach principles of developing creativity and intuition to masters students in counseling. The structure of the course was a five-day intensive class, meeting for roughly eight hours each day (9 a.m. to 5 p.m.). The course content focused on intensive self-awareness, empirical support for the existence of intuition in counseling, and various strategies for using creativity and intuition with clients. The authors also used a wide range of pedagogy to engage students in learning, varying from guest lectures and discussion in the morning to experiential exercises in the evening. A brief summary description of each day of the course will be discussed here because Faiver and colleagues' workshop represents the only example of structuring a class whose sole focus is developing intuition in counseling.

The first day of the course focused on a general overview of topics surrounding creativity and intuition as well as their empirical foundation (Faiver, et al., 2000). Faiver and colleagues first asked students to describe the qualities of individuals they perceived as highly creative. The class discussion that ensued focused on the often-polemical tendencies of highly creative individuals; their ability to balance the extremes of their personality was considered to be typological. The first day also involved a guest lecture

providing the empirical basis for intuition as a biological and cognitive process of pattern recognition that is enhanced by perceptual openness to the variability of client behaviors. The end of the first day concluded with a small group activity borrowed from Emery (1994) in which students were asked to locate and discuss intuitive moments in their everyday experience.

Day two of the course covered topics related to how intuition is accessed in practical terms (Faiver, et al., 2000). A general theme guiding the authors' strategies was openness to a wide variety of means of accessing the intuitive sense, including but not limited to dreams, meditation, exercise, artistic endeavors and journaling. They concluded the morning session by engaging the students in a traditional Eastern meditative exercise called the mandala (see Campbell & Moyers, 1988) as well as a guided imagery focusing on the three avenues to eliciting the nonconscious, including: (a) memories, (b) metaphors, and (c) mystical experiences. The afternoon session centered on the lead author self-disclosing about personal experiences that at first seemed mundane; however, upon subsequent analysis these experiences turned out to be rich in both meaning and implication. The author emphasized his personal openness to all of life's experiences as a key to opening intuition's potentials for deriving meaning from any context or circumstance. The authors then directed students to exam their lives together as small groups by discussing three ways in which they had been intuitive and three ways in which they had been creative in their lifetime.

On day three, Faiver and colleagues (2008) proposed that intuition and creativity are best understood as aspects of the same energy, relying primarily on spiritual perspectives to explain their reasoning. In particular, the lesson began with a guest

lecture noting the necessity of mindful awareness and connectedness to oneself and to one's surroundings for intuition to manifest. Spiritual disconnection or debilitating self-consciousness inherently hinders the counselor's ability to be open to perceiving information in the client's presentation. During the afternoon portion of the class, the authors used a grounding exercise that involved traveling to a local church and completing a labyrinth exercise resulting in a heightened sense of spiritual connectedness and awareness. Faiver and colleagues noted that the labyrinth exercise was a highlight of the workshop for many participants.

The fourth day involved lessons and activities that explored how students could apply what they had learned about creativity and intuition to their daily lives and future careers (Faiver, et al., 2000). The authors used insights and exercises from Cameron (1995), which is an interdisciplinary guide to incorporating principles of creativity and intuition into one's life. In particular, Faiver and colleagues challenged students to adopt a different identity for a week (such as a country singer), requiring students to draw on creative and intuitive processes that they may never had used previously. In the course of completing this challenge, Faiver and colleagues noted several similarities to the 12-Step Program's tenets of freedom and surrender, suggesting that intuition and creativity tend to thrive when these spiritual precepts are actively incorporated into practice. To conclude the fourth day, the authors consolidated participant's learning through group discussions focusing on how they would integrate what they learned about intuition and creativity into their lives after the workshop had ended. Lastly, the participants prepared to come to class the following day knowing that the entire day would be concentrated on their personal presentations.

The final day of the course was primarily devoted to student presentations (Faiver, et al.,2000). Presentation topics varied widely, including ways or strategies for accessing intuition and creativity, reflections on experiences with intuition and creativity in their lives, and demonstrations of artistic skills and expression that the students were inspired to either start or develop further as a direct result of taking the course. The authors mentioned that evaluation was included as part of the course, but did not give a detailed explanation of how they provided students with formative or summative feedback. Lastly, Faiver and colleagues held an informal two-month follow-up lunch meeting with nine participants who reported lasting effects of the workshop on their personal and professional development.

Though Faiver and colleague's (2000) workshop represented an innovative way of educating intuition within a counseling setting, the outcomes of the intensive course were largely unknown and primarily based on self-report. The lack of substantial evaluation may be due in part to the difficulty of assessing intuitive gains. Though participants reported high levels of cohesion with other group participants and shared sense of meaning as a part of the course, the influence of the workshop on their professional development and effective use of intuition left much to be desired. With this limitation in mind, the authors concluded that "With supportive research and concurrent curriculum design, courses surrounding these topics may become increasingly influential in the field" (p. 228).

Intuition in Counselor Supervision

Two theories of supervision were found in the scholarly literature that either implicitly or explicitly discussed the role of intuition in counseling practice and how

supervision can help to cultivate it. The first theory, Interpersonal Process Recall (IPR), was developed by Kagan and Kagan (1997) as a way of addressing maladaptive communication patterns between the client and the counselor. The second theory, called the Clinical Intuition Exploration Guide was developed by Jeffrey (2012) and was designed as a guide for identifying and processing intuitive moments in couples and family counseling. Both theories will be reviewed here to add greater context to the discussion of how intuition has been addressed in supervising developing counselors.

Interpersonal Process Recall

Though IPR is often used in supervision as a facilitative technique only, in actuality it represents a unique adaptation of reflective philosophy to the supervision of counselors (Bernard & Goodyear, 2009). Kagan and Kagan (1997) explained that there is a rich theoretical basis behind the model that guides its application in supervision, though they acknowledged that supervisors are welcome to adapt IPR's tenets to theoretical constructs they may see as beneficial additions. In short, IPR was created to address an interpersonal dilemma that all people face and that will inevitably be a topic of supervision if the counselor is to progress to higher levels of professional development. The interpersonal dilemma can be stated as follows. On the one hand, people learn very early in life that they need other people to fulfill basic needs for survival and comfort. At the same time, however, people learn to fear other people based upon their earliest and most impressionable, negative experiences in childhood. Indeed, Kagan and Kagan (1997) drew the conclusion: "This is why so many of the 'gut level' feelings that we repeatedly hear people eventually admit in the course of IPR sessions appear infantile—living vestiges of early fears" (p. 298). As a result, people tend to vacillate between the

distancing themselves from the potential pain of interpersonal trauma and the monotony of interpersonal isolation. It is these misguided intuitive fears that inhibit ideal communication between the counselor and client and which IPR helps to correct through systematic reflection.

In a typical IPR session (commonly called a recall session), a supervisor and counselor view a videotaped session depicting the counselor working with one of their clients (Spivack, 1974). As the tape is replayed, specific attention is directed toward the verbal and non-verbal behaviors of the counselor and client so as to gain a more accurate understanding of the patterns of communication transpiring between the two.

Specifically, Spivack suggested that the focus of the recall session center around five topics: (a) the content and origin of the counselor's feelings, (b) the content and origin of the counselor's thoughts, (c) how the counselor views themselves during the session, (d) the way the counselor would like to be seen (by the client or the supervisor), and (e) how the counselor believes the client or the supervisor actually view them. During the recall session, the supervisor's task is to remain neutral regarding what transpires during the session and, instead of correcting any therapeutic missteps, help the counselor to become acutely aware of their contribution to the communication patterns that may be inhibiting the relationship.

Executing a recall session can follow four concrete steps (Cashwell, 1994). First, the counselor preselects a portion of a session to view that is characterized by interpersonal depth. Second, the supervisor introduces the recall session by creating a non-judgmental atmosphere and emphasizing that there is too much information that takes place in a single counseling session than could ever be processed. Therefore, the

goal of the recall session is not to overwhelm the counselor with information but to help them better understand how to facilitate open communication. Third, to facilitate the process the supervisor pauses the tape during pivotal moments in the session and asks reflective, open-ended questions targeted at one of the five domains listed above. The counselor can also stop the tape and offer insight into what they were thinking and feeling as well. Finally, consistent with Spivack (1974), Cashwell (1994) emphasized that it is important for the supervisor to refrain from teaching and instead allow the counselor to reflect upon their experience and draw conclusions about their interpersonal process. It is the hope that in conducting a thorough recall session that the counselor uses “new-found knowledge and information is used to help the client formulate and develop newer and more rewarding ways of behaving and coping” (Spivack, 1974, p. 235).

The Clinical Intuitive Exploration Guide

Jeffrey (2012) developed a model of addressing intuition in supervision of marriage and family counselors called the Clinical Intuition Exploration Guide. Jeffrey’s supervision model is the first of its kind to be devoted specifically to counselor’s intuition and can be used for both self-supervision and the supervision of other counselors. Though created with marriage and family counselors specifically in mind, the foundational principles of the model can be generalized to other specialties within counseling. Jeffrey developed the model based upon a phenomenological investigation of marriage and family clinicians’ experience of intuition conducted by Jeffrey and Stone Fish (2011). In short, the study found that clinical intuition is not a random occurrence and instead follows a somewhat consistent process of “developing self-awareness, clearing out, or

attuning themselves prior to a session, experiencing the intuition, and then having to make decisions about what to do with that information” (Jeffrey, 2012, p. 38).

Therefore, consistent with the Jeffrey and Stone Fish (2011) study, the Clinical Intuition Exploration Guide is a series of reflective questions that fall under the following six steps: (a) attunement, (b) experience, (c) interpretation, (d) decision making, (e) action, and (f) evaluation. Jeffrey (2012) did not create the model so that each step would be prescriptive. Rather, the intent is to be self-reflective given that each clinician’s intuitive moments will be in some way unique to the context in which it manifests. Though each step of the model will be explained, for clarity’s sake each question in the model is presented in Table 2 under its appropriate step.

Attunement. There are essentially two levels of attunement (Jeffrey, 2012). The first level involves an awareness of one’s current psychosocial state, and “might involve an assessment of one’s current stress level, significant personal issues, and current well-being” (Jeffrey, 2012, p. 39). The second level of awareness related to the counselor’s here-and-now experience with the client. When a counselor becomes adept at both levels of awareness (dyadic awareness), the counselor becomes open to key perceptual cues in the therapeutic relationship, thereby optimizing the potential for intuitive moments.

Experience. The next step involves the counselor becoming proficient at understanding how they experience intuitive moments with clients (Jeffrey, 2012). Though it is likely that counselors experience intuition in unique ways, the questions in this step helps the counselor become more aware of how they personally experience intuition and what precipitating factors lead up to their experience. In particular, the

initial reactions to the intuition are processed so as to serve as an assessment tool and lead into the next step of interpreting the intuition.

Interpretation. Interpretation involves ascribing meaning to the intuition (Jeffrey, 2012). Interpretive connections can be made through reflecting upon the meaning the intuition has in the counselor's personal life, rational connections in the client's life, and metaphorical associations. During this step, the counselor is also invited to reflect upon what personal biases might be contributing to the experience so as to avoid unethical behavior by attributing personal experience to the client's presenting concern. Jeffrey acknowledged that some intuitive moments are difficult to interpret and draw a connection to the client or the counselor. In these moments, the author encouraged counselors to acknowledge that an intuition has occurred and continue to the next step of processing where greater understanding could emerge.

Decision making. Determining what is ultimately to be done with an intuition is a particularly important because it has the potential to either foster the personal discovery of the client and counselor or to rupture the relationship (Jeffrey, 2012). In the decision making step, the counselor is asked to reflect upon the potential influence the intuition will have upon the therapeutic relationship if it is shared with the client. As in the interpretation step, the decision making step also serves as an ethical guide by placing the potential impact the intuition could have on the client over the perceived need of the counselor to make the intuition explicit in the relationship. In cases where the intuition points toward more time sensitive decisions (e.g., an intuition that the client is suicidal or homicidal), the decision will obviously have to be made relatively quick. However, even after the situation is resolved it is still worthwhile for the counselor to work through the

decision-making step as a way of informing how similar intuitive moments may be addressed in the future.

Action. Through deliberate reflection on what is to be done with the intuition, the counselor honors the intuition regardless if it is or is not shared with the client (Jeffrey, 2012). If the counselor decides that it is in the best interest of the client to share the intuition, the counselor is asked to reflect upon possible strategies for conveying it. One possible course of action Jeffrey offered was to hold onto the intuition and wait for confirmatory evidence. Doing so will both honor the intuition and possibly illicit more information to guide the discussion about the intuition in session.

Evaluation. The final step of the model is an evaluation of the influence of the counselor's intuition on the client and the therapeutic relationship (Jeffrey, 2012). Therefore, by processing the impact of the intuition the counselor may learn how to handle similar intuitions in the future. Also, if the intuition did not have any noticeable effect on the client, the counselor can learn why it failed to do so and avoid similar pitfalls in future scenarios.

Final remarks. Jeffrey (2012) contended that though the model is explained in a linear fashion, in practice the process is most likely circular and more flexible where the counselor can pick up at any step in the model and apply it to their current experience. Moreover, applying the model to experiences of intuition may at first feel cumbersome. However, with practice the process of examining intuition in depth using each step of the model may become more fluid so that what would have taken significant time and energy become easier to do in the moment with the client.

Table 2. The Clinical Intuition Exploration Guide (Jeffrey, 2012, pp. 39-40)

Step	Reflective Questions
<i>Attunement</i>	<ul style="list-style-type: none"> • When you look at your life generally right now, how would you describe it? • How did you feel prior to and throughout the session with your client (consider mental, emotional, physical, spiritual, relational processes)? • Was there something that you or your client did that may have fostered the intuitive experience?
<i>Experience</i>	<ul style="list-style-type: none"> • How did you experience the intuition (consider mental, emotional, physical, spiritual, and relational processes)? • What triggered your recognition of an intuitive thought or prompting? • What was your immediate reaction to the intuitive experience
<i>Interpretation</i>	<ul style="list-style-type: none"> • How did your intuition relate to the client situation or to your life? • What meaning does the intuition have for you? What meaning might it have for your client? • How do your values, beliefs, and biases inform this experience?
<i>Decision Making</i>	<ul style="list-style-type: none"> • Is the intuitive experience for your knowledge and understanding, or would there be benefit in sharing it with the client? • How would sharing an intuition influence or impact your client? What potential harm or damage could this have to the client or the therapeutic relationship? • How can this experience inform your interventions or direction of therapy?
<i>Action</i>	<ul style="list-style-type: none"> • What action, if any, do/did you need to take to honor the intuitive moment? • If you feel like an intuitive experience needs to be shared, when would the client be most receptive to it? • How would you respond if you share/act on the intuitive material with a client and it is not received well?
<i>Evaluation</i>	<ul style="list-style-type: none"> • How did your client respond to your actions?

Step	Reflective Questions
	<ul style="list-style-type: none"> • How did your actions influence the therapeutic relationship and process of therapy? • How might you respond differently, if necessary, the next time you have a similar experience?

Section Summary

The literature addressing the use and development of intuition in counselor education and supervision is noticeably sparse. However, the models that do exist have incorporated central tenets of theory and research already reviewed in this chapter. Of special note, is their common emphasis on perceptual cue recognition and retraining prior verbal and non-verbal patterns to accurately evaluate the client in-the-moment?

Section Four: Measures of Intuition

This section will discuss several measures of intuition and related constructs. The instruments that will be covered here are as follows: (a) Westcott's Test of Intuitive Ability (Westcott, 1961), (b) the Dyads of Triads Task (Bowers, Regehr, Balthazard, & Parker, 1990; Shirley & Langan-Fox, 1996), (c) the Waterloo Gestalt Closure Task (Bowers, Regehr, Balthazard, & Parker, 1990; Shirley & Langan-Fox, 1996), (d) the Accumulated Clues Task (ACT; Bowers, et al., 1990; Shirley & Langan-Fox, 1996), (e) the Remote Associates Test (RAT; Mednick, 1962), (f) the Mini Profile of Non-Verbal Sensitivity (MiniPONS; Bänziger, Scherer, Hall, & Rosenthal, 2011), and (g) the Interpersonal Perception Task (IPT; Costanzo and Archer, 1989). Since the primary purpose of the CIS is to measure intuitive ability (not confidence in intuitive ability), no instruments were included in this review if their primary mode of assessing intuition was self-report. Moreover, the focus of the discussion will center on the validity and

reliability of each instrument and its intended use. The shortcomings of each instrument to measure counselor intuition will be explained, thereby shoring up the need for an instrument that can meet this gap in the literature. Before beginning the review, a word about reliability is needed to guide the critique of each instrument.

First and foremost, it is not accurate to suggest that tests *are* or *are not* reliable. Instead, it is more precise to say that instruments “exhibit different kinds of reliability, the relative importance of which will vary depending upon how the test is to be used” (Strauss, Sherman, & Spreen, 2006, p.13). Moreover, several authors have put forth standards for assessing adequate levels of reliability for a psychological instrument depending upon their design and intended use. For instance, when considering high stakes test (i.e., instruments used to make decisions about people) Sattler (2001) suggested that reliability coefficients should meet or exceed .90 whereas it is acceptable for instruments used for individual assessment to have a reliability coefficient of .80 or higher. Furthermore, Sattler recommended that tests used for clinical purposes are deemed unreliable if they are under .60, between .60 and .69 are marginally reliable, and between .70 and .79 are considered relatively reliable. However, Nunnally and Bernstein (1994) acknowledge that .70 is an acceptable level of reliability if the instrument is in its initial phases of validation. Similarly, Mitchell and Jolley (2010) suggested that internal consistency coefficients (e.g., Cronbach’s [1951] alpha) should be at least a .70 and preferably .80 to be considered adequately reliable. They suggested the index for inter-item correlational coefficients is considered much lower, with most experts agreeing that .30 being an acceptable level of reliability. In terms of interrater reliability (e.g., a kappa coefficient), Cicchetti and Sparrow (1981) suggested that clinical significance is poor

when the coefficient is under .40, fair between .40 and .59, good between .60 and .74, and excellent for .75 and above. For purposes of general discussion, Strauss and colleagues (2006) offered the following guidelines for evaluating reliability coefficients of an instrument: below .59 is low, between .60 and .69 is marginal, between .70 and .79 is adequate, between .80 and .89 is high and greater than .90 is very high. Therefore, the instruments reviewed in this section will be informed by a combination of the aforementioned guidelines.

Westcott's Test of Intuitive Ability

The first instrument to be reviewed here is Westcott's Test of Intuitive Ability. Westcott's (1961) assessment was built upon the theoretical tenet that intuition involves a qualitative leap to an accurate conclusion based upon limited information. The instrument involved 20 problems meant to test three hypotheses about intuition: (a) the amount of information required to make an intuitive leap will vary between individuals but will remain consistent between problems for each participant, (b) the ability to reach the correct conclusion will vary between individuals but remain consistent for each individual, and (c) particular individuals will be more adept at making the correct intuitive leaps as compared to other participants.

The twenty problems comprising Westcott's Test of Intuitive Ability contained clues to a conclusion that the participant was expected to anticipate (Westcott, 1961). There were two different types of problems. The first consisted of a series of progressive steps that the participant was expected to anticipate in advance and included verbal and numerical series. For example, a verbal series problem would be: A, C, E, G, I ___ with the correct leap being K. In a similar fashion, the second type of problem Westcott

developed was a series of analogies. Just as in the series type problem, each analog relationship was created to be present the participant with a series of clues to which they were to make the correct intuitive conclusion. For example, Westcott used a 5-clue analogy problem such as 4:2, 9:3, 25:5, 100:10, 64:8, and 16:___ with the correct leap being 4. For both the verbal and numerical problems, a seal was kept over the clues that could be removed in succession until the participant decided to make the conclusion. They also created four alternate forms of the test to administer. Lastly, in four of the test samples they also asked participants to rate how confident they were in their conclusions ranging from: 1 = wild guess, 2 = unsure, 3 = fairly confident, and 4 = certain.

The results of the initial sample testing of Westcott's Test of Intuitive Ability demonstrated promising levels of reliability, with split-half coefficients ranging between .36 to .71 (Westcott, 1961). Using the guidelines for assessing reliability coefficients discussed earlier, Westcott's Test of Intuitive Ability therefore demonstrated promise as a tool for conducting research. In fact, the test demonstrated significant correlations to support the hypotheses that scores varied significantly between participants. Moreover, participants demonstrated a consistent demand for information and the tendency to choose the correct answer.

Overall, Westcott's Test of Intuitive Ability showed promise for studying intuitive leaps. However, the primary weakness of his instrument, at least for the purposes of the present investigation, is its practical distance from the construct of counselor intuition. It could be argued that predicting the next letter in an alphabetical or numerical series does not directly relate to a counselor's ability to read and match verbal and non-verbal cues from a client. Granted, Westcott's test is built upon a similar

theoretical tenet as that adopted by this study (i.e., pattern recognition and thin slice data). However, evidence has suggested that intuition is highly specialized (Kanehman & Klein, 2009), which would suggest a need to measure intuition using similar items to the context it is expected to manifest. Therefore, Westcott's Test of Intuitive Ability fails to generalize to counseling because it does not directly connect to the vastly different environmental cues that are matched intuitively by counselors in everyday practice.

The Dyads of Triads Task

Bowers and colleagues (1990) created three different instruments for measuring intuitive leaps. Each will be reviewed here, beginning with the Dyads of Triads Task. The authors' guiding theory of intuition was consistent with NDM in that intuition is the perception of a coherent pattern that guides initial intuitions through a two step process (the guiding stage and the integrative stage), wherein the non-conscious sense of a correct solution becomes explicit. The Dyads of Triads Task required participants to surmise the correct solution to items. However, if participants were unable to create the correct solution they were encouraged to provide their best guess allowing the authors to analyze the proximity of each response to the correct solution.

First, each item of the Dyads of Triads Task was comprised of two sets (dyad) of three words (triad). The first triad represented a coherent set of clue words, meaning that the three words were a coherent pattern of associations to the fourth word (the correct response), the fourth word not being provided to the participant. The second triad was an incoherent pattern of associations, meaning the three words did not share a meaningful association to each other. Both triads were presented at the same time to the participant,

requiring the participant to not only choose the correct associated word but also discern which triad was coherent.

Bowers and colleagues (1990) performed two different trials to establish the reliability and validity of the Dyads of Triads Task. Each exam was scored so that the correct response was counted only if it was the exact word or a synonym to the predetermined association. The first trial involved five different samples of participants ($N = 308$) and yielded Cronbach's alpha coefficients ranging from .31 to .72. The authors also calculated t tests for confidence levels in detecting the coherent triad and found that participants were more likely to select the coherent triad when they reported higher levels of confidence in all five samples.

Though the results of the first trial demonstrated promising levels of reliability for the Dyads of Triads Task, Bowers and colleagues (1990) noted that a possible criticism of the instrument could be that in a forced choice situation participants would simply identify non-coherent triads thereby selecting the correct triad without first perceiving the correct associated term. Doing so would be a potential threat to the construct validity of the Dyads of Triads Task because it would undermine the theoretical hypotheses that participants chose the correct response based upon implicit associative networks.

Therefore, in the second trial the authors asked five judges to examine 60 triads and then sort each item into one of three categories with a corresponding numerical value: (a) 1 = semantically convergent, (b) 3 = semantically divergent, and (c) 2 = semantically mixed. Semantically convergent triads meant that the three clue words were coherent and were associated to the corresponding response word. Semantically divergent meant that the clue words in the triad were unrelated to the solution term. And lastly, the semantically

mixed items meant that the response word was related to at least two of the clue words but unrelated to the remaining term. The ratings for each item were averaged and then correlated with the data from the first trial where participants selected items without solving them. The authors calculated an inter-rater reliability coefficient of .85. In addition, they found a negative correlation between semantic convergence (-.44) and the likelihood that the unsolved, coherent triad would be selected. Lastly, they found a positive correlation (.32) between semantic convergence and the probability that the triad would be solved correctly. Therefore, the degree of semantic convergence is related to both the probability that the coherent triad will be selected as well as if it will be solved, verifying the theoretical tenet that participants select answers based upon coherent semantic networks.

Using the guidelines for evaluating reliability coefficients set out in the introduction to this section, The Dyads of Triads Task demonstrated levels of internal consistency that would fall into a broad range from low (.31) to adequate (.72), and interrater reliability in the excellent range (.85). These results suggested that the Dyads of Triads Tasks showed promise as research tool, taking into account that internal consistency did vary significantly in the development sample. Furthermore, the theoretical framework for the instrument is consistent with prior theory and evidence of intuition.

However, the same criticism of the RAT holds true for the Dyads of Triads Task; the item structure of the instrument is of similar practical distance from the actual context of counselor intuition. As stated previously, it is likely the case that there is a level of word association taking place when counselors experience intuitive moments. However,

the context of counseling is far more complex consisting of several levels of communication (both verbal and non-verbal) and the Dyads of Triads Tasks fails to address this complexity in its overall design.

The Waterloo Gestalt Closure Task

The second instrument Bowers and colleagues (1990) developed was called the Waterloo Gestalt Closure Task. Built upon the same methodology of the Dyads of Triads Task, all 75 items of the instrument were comprised of paired gestalt closure stimuli drawn by art students from the University of Waterloo. They created both coherent as well as incoherent gestalts, meaning the images had features out of place yet were still aesthetically appealing to avoid obvious detection. In addition, the authors included 20 pretested items they found to be relatively easy to solve, helping pace participants to prevent debilitating discouragement if they found items to be too difficult. Each coherent gestalt was presented to participants alongside an incoherent gestalt for five seconds. Participants were then required to indicate which image was coherent. If they were unable to solve the gestalt, they were to record which image they thought was coherent. Lastly, for every choice they made they were instructed to also rate the level of confidence they had in their response to each item.

Bowers and colleagues (1990) administered the Waterloo Gestalt Closure Task to five different samples ($N = 308$). Cronbach's alpha coefficients were calculated for each sample and yielded a range of reliability from .58 to .92. Similar to the Dyads of Triads Task, the authors also calculated the t tests for confidence levels for selecting coherent gestalts and found that in four of the five samples that as participants' confidence increases the amount of items they reported having solved correctly decreases. More

importantly, by calculating the proportion of items that participants left unsolved yet nevertheless indicated were coherent, they concluded that, on the whole, participants were able to identify coherent triads.

The Waterloo Gestalt Closure Task demonstrated comparable reliability and validity to the Dyads of Triads Task, with internal consistency coefficients ranging from inadequate (.52) to adequate (.92). However, Bowers and colleagues (1990) acknowledged that there was no strategy they could use to verify that participants were drawn to the coherent triads based upon associative imagery networks as opposed to identifying the incoherent image first and selecting the coherent gestalt by default. The greatest weakness of the Waterloo Gestalt Closure Task, much like its counterpart the Dyads of Triads Task, is its distance from the social context of counseling. The primary stimulus of the instrument is the use of partial drawings of various images (e.g. camera, camel, whistle); the relationship between these images and socially based intuitions is likely minimal given that the primary visual stimulus of counseling is the non-verbal gestures of the client.

The Remote Associates Test

The RAT, developed by Mednick (1962), was intended to measure creative aptitude. However, its theoretical foundation and item structure is similar to other instruments purporting to measure intuition and is therefore discussed here. Indeed, Mednick's definition of creativity bears similarity to the definition of counselor intuition endorsed by this study, "...we may proceed to define the creative thinking process as the forming of associative elements into new combinations which either meet specified requirements or are in some way useful" (p. 221). Therefore, the RAT tests a

participant's ability to make associative connections between bits of information. To avoid cultural bias, Mednick chose to use common words-pairs with which most individuals living in the United States would be familiar with, such as "ham and eggs" or "bed-bugs." Having decided upon a method, the Mednick and his associates created items consisting of three words and it was the participant's task to choose a word that was the correct mediating link between each word. So, as an example, Mednick offered the following three words as a possible item: *Rat—Blue—Cottage*, the correct association being *Cheese*. As a final stipulation for a correct response, the answer had to be an association and not a result of "elaborate rules of logic, concept formation, or problem solving" (Mednick, 1962, p. 227).

The RAT was piloted on two separate occasions (Mednick, 1962). The first sample consisted of 289 female students at Eastern College and demonstrated a very high level of reliability using the Spearman-Brown coefficient (.92). The second sample was made up of 215 men from the University of Michigan and demonstrated comparable levels of reliability (.91) to the first sample. Mednick also conducted a criterion-related validity study with the RAT using a sample of second year college students ($N = 74$). However, Mednick found a negative correlation ($r = -.27, p < .05$) with grade point average and the RAT suggesting a need for further investigation to support construct related validity. Though the RAT demonstrated high levels of reliability, and using similar theoretical tenets of NDM, it also lacks direct relation to counseling. More specifically, understanding word associations likely plays a role in how a counselor intuitively discerning core messages from a client, but the complexity of a clients' story is far more advanced than looking at words on a test form. It can be argued that in

counseling, word associations must be balanced with visual perceptions of non-verbal cues and voice intonation in order to understand the entirety of the client's disclosure. Hence, if an instrument is to adequately measure counselor intuition it must include the complex interaction of verbal and non-verbal stimuli, a quality the RAT lacks.

The Accumulated Clues Task

Bowers and colleagues (1990) created The Accumulated Clues Task to assess the pre-solution phase of intuitive processing. Each item of the instrument was comprised of 15 clue words that were associated with one solution word. For every item, each clue word was presented to the participant progressively and accumulatively, with 10-second intervals before the next word was presented. The participant could solve the association at any point, the sooner the better. Upon being presented with a clue word, each participant was to record whatever associative terms came to his or her awareness. When the participant felt that a particular association had promise, they were to indicate their hunch by using a check mark, but continue developing associations. If the participant was confident that a particular associated word was the correct solution, they were to mark that solution with an "x" and proceed to the next item. A solution was scored as correct *only* if it was either the predetermined association or an exact synonym.

The Accumulated Clues Task was administered to a development sample of 100 participants (Bowers, et al., 1990). On the average, participants arrived at the correct solution after viewing the 10th clue word ($M = 10.12$, $SD = 4.55$). The authors also calculated a Cronbach's alpha coefficient (.70) as an estimate of internal reliability, which the authors acknowledged was not as high as they would have hoped it to be and attributed the lower than desired figure as a direct result of the small number of items

comprising the scale. Bowers and colleagues also calculated the mean and standard deviation for how many clue words it took them to get from the correct solution to an adequate level of satisfaction with that solution ($M = 1.79, S = .96$). They also calculated a Cronbach's alpha coefficient for this portion, yet found a substantially lower level of internal consistency as compared to the entire scale (.50). Lastly, the authors calculated a correlation between the means for the selection of a solution and the initial identification of a possible solution, which was virtually null ($r = .04$).

As was true of the previous two instruments developed by Bowers and colleagues (1990), the Accumulated Clues Task demonstrated some promise as a research tool. The internal consistency for the entire scale was .70, matching the adequate level of reliability of an instrument intended for research purposes. The authors acknowledged, however, that the initial reliability would be difficult to improve given the time required to complete a single administration of instrument. Even with this limitation, the primary criticism of the Accumulated Clues Task is consistent with the instruments reviewed thus far: Measuring word associations fails to capture the essence of counselor intuition in that it fails to incorporate and replicate the social environment of counseling.

The MiniPONS

The MiniPONS, though not intended to be a measure of intuition *per se*, is discussed here because its methodology (using thin slice data) is indicative of the intuitive process (Ambady, 2010) and serves as inspiration as the best strategy to measure counselor intuition. In addition, the full version of the instrument (the Profile of Non-Verbal Sensitivity [PONS; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979]) has been regarded as one of the most widely used instruments in the study of non-verbal decoding

(Castonzo & Archer, 1989) and is intended to measure emotional recognition as well as “attitudes and social relationships” (Bänziger, et al., 2011, p. 200). The MiniPONS was developed by Bänziger and colleagues (2011) as a shortened version of the 220 item PONS. As the authors noted, the advantage of shortening an instrument is that it can potentially decrease the likelihood of test taker fatigue. The drawback, however, is that with fewer items the reliability coefficient for the shortened version will likely be adversely effected. Taking this well known trade off into account, Bänziger and colleagues reduced the assessment to a total of 64 items. They chose items based upon the original blueprint of the PONS to replicate as best they could the original domains of the instrument with the only obvious difference being fewer items per category.

Therefore, each item of the MiniPONS consisted of a two-second clip of featuring an actor portraying a scripted emotional expression within the following six channels: (a) body only, (b) face only, (c) voice only with content filtered speech, (d) voice only with randomized spliced speech, (e) face with content filtered speech, and (f) face with randomized spliced speech. Furthermore, the authors chose items for each domain based upon their difficulty level. They attempted to only use items of medium difficulty to optimize the instrument’s ability to discriminate between participants’ level of emotional sensitivity through non-verbal cue recognition.

To establish the initial reliability and validity of the MiniPONS, Bänziger and colleagues (2011) conducted a series of studies involving the PONS, the MiniPONS and several concurrent-validity related instruments. First, they administered the PONS to a sample of 74 undergraduate students (Female = 64 and Male = 10) with an average age of 22 at the University of Geneva, Switzerland. Based upon the results, the authors chose

the 64 items that currently comprise the MiniPONS as discussed above. The shortened version of the test was then re-administered six weeks later to the same sample along with several non-verbal instruments for concurrent validity. Due to technical difficulties and attrition, of the original sample 65 participants (Female = 56 and Male = 9) completed all of the assessments.

In terms of reliability, Bänziger and colleagues (2011) calculated internal consistency and test-retest reliability coefficients for the PONS and the MiniPONS. The authors used the intraclass correlation coefficient (an average correlation between individual items) to estimate the internal consistency of both instruments. The full version of the PONS yielded single items intraclass correlation coefficient of .015 and a combined items intraclass correlation coefficient (analogous to Cronbach's alpha coefficient) of .750. For the MiniPONS, the single items intraclass correlation coefficient was .021 and the combined items intraclass correlation coefficient was .566. The results of the intraclass correlation coefficient analyses suggested that while individual items were not highly correlated with each other, they nevertheless seemed to be related to a latent variable (as evidenced by the combined items intraclass correlation coefficient values). For test-retest reliability, Bänziger and colleagues (2011) administered the PONS, selected items for the shortened version of the instrument based upon the results, and then administered the newly assembled MiniPONS to the same sample of participants six weeks later. The scores from both administrations were then correlated for the PONS and MiniPONS ($r = .70$), suggesting that the short form shares a significant portion of the variance of scores to the longer version. Furthermore, the authors also calculated a correlational coefficient between both administrations for the 64 items of the

PONS that were selected for the MiniPONS ($r = .64$). Based upon the internal consistency and test-retest coefficients, Bänziger and colleagues concluded that the MiniPONS demonstrated respectable levels of reliability to be a suitable short form version of the PONS.

As a test of concurrent validity, Bänziger and colleagues (2011) compared scores for the PONS and MiniPONS to several instruments intended to measure similar levels of emotional recognition, including the Diagnostic Analysis of Nonverbal Accuracy (DANVA; Baum, & Nowicki, 1998), the Japanese and Caucasian Facial Expressions of Emotion (JACFEE; Biehl, et al., 1997), the Emotion Recognition Index (ERI; Scherer & Scherer, 2011), and the Multimodal Emotion Recognition Test (MERT; Bänziger, Grandjean & Scherer, 2009). In sum, the PONS correlated higher than the MiniPONS in respect to the JACFEE ($r = .59, p < .01$) and the MERT ($r = .51, p < .01$). However, the MiniPONS was significantly correlated with both the JACFEE ($r = .48, p < .01$) and the MERT ($r = .32, p < .01$). In addition, the MiniPONS was significantly correlated to the ERI ($r = .24, p < .01$) while the PONS was not. Lastly, neither the PONS nor the MiniPONS correlated significantly with the DANVA. The authors noted that these correlational values were likely affected by the differing designs of each instrument. For instance, all of the instruments, except for the MERT, used static images instead of video to convey emotions. Moreover, the PONS and, by default the, MiniPONS were meant to measure more complex concepts beyond emotional recognition, including intrapsychic states (attitudes) and interpersonal relationships (Bänziger, et al., 2011). Therefore, it would be understandable for the PONS and MiniPONS to correlated only moderately with other measures of emotional recognition.

The MiniPONS represents a unique approach to the typical paper and pencil psychological inventory. Moreover, it is a closer fit to the actual environment in which counselors experience intuition (i.e., identifying the subtle verbal and non-verbal cues of a client) than the instruments purporting to measure intuition reviewed thus far. Though it does not appear that it was the intended purpose of the MiniPONS to measure intuition, the design of the instrument is consistent with the theoretical and empirical research of intuition, especially intuition that transpires in social contexts. In essence, the MiniPONS is a direct application of thin slice data techniques. Thin slice data, which will be discussed in greater detail in Section Seven of this literature review, refers to “random samples of the behavioral stream, less than 5 min in length, that provide information regarding personality, affect, and interpersonal relations” (Ambady, 2010, p. 271). For each item of the MiniPONS, the participant is exposed to a small portion of an emotional expression requiring them to identify the correct emotional insight without access to the full pattern of communication. Much like a chess Grandmaster’s intuition, which allows them to view a chessboard for five seconds and derive the heart of the strategy behind the move (de Groot, 1965), each item of the MiniPONS requires the participant to rapidly recognize emotional patterns enacted by the person featured in the video clip for only two seconds. Therefore, it is only participants who have the emotional memory to perceive and match the patterns they are exposed to who would be expected to score high on the MiniPONS.

Though the MiniPONS is a closer match to the environment where counselor intuition manifests, the primary limitation of the instrument for the purposes of measuring counselor intuition is that it fails to take into account the broader context of

communication between the client and the counselor. Counselor intuition, as it is defined by this study, is a perception of key patterns of non-verbal, as well as verbal, communications from the client. Therefore, it is not enough to measure non-verbal sensitivity while neglecting the verbal self-disclosure of the client's presenting problem. Any measure claiming to measure counselor intuition, then, must use thin slice data that incorporates the full range of client communication. Furthermore, potential weaknesses of the MiniPONS includes the use of staged affect therefore limiting the criterion to the intent of the actor portrayed in each clip and the use of a single subject in each clip allowing for the possibility that participants would recognize cues from one scene to the next (Costanzo & Archer, 1989).

The Interpersonal Perception Task

The IPT was intended to measure the accuracy of participants' ability to accurately perceive social cues including "gestures, words, touch, eye contact, posture, vocal paralanguage, facial expression and body movement" (Costanzo and Archer, 1989, p. 231). The IPT, developed by Costanzo and Archer, consisted of a series of 30 video clips varying from 28 to 124 seconds in length depicting a variety of interpersonal scenarios featuring one to four individuals. Each video segment was extracted from recordings originally ranging from approximately 10 to 22 minutes. The authors intentionally allowed the video cameras to record for longer periods of time so as to reduce the potential for reactivity and allow each encoder (the individual[s] depicted in the films) to grow accustomed to being on camera. For each item of the instrument, the participant was first exposed to a black screen with a question asking the viewer to reach a specific conclusion about the participant(s) depicted in the clip. Each scene is then

followed by a blank screen for six seconds allowing time for the participant to record their answer on a separate sheet of paper that listed multiple-choice responses for every video segment. Each item depicted common relational scenarios that fell into one of the following five domains: (a) status, (b) intimacy, (c) kinship, (d) competition, and (e) deception. For example, the first item depicted two adults (one male and one female) and a seven year-old children interacting together. The question participants were asked to respond to was: “Who is the child of the two adults?” Therefore, each question of the IPT related to a criterion that was “objective, verifiable, and unambiguous” (Costanzo and Archer, 1989, p. 231).

To establish the reliability and validity of the IPT, Costanzo and Archer (1989) conducted a series of studies investigating the psychometric properties of the instrument. The first study sought to establish that participant responses to each item of the IPT were not a function of chance. Also, the authors were able to test for gender differences in the accuracy of responses. Therefore, the IPT was administered to 438 undergraduate students enrolled in social science courses over the course of nine different experimental sessions. All but two scenes exceeded chance (items seven and 17) and females ($M = 17.10$) performed significantly better than males ($M = 16.00$), ($t[434] = 3.26, p < .001$).

The second study investigated the content validity of each item as well as test-retest reliability and internal consistency of the IPT (Costanzo & Archer, 1989). First, the authors reasoned that if the videos featuring interpersonal behavior were representative of patterns of behaviors one would expect to see in real life that they would be consistent with prior research. Costanzo and Archer reviewed research of interpersonal perception and non-verbal behavior and found behavioral indicators for the five domains of the IPT

(status, intimacy, kinship, competition, and deception). Based upon the identified behavioral markers, the authors created a coding matrix that they used to analyze the content of each video segment. Three different judges independently coded twenty-six video segments of the IPT. The authors calculated the Pearson product-moment correlation yielding an interrater reliability coefficient of .81 and only two scenes failed to be coded consistently between judges and were removed from subsequent analyses. In terms of test-retest reliability, the IPT was administered twice to 46 participants with 5 weeks in-between administrations yielding a correlation of .70. The authors also used the KR-20 formula to test the internal consistency of the IPT using the data obtained from the first study and found a reliability coefficient of .52.

The third study Costanzo and Archer (1989) conducted investigated the relationship between scores on the IPT and social insightfulness, a trait estimated by peer ratings of each participant. The authors believed that participants rated by their peers as more insightful would perform significantly better on the IPT. Using a sample of 18 female undergraduate students living in the same dormitory, the authors asked each participant to be rated by her 17 fellow students using a brief, four-dimension social sensitivity survey. The authors then divided participants by the median total score to create two dichotomous (high and low scorers) groups. As hypothesized, participants in the high social sensitivity group ($M = 17.89$) scored significantly higher than the low social sensitivity group ($M = 15.00$), ($t(16) = 2.16, p < .025$). They also found a significant correlation between scores on the IPT and scores on the social sensitivity survey ($r = .48, p < .05$). Both findings suggested that the IPT does generalize to real life social contexts, adding support for construct validity of the IPT.

The fourth study conducted by Costanzo and Archer (1989) investigated the concurrent validity of the IPT to a collection of instruments. Using a subsample of 65 participants from the first study, the authors administered four instruments in conjunction to the IPT. The first was a measure of visual acuity to rule out the possibility that performance on the IPT was mostly a function of superior eyesight. They found no significant relationship between the two measures suggesting that eyesight is necessary but insufficient to explain performance on the IPT. The second instrument, the Machiavellianism Scale (Christie & Geis, 1970) is a measure of social manipulation and exploitation. Costanzo and Archer (1989) found no significant relationship between the two measures, which the authors explained was expected since the Machiavellianism Scale and the IPT measure two different constructs (social sensitivity and social exploitation) that are by no means related. The third instrument, the Self-Monitoring Scale (Snyder, 1974), is a measure of the extent to which a participant exerts intentional control over their behavior and expression out of concern for social norms. There was a significant relationship ($r = .25, p = .05$) between scores on the IPT and the Self-Monitoring Scale suggesting that “to monitor and control one's own self-presentation effectively, one must be responsive to the expressive behaviors of others” (Costanzo and Archer, 1989, p. 241). The final instrument, the Social Interpretations Task (Archer & Akert, 1977), is closely related to the IPT in its intended purpose—to measure participants’ abilities to interpret verbal and non-verbal channels of communication. As Costanzo and Archer (1989) anticipated, there was a significant relationship between the IPT and the Social Interpretations Task ($r = .34, p < .01$). In particular, the IPT correlated strongest with a subscale of the Social Interpretations Task depicting the same domains

of interpersonal behavior shown in the IPT ($r = .41, p < .001$). These correlations added further support for the construct validity of the IPT.

Overall, the IPT demonstrated promise as a tool for conducting research of interpersonal perception. As reported by Costanzo and Archer (1989), the internal consistency coefficient of the IPT was .52. Using the guidelines outlined in the introduction to this section, this would be considered an unacceptable level of internal consistency to which the authors explained is primarily due to the relative smaller pool of items comprising the IPT. However, this finding should be balanced with the acceptable level of test-retest reliability coefficient of .70. In addition, the IPT performed as expected in terms of discriminate and convergent validity supporting the overall construct validity of the instrument.

For the purposes of the current investigation, the IPT represents a significant connection to the CIS in that it sought to capture and assess the verbal and non-verbal patterns of interpersonal behavior using thin slice data techniques. Moreover, the IPT demonstrated a significant improvement in the study of interpersonal perception in that it used naturalistic depictions of human behavior instead of scripted roles or scenarios (a weakness of the MiniPONS). However, though the IPT may be related to the CIS in sense that both are intended to require the participant to encode verbal and non-verbal behavior using naturalistic data, it is not clear how the criterions for some items of the IPT would relate to counseling. For instance, in the example provided earlier, participants were asked to deduce which of the two adults are the parent of the child in the video. Though the criterion is objective and verifiable (the child did belong to one of the two adults), how that information would be useful in assessing a counselor's intuitive abilities

seems marginal at best. There is still a practical distance between the insight about who is the parent of a child and a counselor's assessment of the relational dynamics of the parent child relationship and how that may be effecting the psychological well-being of both. Therapeutic insight is arguably more complex than social insight, though undoubtedly related. Therefore, though the IPT may pose a potential for one day assessing the concurrent validity of the CIS there is still a need for an instrument specifically designed to measure social intuition in the context of counseling.

Section Summary

This review of prior attempts to measure intuition or related concepts has focused on instruments whose intended purpose was to capture the ability of the participant to make intuitive leaps. The majority of those instruments used word patterns (Westcott's Test of Intuitive Ability and the Dyads of Triads Task, the ACT, the RAT), some used images (the Waterloo Gestalt Closure Task) and others human expression of emotion and social relationships (the MiniPONS and the IPT). Though each varies in their established and reported levels of reliability and validity, all were limited to the extent of their ability to measure counselor intuition as it is defined in this study. Therefore, it was concluded that a need for an instrument that closely approximates the context of a counselor's intuition still exists.

Section Five: Instrument Development

Several best practice models of developing psychological instruments exist (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Though each model has contributed significantly to the study of instrument development, each model varies in their description of the steps of scale construction as well as how many steps are

recommended. Therefore, Crocker and Algina's (2008) model will be used here as the primary source of guidance due to its superior discussion of the first steps of creating an instrument. However, when necessary, supplemental material from Allen and Yen (2002) and DeVellis (2003) will be incorporated. As such, Crocker and Algina (2008) offered a ten-step model for developing a psychological instrument. Each step in the process is as follows:

- (1) Identify the primary purpose(s) for which the test scores will be used
- (2) Identify behaviors that represent the construct or define the domain
- (3) Prepare a set of test specifications, delineating the proportion of items that should focus on each type of behavior identified in step 2
- (4) Construct an initial pool of items
- (5) Have items reviewed (and revise as necessary)
- (6) Hold preliminary item tryouts (and revise as necessary)
- (7) Field test the items on a large sample representative of the examinee population for whom the test is intended
- (8) Determine statistical properties of item scores and, when appropriate, eliminate items that do not meet preestablished criteria
- (9). Design and conduct reliability and validity studies for the final form of the test
- (10) Develop guidelines for administration, scoring, and interpretation of the test scores (e.g., prepare norm tables, suggest recommended cutting scores or standards for performance, etc.) (Crocker & Algina, 2008, p.66)

Because Crocker and Algina's model is so central to the current study, each step will be described here in detail.

Step one: Identify the Primary Purpose(s) for which the Test Scores will be Used

The development of any psychological instrument should begin with a well-grounded rationale for the intended purpose(s) of the proposed scale and can include such ends as "making admissions, placement, or diagnostic decisions" (Crocker & Algina, 2008, p. 67). However, it is not likely that any one instrument can meet every purpose that is needed. Therefore, Crocker and Algina recommended that instrument developers should begin by clearly articulating the *primary* purposes of the scale, thereby increasing the likelihood that the instrument will serve the most important purposes to which it was intended.

Step Two: Identify Behaviors that Represent the Construct or Define the Domain

Unfortunately, the history of instrument development employed a fairly informal process of developing test items based upon identified behaviors representative of the underlying construct (Crocker & Algina, 2008). Indeed, DeVellis (2003) noted that deciding *what* to measure is "deceptively obvious" (p. 60) because many researchers believe they know what they want to measure, yet when their ideas are held up to the light of scrutiny they realize their understanding of the construct in question was actually quite superficial. Furthermore, simply trying to create items based on the perspective of the researcher alone can result in a scale that is highly subjective and can either over or under emphasize important components of the construct (Crocker & Algina, 2008). Therefore, it is imperative that the construct in question be clearly defined, which is also thought to contribute significantly to logical or sampling validity of the test (Allen &

Yen, 2002). Crocker and Algina (2008) stated that researchers should engage in at least one of the following when developing a definition of the construct being measured: (a) content analysis (i.e., a qualitative investigation of the construct), (b) review of research (i.e., a thorough literature review of the construct), (c) critical incidents (i.e., a list of the extreme representations of the construct), (d) direct observations (i.e., field observations of the construct), (e) expert judgment (i.e., consulting experts), and (f) instruction objective (i.e., consulting experts concerning what participants should be able to do at the end of an educational course). DeVellis suggested three additional aids to help clarify the construct being measured, including: (a) choosing a theory, (b) being specific, and (c) being clear what is to be included in the measure. Choosing a theory simply means that a construct should have some theoretical explanation behind it. If no theory can be found, DeVellis suggested that the researcher(s) first develop at least some theoretical model to guide the scale construction. Being specific about what the scale measures can range from very focused to very general, meaning the construct itself can include several related subscales to measure a broad construct or it can be one scale to measure a very narrow concept. Similarly, researchers must decide if their scale is distinct from related constructs or if their scale will measure several related constructs simultaneously.

Step Three: Prepare a Set of Test Specifications, Delineating the Proportion of Items that
Should Focus on Each Type of Behavior Identified in Step 2

Preparing a set of test specification is essentially developing a blueprint for the proposed instrument, laying out what domains of the construct will be emphasized per item (Crocker & Algina, 2008). Deciding which domains to emphasize in the test blueprint is important because if certain elements of the construct are emphasized in the

instrument, the utility of the test scores can change dramatically. For example, a teacher would devote more items to sections of the exam that were given the most time or emphasis during class. Moreover, Crocker and Algina (2008) pointed out that each item would vary in the level of cognitive resources it requires of participants. Therefore, they suggested using a guide such as Bloom's Taxonomy (Bloom, Krathwohl, & Masia, 1956) for classifying each item in the table of specifications.

Step Four: Construct an Initial Pool of Items

Crocker and Algina (2008, p. 75) noted that creating items for an instrument could follow a clear five-step process, progressing from:

1. Selecting an appropriate item format
2. Verifying that the proposed format is feasible for the intended examinees
3. Selecting and training the item writers
4. Writing the items
5. Monitoring the progress of the item writers and the quality of the items

They also noted that item formatting should be thought through before each item is created. A possible guide for item formatting can include consulting similar tests and adapting or modifying their item construction. Additionally, having a small group of participants try out items can also help refine the item formatting before it is administered to a population sample. DeVellis (2003) delineated several guidelines for creating the first set of items for a measure. Consistent with Step Three, a scale should have enough items to cover as many dimensions of the construct as possible. Additionally, there should be several redundant items within the scale to establish internal consistency. The wording for each item should be simple enough to accommodate for a range of reading abilities as well as adhere to basic rules of grammar. In particular, scale developers

should avoid *double barrel* items—items that have two competing ideas imbedded within them so that if it is endorsed it affirms both the positive and negative poles of the item.

Lastly, DeVellis (2003) stated that there are several formatting options available for a psychometric instrument, including *Thurston scaling* and *Guttman scaling*. There are also several response formats that include *Likert scales*, *semantic differential*, *visual analog*, *numerical response formats and basic neural processes*, *binary options* and *item time frames*. DeVellis contended that whatever format is chosen for both the item question and item response, that they should be conceptually consistent with the construct being measured as well as the overall purpose of the scale as outlined in Step One described earlier.

Step Five: Have Items Reviewed (and Revise as Necessary)

Step five involves enlisting the help of experts to evaluate the initial development of the scale (Crocker & Algina, 2008; DeVellis, 2003). Experts serve three primary purposes as reviewers. First, they can rate the relevance of each item of the scale to the construct being measured, which involves supplying experts with the operational definition of the construct to ensure that they understand what the construct is. Second, expert reviewers can rate the clarity of each item with suggestions for improving otherwise ambiguous items. Lastly, experts can be a resource for suggesting alternative items that help to represent the areas of the construct that were overlooked. In reviewing items, Crocker and Algina (2008) suggested that reviewers pay special attention to six aspects of item construction, including: (a) accuracy, (b) appropriateness or relevance to test specifications, (c) technical item-construction flaws, (d) grammar, (e) offensiveness or appearance of “bias,” and (f) the level of readability. Furthermore, they stated that the

item review panel be composed of at least two of three types of experts specializing in the following areas: (a) the subject matter of the instrument, (b) measurement development in general, and (c) the population being studied. Subject matter experts are able to evaluate items judging the appropriateness of their content to the construct being measure as outlined in the table of test specification (see Step Three). At the same time, measurement development experts review each item ensuring that they are free of methodological and construction errors. Lastly, experts familiar with the population the scale is intended to measure can help to identify bias within the instrument's items toward any one subgroup in question. Though experts are a wonderful resource, DeVellis (2003) also warned that they sometimes give bad advice. Therefore, DeVellis acknowledged that choosing which items to exclude based upon expert feedback is at the discretion of the scale developer. Moreover, Crocker and Algina (2008) observed that submitting the instrument to a review panel could be completed either before or after the preliminary item tryouts (see Step Seven below). However, choosing which to do first is ultimately dependent upon the cost of assembling the review committee. Since items will inevitably need to be revised and reviewed (again) after the initial item tryouts, it is sometimes advantageous to assemble the panel once to save time and money.

Lastly, before administering the instrument to a sample, DeVellis (2003) suggested including items in the scale as an assessment of validity. The first class of validation item serves to detect participant responses that are a function of social desirability or other response biases. The second type of validation item that can be included in an instrument relates to construct validity. If the instrument being developed was intended to assess several constructs simultaneously, items representative of those

constructs should relate to each other in a way that is consistent to the underlying theory. Therefore, construct validity items can both validate the construct as well as provide guidance for assessing why items within a scale do not perform as hypothesized upon subsequent analysis.

Step Six: Hold Preliminary Item Tryouts (and Revise as Necessary)

Before field-testing the instrument (see Step Seven below), Crocker and Algina (2008) recommended administering the compiled items to a small sample (100 to 200 participants if they are available). The procedures involved in a preliminary tryout are relaxed, and is more an opportunity for test developers to observe participant reactions to taking the test and seek feedback from the participants regarding the test construction. Also, the authors suggested running initial statistical analyses (e.g., score distribution, descriptive statistics, and item analysis) to test the difficulty of the instrument and anticipate the level of variance between participants for an official field trial.

Step Seven: Field Test the Items on a Large Sample Representative of the Examinee Population for Whom the Test is Intended

Once the initial format of the instrument has passed through expert review and an initial item tryout, the instrument is ready to be administered to a sample that is representative of the population it was intended to measure (Crocker & Algina, 2008; DeVellis, 2003). DeVellis (2003) noted that establishing consensus on how many participants are needed for an initial administration is difficult. However, Comrey (1973) suggested the following scale be used to obtain reliable factor analysis results: 50 = very poor, 100 = poor, 200 = fair, 300 = good, 500 = very good, and 1,000 = excellent. Concurrently, DeVellis (2003) contended that practical experience has suggested that an

instrument can establish adequate reliability and validity using less than 300 participants. However, the potential risk in using a small ratio of number of participants to number of items on the scale is that factor analysis of items will be influenced primarily by chance (Comrey, 1973; DeVellis, 2003). Also, DeVellis warned that if a sample is small there is the risk that it will not adequately represent the population in question by either capturing a narrow picture of the construct within the population or by assessing a qualitatively different population entirely.

Step Eight: Determine Statistical Properties of Item Scores and, When Appropriate,
Eliminate Items that do not Meet Preestablished Criteria

After the test is administered to a sample of participants, the data is then analyzed using several potential statistical procedures (Crocker & Algina, 2008). Which statistical procedures are used, and how they are interpreted, is ultimately determined by the type of instrument being developed. Generally speaking, there are two kinds of psychological instruments: (a) *norm-referenced* and (b) *criterion-referenced*. For clarity's sake, a norm-referenced instrument derives its meaning by comparing scores between individuals (Crocker & Algina, 2008; Glaser, 1997). Its primary purpose, therefore, is to compare levels of an attribute between participants within a given population. Norm-referenced instruments can be used to measure a wide range of constructs including, but not limited to, "intelligence, creativity or moral development" (Crocker & Algina, 2008, p. 68). On the other hand, a criterion-referenced instrument is a measure of a participant's level of performance relative to a preestablished criterion, and "provides explicit information as to what the individual can or cannot do" (Glaser, 1997, p. 339). Thus, a criterion-referenced instrument is not intended to measure how participants score relative to each

other. Rather, its purpose is to plot each individual along a continuum of proficiency relative to absolute standards of performance or achievement.

The distinction between a norm-referenced and criterion referenced instrument is important because it will determine how statistical analyses are used and they are interpreted (Crocker & Algina, 2008). For instance, Crocker and Algina observed that similar item analysis procedures could be used for both criterion-referenced and norm-referenced instruments. However, conducting item analyses for a norm-referenced test will lead researchers to discard items that do not correlate well with the total score of the instrument. Cutting out items from a criterion-referenced instrument based upon that same logic may not be warranted because its purpose is not to measure the variance between participant responses. Instead, the purpose is to compare their achievement in relation to a standard and any extraneous factors (e.g., quality of instruction, test specifications, or item construction) that may have influenced participant performance.

Step Nine: Design and Conduct Reliability and Validity Studies for the Final Form of the Test

There are several strategies to establish the initial reliability and validity of a newly compiled instrument (Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Due to the overabundance of information on reliability and validity, the discussion here will be split into two parts. First, the discussion of reliability will give a brief overview of the concept by paying particular attention to generalizability theory. The second section will also give a brief overview of validity and how it can be assessed.

Reliability

First, reliability is defined as “the degree to which individuals’ deviation scores...remain relatively consistent over repeated administrations of the same test or alternative test forms” (Crocker & Algina, 2008, p. 105). True score theory postulated that an individual’s absolute score on any given instrument is a hypothetical construct that is ultimately a function of their observed score plus or minus error (i.e., True Score = Observed Score +/- Error). Therefore, the exact reliability of an instrument can never be established in absolute terms (Crocker & Algina, 2008). However, the reliability of an instrument can be estimated using the following methods: (a) *alternate form* (b) *test-retest*, and (c) *test-retest with alternate forms* and (d) *inter-rater reliability*.

Alternate form methods to estimating reliability involve creating and administering two forms of the instrument with items that are roughly parallel to each other (Crocker & Algina, 2008). As such, when creating alternate forms, content sampling error can affect scores by creating items that are not truly parallel between test forms. Therefore, the reliability coefficient generated from this method is referred to as the *coefficient of equivalence* and is usually calculated using the Person product moment formula. Test-retest methods involve administering the same form of the instrument to the same participants at two separate times. There is no absolute standard for choosing how long to wait between administrations of an instrument, but Crocker and Algina advised that researchers should choose a balance between the error effects of practice and maturation. The reliability coefficient derived from test-retest methods is called the *coefficient of stability*. The next method, test-retest with alternate forms, requires creating parallel versions of the instrument and administering the two forms at different times to

the same participants. Test-retest with alternate forms is called the *coefficient of stability and equivalence* and is vulnerable to errors stemming from content sampling (i.e., creating items that are not truly parallel), as well as practice effects or maturation. Lastly, some instruments involve one set of variables (items) with multiple observations from external raters. To estimate the consistency of rater observations, Crocker and Algina contended that generalizability theory is most appropriate method to date. Given the centrality of generalizability theory to the nature the current investigation, the theory itself will be discussed in detail.

Generalizability theory. First and foremost, generalizability theory helps to address significant challenges of using classical true score theory to establish the reliability of an instrument (Crocker & Algina, 2008). For instance, Crocker and Algina used the example of administering parallel versions of a diagnostic instrument (alternate form reliability) to patients. If the two versions of the test are not truly parallel, then estimating the patient's reliability coefficient and standard error of the measurement will inevitably be inaccurate. The same problem applies to scales that use external raters to establish reliability: How can anyone be sure that future judges will rate participants consistently if individual sources of error variance are not estimated? In classical true score theory, the sources of error described above are lumped together as random error making it difficult to assess what contributes to the standard error of the measure (Preuss, 2013). Generalizability theory addresses these concerns by calculating reliability coefficients that are a product of an analysis of variance (ANOVA) and changing the way of thinking about reliability so that coefficients are applied to suite the purposes of the instrument (Crocker & Algina, 2008). Moreover, by using ANOVA generalizability

theory allows the researcher to obtain a more accurate assessment of the sources of measurement error, called *facets* (Preuss, 2013).

There are two major types of studies that use generalizability theory: (a) *generalizability studies* (G studies) and (b) *decision studies* (D studies) (Crocker & Algina, 2008). According to Crocker and Algina, G studies are used to make inferences about the generalizability of a measurement to “a universe of measurements” (p. 158). Generalization, in this context, should not be understood in terms of generalizing statistical significance from a sample of participants to a population. Instead, the phrase “universe of measurements” used here refers to a hypothetical set of measurement conditions that are more extensive than the sample study. For example, researchers would use a G study for the purpose of judging the consistency of participants’ responses between test administrations, how parallel test versions are to each other, and understanding the relationship between scores on subscales. D studies, on the other hand, help researchers make specific decisions about participant placement (e.g., accepting a student into a program of study), differences between experimental groups, and the relationship between two or more variables. The purpose of a G study is also to lay a foundation for conducting a D study by anticipating the potential designs of the subsequent D study. However, the difference between a G study and a D study cannot be fully identified on the basis their design. Rather, they can only be distinguished by the purposes in which researches intend them to be used (as explained above).

Measurement conditions (e.g., forms, items, raters, occasions) in a D study are referred to as *facets* and can be either fixed or random (Crocker & Algina, 2008). A facet is considered fixed when the researcher intends to generalize only to those conditions that

make up the D study. On the other hand, a facet is considered random when the researcher intends to generalize to larger set of conditions that are not limited to the D study. Furthermore, all measurement conditions (both fixed and random) in a D study are referred to as the *universe of generalization*. G studies are also conducted under a set of conditions that are thought to be representative of a larger population of conditions that are called the *universe of admissible conditions*. G studies are only useful in subsequent D studies if the universe of admissible conditions includes the universe of generalization.

Crocker and Algina (2008) explained that according to true score theory, a participant's true score is defined as the "average of a large number of strictly parallel measurements" (p. 159). However, in generalizability theory, a participant's universe score is defined as the "average of the measurements in the universe of generalizations" (p. 159). Moreover, measurements are not assumed to be strictly parallel and are therefore not limited by the underlying assumptions of classical true score theory. Instead, "an examinee's universe score is defined as the average of the measurements in the universe of generalization" (p. 159). Furthermore, there are two primary ways to define a generalizability coefficient. One way is by using a ratio of universe score variance to expected observed score variance. The expected observed score variance changes depending on the design of the D study, thereby enabling the generalizability coefficient to be applied to various measurement conditions. The second way to define a generalizability coefficient is to use a squared correlation between observed scores and universe scores. The universe score (and by definition the universe score variance) is dependent upon the universe of generalization. Therefore, when researchers use different

universes of generalization they will inevitably calculate differing generalizability coefficients.

Validity

Validity is a broad concept in instrument development and can generally be defined as the extent to which a test measures what it intends to measure (Allen & Yen, 2002). DeVellis (2003) provided a more technical definition of validity, as “whether the variable [i.e., the construct of interest] is the underlying cause of item covariation” (p. 49). Moreover, several authors (Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003) suggested that there are at least three primary forms of validity, including: (a) *content validity*, (b) *criterion-related validity*, and (c) *construct validity*. Each form of validity with corresponding procedures for establishing them will be discussed.

Content validity. Content validity refers to the “extent to which a specific set of items reflects a content domain” (DeVellis, 2003, p. 49) with two primary subtypes: (a) *face validity* and (b) *logical validity* (Allen & Yen, 2002). Face validity (sometimes called *armchair validity*) is assessed when the researcher(s) or subject matter expert(s) looks over the content of the test and subjectively judges if the test items correspond to the construct being measured (Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Logical validity is a more sophisticated and methodical version of face validity that requires developing test specifications or a test blueprint (see Step Three above) outlining what items cover various domains or objectives of the construct. Due to its subjective nature, content validity is more prone to error as compared to other forms of validity (Allen & Yen, 2002). Therefore, it is not sufficient for an instrument to establish

content validity alone and must also determine more complex forms of validity before it is put to use.

Criterion-related validity. Criterion-related validity refers to an empirical correlation between the instrument and a standard or criterion of performance (Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Furthermore, DeVellis contended that the purpose of conducting a criterion-related validity study is not to understand the underlying processes of the construct (see construct validity explained below). Rather, the question is “more of a practical issue than a scientific one” (DeVellis, 2003, p. 50) because it is only concerned with predicting an association between scores on the instrument and a criterion instead of explaining it. Thus, there are two primary strategies for establishing criterion-related validity: (a) *predictive validity* and (b) *concurrent validity* (Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Predictive validity is concerned with establishing a relationship between the instrument and a criterion so that the researcher can predict a participant’s performance on the criterion measure based upon the scores they received on the instrument being developed (Crocker & Algina, 2008). Similarly, concurrent validity is concerned with establishing a relationship between participants’ scores on the instrument and criterion measures when they are administered at the same time. However, DeVellis (2003) clarified that criterion-related validity does not primarily hinge upon the temporal (i.e., when observations or the tests are administered); rather, it is the “strength of the empirical relationship between the two events” (p. 51) that is of principal concern.

Construct validity. A psychological construct is an abstraction of scientific inquiry in an attempt to categorize psychological attributes (Crocker & Algina, 2008).

Therefore, psychological constructs are not directly observable and must be measured through indirect means (i.e., a psychological instrument). Construct validity, then, refers to the theoretical relationship of the construct to related constructs or variables (DeVellis, 2003), and is tested by making predictions about how participants scores will function under various circumstances and conditions (Allen & Yen, 2002). Allen and Yen offered a variety of possible avenues of developing a theory of how the construct under investigation should behave, including: (a) measuring group differences, (b) changes in scores over time or after an experimental intervention, (c) directional hypotheses (i.e., positive, negative, or zero) regarding correlation to other constructs or variables, and (d) analyzing cognitive processes demanded of participants to complete the test.

Step Ten: Develop Guidelines for Administration, Scoring, and Interpretation of the Test

Scores

After the instrument has been rigorously analyzed to establish suitable levels of reliability and validity, it can proceed to the final step of scale development in which guidelines for administering, scoring, and interpreting test results are outlined (Crocker & Algina, 2008). For achievement and aptitude tests where scoring involves right and wrong answers, Crocker and Algina recommended taking measures to account for guessing using methods like *formula scoring* (where an equation is created for each item accounting for the probability of guessing) to help ensure that participant scores are not influenced by randomized participant responses. Furthermore, for items that involve partial credit, the authors suggested using three possible procedures: (a) *confidence weighting* (where participants are asked to indicate how confident they are in their responses), (d) the *answer until correct (AUC)* method (where examinees are required to

select the correct answer before proceeding to the next item), and (c) *option weighting* (where multiple choice items are given differing values of correctness based on expert opinion). Finally, Crocker and Algina observed that there are several procedures for norming as well as standardizing test scores that will influence how they are interpreted and applied.

Section Summary

This section provided an overview of best practice methods for developing a psychometrically sound instrument. The model provided here was primarily drawn from Crocker and Algina (2008) with supplemental information provided by Allen and Yen (2002) as well as DeVellis (2003). The model developed by Crocker and Algina (2008) involved ten distinct steps. This model was chosen over and against Allen and Yen (2002) and DeVellis (2003) because of its superior discussion of the steps leading up to expert review, which were the steps undertaken by the current investigation. The final five steps will be left up to future investigations to conduct based upon the results of this study.

Section Six: Q-Methodology

There are several significant challenges to creating an instrument that measures counselors' intuition. After defining the construct (see Section One: Overview of Intuition), the challenge then becomes deciding what methodology is available to evoke a counselor's intuition (see Section Seven: Thin Slice Data). However, after defining the construct and finding a suitable method of potentially activating a counselor's intuition, there is still the added challenge of identifying a criterion by which to compare intuitive insights. Q-Methodology therefore represents a viable option for both organizing as well

as determining which expert views are most salient, thereby creating the criterion response for the CIS.

The potential applications of Q-Methodology encompass a broad range of topics. In reviewing the literature, Dziopa and Ahern's (2011) review found Q-Methodology being used to study counselors' perception of gender norms (Trepal, Wester, & Shuler, 2008), professional and family caregivers' beliefs and perceptions of sex education for the mentally disabled (Brown & Pirtle, 2008), the views of youth and project managers about participatory action research (Goto, Tiffany, Pelto, & Pelletier, 2008), how women view the use of female body types in advertising (Gustafson, Hanley, & Popovich, 2008), young adult's views toward healthy lifestyles after receiving a renal graft transplant (Tielen, van Staa, Jedeloo, van Exel, & Weimar, 2008), and Korean human service majors' views of death (Lee, Jo, Chee, & Lee, 2008). However, no studies were found using Q-Methodology to investigate intuition in general or counselor intuition specifically. Therefore, the adaptation of Q-Methodology to the study of counselor intuition represents a unique contribution to the field.

Dziopa and Ahern's (2011) systematic review of Q-Methodology outlined the process and purposes of using this technique in research that will ultimately guide this discussion. The intended purpose of Q-Methodology is to test "theories on small sets of individuals carefully chosen for their 'known' or presumed possession of some significant characteristic or characteristics. One explores unknown and unfamiliar areas and variables for their identity, their interrelations, and their functioning" (Kerlinger, 1986, p. 521). Therefore, Q-Methodology involves a group of participants being presented with a set of stimuli (e.g. pictures, art, musical composition etc.) known as the Q-sample, and

then ranking those stimuli through a process known as Q-sorting (Dziopa & Ahern, 2011). After viewing each stimulus, the Q-sample ranks each item according to their viewpoint. The rankings are then analyzed through factor analysis so that each item receives a score. The following is a detailed description of each step of Q-Methodology.

Step One: P-Set

Since the purpose of Q-Methodology is to elicit the most salient viewpoints of participants, a large sample size is not needed (Akhtar-Danesh, Baumann, & Cordingley, 2008). Typically, clusters of four to five participants are required for reliable statistical analysis (Dziopa & Ahern's, 2011). A suggested rule of thumb is to elicit the participation of between 40 to 50 people (Stainton Rogers, 1995); however, reliable results can be achieved with fewer participants (Akhtar-Danesh, Baumann, & Cordingley, 2008).

Step Two: Q-Sample or Q-Set

Selecting the Q-sample is an integral part of Q-Methodology because it is meant to represent the greater population of stimuli being investigated (Dziopa & Ahern's, 2011). The selection of sample items can be either structured or unstructured (McKeown & Thomas), with unstructured sampling being the method most often used in the literature (Kerlinger, 1986). Structured sampling involves using some pre-established theory or hypothesis represented in those items. On the other hand, unstructured sampling refers to selecting variables at random (Carr, 1992). Furthermore, Carr observed that in using unstructured sampling the intent is to gather a large number of items that are supposed to be representative of a single variable. However, the risk in using unstructured sampling methods is that some items will inadvertently be overrepresented

or underrepresented in the final Q-sample, thereby rendering the analysis a biased representation of the construct being investigated (McKeown & Thomas, 1988).

Step Three: Q-Sorting

After developing a Q-sample, participants are asked to rank each item using a Likert-type scale of how much they agree or disagree with the item (McKeown, Stowell-Smith, M., & Foley, 1999). Furthermore, participants are typically given an example of a response that is normally distributed as a guide. However, the distribution of scores on the Q-sort does not influence the subsequent statistical analysis (Brown, 1993).

Step Four: Analysis.

Statistical analysis begins with creating a correlation matrix with the participants' Q-sorts (Dziopa & Ahern's, 2011). A factor analysis is then conducted on the participants' responses so that members are grouped together who chose similar responses. Typically, principle component analysis (PCA) is used as the extraction technique. Once factors are extracted, the researcher then analyzes factor loadings. As in traditional factor analysis, factors can be identified using a variety of stopping rules, that can include Kaiser's (1960) rule of one eigenvalue, the scree test (see Costello &, Osborne, 2005), Velicer's (1976) minimum average partial (MAP) test, and Horn's (1965) Parallel Analysis (PA). Using preestablished stopping rules, significant factors are assumed to represent similar views amongst participants while insignificant factors are excluded from subsequent analysis (Akhtar-Danesh, et al., 2008). However, strict adherence to mathematically based stopping rules for factor identification is not consistent with the philosophical tenets of Q-Methodology, and instead researchers are encouraged to consider the theoretical significance of factors "in light of the problems,

purposes, and theoretical issues in the research project” (McKeown & Thomas, 1988, p. 52).

Step Five: Interpretation

After factors are extracted, domain-specific experts view the item rated by the P-set and gives it a label (Akhtar-Danesh, et al., 2008). The label is usually an interpretation of both the participant’s ratings and any comments they made on each item. Greater validity can be achieved by asking the participants who rated that factor to verify the expert’s label (Watts & Stenner, 2005).

Section Summary

This section reviewed Q-Methodology and its potential application to a wide range of psychological phenomena. The purpose of Q-Methodology is to understand the most salient views participants share in common about a given stimulus. Lastly, there are five distinct steps involved in this methodology wherein factor analysis is used to determine the intercorrelations between participants.

Section Seven: Thin Slice Data

Thin slice data is defined here in the words of Ambady (2010) as follows: “Thin slices of expressive behavior are random samples of the behavioral stream, less than 5 min in length, that provide information regarding personality, affect, and interpersonal relations” (p. 271). There is good evidence to suggest that human beings have the capacity to make accurate judgments based upon thin slices of social data. Indeed, Ambady attested that more than 100 studies have been published in the past several years suggesting that people are capable of accurate perceptions of interpersonal behavior that can be identified using thin slice data from verbal, nonverbal, or mixed channels of

communication. Of particular relevance are the studies conducted by Carl Rogers and his colleagues who found that key components of the therapeutic relationship (warmth, accurate empathy, and rapport) can be accurately identified by viewing two to five minute segments depicting counselor-client interpersonal behaviors during a counseling session (Ambady & Rosenthal, 1992; Burstein & Carkhuff, 1968; Truax, 1966).

Furthermore, attitudes such as racial bias can be accurately perceived using 20-second silent video clips depicting a participant from the waist up discussing something as tangential as a college fraternity system (Richeson & Shelton, 2005). In terms of mental-health diagnosis, Waxer (1974) found that undergraduate psychology students ($n = 25$), final-year graduate counseling students ($n = 21$), counseling graduates ($n = 15$), and faculty ($n = 25$), were able to accurately differentiate (better than chance) between psychiatric patients suffering from depression from patients whose symptoms were subclinical based upon two minute silent video clips. Waxer (1976) replicated this finding with undergraduate psychology students ($n = 42$) and graduate clinical students ($n = 15$). In both studies graduate students performed the best. Using the same method (two minute silent video clips), Waxer (1977) later found that psychology undergraduate students ($N = 46$) were also able to accurately perceive patients' level of anxiety based on non-verbal cues. Suffice it to say, evidence suggests that people are quite capable of making accurate judgments about relationships, attitudes and emotional states of other people based upon thin slices of interpersonal behavior.

Though thin slice data is supported by the literature as a viable option in studying how well people perceive social phenomena, it is not yet clear how it relates to the study of intuition generally and to counselor intuition specifically. However, Amabady (2010)

has argued that thin slice data is indicative of the intuitive process. For instance, Ambady observed that if socially based thin slice judgments were intuitive they would also be efficient, meaning they would “be relatively immune to conditions that normally tax cognitive and attention resources” (p. 271). To test this hypothesis, Patterson and Stockbridge (1998) used the IPT to test the effects of cognitive load on participants’ intuitive impressions. When participants were asked to give their immediate intuitions to the scenarios of the IPT while under simultaneous high cognitive demand, participants were more accurate than when asked to pay attention to the specific non-verbal cues in making their judgments. In other words, their intuitive judgments were unaffected by cognitive distraction. Thus, Patterson and Stockbridge concluded that the performance of participants using a more analytic strategy (deliberately paying attention to non-verbal cues) suffered because they “had to enlist more resources in attending to and weighing those cues in making their judgments” (p. 261). Thin slice data can also be argued to be intuitive on the basis of the review already provided in this chapter. For instance, recall the foundational studies of chess Grandmaster’s intuition; there are clear correlates between a chess player’s ability to view a strategic positioning for five seconds (thin slice) and pick up on key elements of the move (e.g., de Groot, 1965), and a person’s ability to view a psychiatric interview for two minutes and make a diagnosis on the basis of non-verbal communication patterns (e.g., Waxer, 1974, 1976, 1977).

Because thin slice data is consistent with the theoretical basis of intuition, it can be used as a viable strategy to measure it. Moreover, thin slice data has already been adapted as a method of measuring psychological constructs. As reviewed earlier, Rosenthal and colleagues (1979) used thin sliced data to develop the PONS, the purpose

of which was to assess individual differences in the ability to recognize emotions, interpersonal attitudes, and communicative intentions using non-verbal stimuli. In the Mini PONS, Bänziger and colleagues (2011) shortened the scale from its original 220 items to 64, shortening the time for administration significantly. Both the PONS and the Mini PONS use two-second video clips of a women acting out one of 20 interpersonal scenarios. Participants are then asked to choose between the right answer and a distractor item that represents one of the other 19 scenarios. Likewise, Costanzo and Archer (1979) used thin slice data to develop a similar instrument, the IPT. Improving upon PONS' design, the IPT used naturalistic scenarios of interpersonal interactions and then required participants to decide between possible conclusions about the individuals depicted in the IPT's 30 video segments (each ranging from 28 to 124 seconds). The PONS, MiniPONS and the IPT all demonstrated levels of reliability that suggest they can be used for research purposes.

Section Summary

To summarize, this section served as a brief introduction to the area psychological research know as thin slice data. In essence, thin slice data involves extracting small segments of interpersonal communication and then asking participants who view those segments to arrive at a conclusion about what they view. The technique replicates what others (see Chase & Simon, 1973, 1988; de Groot, 1965; Gobet and Simon, 1996; Simon & Barenfeld, 1969) in the field of expertise decision-making have used to establish the differences between novices and experts. It is therefore a viable technique to study intuition because it recreates the context in which intuition is made manifest (Ambady, 2010). Lastly, thin slice data has already been used to develop psychometrically sound

instruments (see Banziger, et al., 2011; Costanzo & Archer, 1989; Rosenthal, et al., 1979), suggesting that it is a viable strategy to develop future psychological instruments.

Chapter Summary

This literature review covered seven major sections. First, an overview of intuition was provided that explained intuition's close association to similar terms in the scholarly literature. In addition, this overview provided a theoretical definition of counselor intuition that integrated various definitions offered in past by various authors. Furthermore, two theoretical explanations for intuition were offered that were particularly prevalent in the literature of intuition: Dual Process Theory and Pattern Recognition Theory. Lastly, the fallibility of intuition was explored, suggesting that intuition is susceptible to cognitive error and is often criticized for its failure to perform in comparison to statistical predictions. The second section explored the relevant empirical studies that have investigated intuition, including: (a) chess master studies, (b) qualitative studies of experts, and (c) studies investigating intuition in counseling. Overall, the studies reviewed in this section suggested a common finding: That experts use pattern matching when making intuitive judgments. The third section discussed how intuition has been addressed in counselor education and supervision. In essence, this section highlighted a dearth of literature discussing intuition in counselor training, with only a handful of sources discussing the topic in the peer-reviewed literature. The fourth section of this literature review discussed previously tested instruments whose purpose was to measure intuition and related constructs. It was found that the available instruments were still too far removed from the context of counseling to measure counselors' intuition. Section five reviewed the established methods of developing a psychometrically sound

instrument. The sixth section explained the process of conducting a study using Q-Methodology. Lastly, the final section explained the origin of thin slice data and its application to the study of intuition.

In conclusion, the literature review suggested both a need to study intuition in counseling as well as a viable method for better understanding it. Chapter Three of this study will explain how this literature review was applied to create and implement the research methodology to develop the CIS.

CHAPTER THREE: METHODOLOGY

This research study proposed to complete the initial five stages of Crocker and Algina's (2008) model of a instrument development to create the Counselor Intuition Scale (CIS), an instrument intended to measure the intuitive expertise of counselors. Several scholars have created instruments to measure different domains of intuition (see Chapter Two); however, the majority of these scales are based upon self-report and are therefore measures of self-perception, not intuitive ability. The available instruments that are not contingent upon self-report were found to not measure intuition as it occurs in counseling (also see Chapter Two). The CIS is based in the pattern matching theory of intuitive expertise espoused by Daniel Klein (see Kahneman & Klein, 2009; Klein, 1993) and outlined in the theoretical model called Naturalistic Decision Making (NDM). Moreover, the instrument under development here adapts the methodology of the Profile of Non-Verbal Sensitivity (PONS; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979), the Mini Profile of Non-Verbal Sensitivity (MiniPONS, Bänziger, Scherer, Hall, & Rosenthal, 2011) and the Interpersonal Perception Task (IPT; Costanzo and Archer, 1989) by using thin slices of social data to assess the intuitive ability of counselors. However, due to the high demand of developing video based items that could measure a counselor's intuition, this study only covered the first five stages of Crocker and Algina's (2008) ten step model of instrument development with the intent of leaving future investigations the responsibility of completing the final five steps of instrument development.

The fifth stage of instrument development, according to Crocker and Algina (2008), is primarily concerned with the expert review of the scale. Traditionally, the

expert review phase of instrument development is informal, wherein the researcher develops the initial draft of the assessment, which is then given to subject matter experts who provide their feedback about various components of the instrument (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). DeVellis (2003) even noted that the researcher is able to decide which experts' feedback is incorporated in the next version of the instrument.

However, because counselor intuition cannot be contrived using scripted scenarios and must be a spontaneous response based upon the perception of complex patterns of interpersonal communication, the expert review of the CIS was used to generate the criterion response (i.e., the intuitive response inspired by each video segment) using expert viewpoints (Round One expert review). Each expert viewpoint generated in Round One was then subjected to a rigorous process of analysis during Round Two expert review where every statement created in Round One was rated for their appropriateness. The Round Two ratings were then subjected to a rigorous process of analysis using Q-Methodology (see Dziopa & Ahern's, 2011) and generalizability theory. Q-Methodology correlated expert reviews revealing how experts "approached" the clients featured in each item of the CIS, thus determining through correlation how experts pattern match each client depicted in each video segment. Moreover, each rating from Round Two was also analyzed using generalizability theory (see Crocker & Algina, 2008) to determine how reliable expert raters were to generalize beyond the conditions of the study. Therefore, the expert review provided the criterion response that was most appropriate for each item of the CIS and which will later be used as the criterion response for future investigations to develop the instrument.

In Chapter Three, the methodology for developing the CIS will be discussed. The discussion will include an explanation of the research questions that helped guide the study. Further, the research design will be clarified, including the adaptation of established methods of instrument development, thin slice data, Q-Methodology and generalizability theory to the complete the first five steps of instrument development according to Crocker and Algina (2008).

Research Questions and Hypotheses

The primary purpose of this study was to investigate the psychometric properties of counselor intuition by completing the initial phases of instrument development to develop the CIS. The nature of this study was exploratory since it was the first steps in developing the proposed scale. There were two primary research questions that guided this study.

Research Question One

To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts' ratings of the items unidimensional)? This question was addressed using Q-Method factor analysis by correlating expert ratings of each statement describing the video segments of the CIS. The use of Q-Method factor analysis is exploratory and therefore does not test or prove hypotheses (Watts & Stenner, 2005).

Research Question Two

How consistent were the expert intuitions as measured by interrater reliability of the statements within the video segments of the CIS? This question was addressed using

generalizability theory analyses of expert ratings of each statement describing the video segments of the CIS.

Hypothesis One

The results of the generalizability theory analysis will yield a generalizability coefficient of at least .75. An interrater reliability coefficient of .75 is needed to demonstrate “excellent” reliability (Cicchetti & Sparrow, 1981).

Post Hoc Questions

Intuition has been described in a variety of ways in the literature, which of the following best describes how you experienced your intuitive moments in viewing the clips? Select all that apply.

What perceptual cues guided your intuitive responses to each client?

Was the time length sufficient for you to develop an intuitive moment with each client?

How do you know your intuition was accurate with each client?

In general, what has influenced the development of your clinical intuition the most? Select all that apply

Research Design

The study’s research design adapted the initial steps of established methods (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003) for developing a psychometrically sound instrument, and used a combination of thin slice data (Ambady, 2010), Q-methodology (Dziopa and Ahern’s, 2011) and generalizability theory (Crocker & Algina, 2008) to analyze expert viewpoints of each item of the CIS. Furthermore, this study adapted the innovative technique used by Rosenthal and colleagues (1979; PONS),

Bänziger (2011; MiniPONS), and Costanzo and Archer (1989; IPT) by filming participants in naturalistic settings and extracting thin slice segments from the video recordings to create each item of the instrument.

Procedure

The procedure for this study followed the established methods for developing a psychometrically sound instrument as suggested by Allen and Yen (2002), Crocker and Algina (2008), and DeVellis (2003). These three methods share several similarities; however, they differ in the quantity of steps required to develop an instrument. In particular, Crocker and Algina (2008) expanded the first steps of scale development to include additional considerations that were not included in Allen and Yen (2002) and DeVellis (2003). Therefore, Crocker and Algina (2008) was used to give the overall structure of the procedure to develop the CIS with supplemental information pulled from Allen and Yen (2002) and DeVellis (2003) when needed.

Step One: Identify the Primary Purpose(s) for Which the Test Scores will be Used

The reliable development of any psychological instrument begins with a well-defined purpose for which the test scores on the instrument will be used (Crocker & Algina, 2008). Therefore, the primary purpose of the test scores obtained from the CIS is to measure counselor intuition as defined in Chapter Two of this study.

Step Two: Identify Behaviors to Represent the Construct

Historically, the translation of psychological constructs into specific items indicative of those concepts has “remained private, informal, and largely undocumented” (Crocker & Algina, 2008, p. 67). However, Crocker and Algina contended that in addition to being excessively subjective, defining a construct and simply trying to “think

up” (p. 67) items that represent it could result in the omission of important aspects of that construct. Therefore, they offered several strategies, including *content analysis*, *review of research*, *critical incidents*, *direct observations*, *expert judgment*, and *instruction objectives* to avoid both subjective bias as well as insufficient item selection in identifying behavioral criteria of the construct being measured. Though it is not essential to include all of the above strategies, Crocker and Algina implored that at least one should be used in the development of any instrument. The strategies that were used to develop the identifiable behaviors of counselor intuition included (a) content analysis, (b) review of research, and (c) expert judgment. These three strategies were chosen based upon their practical accessibility. In contrast, developing a list of extreme examples of counselor intuition (critical incidents) would seem a practical impossibility and bares little relevance to the intended purpose of the instrument. The purpose of the CIS is to measure counselor intuition in the participant completing the assessment, therefore it is not possible to represent it in the individual items of the instrument. Likewise, direct observation of counselor intuition seems equally impossible since it is by definition an internal process. Therefore, how the CIS incorporated each strategy into identifying a theoretical definition of counselor intuition and thereby making it possible to measure will be discussed.

Content analysis. In content analysis, the researcher conducts a qualitative investigation of participant’s views of the construct in question (Crocker & Algina, 2008). Other researchers have already conducted content analyses of counselor intuition that provide a foundation for the development of the CIS. Skovholt and Ronnestad’s (1992) qualitative investigation found that as counselors develop, they accumulate

patterns of working with clients that they rely upon for professional practice expertise. Similarly, Weis's (2006) qualitative study examined professional counselors' beliefs and attitudes about intuition in counseling and found that professionals' subjective appraisal of their intuition were consistent with earlier findings of Skovholt and Ronnestad (1992). Most importantly, Weis found that counselors attested to the pattern recognition of both obvious and subtle cues of the client's disclosure (verbal cues) and behaviors (non-verbal cues). Lastly, Witteman, Spaanjaars and Aarts (2012) qualitative study of counselors' intuition found several important themes for developing the items of the CIS. The most salient findings were that when describing their intuition, counselors noted that intuition can occur at any point in the therapeutic relationship, even from the very first moments of contact with a client. The findings from the studies described above were incorporated into the overall design of the study by the following. First, since content analyses of counselor intuition suggested that intuition is a function of accumulated pattern matching, this study used identified experts in the field of counseling to elicit their intuitive responses. Second, live video of clients was reasoned to be the best strategy for triggering intuition since counselors attested to the importance of observing their clients' patterns of verbal and non-verbal communication. Lastly, since prior content analyses suggested that intuition can occur within the first moments of meeting a client, it was therefore reasonable to use clients in the video that potential participants had never encountered prior to seeing them in the CIS.

Review of research. In reviewing prior research, the test developer seeks to establish behavioral criteria to define the construct that is most consistent with the findings of prior empirical studies (Crocker & Algina, 2008). Furthermore, the researcher

can choose to consolidate perspectives from several theories or align with one theory or theorist in particular. After reviewing the literature (see Chapter Two), it was found that the most empirically supported theory of intuition was the NDM approach to intuitive expertise. Therefore, the CIS incorporated the central tenets of NDM into its underlying theoretical orientation. More specifically, the CIS theoretically measures intuition based upon the participant's ability to match stored patterns of interpersonal experience to their perception of the client's patterns of verbal and non-verbal communication.

Expert judgment. Expert judges can be enlisted to identify behaviors indicative of the construct being measured that later comprise the essence of the individual items of the instrument (Crocker & Algina, 2008). To develop the individual items of the CIS, Q-Methodology (see Dziopa and Ahern's, 2011) was used to gather expert feedback about the creation of each item. A notable difficulty to creating items for the CIS was choosing which clips of client disclosures would be most indicative of the counselor intuition that would likely be triggered in each video segment. It could be argued that leaving the identification of the criterion response as the sole responsibility of the test developer would be excessively biased, rendering any construct validity of the scale reliant upon the intuition of the researcher. To account for this difficulty, counseling experts were recruited twice in the development of the CIS, once during Step Two and again during Step Five (see below). In Step Two, four experts were recruited to define each item of the CIS through Q-Methodology (Round One expert review). Each expert reviewed all 39 video segments of the CIS and provided qualitative responses based upon their intuitive response regarding which direction to explore next with each client. After their responses

were collected, each qualitative statement was compiled and sent to Round Two expert review using 40 identified experts (see Step Five) for further analysis.

Step Three: Prepare a Set of Test Specifications

After establishing what behaviors represent the underlying construct being measured, the instrument developer can create a table of specifications to map out what elements of the construct will be emphasized (Crocker & Algina, 2008). According to Crocker and Algina, the most common framework used to specify levels of cognitive processing is Bloom's Taxonomy (Bloom, Krathwohl, & Masia, 1956). The development of the CIS, however, presented a unique challenge to establishing test specifications before the creation of each item. The individual items on the CIS were comprised of thin sliced video clips taken from 13 hours of recorded counseling sessions featuring volunteer clients. Therefore, before extracting each individual item from the counseling sessions, it was impossible to know either the content of the session or the intuitive insight each clip generated. Furthermore, counselor intuition could have potentially manifested in the form of several different item response alternatives depending upon correlations between expert ratings of each item.

However, when the CIS is understood from its underlying theoretical foundation the challenges described above were not insurmountable. First, in order to create a table of test specifications, each video segment had to first be extracted from hour-long counseling sessions. After reviewing each session, the researcher identified a total of 39 video segments that were meritorious, therefore creating the first draft of the CIS blueprint (see Table 5). Furthermore, understood from the perspective of NDM, intuition represented the highest level of cognitive processing according to Bloom's Taxonomy

(see Bloom, Krathwohl, & Masia, 1956)—Evaluation. In Bloom’s Taxonomy, evaluation is “the making of judgments about the value, for some purpose, of ideas, works, solutions, methods, material, etc. It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying” (p. 185). Furthermore, evaluation requires the use of all the lower order cognitive processes to some extent (Knowledge, Comprehension, Application, Analysis, and Synthesis) and, similar to counselor intuition, evaluations are “quick decisions not preceded by very careful consideration of various aspects of the object” and “are made at less than a fully conscious level and the individual may not be fully aware of the clues or bases on which he is forming his appraisal” (Bloom et al., p. 186). By adapting thin slice data (much like the chess master studies by Chase & Simon, 1973, 1988; de Groot, 1965; Gobet & Simon, 1996; Simon & Barenfeld, 1969), each video segment replicated the context in which counselor intuition manifests, therefore requiring each expert to use evaluation level processing to respond to each video clip.

Step Four: Construct an Initial Pool of Items

After clearly defining the construct the instrument is intended measure, Crocker and Algina (2008, p.75) stated that the test developer must then decide how to measure that construct using a five step procedures of creating items:

1. Selecting an appropriate item format
2. Verifying that the proposed format is feasible for the intended examinees
3. Selecting and training the item writers
4. Writing the items
5. Monitoring the progress of the item writers and the quality of the items

Each step of creating the initial pools of items for the CIS will be described here.

Selecting the item format. The item format for the CIS was inspired by the work of Rosenthal and colleagues (1979; PONS), Bänziger (2011; MiniPONS), and Costanzo and Archer (1989; IPT) in the design of their instruments, in particular their use of thin slice video segments to develop each item of their instruments. Though these measures were not intended to quantify intuition *per se*, the use of thin slice data in their item structure is indicative of the intuitive process by presenting the participant with enough information to trigger stored patterns without giving all the available information to make an accurate judgment (Ambady, 2010). Furthermore, the use of audio and video to comprise each item replicates the social environment in which counselors practice and where the intuitive insights ultimately manifest. Therefore, each item of the CIS consisted of 39 video segments lasting approximately two minutes in length, featuring clients disclosing about a presenting problem. Consistent with NDM and thin slice data techniques, the short video clips revealed enough information for an expert to generate intuitive directions that they would explore with each client. The time frame for each segment (approximately two minutes) was chosen based upon the work of Waxer (1974) who effectively used two-minute silent video clips of diagnostic interviews with depressed, anxious, and normal patients to discriminate the accuracy of clinical judgment between undergraduate students, graduate counseling students, and their professors. Waxer (1976) later replicated these findings using the same methodology.

The three most common item formats for optimal performance tests (achievement and aptitude) are *alternate choice*, *multiple-choice*, and *matching* (Crocker & Algina, 2008). In its complete form, the CIS will use a multiple choice item format. However,

one of the weaknesses of the multiple-choice format is adequate control for *a priori* guessing (Kubinger, Holocher-Ertl, Reif, Hohensinn, & Frebort, 2010). For instance, if a scale uses a four-item response format, any participant regardless of ability will have a 1:4 ratio of correctly answering the item. Furthermore, a well-constructed response format relies upon well-written distractor items that discriminate performance levels of participants (Crocker & Algina, 2008): distractors that are poorly worded or have little logical connection to the correct response will be eliminated by participants regardless of their aptitude. Some approaches utilize more complex item formats such as using more than one right option within a multiple-choice response set (see Kubinger, et al., 2010). However, Crocker and Algina (2008) warned against adapting newer approaches to item formatting without a solid rationale as many newer approaches lack consensus and have often polarized expert perspectives within the study of psychometrics. Therefore, it is the overall vision of the CIS to utilize a multiple-choice format using option weighting, meaning that response choices are given differing values of correctness based on expert opinion.

Using an option weighted, multiple choice item format is scored so that responses are given values that are consistent with expert opinions (Crocker & Algina, 2008), which lends well to the research design of this study. Therefore, the CIS is by definition a criterion measure, where the criterion response is matched with the expert response. Using criterion referenced procedures in creating the CIS posed as a unique challenge to the creation of the instrument because establishing criteria for clinical and social judgments would inevitably depend upon equally subjective judgments (Ambady & Rosenthal, 1992). However, there are several strategies to establish criterion responses to

measure clinical judgment, including *self-report*, *expert judgments*, *objective measurements* (e.g., physiological variable and expert ratings), and *operational criteria* (e.g., establishing a base line response pattern for a lie detector test) (Ambady & Rosenthal, 1992; Kenny & Albright, 1987). The development of the CIS used expert judgments and objective measurements, specifically expert ratings, to establish the criterion-based response for each item. The way in which expert judgments and expert ratings were incorporated into the development of each criterion response will be explained in further detail in Step Five.

Verifying that the proposed format is feasible for the intended examinees. Much like the PONS, MiniPONS, and the IPT, the intended format of the CIS will consist of a series of video segments featuring a client discussing a presenting problem for approximately two minutes. The exact nature of the completed item formatting required the use of counseling experts. Therefore, once the item formatting was completed, the length of time required by participants to complete the CIS would depend upon how many items were retained after the expert review (the subject of this investigation).

For the purposes of the current investigation, however, item formatting was adapted for two different procedures. In Round One expert review, four experts viewed a total of 39 video-segments featuring a client and were asked to write down qualitative responses in an open field below each clip to the following prompt: *What you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.* It was anticipated that it would require experts between one and one half to two hours to complete their review. Though it would have potentially been advantageous to reduce the number of items to put less of a time

burden on experts and therefore reduce the potential for fatigue and attrition, it was also anticipated that some items would be removed during future investigations through item and factor analysis therefore reducing the likelihood of eventually developing a reliable instrument due to a smaller number of items (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). After collecting and compiling the Round One expert intuitions, they were uploaded and given to the Round Two expert reviewers. Forty expert reviewers then watched all 39 video segments and rated the appropriateness of each statement using the following prompt: *Please indicate the extent to which you agree or disagree that the statement is an appropriate direction to take the client.*

Selecting and training the item writers. In all, the item writers consisted of the researcher, 13 masters students, nine doctoral students, four qualitative (Round One) expert reviewers and 40 quantitative (Round Two) expert reviewers. The item writing process consisted of three distinct steps. First, the researcher recruited 13 masters students to be a client for an hour session. The 13 clients were recruited from the masters in counselor education program and given explicit instruction for being a client as outlined in the informed consent (see Appendix B). Therefore, each hour-long session became a data bank to extract video clips. Furthermore, nine students were recruited from the doctor of philosophy in counselor education program and given explicit instructions for conducting the session as outlined in the informed consent for doctoral students (see Appendix A). In addition, each masters and doctoral student were given instruction prior to the session to help start the interview (see Appendix N and Appendix O). After each video segment was identified, four experts (Round One) were recruited through faculty recommendations of practitioners in the community and were given

explicit instructions for obtaining their perspectives of each item as outlined in the informed consent (see Appendix C). After receiving their response, the researcher compiled the Round One expert review in the form of a rating scale for each statement (a five point Likert-type scale ranging from strongly agree to strongly disagree). The researcher then recruited 40 experts (Round Two) using the Florida Department of Health's licensure database who reviewed the 39 videos and then rated the statement collected from Round One expert review using the following prompt: *Please indicate the extent to which you agree or disagree that the statement is an appropriate direction to take the client.*

Writing the items. Each video segment of the CIS was extracted from hour long counseling session conducted by recruited counselors and clients.. The recording of each session took place in a community counseling clinic at a large southeastern university to provide the adequate privacy and to replicate the environment that clients often encounter in counseling. The video segments were extracted and edited using iMovie © video editing software for Macintosh © computers. After each item was extracted, it was be uploaded to Qualtrics© for distribution and analysis to for expert reviewer to provide their intuitive responses to each client featured in the CIS.

Monitoring the progress of the item writers and the quality of the items. A research triad consisting of this researcher and dissertation co-chairs monitored the progress of each item. The research triad met consistently each month until each item had been recorded, compiled into a reviewable format, uploaded onto Qualtrics®, distributed to each expert, and analyzed.

Step Five: Have Items Reviewed

Item review can be completed either before or after the first test administration (Crocker & Algina, 2008). However, it is advantageous during the development of any instrument to submit the initial item pool for expert review to revise or remove problematic items, thereby making the most use of the data generated from the first round of test administration. Due to the challenge of selecting and defining items that are not excessively biased, the expert review for this study was more standardized than what is considered customary in instrument development. Therefore, Step Five utilized Q-Methodology to develop the statements for each item and analyze expert viewpoints of those items.

The first round of expert review (Round One) consisted of four identified experts who reviewed each item (called the Q-Sample) of the CIS and who were asked to provide their qualitative feedback about each item (see Dziopa & Ahern, 2011; van Excel & de Graaf, 2005). Upon reviewing each item, the experts were asked to provide their feedback using the following prompt: *Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.* For a more complete description of the instruction form for Round One expert review, see Appendix E that was uploaded to Qualtrics[®].

The second stage of expert review (Round Two) consisted of compiling every statement that the four experts provide about each video clip and uploading them into Qualtrics[®]. Each item was reviewed in turn by a new group of 40 experts (Round Two). The experts were asked to review each clip and rate each statement about that clip created by Round One expert review using a five point Likert-type scale (ranging from strongly

agree to strongly disagree). They rated each clip using the following prompt: *Please indicate the extent to which you agree or disagree that the statement is an appropriate direction to take the client.* For a more complete description of the instructions for the second round of expert review, please see Appendix F that was uploaded to the Qualtrics[®]. The Round Two expert review was then analyzed using Q-Method factor analysis and generalizability theory as described in the section titled *Data Analysis Procedures* below.

Population and Sampling

The population the CIS was intended to measure were counselors. However, the focus of this study is on the initial item construction of the CIS and did not involve the administration of each item to a developmental sample of the intended population. Instead, the sampling methods used in this study pertains to the development of the Q-Set (each video segment and the corresponding statements) and the P-set (the qualitative and quantitative reviewers) used for expert review. Therefore, there were three phases of participant recruitment.

The first phase involved the recruitment of masters (clients) and doctoral students (counselors) who volunteered to participate in a one hour counseling session that was video recorded. There were a total of 13 clients and 9 counselors who volunteered to be recorded for an approximately one hour.

Both the second and third phases of participant recruitment utilized a purposive sample of counseling experts. The second phase of participant recruitment involved identifying experts in the counseling field who were asked to provide qualitative responses to each video segment of the CIS. A total of six experts were identified using

professional contacts of the researcher and counselor education faculty at a large southeastern university. Each participant had a prior relationship with the research team by either direct clinical collaboration or by reputation. The researcher initially contacted the six identified experts through email (see Appendix G). All six identified experts agreed to participate in the study. However two expert reviewers began their review but did not finish, primarily citing their already full schedules as professional practitioners and the amount of time needed to complete the review. Some anecdotal comments can be found from reviewers in Appendix M that provides some example of the challenges faced to elicit their participation. The four experts who did complete the review supplied enough statements to warrant their sufficiency—a total of 275 statements were generated, with a range of six to 10 statements for every video segment. Collecting any more statements would have presented a further challenge to the study by requiring even more time from the expert in the quantitative review phase (Round Two) of the investigation by running the risk of higher attrition rates and lower incentive to participate in the study due to the time involved to review the entire CIS.

The third and final stage of participant recruitment involved identifying experts using the Florida Department of Health’s licensure database, which lists the contact information for every licensed mental health practitioner in the state of Florida and is considered by the state to be public information. It could be argued that the second phase of recruitment (identifying experts for qualitative responses) would be biased, particularly due the close proximity of the identified experts to the researcher conducting this study. Therefore, the Florida Department of Health’s licensure database was used for recruitment purposes because of two reasons. First, it helped distance the expert review

from the nucleus of the study by drawing from a pool of potential participants who did not necessarily have a direct connection to the researcher or the research team. Second, the database offered a clear identification of licensing date, therefore allowing the researcher to accurately assess the years of concentrated study in the mental health field to verify expert status. Moreover, it allowed the researcher to draw from an approximately equal number of experts from four disciplines of mental health (Psychologists, Licensed Mental Health Counselors, Licensed Marriage and Family Therapists, and Licensed Clinical Social Workers). It was reasoned that using identified experts from differing mental health backgrounds could potentially offer the items of the CIS a wide range of disciplinary perspective thereby creating the possibility of generalizing its findings beyond counselors to other mental health disciplines. The experts were identified beginning with a licensing date starting in 2001 moving backwards. However, a group of psychologists who were licensed in 2011 were recruited by mistake. At the same time, these psychologists still met the 10-year criteria that allowed them to be included in the study, two of which completed the review and were included in the analysis. Each expert was sent an email (see Appendix H) requesting their participation using the guidelines set forth by Dillman, Smyth, and Christian (2009). Given that Q-Methodology does not rely on a large sample size (40 to 50 participants) for reliable results (Akhtar-Danesh et al., 2008), the researcher reasoned that it was sufficient to enlist a total of 40 participants for the third phase of recruitment (Stainton Rogers, 1995).

Data Collection Procedures/Data Gathering

This section outlines the procedures of data collection employed by this study. The overall process of data collection began after receiving Institutional Review Board (IRB) approval in March, 2013 and lasted approximately until May, 2013 (see Appendix J). Each step of the data collection process will be discussed, including (a) the video selection protocol developed by the research team, (b) the development of the video segments, and (c) the process of expert review.

Video Selection Protocol

Before collecting data, the research team, composed of this researcher and four members of the dissertation committee, noted a significant barrier to creating individual items of the CIS. The identified level of expertise required to participate in this study included a minimum of 10 years of concentrated study in counseling or a related field of study. The researcher, who at that point was proposed to be the primary reviewer and creator of each video segment, only had approximately six years of concentrated study in the counseling field. The theoretical background of the study suggested that in order to have an accurate intuitive moment in viewing the video clips featured in the CIS that the participant would have had ample experience to amass verbal and non-verbal patterns of that are then matched to what they see in the video segments. It became apparent that if the researcher was the only individual selecting video segments that they may error significantly in selecting “good” segments due to their lack of identified expertise. Furthermore, it had not yet, at that point, been clearly defined how segments “ought” to be classified as “good.” Therefore, the research team met to create a protocol for item

selection (see Appendix I). Each step of the protocol development will be described briefly here.

First, the researcher created a list of three criteria for selecting video segments that was consistent with the known research of intuition which included the following: (a) the segment is at least two minutes long but no longer than five minutes (see Ambady, 2010; Ambady & Rosenthal, 1992; Burstein & Carkhuff, 1968; Truax, 1966; Waxer, 1974, 1976, 1977), (b) the counselor is not speaking (or is only using minimal encouragers), and (c) the segment has potential to elicit an intuitive response. The first criteria was based upon the prior research of thin slice data suggesting that it was possible for people, particularly in counseling related scenarios, to arrive at accurate social judgments within two minutes of exposure. However, at the time of creating this criterion, it was unknown that Costanzo and Archer (1989) had used shorter video segments (ranging between 28 and 124 seconds in length) to create the IPT, and so two minutes was considered the minimal amount of time needed to create a potential for accurate social judgment. The second criteria was created to limit the distraction of the counselor's contribution to the interpersonal communication patterns in the video segments, therefore drawing the majority of the viewers' attention to the client. The use of video in developing the items of the CIS was intended to recreate as accurately as possible the actual environment of counseling so that when the item was viewed it was as if the client featured in the video was taking directly to the participant as they would their counselor. Therefore, any verbal contributions from the counselor could potentially lead the viewer to an intuition rendering the segment invalid (much like having a teacher give their students the answer to a test item). The final criterion was the most subjective of the

three. However, it helped to judge if the segment had enough verbal and non-verbal communication exhibited by the client to potentially illicit an intuitive response from the viewer. There was no need to assess the content of clients' communication because intuition can be a response to any pattern of communication the client presents and which counselors have already have attested can happen in the first moments of meeting a client (Witteman, Spaanjaars, & Aarts, 2012). Therefore, the segments were not chosen based upon a particular type of disclosure, but rather that the client was disclosing about something; as long as both channels of communication were clearly discernible (verbal and nonverbal) there was a considerable potential for intuition to be manifested in experts.

After creating the criteria described above, the researcher then developed three different strategies for judging segment quality. The first strategy involved the researcher reviewing a real client being counseled in the community counseling clinic of a large southeastern university and using their judgment in applying the three criteria. Four segments were identified and then prepared for the research team's review that consisted of three counseling experts. Each segment was played for the research team, and at the conclusion of each segment, each expert responded to the same prompt that was given to the qualitative (Round Two) expert reviewers (*Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar*). The researcher team's responses to each segment are represented in Table 3.

Table 3. Video Selection Protocol Strategy One Trial Run

<i>Segment Number</i>	<i>Expert 1</i>	<i>Expert 2</i>	<i>Expert 3</i>
1	Tell me more about your coping with overall stress levels.	Anger and low frustration tolerance.	Unexpressed anger regarding receiving herpes
2	What was helpful in the past to reduce stress levels? It sounds like you have “trust” issues with her and you have some doubts and questions about her personality and behaviors.	Dealing with loneliness	If “life” not fair: Who can I trust? Who will I find to love me?
3	You feel hurt, because she is not telling the truth, at the same time, you miss her especially when you think of the “good times.” Self-efficacy	Why he would put up with mistreatment. Low self-esteem.	Unresolved grief over the loss of the relationship. Self esteem: What’s wrong with me? Will I ever find a love like this?
4	You got angry because she did not want to [do] it “your way” And however you were able to hold back your opinion.	Anger Revenge	More anger, trying to get even, revenge Again, this isn’t fair, trust issues

The second strategy involved the researcher reviewing another prerecorded counseling session and identifying potential segments that met the preestablished criteria. However, instead of presenting segments to the research team, the researcher played the

entire session and indicated by raising their hand when potential segments were up-and-coming. Each expert then recorded his or her feedback about the quality of each identified segment according to the three criteria described above.

The final strategy involved the whole research team, the researcher included, watching an entire counseling session together from start to finish and identifying potential segments as a group. However, based upon their experience with the first two strategies, the entire research team came to consensus that the researcher was capable of identifying good segments using the preestablished criteria without the direct consultation of the experts. As Table 3 (above) demonstrated, each expert experienced intuitive moments based upon the video segments the researcher selected. Moreover, it was noted that several of the intuitions the experts recorded were parallel to each other without discussing their thoughts with each other. Therefore, the researcher was justified to conclude that the first strategy was a meritorious method for video segment selection.

Video Segment Development

The video segment development involved three distinct phases. In the first phase each item of the CIS was developed using 13 hours of video taped counseling sessions. Each session took place in a community counseling clinic within a large southeastern university. First, the researcher attended the beginning of several masters' level counseling courses and delivered a description of the study and the requirements for being a participant. Each participant was promised a \$20.00 cash incentive for being counseled on video for one hour (a receipt of payment was signed by all clients). In addition, the participants were made aware of the limits of confidentiality in the session, namely that in order to participate they would be asked to eventually release several

segments of the session for expert review. Therefore, what they discussed during the session would not be held confidential. The topic the clients chose to discuss was either real or *could be real*, meaning that if they decided to discuss something that was improvised that it was at least a plausible topic and was within the realm of possible real-life scenarios that a client would regularly discuss in counseling. However, they were also made aware that after the researcher identified each potential segment to be included in the CIS that they would be given the opportunity to sign off on every segment before it would be released for expert review. Furthermore, if the CIS would ever be administered to a larger developmental sample beyond the identified experts (in future studies), the researcher would contact them and ask them to sign an additional release form giving their permission for their segments to be released to a wider audience. A total of 16 masters students volunteered for the study, however only 13 were able to participate due to scheduling and time constraints.

In addition to masters students, each session required a doctoral student to be a counselor and facilitate the session. The researcher attended two different doctoral classes and wrote emails to doctoral students explaining the study as well as the \$10.00 cash incentive for taking part in the study (a receipt of payment was signed by all counselors). Nine doctoral students volunteered to be counselors for the study and facilitated at least one hour-long counseling session. The counselor-client pairs and demographic information is presented in Table 4 (Chapter 4).

Before matching counselors with clients, the researcher asked each client if they had a strong preference for a male or female counselor. Clients were given the option of choosing the gender of their counselor for the following reasons. First, Norcross (2013)

has suggested that cultural variables, such as gender and ethnicity, play a major role in rapport building in the counseling relationship only if the client has a *strong* preference for a particular type of counselor. In traditional counseling the session is held in the strictest of confidence (see ACA, 2005, B.1.c.). However, the masters students knew that what they discussed during the counseling session would not be confidential, potentially creating a barrier for self-disclosure. Therefore, in light of Norcross (2013), clients were given the option of choosing the gender of the counselor so as to build the maximum level of rapport in the shortest amount of time and help remove any barrier to fostering self-disclosure for the experts to analyze. Unfortunately, no other strong preferences were given as an option due to the relatively homogenous nature of the pool of counselors who volunteered for the study (the vast majority whom were Caucasian, see Table 4 in Chapter 4).

Each counseling session took place in a community counseling clinic within a large southeastern university. Two cameras were used to record the sessions, including a primary camera and a secondary camera. The primary camera was a Sony© HVRHD 1000U Digital High Definition HDV Shoulder Mount Camcorder with a 6.1-megapixel lens. The secondary camera was a Sony© HDR-SR12 High Definition Hard Drive Handycam Camcorder with a 10.2-megapixel lens. The recordings from the primary camera were used to extract video segments due to its superior wide range perspective and sound quality (it had a detachable microphone that was placed next to the client whereas the secondary camera was limited to a built in microphone). The counselor and client were positioned in such a way that only the client was captured in the camera's perspective. The counselor was seated either to the right or left of the camera so that the

client's upper and lower torso was slightly angled in the direction of the counselor. However, the researcher positioned each client so as to capture the majority of the client's features while still allowing them to sit in the natural direction of the conversation. Furthermore, the cameras were hidden behind a white foam board with two holes cut out into which each camera lens was inserted. Utilizing the foam board to hide the camera equipment was inspired by the development of Interpersonal Process Recall (IPR; Kagan & Kagan, 1997), the method used a board to hide cameras in order for the participants to lose track of the recording equipment and making it more natural to be on camera.

Approximately 13 hours of video taped counseling sessions were meeting collected, wherefrom 39 video segments were deemed meritorious for expert review. Before each session, the counselors (see Appendix A) and clients (see Appendix B) were required to sign an informed consent to participate in the study outlining the potential risks of the study that included the possibility of disclosing personal information (e.g., suicide, homicide, abuse or neglect) that may require comprehensive follow up from the counselor. After every session, the counselor also supplied each client with a listing of approved referrals used by the university's community counseling clinic. Furthermore, the week following the session each client met with the researcher and signed a video release form for every potential segment that could be included in the expert review of the CIS (see Appendix K).

After the sessions were recorded, 32 segments were identified meeting the designated criteria identified in the video segment selection protocol described earlier. However, after reviewing the total number of segments, the researcher consulted with the

research team and decided to include some items in the CIS that fell below the predetermined two-minute criteria as well as some additional items that included interventions counselors used beyond minimal encouragers. This was done for three distinct reasons. First, whereas the examples of using two minute video segments to test the empathic and diagnostic sensitivity of counselors was the overall guide for selecting items of the CIS, shorter segments (28 to 124 seconds) have been used to reliably assess interpersonal perception (as demonstrated by Costanzo and Archer (1989) when they developed the IPT). Second, allowing some segments below the two-minute cut-off allowed one segment to be reviewed from the only male client, adding gender diversity to the CIS. Finally, though some items included interventions from the counselor beyond minimal encouragers, they were considered to be consistent with the overall purpose of the criteria so that those interventions that were included were still minimal and not distracting to the viewer. For example, one counselor used a form of a door opener to help the client discuss the presenting problem by asking, “Can you tell me more about that?” In conclusion, the research team believed that adhering strictly to a two minute cut off would have reduced the number of items to 32, elevating the risk of creating an instrument that was too short to reliably measure counselor intuition (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003).

After the researcher identified all potential segments for review, they were compiled and uploaded into Qualtrics[®] in the order that they were recorded. This meant that if more than one segment from a particular client was meritorious, each successive segment progressed in chronological order from the session they were extracted from (see Table 5 in Chapter Four). In addition, no segments were included that featured the client

discussing in explicit terms the reason they were seeking counseling that typically occurred at the beginning of every session. Removing the primary context in which the client sought counseling made it more difficult to understand what the presenting problem was, therefore requiring the viewer to make intuitive leaps about the client without having all the available information about the presenting problem.

Expert Review

The second phase of data collection involved identified experts viewing each video segment and providing their intuitive responses through two separate phases of review (Round One and Round Two). Round One review consisted of four experts being given an informed consent with an explanation of the study (see Appendix C). Since the item pool consist of a total of 39 video segments each lasting approximately two minutes, it was estimated that would require experts to spend between one and one half and two hours providing their feedback. In addition, experts were not required to complete their review within a specific time frame except for the “one week” requirement to receive a \$40.00 Visa[®] Gift Card and a thank you for their contribution to the study. It was reasoned that if experts were required to complete the review in a single sitting that they might be less likely to complete the study. However, they were instructed to isolate themselves from distractions and were encouraged to complete the review as quickly as possible. Each expert provided their intuitive insights to each video segment by responding to the following prompt: *Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.*

The researcher compiled each expert statement collected from Round One expert review and compiled them alongside their corresponding segments for Round Two expert review. In the collection process, the researcher sought to allow the expert comments to speak for themselves with as little grammatical interpretation as possible. Some statements had to be edited for spelling and grammar mistakes, and at the beginning of each statement the verb “explore” was inserted to help the statement make sense in the context of the prompt provided to Round Two experts. Every expert statement, along with its original context, can be found in Appendix L; the tables found in Appendix L can track the original statements submitted by the four expert reviewers in Round One to the statements the researcher was able to identify from them.

Each statement that was extracted from the Round One experts was uploaded onto a new form in Qualtrics[®], displaying each experts’ intuitive insight with the corresponding video segment. The Round Two experts were then asked to rate the appropriateness of each intuitive insight using a five point Likert-type scale (from Strongly Agree to Strongly Disagree) using the following prompt: *Please indicate the extent to which you agree or disagree that the statement is an appropriate direction to take the client.*

Forty-one experts completed the Round Two review. However, one expert contacted the researcher stating that the last three video segments suffered from technical difficulties during their review. The researcher concluded that using their review presented a potential confound for the study and therefore removed their contribution from the subsequent statistical analyses. Therefore, the researcher conducted statistical analyses using 40 expert reviews.

Data Analysis Procedures

The researcher consulted two statistical procedures to analyze the results of Round Two expert review, including: (a) Q-Method factor analysis and (b) generalizability theory. Q-Methodology uses person-by-person factor analysis to analyze results (Dziopa & Ahern, 2011). Generally speaking, centroid or Principle Components Analysis is used as the extraction method and correlations are typically clarified using varimax rotation (Dziopa & Ahern, 2011; McKeown & Thomas, 1988). However, the researcher used Principle Axis Factoring in the light of recent evidence demonstrating that it possesses significant advantages over Maximum Likelihood analysis (de Winter & Dodou, 2012). The results of the factor analysis correlated expert views of each item collected in the Round Two expert review so that the underlying dimensions of the expert review could be identified, thus substantiating the conclusion that experts approached the clients featured in the CIS using their accumulated experience.

The second procedure, generalizability theory (Crocker & Algina, 2008), helped determine how reliable the ratings from Round Two experts were, and if they could be generalized beyond the conditions of the present investigation. There are four primary designs in a generalizability study:

1. Each examinee is rated by one rater; this rater rates all examinees.
2. Each examinee is rated by several raters; all raters rate each examinee.
3. Each examinee is rated by a different rater; there is only one rater for each examinee.
4. Each examinee is rated by several raters; there are different raters for each examinee. (Crocker & Algina, 2008, p. 160).

This study utilized the second design by requiring all 40 Round Two experts to rate all 275 statements from Round One review on a single occasion. Therefore, the study used a single facet, fully crossed design. Though the expert raters were recruited using purposive samplings strategies, it was assumed that experts could be considered as representative of the population of counseling experts from which they were drawn. Moreover, the generalizability analysis calculated the interaction effect between expert raters and the items they rated. When the interaction effect is used in the generalizability coefficient equation, the facet is considered random from a mathematical perspective. Therefore, the single facet (expert raters) was treated as random, allowing the reliability coefficient to be generalized to the universe of generalization (i.e., hypothetical raters not included in the study).

Though the generalizability study described above was appropriate given the design of the expert review, the researcher conducted a follow up analysis that treated the 275 statements as nested data. In other words, it was reasoned that each statement was describing phenomena that was unique to each video segment. Therefore, each video segment could be a potential source of error that contributed to the overall variance of expert ratings. Utilizing a nested design wherein statements were rated within each video segments would therefore account for any variance between video segments and, consequently, presented a more accurate estimate of error variance in the reliability coefficient.

Chapter Summary

This chapter provided the research design of the current investigation. The study used a combination of the following methodologies and procedures to develop the CIS,

including: (a) best practice stages of developing a psychometrically sound instrument, (b) thin slice data for the creation of each video based item of the CIS, (c) Q-Methodology to develop criterion responses for each item, and (d) the use of generalizability theory to determine the reliability of expert raters. The next chapter will present the results of the study and a the final chapter will discuss those findings with implications for the counseling profession and for future research.

CHAPTER FOUR: DATA ANALYSIS

This chapter presents the results of the study. The discussion of the study's results will cover three major sections: (a) the descriptive statistics of the study, (b) the results of the Q-Method factor analysis and generalizability theory analysis and (c) the results of the post hoc questions.

Descriptive Statistics

The demographic information and descriptive statistics for the sample used in this study is broken down into the three phases of data collection as follows: (a) the counselor-client pairs who were used to develop the video segments, (b) the Round One experts, and (c) the Round Two experts.

Descriptive Statistics of Counselor-Client Pairs

There were a total of nine counselors and 13 clients who volunteered to participate in a video recorded counseling session, each session lasting approximately one hour. Of the counselors who participated in the study, four were female (44%) and five were male (56%). Of the clients who participated in the study, 12 (92%) were female and 1 (8%) was male. The mean age for the clients was 24.38 ($SD = 2.02$), with a range of 22 to 28 years of age. The mean age for the counselors was 32.22 ($SD = 7.55$), with a range of 25 to 49 years of age. The client ethnicity was primarily composed of nine Caucasians (69.2%), followed by one East Indian (7.69%), one Filipino (7.69%), one Hispanic (7.69%), and one Southeast Asian (7.69%). The counselor ethnicity was also primarily composed of seven Caucasians (77.77%), followed by one Hispanic (11.11%), and one African (11.11%). This information is summarized in Table 4 and Table 5 for clarity (see below).

Table 4. Counselor Participant Demographics

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Gender					
Male	5	56%			
Female	4	44%			
Age			32.22	7.55	25-49
Ethnicity					
Caucasian	7	77.77%			
Hispanic	1	11.11%			
African	1	11.11%			

Table 5 Client Participant Demographics

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Gender					
Male	12	92%			
Female	1	8%			
Age			24.38	2.02	22-28
Ethnicity					
Caucasian	9	69.2%			
East Indian	1	7.69%			
Filipino	1	7.69%			
Hispanic	1	7.69%			
East Asian	1	7.69%			

Descriptive Statistics of Round One Experts

The first round of review involved a total of four identified experts. Six experts were contacted and agreed to participate in the study. However, two experts (33.33%) eventually dropped out due to time constraints. Of the original six experts who agreed to review the video segments, four experts (66.67%) completed the qualitative review. Of the remaining four, three experts were male (75%) and one expert was female (25%). All

of the expert reviewers were Caucasian. The experts' average age was 51.75 ($SD = 8.85$) years old. Further analysis found that one expert was a Licensed Mental Health Counselor (25%), two experts were Licensed Marriage and Family Therapists (50%), and one expert was a Psychologist (25%). None of the experts indicated that they had ever received a secondary license. The experts reported a mean of 24.5 ($SD = 9.85$) years of experience altogether, with a range of 13 to 37 years of experience. They also reported how many years they had their primary license, with a mean of 17.25 ($SD = 9.71$) years and range of eight to 23 years. No experts reported having a secondary license. Furthermore, all four experts adhered to a different primary theoretical orientation, including one Psychodynamic (25%), one Cognitive Behavioral (e.g., REBT, CBT, Choice Therapy etc.) (25%), one Narrative (25%), and one Integrative (25%). In terms of primary area of professional practice, three experts (75%) indicated that the majority of their experience was working in the area of Spirituality/Faith Based and one expert (25%) stated that their primary area of clinical experience was in Addictions (Chemical and/or Behavioral). All four experts reported that they were currently involved in clinical work. This information is summarized in Table 6 for clarity (see below).

Table 6. Round One Experts Demographics

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Gender					
Male	3	75%			
Female	1	25%			
Age			51.75	8.85	
Primary License					
LMHC	1	25%			
LMFT	2	50%			
Psychologist	1	25%			
Years of Experience			24.5	9.85	13-37
Years since Licensed			17.25	9.71	8- 23
Ethnicity					
Caucasian	4	100%			
Theoretical Orientation					
Psychodynamic	1	25%			
CBT	1	25%			
Narrative	1	25%			
Integrative	1	25%			
Clinical Experience					

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Faith-Based/ Spirituality	3	75%			
Addictions	1	25%			

Descriptive Statistics of Round Two Experts

The second round of expert review involved 40 identified experts. A total of 41 experts completed the review. However, one of the experts contacted the researcher after completing their review stating that the final three segments of the CIS encountered technical difficulties making it difficult for them to understand the content of the video, yet they rated the corresponding items regardless. The researcher therefore reasoned that including their results in the analysis of the CIS would be a potential source of error considering their inability to clearly view each segment. Therefore, that expert's review was removed from subsequent analyses.

Of the 40 experts who completed the review, 32 were female (80%) and eight were male (20%). In terms of ethnicity, 35 were Caucasian (87.5%), three were Hispanic/Latino (7.55%), one was Asian/Pacific Islander (2.5%), and one was Black/African American (2.5%). Their average age was 51.58 (*SD* = 9.68) years old, with a range of 32 to 73 years. Further analysis revealed that, in terms of primary license, 21 experts were Licensed Mental Health Counselors (52.5%), nine were Licensed Clinical Social Workers (22.5%), seven were Psychologists (17.5%), two were Licensed Marriage and Family Therapists (5%), and one was a Licensed Professional Counselor (2.5%). From their primary license date, the experts had been licensed for an average of 15.25 (*SD* = 7.07) years, with a range of 2 to 31 years. The experts reported an average of 22.3

($SD = 6.76$) years of experience, with a range of 10 to 40 years. There were also several theoretical orientations represented in the sample of experts, including 14 Cognitive Behavioral (e.g., REBT, CBT, Choice Therapy etc.) (35%), 11 Eclectic (27.5%), four Family Systems (e.g., Structural Family Therapy, Strategic Therapy, Systemic Therapy) (10%), three Integrative (7.5%), three Solution Focused (7.5%), and two Psychodynamic (e.g., Object Relations). Three experts (7.5%) stated that they adhered to a theoretical orientation that was not listed, including one Gestalt (2.5%), one Positive Psychology (2.5%) and one Biblical (2.5%). When asked about their area of experience, 12 indicated Mental Health (30%), seven were Child and Adolescent (17.5%), five were Couples and Families (12.5%), five were Trauma and Crisis (12.5%), three were Psychiatric Disorders (7.5%), one was Addictions (Chemical and/or Behavioral) (2.5%), one was Faith Based/Spirituality (2.5%), and one was Abuse (2.5%). In addition, three of the experts (7.5%) stated that their primary area of expertise was not listed, of which two were Medical (5%) and one was Families with Children Under the Age of Five (2.5%). All 40 experts reported that they were currently involved in clinical work. This information was summarized in Table 7 for clarity (see below).

Table 7. Round Two Experts Demographics

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Gender					
Male	8	80%			
Female	32	20%			
Age			51.75	8.85	
Primary License					
LMHC	21	52.5%			
LCSW	9	22.5%			
Psychologist	7	17.5%			
LMFT	2	5%			
LPC	1	2.55			
Years of Experience			22.3	6.76	10-40
Years since Licensed			15.25	7.07	2-31
Ethnicity					
Caucasian	35	87.5%			
Hispanic/Latino	3	7.55%			
Asian/Pacific Islander	1	2.5%			
Black/African American	1	2.5%			
Theoretical Orientation					
CBT	14	35%			
Eclectic	11	27.5%			
Family Systems	4	10%			
Integrative	3	7.5%			

	Frequency	Percent	<i>M</i>	<i>SD</i>	Range
Solution-Focused	3	7.5%			
Psychodynamic	2	5%			
Gestalt	1	2.5%			
Positive Psychology	1	2.5%			
Biblical	1	2.5%			
Clinical Experience					
Mental Health	12	30%			
Child/Adolescents	7	17.5%			
Couples and Families	5	12.5%			
Trauma/Crisis	5	12.5%			
Psychiatric Disorders	3	7.5%			
Medical	2	5%			
Families with Children Under the Age of Five	1	2.5%			
Addictions	1	2.5%			

Data Analysis

The data analysis for this study included three phases: (a) video segment analysis, (b) Round One Review, and (c) Round Two Review. During the video segment analysis, the researcher reviewed 13 hours of video taped counseling sessions and identified 39 video segments to be reviewed by experts. During Round One Review, four identified experts reviewed all 39 video segments and provided feedback about each segments by responding to the following prompt: *Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most*

counselors would be familiar. During Round Two Review, 40 identified experts reviewed both the video segment and the statements created by the Round One Review and rated them using the following prompt: *Please indicate the degree to which you agree or disagree that the statement is an appropriate insight into the client's presenting problem.* All three phases of data analysis will be discussed in order.

Video Segment Analysis

The researcher collected 13 hours of video recorded counseling sessions depicting a client discussing a presenting problem with a counselor. The matched pairs (counselor with their client) for each recorded session are represented in Table 8 below.

Table 8. Demographic Information for Client and Counselor Pairs

<i>Client Number</i>	<i>Age</i>	<i>Gender</i>	<i>Ethnicity</i>	<i>Counselor Number</i>	<i>Age</i>	<i>Gender</i>	<i>Ethnicity</i>
1	28	Female	East Indian	1	29	Male	Caucasian
2	28	Female	Caucasian	2	32	Female	Caucasian
3	23	Female	Caucasian	1	29	Male	Caucasian
4	24	Female	Caucasian	3	39	Male	Caucasian
5	23	Female	Filipino	4	31	Male	Caucasian
6	22	Female	Hispanic	5	31	Male	Hispanic
7	27	Female	Caucasian	6	25	Female	Caucasian
8	23	Female	Caucasian	3	39	Male	Caucasian
9	23	Female	Caucasian	6	25	Female	Caucasian
10	24	Female	Southeast Asian	7	25	Female	African
11	23	Female	Caucasian	8	49	Male	Caucasian
12	24	Female	Caucasian	9	29	Female	Caucasian
13	25	Male	Caucasian	5	31	Male	Hispanic

Each video taped session was analyzed using the three criteria for identifying video segments outlined in the *Video Selection Protocol* (see Chapter 3), including: (a) the segment is at least two minutes long but no longer than five minutes (see Ambady, 2010; Ambady & Rosenthal, 1992; Burstein & Carkhuff, 1968; Truax, 1966; Waxer, 1974, 1976, 1977), (b) the counselor is not speaking (or is only using minimal encouragers), and (c) the segment has potential to elicit an intuitive response. The researcher reviewed all 13 hours of counseling sessions, and identified 32 video segments that met a combination of the three criteria outlined earlier. As noted in Chapter 3, the researcher

reasoned that using 32 video segments could run the risk of developing an instrument with too few items to establish high levels of reliability (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003). Therefore, according to the process outlined in Chapter 3, the researcher collected a total of 39 segments that were considered to merit inclusion in the instrument review.

Video segments that were considered meritorious represented a total of 10 clients from the original 13 clients that participated in the study (see Table 5). Overall, there were six segments from Client 2, six segments from Client 3, two segments from Client 6, six segments from Client 7, three segments from Client 8, two segments from Client 9, six segments from Client 10, six segments from Client 11, one segment from Client 12, and one segment from Client 13. The information in Table 9 below represents the CIS blueprint and lists the timing on the master recording for each segment along with their respective length.

Table 9. CIS Blueprint

<i>Item Number</i>	<i>Master Tape Timing</i>	<i>Length*</i>	<i>Client</i>
1	3:45-5:59	2:16	2
2	16:56-19:25	2:30	2
3	19:34-24:40	2:04	2
4	24:45-26:47	2:04	2
5	27:55-30:12	2:17	2
6	30:17-37:15	2:46	2
7	15:42-17:43	2:01	3
8	17:48-20:12	2:25	3
9	20:23-24:32	2:00	3
10	20:23-24:32	2:01	3
11	26:42-29:42	2:31	3
12	31:49-33:57	2:09	3
13	25:10-27:06	1:49	6
14	33:25-35:38	2:08	6
15	11:06-13:08	2:04	7
16	22:15-24:35	2:17	7
17	29:40-32:56	1:59	7
18	34:32-36:53	2:20	7
19	36:58-38:59	2:00	7
20	40:06-42:48	2:00	7
21	18:44-20:51	2:04	8
22	33:03-35:11	2:05	8

<i>Item Number</i>	<i>Master Tape Timing</i>	<i>Length*</i>	<i>Client</i>
23	44:41-46:41	1:57	8
24	16:50-26:07	2:00	9
25	26:07-28:09	2:03	9
26	0:58-3:05	2:08	10
27	3:30-6:09	2:00	10
28	7:55-10:32	2:02	10
29	13:20-15:20	1:58	10
30	19:00-25:14	2:01	10
31	19:00-25:14	2:18	10
32	8:22-11:07	2:10	11
33	14:15-19:12	2:13	11
34	14:15-19:12	1:43	11
35	30:12-33:54	2:05	11
36	40:53-48:20	2:12	11
37	40:53-48:20	2:09	11
38	23:18-25:26	2:09	12
39	13:20-15:17	1:59	13

*Represents the time of the segment included in the CIS after editing.

All 39 video segments listed in Table 5 were then administered to a group of four identified experts (Round One expert review) asking them to respond to the following prompt: *Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.* The raw qualitative responses with their subsequent interpretation can be found in Appendix

L. The researcher reviewed every statement collected from Round One and created sentence stems wherever an independent thought could be identified. For example, Expert 1 viewed the first item of the CIS and responded with “I would ask for more of the "story" concerning her sister -- she just reported the information with very little emotion or passion. Asking for more detail would provide more context concerning her relational style. She is talking about external things -- I would hoope to find out more about her internal processes.” The researcher was able to identify three distinct directions that Expert 1 would explore next with the client that included the following: (a) Explore more of the story concerning her sister, (b) Explore more of the context concerning her story, and (c) Explore her internal processes about her story. Every effort was taken to keep the exact wording intact for each distinct direction (with small edits made for misspellings or grammatical errors) so as to allow the experts to speak for themselves. The videos were viewed in isolation without seeing the statements generated in Round One review so that the Round Two expert reviewers would not be influenced by the directions they would later rate. After reviewing each segment in its entirety, the expert was directed to select “NEXT” at the bottom of the screen that took them to a new webpage featuring the following prompt: *Please indicate the extent to which you agree or disagree that the following statement is an appropriate direction to take the client.* As depicted in Figure 1 below, each statement generated from Round One expert review was displayed alongside a five point Likert-type scale (1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 =Disagree, 5 = Strongly Disagree).

Please indicate the extent to which you agree or disagree that the statement is an appropriate direction to take the client.

	Select your response here.				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Explore more of the story concerning her sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore more of the context concerning her story.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore her internal processes about her story.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore more about the present context of her struggle to confront or challenge others vs protect others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore what it is about the client's self that makes confrontation difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore what she has heard/learned over her life that makes confrontation fear inducing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore what she has already tried to resolve the conflict or uncomfortable relationship she has with the relative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore the possibility of a conjoint session if the other person is available and willing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NEXT

Survey Powered By [Qualtrics](#)

Figure 1. Likert-Type Scale Screen-Shot

The compiled statements with their corresponding item number that were subsequently rated in Round Two expert review can be found in Appendix P. The researcher analyzed the ratings from Round Two review using the *Statistical Package for Social Science* (SPSS) software package for Macintosh version 21.0 (2012) and reported the descriptive statistics for each statement (see Appendix Q). As can be clearly seen from a cursory overlook of the statement means (in this case, lower values indicated higher levels of agreement), 12 of the 275 statements exceeded a value of “3” indicating that the sample of experts expressed an overall neutral opinion about those statements. However, no statement means rose into the disagree (4) or the strongly disagree (5) range. All other statements ($n = 263$) evidenced means in either the agree (2) or strongly

agree (1) range, suggesting that experts saw considerable value in most of the possible directions that could be taken with each video segment.

Q-Method Factor Analysis

This study applied Q-Method factor analysis to answer the study's first research question: To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts' ratings of the items unidimensional)? A defining feature of Q-Method factor analysis is that the original data set must be transposed so that that the rows and columns are inverted; however, the underlying mathematical procedures are nearly identical to tradition R-Method factor analysis (McKeown & Thomas, 1988). The purpose of this procedure is consistent with the purpose of Q-Methodology at large—understanding how participants view a given topic (Kerlinger, 1973). As such, the factors that are identified in Q-Methodology are correlations of persons, as opposed to R-Methodology where items are correlated. Therefore, the researcher began by transposing the data generated from the Round Two expert review so that the statements created in Round One review became rows and each Round Two expert (and their ratings of each statement) became columns.

Before conducting a factor analysis of the Round Two expert ratings, the researcher screened the data for missing values. No missing items were identified. Moreover, the researcher analyzed the factorability of the dataset. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 2896.056$; $df = 780$; $p = .000$), suggesting that there was a high likelihood of factorability of variables. In addition, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was also satisfactory (.841), as a minimum value of .60 is needed for robust correlations in factor analysis (Tabachnick &

Fidel, 2007). Therefore, the researcher was justified to conduct a factor analysis of the data.

After transposing the dataset, the researcher conducted a factor analysis of Round Two expert review ratings consisting of 40 observations. The factors were extracted using Principle Axis Factoring. Recent evidence has suggested that Principle Axis Factoring has certain advantages over Maximum Likelihood analysis (two of the most often used extraction methods), including the ability to identifying factors with low loadings, avoiding over extraction of factors, and identifying poorly defined factors (de Winter & Dodou, 2012). The factors were then rotated using the varimax (orthogonal) method to maximize their interpretability. Varimax rotation is the most widely used rotation method and reduces the complexity of factors by highlighting the variance of each variables load on each factor. Therefore, Tabachnick and Fidel (2007) recommended varimax rotation as the default rotation method when conducting factor analysis.

Before interpreting the results of the factor analysis, the researcher assessed the results for non-positive definite matrices and for communality problems. The results suggested that neither non-positive definite matrices nor communalities higher than 1.0 influenced the analysis, therefore allowing the results to be interpreted. The factor loadings are represented in Table 10 below. Using Kaiser's (1960) Rule for interpreting factors (one eigenvalue or more), the factor analyses yielded 12 factors.

Table 10. Initial Factor Loading of CIS Review

<i>Factor</i>	<i>Total</i>	<i>Initial Eigenvalues</i>	
		<i>% of Variance</i>	<i>Cumulative %</i>
1	7.766	19.415	19.415
2	2.766	6.914	26.330
3	1.706	4.264	30.593
4	1.543	3.857	34.451
5	1.487	3.717	38.167
6	1.376	3.439	41.606
7	1.319	3.298	44.904
8	1.237	3.092	47.996
9	1.211	3.027	51.023
10	1.189	2.972	53.995
11	1.082	2.705	56.700
12	1.020	2.550	59.251
13	.942	2.354	61.605
14	.887	2.218	63.823
15	.879	2.199	66.021
16	.872	2.179	68.200
17	.840	2.100	70.300
18	.815	2.038	72.339
19	.734	1.836	74.175
20	.717	1.792	75.967

<i>Factor</i>	<i>Initial Eigenvalues</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
21	.670	1.675	77.642
22	.662	1.654	79.296
23	.631	1.577	80.873
24	.618	1.545	82.418
25	.594	1.485	83.904
26	.582	1.454	85.358
27	.566	1.416	86.774
28	.554	1.386	88.159
29	.516	1.290	89.450
30	.480	1.201	90.650
31	.470	1.174	91.825
32	.456	1.140	92.965
33	.434	1.084	94.049
34	.427	1.069	95.118
35	.391	.977	96.095
36	.358	.894	96.989
37	.332	.830	97.819
38	.319	.797	98.616
39	.292	.729	99.345
40	.262	.655	100.000

The use of Kaiser's (1960) rule has fallen under scrutiny as one of the least accurate methods of identifying factors; in particular it has a tendency to over-extract

insignificant factors (see Velicer and Jackson [1990] as well as Hayton, Allen, and Scarpello, [2004] for a summary of the evidence). Therefore, Costello and Osborne (2005) recommended that best practice for interpreting factor loadings is the scree test based upon the work of Cattell (1966, 1978). Conducting a scree test involves examining the scree plot output looking for the natural “break” in the factor loadings (Costello & Osborne, 2005). As such, the number of factors retained in a scree test are the factors that occur before the data point in which the break occurs. Using this method, the scree plot as shown in Figure 5 suggested a one-factor solution for the data given the sharp drop off from factor one to factor two, and levels off after factor two. Moreover, there is an assumption that the last “true” factor in a dataset occurs right before a “sudden drop in the variance accounted for by a factor after the last true factor has been calculated” (Horn, 1967, p. 184). Using both the eigenvalues and the percentage of variance accounted for by each factor in Table 6 (above), the first factor more than doubled that of the second potential factor, adding further evidence for a single factor solution. Using Cattell’s scree test, the rest of the factors that would have been identified using Kaiser’s rule are interpreted to have relatively little, if any, practical meaning for interpreting the latent structure of expert viewpoints and may better be interpreted as noise. For the purposes of this investigation, a single factor solution in Q-Method factor analyses means that the participants (i.e., the experts) responded to the stimuli (i.e., the video segments) in a unidimensional manner as a function of a single latent variable (i.e., the expert’s collective perspectives of each client depicted in the CIS).

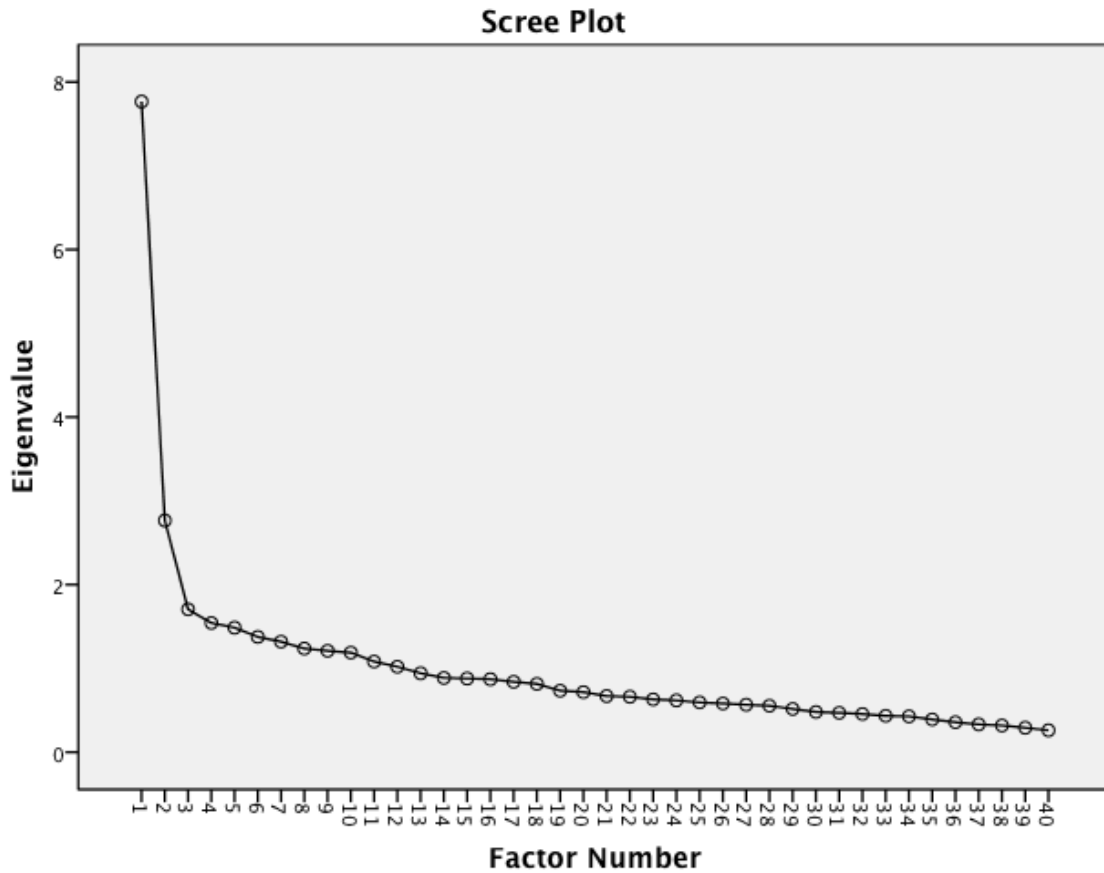


Figure 2. Cattell's Scree Plot for CIS Q-Factor Analysis

To interpret factors, in particular what factors to keep and what factors to disregard, some authors have suggested more mathematically based approaches that are not as subjective as the scree plot and Kaiser's Rule. In response to the arbitrary nature of Kaiser (1960) and Catell's (1966) methods of factor identification, Velicer (1976) developed a mathematical factor interpretation strategy based on partial correlation matrices of variables, called Velicer's minimum average partial (MAP) test (see O'Conner, 2000). As O'Conner explained, the MAP test estimates the number of factors by comparing the systematic and unsystematic variation in partial correlation matrices and stops when the proportion of systemic variance is smaller than the unsystematic

variation. In addition, O'Conner developed an easy to use syntax program for SPSS to administer the MAP test. The computer readout of the MAP test are easy to interpret (represented in Table 11) and suggested a two-factor solution with the smallest partial correlation (.073) represented in factor two.

Table 11. Velicer's (1976) MAP Test Results

Run MATRIX procedure:

Velicer's Minimum Average Partial (MAP) Test:

Eigenvalues

7.7661
 2.7658
 1.7055
 1.5429
 1.4866
 1.3756
 1.3191
 1.2367
 1.2108
 1.1889
 1.0822
 1.0202

Average Partial Correlations

	squared	power4
.0000	.0361	.0026
1.0000	.0095	.0003
2.0000	.0073	.0002
3.0000	.0078	.0002
4.0000	.0083	.0002
5.0000	.0088	.0002
6.0000	.0095	.0003
7.0000	.0103	.0003
8.0000	.0112	.0003
9.0000	.0121	.0004
10.0000	.0129	.0005
11.0000	.0141	.0006
12.0000	.0152	.0007

The smallest average squared partial correlation is
 .0073

The smallest average 4th power partial correlation is
 .0002

The Number of Components According to the Original (1976) MAP Test is
2

The Number of Components According to the Revised (2000) MAP Test is
2

Velicer's (1976) MAP test has sometimes been criticized for its tendency to underestimate salient factors, and therefore O'Conner (2000) recommended that it be used in conjunction with Parallel Analysis (PA). Horn (1965) developed PA by estimating the number of true factors to randomized data set using the same conditions as the real data. Therefore, PA estimates a factor value curve assuming normal distribution of variables to compare with the eigenvalues generated from the real dataset. The factors that are retained are those factors where the curve from the real data set meets the randomized data set. Moreover, the researcher can designate confidence levels for factor extraction (in this case 95% likelihood). Again, the researcher used a syntax program for SPSS developed by O'Conner (2000) to conduct the PA. The results of the PA are represented in Table 8 and compared to the eigenvalues from the real dataset in Table 12.

Table 12. Parallel Analysis Results

Run MATRIX procedure:

PARALLEL ANALYSIS:

Principal Axis / Common Factor Analysis

Specifications for this Run:

Ncases 275

Nvars 40

Ndatsets 1000

Percent 95

Random Data Eigenvalues

Root	Means	Prcntyle
1.000000	.967134	1.070255
2.000000	.867617	.946451
3.000000	.793721	.862278
4.000000	.728910	.785823
5.000000	.672144	.726635
6.000000	.621114	.672723
7.000000	.572748	.621346
8.000000	.527697	.570743
9.000000	.486082	.533291
10.000000	.444206	.486520
11.000000	.405801	.446589
12.000000	.368143	.409133
13.000000	.332235	.370051
14.000000	.297313	.334567
15.000000	.263160	.300099

16.000000	.229620	.264912
17.000000	.197446	.230164
18.000000	.166570	.201828
19.000000	.135616	.167056
20.000000	.105491	.137517
21.000000	.076183	.106112
22.000000	.048341	.077705
23.000000	.019453	.046491
24.000000	-.007701	.020637
25.000000	-.035043	-.008313
26.000000	-.061528	-.035378
27.000000	-.087723	-.061596
28.000000	-.113444	-.088797
29.000000	-.138826	-.115933
30.000000	-.164148	-.141747
31.000000	-.188449	-.164088
32.000000	-.213638	-.191907
33.000000	-.238933	-.216664
34.000000	-.263438	-.243253
35.000000	-.288625	-.266956
36.000000	-.313708	-.293476
37.000000	-.338962	-.317572
38.000000	-.365357	-.343081
39.000000	-.394686	-.370587
40.000000	-.429017	-.402035

O’Conner (2000) warned that PA tends (contrary to the MAP test) to over extract factors. Furthermore, O’Conner contended that the results of the MAP test and PA should agree with each other. However, comparing the eigenvalues from the factor analysis presented in Table 10 of real data to the PA in Table 12 would suggest a 24-factor solution, which conflicts significantly with the results of the MAP test casting doubt upon the practical use of both results for the purposes of the current investigation. When results do conflict, O’Conner recommended increasing the number of random datasets till there is closer agreement. However, even after using these guidelines results did not change significantly.

Therefore, the researcher consulted four different methods for approaching factor interpretation that yielded four different interpretations about the overall factor structure of the expert review. If other stop rules were implemented, it is likely that they would offer even more divergence. How is sense to be made of these results? Though Q-Methodology uses the underlying mathematical procedures of factor analysis to make meaning of the data, McKeown and Thomas (1988) contended that strict quantitative approaches to understanding the significance of latent variables in Q-Methodology is not consistent with the overall philosophy of the approach. To underscore the importance of theoretical interpretation of Q-Method factor analysis, they stated “At a practical level, common sense offers the best counsel when determining the importance of factors, that is, their contextual significance in light of the problems, purposes, and theoretical issues in the research project” (p. 52). In light of their recommendations, it may provide further interpretive direction to the study to revisit the purpose of using Q-Methodology in light of the research question it helped to address.

The first research question of this study sought to understand how many factors, or differing viewpoints, experts adhered to while viewing the clients depicted in each video segment by endorsing possible directions to take with said clients. Therefore, interpreting multiple factors would lead one to believe that experts held to diverse perspectives when choosing possible directions. Given the relatively diverse sample of experts who participated in the study, an equally diverse factor structure would logically be expected. However, given the strong showing of the first factor would suggest just the opposite, that instead experts approached each client from relatively similar perspective with some room for nuances within that single dimension. Therefore, it is consistent with the results of the data analysis to allow for the primacy of a single factor solution that by and large represented each expert's viewpoints. Since the design of the study replicated similar tasks given to experts in past research to better understand their intuition (see Chase & Simon, 1973; de Groot, 1965; Gobet & Simon, 1996; Simon & Barenfeld, 1969), the results of this study should also be interpreted within the theoretical foundation of the Naturalistic Decision Making (NDM; Klein, 1993) paradigm from which it originated. Therefore, the single latent factor is reasoned to be counselor intuition.

Generalizability Theory Analysis

Generalizability theory was used to address the second research question posed by this investigation: How consistent were the expert intuitions as measured by interrater reliability of the statements within the video segments of the CIS? First, SPSS does not include a convenient function for calculating generalizability coefficients. Therefore, the researcher adapted a syntax program for generating generalizability coefficients using SPSS from Mushquash and O'Connor (2006).

There are four primary designs for conducting generalizability theory. This study applied a randomized single facet, fully crossed design. In generalizability theory terms, a facet is a measurement condition (potential source of error) and can include forms, items, raters, or occasions, among others (see Crocker & Algina, 2008). In the present investigation, the expert reviewers who rated each statement on a single occasion were considered the lone facet. In that single occasion, 40 experts rated all 275 statements using a five point Likert-type scale (ranging from strongly agree to strongly disagree), therefore rendering the design of the investigation as a single facet, fully crossed design wherein every item received a rating from every expert. Moreover, the single facet was treated as random. A facet is considered random when it is considered to be “interchangeable with measurements of the same parameters taken from other members of the target population” (Preuss, 2013, p. 564). Preuss noted that facets are generally considered to be random when they are assumed to be random selections of the measurement conditions. However, they can also be calculated by using the residual or error variance in the generalizability equation denoted by σ_e^2 in Figure 3 below (Crocker & Algina, 2008). Therefore, in this study expert raters were considered to be interchangeable (i.e., random) with other experts who could have been included in the study by means of mathematical procedures, not by random selection. Crocker and Algina explained that when facets are random, the generalizability coefficient can generalize findings beyond the conditions of the current investigation to a hypothetical universe of facets or measurement conditions

The generalizability coefficient is calculated by using the variance components of the dataset and can be defined as “the ratio of universe score variance to expected

observed score variance” (Crocker & Algina, 2008, p. 159). For a randomized single-facet, fully crossed design the appropriate equation for generating a generalizability coefficient can be stated as the following:

$$\rho_{I^*}^2 = \frac{\sigma_p^2}{\sigma_p^2 + \sigma_e^2 / n_i'}$$

Figure 3. Generalizability Coefficient Equation for Fully Crossed Design (Crocker & Algina, 2008)

For the above equation and for the purposes of the present investigation, σ_p^2 denotes the variance of the 40 expert raters, σ_e^2 denotes the variance of the interaction effect between the 40 expert raters and the 275 statements, and n_i' denotes the 275 statements that were rated in Round Two expert review. Table 13 represents the expected mean squares and variance components of the generalizability theory analysis.

Table 13. Expected Mean Squares and Variance Components for Single Facet G-Study

<i>Source of Variance</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>Variance</i>	<i>% of Total Variance</i>
<i>Statements</i>	274	1879.291	6.859	0.151	0.131
<i>Experts</i>	39	1889.903	48.459	0.173	0.150
<i>Residual*</i>	10686	8843.422	0.828	0.828	0.719

*Represents the interaction effect of Experts and Statements

As can be seen from Table 13, the generalizability coefficient is calculated as an ANOVA that produces the variance components, which are then plugged into the generalizability theory equation displayed in Figure 3. Therefore, using the variance components in Table 13, the generalizability coefficient can be calculated as in Figure 4 below:

$$\rho_{I^*}^2 = \frac{0.151}{0.151 + 0.828/40} = 0.879$$

Figure 4. Calculated Generalizability Coefficient

The calculated generalizability coefficient (.88) in Figure 4 was consistent with the output generated by SPSS using the syntax created by Mushquash and O'Connor (2006). Using Cicchetti and Sparrow's (1981) guidelines for interpreting interrater reliability coefficients, .88 far exceeds their .75 cutoffs to be considered excellent interrater reliability. Therefore, approximately 12 percent of the variance of expert's responses can be attributed to interrater error (Drummond & Jones, 2010; Urbina, 2004).

The researcher also conducted a follow up analysis using a more complex generalizability study that accounted for any variance between video segments. It could be argued that using a single facet design would only account for the error variance contributed by raters, therefore failing to account for any potential error variance contributed by the video segments themselves. Moreover, the individual statements that experts rated were unique to the video segments with which they were paired. From this perspective, each statement was nested within each video segment. Therefore, the researcher was justified in conducting a two-facet, nested generalizability study. The variance components for the nested design are represented in Table 10.

Table 14. Expected Mean Squares and Variance Components for Two-Facet G-Study

<i>Source of Variance</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>Variance</i>	<i>% of Total Variance</i>
<i>Expert Ratings</i>	10,999	12613	1.146706	1.147225	100
<i>Statements Nested Within Video Segments</i>	274	1879.290909	6.858726	0.146449	12.7655
<i>Residual*</i>	10725	10733	1.000776	1.000776	87.2345

*Represents the interaction effect of Expert Ratings and Statements Nested Within Video Segments

After computing the variance components in Table 14 using Statistical Analysis Software[®] (SAS), the generalizability coefficient that accounted for the error variance for expert raters and video segments was .85. According to Cicchetti and Sparrow (1981), an interrater reliability coefficient of .85 is considered excellent. Therefore, approximately 15 percent of the variance of expert’s responses can be attributed to interrater error (Drummond & Jones, 2010; Urbina, 2004).

Post Hoc Questions

Though they did not directly relate to the two research questions posed by this study, each expert was given the opportunity to answer a series of follow up questions about their intuition that were deemed to be salient for the review process. The results of each question will be discussed here in the order in which they occurred.

The first question participants responded to was “Intuition has been described in a variety of ways in the literature, which of the following best describes how you experienced your intuitive moments in viewing the clips? Select all that apply.” A total of 44 experts responded to the question using a list of possible answers that were discussed in the literature (specifically from Welling [2005]). Table 15 shows each possible answer as well as the percentage of the sample that endorsed them. The most often endorsed

options were a *gut feeling* (53.3%), an *emotion* (34.1%), a *sense that something is right* (34.1%), an *association* (34.1%), a *phrase* (31.8%), and a *sense that something is wrong* (31.8%). The only possible options that were not endorsed were *distractions*, *fantasy*, and *sexual arousal*.

Table 15. Response Frequency for Type of Intuition Experienced by Experts

<i>Type of Intuition</i>	<i>N Selected</i>	<i>Percentage of Responses</i>
A Gut Feeling	23	52.3%
An Emotion	15	34.1%
A Felt-Sense	15	34.1%
An Association	15	34.1%
A Sense that Something is Right	15	34.1%
A Sense that Something is Wrong	14	31.8%
A Phrase	14	31.8%
An Image	8	18%
A Word	7	15.9%
A Memory	6	13.6%
An Area of Your Body	3	6.8%
A Poem	2	4.5%
A Song	1	2.3%
A Melody	1	2.3%
A Fantasy	0	0%
Sexual Arousal	0	0%
A Distraction	0	0%

(N = 44)

The second question posed to experts about their intuition was, “What perceptual cues guided your intuitive responses to each client?” This open-ended question yielded a

total of 37 responses from experts. The qualitative answers required some simple interpretation, therefore the researcher coded each response and conducted a frequency count for each code. The frequency for each coded response is represented in Table 16 with a percentage of how many experts endorsed that code out of $N = 37$. In all, the experts' cues could be reduced down to eight identifiable codes. The most frequently endorsed cue that guided expert intuition was *body language* (75.7%). This code was often endorsed using the phrase "body language" and was also interpreted as such from phrases that included the following: body cues, non-verbal, appearance, body movement, body positioning, movement, eye contact, eye movements, hand movements, foot movements, and body posturing. The second most frequently endorsed code was *content* (37.8%), and was interpreted to refer to what the client was saying in each video segment. This code included words or phrases consistent with the following: verbalizations, reports, words, content, speech, language, content of disclosures, introspection displayed by the patient, rambling, verbal phrasing, choice of words, and story/issues. The third most frequently endorsed response was *affect* (35.1%) and included words or phrases such as: emotion(s), affect, affectively charged words, and feelings. The fourth most frequently endorsed response by experts was *voice intonation* (24.3%) and included words and phrases as the following: tone, vocal tone, speech cadence, and tone of voice. The fifth most frequently endorsed response was *speech patterns* (18.9%) and included the following descriptors: phrases, metaphors, pacing, words casually thrown out, pauses in dialogue, moments of pause/breathing, consistency of responses, frequency of word choice, and verbiage the client used or didn't use. The sixth most frequently endorsed response was *incongruence/congruence* (16.2%), which referred to the level of match

between the clients disclosure, affect, and body language and included all of the following words or phrases: dichotomous statements, incongruences regarding content of verbalizations and tone, congruency of words to appearance, lack of clarity, what wasn't said, and congruence or incongruence between content and emotions. The last two codes were equally endorsed and included *similarity to previous cases* (5.4%) and the *therapeutic relationship* (5.4%). Similarity to Previous Cases included the following words and phrases: past personal or professional experience and patterns of relating that were common to previous cases. *Therapeutic relationship* (5.4%) included the following words and phrases and referred to the observed relationship between the client and counselor in the video segments: how they interacted with the therapist and here-and-now aspects of the therapeutic relationship.

Table 16. Frequency of Coded Responses for Expert Perceptual Cues

<i>Code</i>	<i>N of Experts</i>	<i>Percentage</i>
Body Language	28	75.7%
Content	14	37.8%
Affect	13	35.1%
Voice Intonation	9	24.3%
Speech Patterns	7	18.9%
Incongruence/Congruence	6	16.2%
Similarity to Previous Cases	2	5.4%
The Therapeutic Relationship	2	5.4%

(N = 37)

The third question required a simple “yes-no” response to the adequacy of the length of time for the experts to experience an intuitive moment with each client in the CIS. This question was posed as, “Was the time length sufficient for you to develop an intuitive moment with each client?” If the expert responded with “no” they were given the opportunity of explaining why the timing was not sufficient. A total of 40 experts responded to the question with the vast majority of them stating that the timing was sufficient for them ($n = 33$; 82.5%). Of those experts who reported needing more time ($n = 7$; 17.5%), five offered explanations. One expert stated “Sometimes but not for all. Also to many clips so I did have trouble focusing due to interruptions I could not ignore.” However, they did not expound upon the nature of the distractions or how prevalent they were. Three experts responded shortly with “Somewhat but not completely,” “Prefer more time” and “I wish we had a little more context.” One final expert remarked “Some were disjointed and felt as if background information were missing and no opportunity for clarification and goal alignment.” These comments seem to be referring to the nature and purpose of the design of the CIS thin slice video segments, which was not explained to the experts beforehand. Furthermore, all five comments suggested that these experts found it challenging but not impossible to arrive at intuitive insights during the CIS review.

The fourth question related to the experts’ confidence in their intuitive judgments, stated as “How do you know your intuition was accurate with each client?” The researcher reviewed each response and developed a simple coding system to quantify their responses. A total of 40 experts responded to the question and upon subsequent analysis the researcher was able to identify six codes. The frequency with which experts

endorsed each code is represented in Table 17. The most often endorsed code, *feedback from the client* ($n = 14$; 35%), captured the idea that experts believed they needed to hear from the client if their intuition was accurate. The second most popular code, *don't know* ($n = 8$; 20%), reflected the experts' belief that they were not confident that their intuitions with the clients were accurate. The third code, *confirmation from subsequent clips* ($n = 6$; 15%), reflected the experts' belief that they were able to verify the accuracy of their intuition from seeing them confirmed in repeated exposure to the same client. The fourth code, *extensive experience* ($n = 5$; 12.5%), referred to experts who trusted in the value of their extensive professional experience to account for the accuracy of their intuition. The final two codes, *easy patterns* ($n = 1$; 2.5%) and *self-validating* ($n = 1$; 2.5%), both received a single endorsement from experts. Easy Patterns reflected the expert's confidence in being able to decipher the meaning of each client's disclosure because they judged that their issues were not complex. Lastly, *self-validating*, represented the experts' belief that their intuition was accurate because of their confidence in it.

Table 17. Frequency of Coded Responses for Experts' Confidence in Their Intuition

<i>Code</i>	<i>N of Experts</i>	<i>Percentage</i>
Feedback From the Client	14	35%
Don't Know	8	20%
Confirmation from Subsequent Clips	6	15%
Extensive Experience	5	12.5%
Easy Patterns	1	2.5%
Self-Validating	1	2.5%
<i>(N = 40)</i>		

The final question related to ways in which the experts' intuition had developed, phrased as "In general, what has influenced the development of your clinical intuition the most? Select all that apply." The options were generated based upon the literature reviewed in Chapter 2 that have postulated how intuition develops. A total of 41 experts responded to this question (see Table 18). The options they chose from are presented here in the order in which they received the most support from experts: *clinical experience* ($n = 40$; 97.6%), *supervision* ($n = 17$; 41.5%), *social experience* ($n = 14$; 31.4%), *education* ($n = 14$; 31.4%), *personal counseling* ($n = 12$; 29.3%), *spiritual or faith tradition* ($n = 9$; 22%), *workshops* ($n = 7$; 17.1%), *trauma* ($n = 6$; 14.6%), *clients* ($n = 1$; 2.4%), *travel* ($n = 1$; 2.4%), *training in hypnotherapy* ($n = 1$; 2.4%), *Life* ($n = 1$; 2.4%), *staff meetings* ($n = 1$; 2.4%), *rapport with clients* ($n = 1$; 2.4%), and *individual sensitivity* ($n = 1$; 2.4%).

Table 18. Frequency of Responses for the Development of Expert Intuition

<i>Source of Development</i>	<i>N of Experts</i>	<i>Percentage</i>
Clinical Experience	40	97.6%
Supervision	17	41.5%
Social Experience	14	31.4%
Personal Counseling	12	29.3%
Spiritual or Faith Tradition	9	22%
Workshops	7	17.1%
Trauma	6	14.6%
Clients	1	2.4
Travel	1	2.4
Training in Hypnotherapy	1	2.4%
Life	1	2.4%
Staff Meetings	1	2.4%
Rapport with Clients	1	2.4%
Individual Sensitivity	1	2.4%

(N = 37)

Chapter Summary

This chapter presented the findings of the study. The discussion included a report of three groups of participants who were included in the development of the CIS items. Moreover, the chapter covered the two statistical procedures used to analyze the data collected from Round Two expert review, including (a) Q-Method factor analysis and (b) generalizability theory. Lastly, the chapter ended with a report of expert responses to five post hoc questions about their intuition as it related to their review of the CIS. In Chapter

Five, the researcher will discuss the meaning, implications and limitations of the findings from Chapter Four.

CHAPTER FIVE: CONCLUSION

This chapter presents a summary of the study, including the need for an instrument that measures counselor intuition, the theoretical underpinnings of the Counselor Intuition Scale (CIS), the methodology of developing the CIS, and finally a discussion of the findings of the study. Moreover, based upon what was found in Chapter Four the researcher will also discuss the implications and limitations of the current investigation that will ultimately lead to recommendations for futures research by examining the psychometric properties of the compiled CIS.

Summary of the Study

Intuition is important to the counseling field for several reasons. First, socially based intuition is a result of the advanced comprehension, synthesis, and pattern matching of verbal and non-verbal cues (Ambady, 2010; Ambady & Rosenthal, 1992). Second, several well known figures in the field of counseling and psychotherapy either attested to the powers of their intuition to help people, or were attributed such powers by their contemporaries (see Berne, 1949; Bohart, 1999; Gendlin, 1970, 1981; Reik, 1948; Rogers, 1986; Rogers & Traux, 1967). Third, intuition has also become the topic of some theories of supervision, including Interpersonal Process Recall (IPR; Kagan & Kagan, 1997) and the Clinical Intuition Exploration Guide (Jeffrey, 2012). Furthermore, at least one workshop is in the scholarly literature espousing to help develop counselors' intuition (see Faiver, McNally, and Nims, 2000). Lastly, counselors claim that they rely on their intuition even more than they do upon evidence-based practices (EBPs; Baker, McFall, & Shoham, 2008; Gaudiano, Brown, & Miller, 2011; Lucock, Hall, & Noble, 2006), that

they prefer intuitive methods of knowledge acquisition to rationalistic paradigms, (Zachar & Leong, 1992) and they see their intuition as a benefit for effective practice (2001).

Though it can be concluded that intuition is an important component of counseling, understanding its role and contribution to the influence of the Common Factors (see Norcross, 2011), and therefore its influence in client outcomes, is largely unknown. Despite the fact that counselors claim to use intuition in their work with clients, it has not been defined well enough to measure empirically (Lucock, et al., 2006). Therefore, supervision models (Jeffrey, 2012; Kagan & Kagan, 1997) and educational models (Faiver, et al. 2000; Hogarth, 2001) are difficult to justify since there is little evidence to suggest their effectiveness. The dearth of support for the use of intuition in counseling is largely due to the fact that the majority of studies investigating how counselors view the effectiveness of their intuition is limited to self-report and qualitative methods (see Jeffrey & Stone Fish, 2011; Skovholt & Ronnestad, 1992; Weis, 2006), owed primarily to the non-existence of a psychometrically sound instrument to use in research. Qualitative methods for studying intuition may be instructive, but they cannot generalize findings beyond their own conditions making it difficult to both study and support in practice.

Therefore, the purpose of this study was to create an instrument that measured the intuitive expertise of counselors. The word “expertise” is used here in relation to intuition because there is good evidence to suggest that intuition is a sign of expert status within any field of study (Kanehman & Klein, 2009). The theory of intuition endorsed by this investigation, and therefore the underlying theory of the CIS, is called Naturalistic Decision Making (NDM) and contends that intuition is the result of an expert’s ability to

rapidly and unconscious match patterns from their prior experience to their current context (see Klein, 1993). NDM has received support ranging from the foundational chess master studies used to develop the theory (see Chase & Simon, 1973, 1988; de Groot, 1965; Simon & Barenfeld, 1969), to studies investigating expert firefighters (Klein, Calderwood, and Clinton-Cirocco, 1986), expert nurses (Benner, 1982; Crandall and Calderwood, 1989), and expert military personnel (Thordsen, Galushka, Klein, Young, & Brezovic, 1990). Similar studies from the counseling field have also suggested that NDM is ultimately underlying the process of intuition for expert counselors when they work with their clients (Jeffrey & Stone Fish, 2011; Skovholt and Ronnestad, 1992; Weis, 2009; Witteman, Spaanjaars & Aarts, 2012). NDM was therefore determined to be a theoretical framework and a promising strategy for creating an instrument that could both capture and measure a counselor's intuition.

Using NDM as a guiding theory, this study sought to develop an instrument that could trigger an expert's intuition through pattern matching and by using the following theoretical definition informed by the literature:

Counselor Intuition is (a) an insight that is formulated unconsciously, (b) based upon stored patterns from past experience, (c) triggered by context-associated stimulus (the client), and (d) processed quickly as compared to rationalistic processes (see Berne, 1949; Gore, & Sadler-Smith, 2011; Hogarth, 2001; Roger's, 1986).

Two psychological instruments already in existence (see the Mini Profile of Non-Verbal Sensitivity [MiniPONS; Bänziger, Scherer, Hall, & Rosenthal, 2011] and the Interpersonal Perception Task [IPT; Costanzo & Archer, 1989]), which they themselves

were found to be insufficient to measure counselor intuition, offered guidance in how to go about creating an instrument that went beyond the confines of a traditional “paper-pencil” test and helped recreate the environment in which counselor intuition manifests. It was at this point, too, that thin slice data (see Ambady, 2010) was incorporated into the overall vision of the project by creating a task similar to that required of chess players in the studies conducted by de Groot (1965) among others. More specifically, short (two minute) video segments taken from an entire hour of counseling would serve as the stimulus for accessing an expert counselor’s intuition. Furthermore, the use of thin slice data worked on the theoretical assumption (e.g., a Grandmaster seeing a chess configuration for five seconds) informed by NDM that experts in counseling would know how to proceed with a client based upon their extensive experience and triggered by a short exposure to the client’s presenting concern. Thus, the design of the CIS sought to put participants in direct contact with subjects (thereby triggering their intuitive pattern matching abilities) by using video segments depicting clients discussing a presenting problem with a counselor. In addition, it was decided that special care be taken to capture in each video segment as much of the client, and as little of the counselor, to recreate an environment in which the participant viewing the items of the CIS felt as though it was *their* client in the video talking directly to them.

Though a theoretical foundation and method of creating the CIS using best practice models of instrument development (see Allen & Yen, 2002; Crocker & Algina, 2008; DeVellis, 2003) and informed by thin slice data techniques already in existence were identified, two key questions surfaced that ultimately guided the data analysis and initial conclusions about the psychometric properties of the CIS as it stands to date. The

first question can be phrased as: How will the correct intuitive responses to each client be determined? Developing “correct” responses for each item based entirely upon the researcher’s intuitive assessment was deemed both impractical and too biased. Therefore, the researcher adapted the use of Q-Methodology (see Dziopa & Ahern, 2011) to both elicit and analyze expert intuitions to each client depicted in the items of the CIS. Q-Methodology was able to do this by first asking a group of experts (Round One expert review) to watch each segment of the CIS and create a list of alternative directions to take with the client they watched. The directions created in Round One were then rated for their appropriateness by a second group of experts (Round Two expert review) using a five point Likert-type scale. The expert ratings were then factor analyzed to answer the first research question: To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts’ ratings of the items unidimensional)? Depending upon how many factors surfaced would provide information regarding *how* experts approached each client in the CIS, and more specifically, if it could be determined if the experts significantly shared any common intuitive responses by a factor analysis of their individual viewpoints. From the result of the Q-Method factor analysis it was determined that experts responded to the clients in the CIS from a single viewpoint (or approach) with the possibility of minor nuances within that one perspective.

The second question that eventually surfaced was related to the reliability of expert raters. Say for instance, even if the experts responded to each client based upon similar intuitive assessments as evidenced by Q-Method factor analysis, it still would not suggest that if given repeated trials of that task that they would rate those same clients in

a consistent manner later on. Therefore, the researcher introduced generalizability theory (see Crocker & Algina, 2008) to address the study's second research question: How reliable were the expert intuitions as measured by interrater reliability of each item (video segment) of the CIS? Crocker and Algina (2008) noted that two unique features of generalizability theory that render it superior to analyses that adhere to classical true score theory is its ability to (a) partial out and account for specific sources of error variance and (b) by means of mathematical procedure generalize findings beyond the conditions of the study. Therefore, generalizability theory estimated the reliability of expert responses by using a randomized single facet, fully crossed design wherein each item of the CIS was rated by every Round Two expert. Since the facet was treated as random it meant that the subsequent reliability coefficient generated by the analysis could be generalized beyond the specific experts represented in the study to a hypothetical universe of expert raters. The results of the generalizability study were indicated excellent reliability, ranging from .88 for a single facet, crossed design to .85 for a two facet, nested design.

Lastly, the experts who participated in the study were given the opportunity to answer several post hoc questions about their intuitive experience as they reviewed the CIS. These answers provided clues to how experts experienced their intuition with clients, what cues informed their intuition, if the timing was sufficient for their intuition to manifest in the CIS, how they knew their intuition was accurate, and how they believed it developed overtime.

Discussion

This section will discuss the findings of the study presented in Chapter Four. More specifically, both the research questions will be addressed in light of the data and results of the Q-Method factor analysis and generalizability theory analysis. An interpretation of those results will also be offered in regards to their consistency with prior research that will eventually lead to implications and suggestions for future research in sections still to come.

Research Question One

The first research question addressed in this section related to how experts approached the review of each client in the CIS, and was stated as the following: To what degree do experts rate the video segments featured in the CIS with a common schema in mind, (i.e., Are the experts' ratings of the items unidimensional)? Depending upon which mathematical paradigm the researcher consulted, the overall number of factors varied considerably. However, using the assumption that a sharp decline in variance accounted for from one factor to another will actually indicate when the last true factor occurred (Horn, 1967), the data would suggest a single factor solution with other potential factors having little practical significance. Moreover, a single dimension conclusion would also be consistent with an interpretation of on the scree plot (see Figure 5 below) where there is a clear break between factor 1 and factor 2.

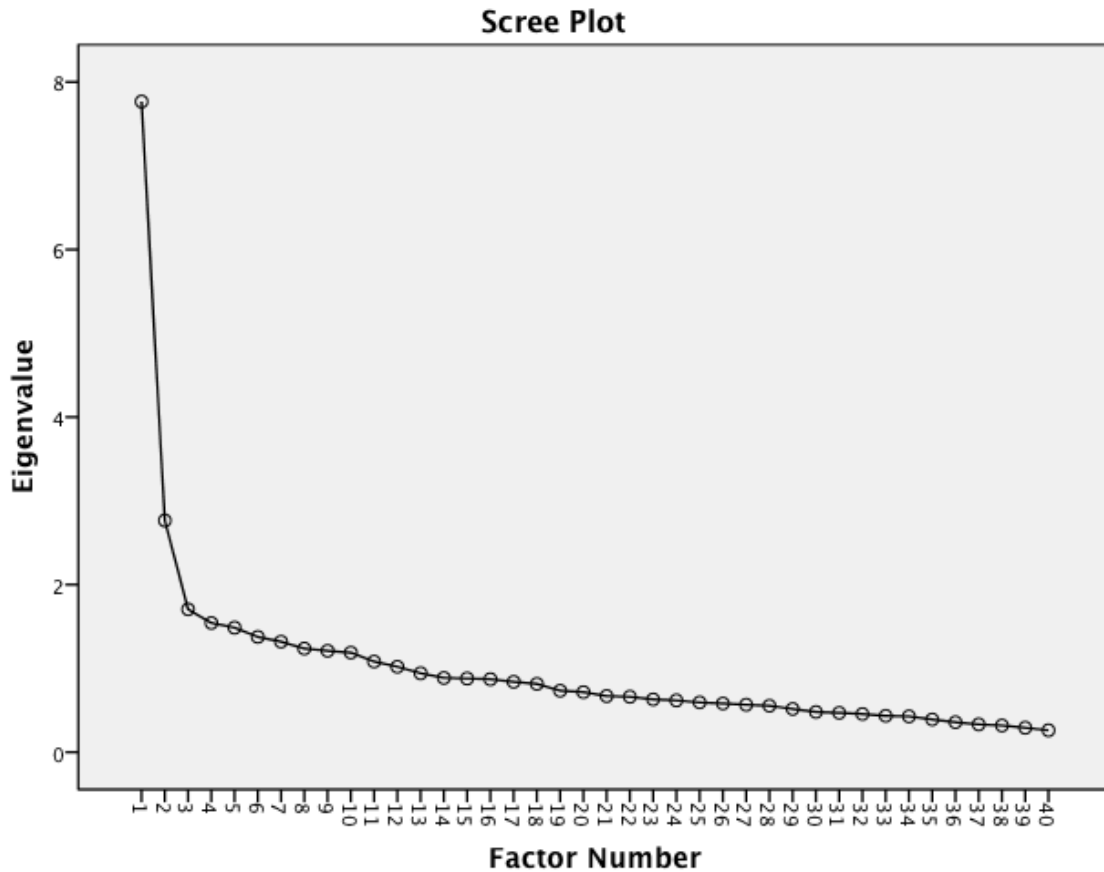


Figure 5. Cattell's Scree Plot for CIS Q-Factor Analysis

Concluding that a single factor solution is the best interpretation of the data is not by itself a sufficient conclusion using Q-Methodology. Instead, Q-Methodology incorporates theoretical interpretations of the findings that must also be accounted for in addition to any statistical conclusions (McKeown & Thomas, 1988). The overall review process of the CIS was extensive, 40 experts viewed 39 video segments and then rated 275 possible directions to explore with each client. Theoretically, asking for 40 counselors to assess clients they had never met would inevitably involve some level of divergence in perspective taking. However, it is true to the data to conclude that, overall, a single common perspective accounted for most expert responses with room for variation or nuances within that common viewpoint. The theoretical significance of that

divergence, however, did not warrant further attention given the high likelihood that further factor interpretation may be looking for new perspectives that may not have existed.

If experts responded to the clients in the CIS using a single dimension, then these findings must be placed within a context of prior theory and research. The single unifying feature of the experts represented in this sample was their status as experts as defined by the study. There were two criteria to be considered an expert in this study. First, participants had a minimum of ten years concentrated study in counseling or related field and, second, they were still involved in clinical work. The sample mean far exceeded this criterion for both Round One expert reviewers ($N = 4$; $M = 24.5$; $SD = 9.85$) and Round Two expert reviewers ($N = 40$; $M = 22.3$; $SD = 6.76$). The “ten year rule” (see Ericsson & Lehmann, 1996; Hoffman, Shadbolt, Burton, & Klein, 1995; Prietula & Simon, 1989; Skovholt, Rønnestad, & Jennings, 1997) for expert status has suggested that it requires practitioners around 10 years of concentrated study in any field to accumulate enough information (i.e., patterns) to respond intuitively. Consistent with this research, the participants in this study’s sample were, using the ten year rule, capable of responding to the clients in the CIS using their accumulated experience. What is particularly interesting about the results of the Q-Method factor analysis is that the experts responded from what appeared to be a common schema. These findings were consistent with research of chess masters (see Chase & Simon, 1973, 1988; de Groot, 1965; Simon & Barenfeld, 1969) suggesting that as experts accumulate experience that they will view clients from a similar lens, as was the case in the review of expert counselors of each client in the CIS. Therefore, it is reasonable to conclude that how experts rated statements in the CIS would

“tap into” their intuitive sense and act as a guide for judging similar perspective taking. How the experts single factor response will ultimately inform the further development of the CIS will be discussed below in the sections titled *Recommendations for Future Research* and *Implications*.

Research Question Two

The second research question addressed here is related to the reliability of how experts rated each statement featured in the CIS and can be stated as: How consistent were the expert intuitions as measured by interrater reliability of the statements within the video segments of the CIS? The procedure used to answer this question is called generalizability theory (Crocker & Algina, 2008). More specifically, the design of the generalizability study was a randomized single facet, fully crossed design, meaning that every expert rated every items of the CIS from which the results can be generalized beyond the conditions of the study to hypothetical raters. The hypothesis that was tested based upon the second research question was stated as the following: The results of the generalizability theory analysis will yield a generalizability coefficient of at least .75. An interrater reliability coefficient of .75 is needed to demonstrate “excellent” reliability (Cicchetti & Sparrow, 1981). In actuality, the results of the generalizability theory analysis of expert ratings demonstrated a reliability coefficient of .88, which is considered “excellent” reliability according to Cicchetti and Sparrow and would mean that 12 percent of the raters’ response variance could be attributed to error (Drummond & Jones, 2010; Urbina, 2004). Because the single facet (the raters) was treated as random using the interaction effect between the 40 raters and the 275 statements, the results of the generalizability study can be assumed to be representative of a hypothetical universe of

raters. This means that even if future studies used a different sample of expert raters there would be a .88 likelihood of producing the consistent results. Moreover, the researcher also conducted a second generalizability study that treated the statements as nested within video segments. Consulting a nested design allowed the researcher to account for any error variance that could be attributed to the fact that each statement was being rated on a unique occasion (i.e., the video segments). After accounting for nested effects, the reliability coefficient was minimally affected and still yielded excellent reliability according to Cicchetti and Sparrow (1981) at .85. How the reliability of expert ratings will ultimately inform the further development of the CIS will be discussed below in the sections titled *Recommendations for Future Research* and *Implications*.

Post Hoc Questions

Though not of direct relevance to the primary research questions that ultimately guided this investigation, each expert was asked to expound upon their intuitive experience with the clients at the end of their review of the CIS. The first question experts responded to was, “Intuition has been described in a variety of ways in the literature, which of the following best describes how you experienced your intuitive moments in viewing the clips? Select all that apply.” Experts endorsed every option except three: (a) A Distraction, (b) Sexual Arousal, and (c) Distraction. The option that was endorsed most as describing how experts experienced their intuition during their review of the CIS was as A Gut Feeling (52.3%). This result is consistent with prior research of how counselors have described their experience with intuition in their work with clients (Weis, 2009) and supervision models that have directed their attention to its development (e.g., Interpersonal Process Recall [IPR; Kagan & Kagan, 1997]). The

options that followed were equally supported by the scholarly literature. A Felt Sense (34.1%) was originally a phrase coined by Eugene Gendlin (1970, 1981) and his colleagues at the University of Chicago after studying what helped clients progress in counseling. What Gendlin concluded was that people had an intuitive sense that they often did not value or use, and was actually a kinesthetically based experience. The technique that he popularized, *focusing*, was intended to make the felt sense conscious and harness its influence to change the client's way of interacting with their world. The next option, An Emotion (34.1%), was consistent with Weis's (2009) findings that intuition (when described) vacillates back and forth between cognitive pattern apprehension and emotional arousal. It would also make sense that experts would endorse this option in light of Rogers (1986) insistence that intuition be understood as empathy in its highest form and others (e.g., Ambady & Rosenthal, 1992) who have argued that intuition partly involves the decoding of non-verbal communication. The following three most frequently endorsed options included An Association (34.1%), A Sense that Something is Right (34.1%), and A Sense Was Wrong (31.8%). All three options suggested strong ties to cognitive pattern matching intuitions as discussed by Welling (2005) and supported by NDM research (see Klein, 1983).

The second question experts responded to related to what cues informed their intuitive moments, phrased as, "What perceptual cues guided your intuitive responses to each client?" The clear favorite amongst experts was Body Language (75.5%), which is consistent with literature already discussed in Chapter Two where counselors were able to identify key components of the therapeutic relationship, including warmth, accurate empathy, and rapport (Ambady & Rosenthal, 1992; Burstein & Carkhuff, 1968; Truax,

1966) as well as diagnose mental disorders based entirely upon body language (Waxer, 1974, 1976, 1977). A distant second was Content (37.8%), suggesting that along with the body language experts reacted to, they still relied significantly upon what the client was saying. However, it should be noted that the third (Affect [35.1%]) and fourth (Voice Intonation [24.3%]) most endorsed cues related back to non-verbal expressions of communication. These findings suggested that the majority of what informed experts' intuitions was not what the clients were saying, rather that they were primarily informed by how they were saying it.

The third question probed for information about the sufficiency of the clips to elicit an intuitive response, by asking, "Was the time length sufficient for you to develop an intuitive moment with each client?" The majority of experts said that it was ($n = 33$; 82.5%). For those who said that it was not ($n = 7$; 17.5%), they offered explanations that seemed to suggest that they would have preferred more time and therefore more context in the video clips. However, the design of the study was to limit the context of each client's disclosure thereby requiring participants to make intuitive leaps based upon partial representation of verbal and non-verbal patterns of communication displayed by each client. Therefore, these comments likely reflect the expert's ignorance about the design of the study rather than the clips themselves being deficient.

The fourth question related to the experts' confidence in the intuitive judgments during the process, and responded to the question "How do you know your intuition was accurate with each client?" The majority of experts indicated that they would need feedback about their intuition directly from the clients featured in the CIS ($n = 14$, 35%), which would help explain the prevalence of the second most frequent response, that they

simply did not know ($n = 8$, 20%). However, some experts were able to verify their initial intuitions if the client was seen more than once ($n = 6$, 15%) while others trusted their extensive experience without need of verification ($n = 5$, 12.5%).

The final question posed to expert reviewers was “In general, what has influenced the development of your clinical intuition the most? Select all that apply.” This question was included in the hope that it might shed light on how intuition can be developed. The most prevalent answer was Clinical Experience ($n = 40$; 97.6%), which is consistent with the overall theory behind the CIS (i.e., NDM) that intuition requires extensive experience in order to pattern match with new clients. This was also supported by the prevalence of the following three responses, including Supervision ($n = 17$; 41.5%), Social Experience ($n = 14$; 31.4%), and Education ($n = 14$; 31.4%) where patterns of communication are both experienced and analyzed to fine-tune one’s interaction with people and therefore clients who seek counseling.

Limitations

Before providing a discussion of the implications of the findings, it is necessary to first discuss the limitations of the study. Ultimately, the limitations explained here will help offer guidance in how to apply the study’s findings to the recommendations for future research and implications of the study.

Instrument Design

The first limitation of this study was the obvious need to complete five more steps in Crocker & Algina’s (2008) model of instrument development that served as the governing procedure for creating the CIS up to this point. At the stage where this study reaches its conclusion (expert review), the final five steps of Crocker and Algina’s model

need to be completed before the CIS could be considered a reliable and valid tool for assessment and research purposes. However, this study helped lay a foundation for completing future stages of instrument development by providing the CIS with a reliable method of creating individual items and response alternatives.

Criterion Response

Similar to the limitation discussed above regarding the overall process of developing the instrument, an explanation must be given in relation to how the individual statements of the CIS should be used. It must be noted here that the purpose of asking experts to rate possible directions to take with the client featured in the CIS should not be seen as an attempt to capture every possible alternative direction that could be taken with each client. Furthermore, it is not an attempt to suggest that the statements that received high levels of agreement from experts were therefore the “right” intuition in absolute terms. As the experts noted in their feedback, knowing if an intuition is right is most likely a complex interplay of following the intuition and then asking for and observing the client’s feedback to whatever direction the intuition led. Even then, however, an intuition may be “right” yet the client may not be ready to explore it. Therefore, knowing with absolute certainty if the intuition is “right” is, for all intents and purposes, impossible and was not the purpose of the study. Instead, the purpose of asking for expert intuitions was to gain an understanding of how an expert would “approach” each client in the CIS. If there was any level of uniformity to their responses (which there was as evidenced by the results of the Q-Method factor analysis), it would then be reasonable to suggest that anyone viewing the items of the CIS could be measured against the experts’ responses. Again, this is not to suggest that the direction that experts endorsed was

“right,” but instead is evidence of how counseling experts view clients and therefore anyone who chose similar directions could be said to conceptualize the client like an expert would.

Client Sample

A third limitation of the study included the nature of the client sample that was used to develop the video segments of the CIS. Most of the sample was Caucasian (70%), all of them were in their early to late 20's, and almost all of them were female (90%). The degree to which the cultural homogeneity of clients featured in the CIS will influence items responses cannot be known at this time. However, it should be noted that the PONS (and subsequently the Mini PONS) was developed using a single encoder, a Caucasian female in her twenties, and so this limitation may not be new to the field or influence the utility of the instrument. In a similar vein, this study did not control for the differences between client characteristics beyond gender, including such qualities as attractiveness and ethnicity. That being the case, it is unknown if expert ratings were biased based upon similarities to the counselors themselves. Therefore, it is equally unknown if responses were influenced by the expert counselors' perceived quality of the therapeutic relationship with each client based upon perceptions of client characteristics. However, the study did account for error variance that was generated from the video segments. Even after accounting for video segment error variance, the consistency of expert ratings remained excellent (.85) according to Cicchetti and Sparrow (1981).

Expert Sample

The final limitation discussed here involved the sample of experts who participated in the study. Each expert was identified by two criteria: (a) they were

required to have at least 10 years (including their post-graduate education) of concentrated study in the field of counseling or a closely related field of study and (b) they were currently involved in clinical work. These criteria were founded upon the “ten year rule” (see; Ericsson & Lehmann, 1996; Skovholt, et al., 1997; Prietula & Simon, 1989), which suggests that experts need approximately ten years of experience in any field of study to retain enough information to be considered an expert. However, the relationship between years of experience and the accuracy of clinical judgment is disputed (Spengler, et al., 2009), years spent in the profession is not a promise of developing expert status in the form of accurate clinical judgment. At the same time, Spengler and colleagues’ recent meta-analysis of 75 studies did find a significant effect size ($d = 0.12$) in the relationship between experience and clinical judgment. Their findings therefore suggested a need for more research investigating the relationship between experience and clinical judgment, a task that an instrument like the CIS could potentially aid in undertaking. Moreover, by requiring experts to reach a ten-year mark of experience would help assure that they had passed through the gatekeeping obstacles that would have kept them from continuing to practice in the mental health field. It is reasonable to argue, therefore, that the experts who participated in this study had remained in the field for good reason (i.e., that they possessed the necessary abilities to survive as a professional) and had a high likelihood of being able to perform with high levels of clinical judgment relative to novices in the field.

Recommendations for Future Research

Future research of the CIS should begin with receiving permission from students who participated in the study as clients to release the video segments for further

development of the CIS. The video release form (see Appendix K) that each participant signed limited the video segments to be released to the sample of experts recruited for this study. Therefore, each client should be contacted to release his or her segments for future studies. Completing the final five steps of Crocker and Algina's (2008) model of instrument development cannot be completed without having each segment released by each client featured in the CIS.

The second recommendation for future research should involve developing the response sets for each video segment. The researcher recommends using the statements developed and rated by experts to be the criterion responses for future investigations of the psychometric properties of the CIS. The experts' ratings of those statements demonstrated significant signs of unidimensionality and interrater reliability ranging from .88 to .85. In addition, the majority of the statements rated by experts suggested that they saw significant value in them, with 263 statement means falling in either the "agree" (2) or the "strongly agree" (1) range. However, the researcher also recommends removing the 12 statements that fell into the "neutral" (3) range, since such values suggested that experts were divided overall regarding their utility.

The researcher also recommends using a combination of statements developed in this study for each segment of the CIS as opposed to using a single statement followed by one, two, or three distractors. Using a combination of highly rated statements is more consistent with the results of this investigation that found that experts agreed that there are several "good" directions to take with each client in the CIS. Therefore, option weighting, multiple-choice values for participant responses could be determined based upon the raw score values of each rated statement in this study. The weighted value

according to expert viewpoints would then determine the participant's raw score depending upon the statement they selected. After deciding upon a response format, the compiled CIS should then be tested using the follow five steps of Crocker and Algina's (2008) model.

Step Six: Hold Preliminary Item Tryouts (and Revise as Necessary)

Consistent with Crocker and Algina's (2008) model, the next step of instrument development begins by administering the CIS to a small sample. The researcher therefore suggests recruiting between 100 to 200 counseling students (if they are available) to take the CIS with the purpose being to collect feedback about the testing procedures and to run preliminary statistical analyses that anticipate score distributions in the official field trial in Step Seven (below). Based upon the results, the CIS should be revised before administering it to a larger sample.

Step Seven: Field Test the Items on a Large Sample Representative of the Examinee Population for Whom the Test is Intended

During the field test, the instrument is administered to a large sample that is representative of the population it is intended to measure (Crocker & Algina, 2008). Therefore, the researcher recommends collecting a large sample size of 2,000 counselors. Using such a large sample will allow future research to take the fullest advantage of both factor analytic (see Comrey, 1973) and item response theory (see Gao & Chen, 2005) procedures. Moreover, the sample should be comprised of both counselors in-training as well as counselors who are currently practicing. Collecting a wide range of experience levels in the sample will allow statistical procedures the highest likelihood of defining the

internal structure of the CIS as well as its validity and reliability to discriminate between the intuitive abilities of participants.

Step Eight: Determine Statistical Properties of Item Scores and, When Appropriate,
Eliminate Items that do not Meet Preestablished Criteria

Based upon the analysis in Step Seven (above), the statistical properties of the developing instrument are then determined (Crocker & Algina, 2008). The CIS is by design a criterion-referenced instrument since its purpose is to identify the intuitive ability of counselors. Therefore, using a combination of factor analysis and item response theory from Step Seven, the researcher recommends that items that do not meet adequate levels of reliability for high-stakes tests (.90 according to Sattler [2001]) should be eliminated from the CIS.

Step Nine: Design and Conduct Reliability and Validity Studies for the Final Form of the
Test

Designing reliability and validity studies of a developing instrument can take several different forms (see Crocker & Algina, 2008). For the purposes of developing the CIS, the researcher recommends using a combination of factor analysis and item response theory. As Crocker and Algina explained, Factor analysis will allow future studies to determine the internal structure of the CIS and item response theory will estimate the reliability of each item of the CIS that is not limited to the underlying assumptions of classical true score theory. Furthermore, the researcher recommends conducting concurrent validity studies using several instruments reviewed in Chapter Two purporting to measure intuition and social sensitivity. In particular, it would be reasonable to expect that the compiled CIS would correlate with the MiniPONS and the IPT given their similar

design and purpose. However, the researcher also expects that the relative strength of the correlation would be moderate given the specific population the CIS is intended to measure (counselors as opposed to just anyone) and the construct itself being a complicated innovation of the emotional sensitivity (the MiniPONS) and interpersonal sensitivity (the IPT) measured by the aforementioned instruments. Therefore, some correlation would be reasonable, but near perfect correlation would not be anticipated.

Step Ten: Develop Guidelines for Administration, Scoring, and Interpretation of the Test Scores

The last step of instrument development involves providing test administrators with guidelines for how the instrument is to be implemented and interpreted (Crocker & Algina, 2008). Though the exact nature and utility of the CIS test scores cannot be predicted at this time, it is the researcher's aim that if the reliability and validity analyses described in Steps Eight and Nine earlier are meritorious that the CIS should use cut-scores to determine intuitive mastery. Again, for high-stakes tests, the cut score reliability should be at least .90 according to Sattler (2001).

Implications

Given the findings of the study, there are certain implications for the counseling field at large as well as for counselor educators and supervisors who shoulder the primary responsibility of teaching and training counselors.

Counseling Field

This is the first known study to quantify expert counselors' intuitive responses. Furthermore, it demonstrated that expert counselors' intuition is both substantially uniform and consistent. Thus, the implication of the study's findings for the counseling

field cannot be understated. For several years, the counseling field has held intuition in high esteem, Rogers (1986), Reik (1948), Bern (1949), Erickson (see Rogers, 1986), Genldin (1970; 1981), and Bohart (1999) are all testaments to the powers of intuition in counseling. Moreover, counselors have historically valued their intuition over EBPs (see Baker, et al., 2008; Gaudiano, et al., 2011; Lucock, et al., 2006), which is difficult to justify since counselor intuition has never been quantified. Till now, intuition in counseling has been more or less a phantom construct; many have claimed its powers yet have never been able to provide concrete evidence of its existence beyond the limitations of their experience. The findings of this study suggest that counselor intuition is real and can be measured, therefore laying the foundation for one day being able to understand its contribution to client outcomes and even to know how it grows and develops over time. However, the development of counselor intuition, both the factors that contribute to its growth and its relative change over time, would require the CIS to be completed before estimating. Once the necessary procedures are completed as outlined in the recommendations for future research described earlier, it would then be possible to measure contributing factors and chart its growth through ones' career as a counselor.

The subject of clinical decision-making in the counseling field is controversial; some authors have noted that there is little if any evidence that counselors' decision-making improves with years of experience (Spengler, et al. 2009). The findings of this study suggested that expert counselors demonstrated evidence of unidimensionality (approaching clients from a similar perspective) and excellent levels of reliability that can be generalized beyond the conditions of the study. Furthermore, the experts demonstrated high-levels of agreement when asked which direction to take with a client. The

significant uniformity and reliability of expert intuitions, coupled with the high-levels of agreement they reported regarding each direction to take with the clients featured in the CIS, suggest that the expert responses should be used as a criterion for judging the accuracy of intuition. However, this statement should be understood in light of the limitations described earlier, most notably that what is meant by “accurate” should not be taken as a statement of the “right” intuition. Rather, accuracy is defined here by the degree to which a participant taking the CIS would approach clients in a similar manner as an expert.

Counselor Educators and Supervisors

The results of this study suggested that the initial response statements of the CIS are reliable to measure counselors’ intuition. Identifying statements that could be used as a criterion by which to compare future participants’ responses to the clients featured in the CIS could provide counselor educators and supervisors with a tool to assess the clinical judgment of their students and supervisees. Once the CIS is fully developed (as outlined in recommendation for future research described earlier), it would also be possible to use the instrument as a tool for estimating counseling mastery and identify students who could potentially struggle to develop counseling competence. Moreover, if the CIS could reliably predict counseling mastery, it could also be used as a welcomed alternative to traditional paper-pencil testing strategies (e.g.. the National Counselor Exam [NCE; National Board of Certified Counselors (NBCC), 2012] used for determining licensure and certification that already exist.

It should be noted here that experts who participated in the study were not recruited for their expertise in any single counseling theory. On the contrary, the sample

was quite diverse in regards to theory, with experts adhering to Cognitive Behavioral, Eclectic, Family Systems, Integrative, Solution Focused, Psychodynamic, Gestalt, Positive Psychology, Biblical, and Narrative approaches. Training in theory is a requirement for educating counselors (Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2009). However, the findings of this study suggest that uniformity of approach can be identified within counseling experts beyond the confines of theory. This is not to suggest that training in counseling theory is bereft of value; theoretical models may very well help build a foundation for developing expertise and subsequently intuition. Yet it does suggest that at a certain point in a counselor's development that theory does not determine expertise, or at least how a client can be conceptualized by experts.

Lastly, if the expertise of the counselors who participated in this study can be trusted (as the results of the study have suggested), then it would be reasonable to use their self-assessment as a guide to informing the development of intuition. Most importantly, if the experts in this study stated that their intuition is primarily due to their ability to read body language, it would indicate that counselor educators and supervisors be intentional about educating their students and supervisees about the importance of discerning the nuances of the client's non-verbal expressions. This does not mean that the content of the clients presenting problem should be disregarded; after all, content was second on the list of influential cues for expert's intuitions. Instead, there is a call to educate students about the subtle differences in a client's non-verbal expression and how the client's non-verbal expression tells more about the problem than do their words alone. The degree to which this type of training is integrated into current learning paradigms in

counselor education is not known. It may be that some students who struggle to develop as counselors may be missing the importance of the interplay between verbal and non-verbal pattern recognition, what the experts said was so central to their intuition.

Chapter Summary

This chapter provided a summary of the purpose, design, results, and significance of the study. Moreover, an explanation of the recommendations for future research based upon the findings of the study was provided, in particular that the responses from expert raters can be trusted to provide criterion responses for the CIS which can be compiled and administered to a sample population of counselors for further reliability and validity checks. Lastly, the implications of the study's findings were provided for both the counseling field in general and for counselor educators and supervisors specifically.

Conclusion

The purpose of this investigation was to develop an instrument that measured counselor intuition. More specifically, the study sought to complete the first five steps of Crocker and Algina's (2008) model of instrument development. Prior instruments purporting to measure intuition were found wanting due to their design and practical significance. To help develop the Counseling Intuition Scale, the study consulted two statistical methods to answer two key research questions. The first question related to the composition of expert viewpoints (i.e., intuitions) and was addressed using Q-Methodology. The second question related to the consistency of expert ratings of the CIS statements and was addressed using generalizability theory.

The findings of the study suggested that experts' intuition was captured in a single dimension, with room for slight nuances in their perspectives of each client. Moreover,

expert ratings of the CIS were found to be highly reliable. Therefore, the researcher recommended using expert ratings of the CIS statements as the response alternatives of the CIS as it is developed through the next five steps of Crocker and Algina's (2008) model. Furthermore, the researcher suggested that counselor intuition has indeed been identified by this study and can be used as a foundation for future investigations to identify contributing factors to its growth and development over time. Lastly, the findings of the study can help guide counselor educators and supervisors as they teach their students and supervisors to develop their intuition through a greater emphasis verbal and non-verbal pattern recognition.

APPENDIX A:
DOCTORAL STUDENT COUNSELORS INFORMED CONSENT

The Development of the Counselor Intuition Scale (CIS)

Informed Consent

Principal Investigator(s): Jesse Fox, M.A., Doctoral Candidate

Sub-Investigator(s): W. Bryce Hagedorn, Ph.D.

Faculty Supervisor: W. Bryce Hagedorn, Ph.D.

Investigational Site(s): University of Central Florida
Department of Educational and Human Sciences

Introduction:

Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You have been asked to take part in this research study because you are a doctoral student with expertise in counseling. You must be 18 years of age or older to be included in the research study.

The person doing this research is Jesse Fox, a doctoral candidate in the Ph.D. program in Counselor Education housed in the UCF Department of Educational and Human Sciences. Because the researcher is a doctoral candidate he is being guided by W. Bryce Hagedorn, Ph.D., a UCF faculty supervisor in the UCF Department of Educational and Human Sciences.

What you should know about a research study:

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.

Purpose of the research study:

The purpose of this study is to develop a psychological instrument that measures the intuitive expertise of counselors using video based items. Counselor intuition is a vital factor in influencing professional judgment and expertise. Therefore, it is the aim of this

research study to create an instrument using video based items to measure how well counselors can create accurate intuitive insights into their client's presenting problems.

What you will be asked to do in the study:

In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to conducting an hour long counseling session with a master's student in counseling at UCF. Doctoral students are allowed to conduct a maximum of two sessions at a pay rate of \$10 for each session. The session will take place at the UCF Community Counseling Clinic. The session will be video and audio recorded for subsequent analysis. However, it is the goal of this study to capture only the experience of the client and their presenting problem. Though it is inevitable, given the setting, that your voice will be recorded, your image will never be filmed and used for research. At most, you will be asked to commit to conducting two, one-hour sessions with two different clients. The timing of each session will be coordinated based upon your availability and the availability of the client with whom you are paired. At the conclusions of each session, you will conduct a thorough assessment of the client's emotional well-being including the risk of suicidal and homicidal thoughts or intentions in order to adhere to **American Counseling Association (ACA) Code of Ethics** and the **Laws and Rules of the State of Florida**. Lastly, you will offer a list of referrals to the client in the event that they would like to pursue any presenting concerns that are discussed during the course of the session.

Location:

The UCF Community Counseling Clinic

Time required:

We expect that you will be in this research study for approximately one to two hours. The counseling sessions will take place during Fridays with the specific time depending upon your availability and the availability of the client with whom you are paired.

Audio or video taping:

The sessions will be audio recorded. If you do not want to be audio recorded, you will *not* be able to be in the study. Discuss this with the researcher or a research team member. The tape will be kept in a locked, safe place. The tape will not be erased or destroyed and could potentially be used indefinitely for research and training purposes.

You will be video recorded during this study. If you do not want to be video recorded, you will *not* be able to be in the study. Discuss this with the researcher or a research team member. The recording will be kept in a locked, safe place. The tape will be not be erased or destroyed and could potentially be used indefinitely for research and training purposes.

Financial disclosure statement:

Though the CIS is not a validated scale, there is potential that the scale could one day be marketable. If the scale were to develop to the point of producing monetary gain, by signing this informed consent you waive any right to a share in the profits or patent it may at any time produce.

Risks:

There are no reasonably foreseeable risks or discomforts involved in taking part in this study to you as the counselor. However, the event may arise during the course of the session that you may break confidentiality to protect the client you are interviewing from the intent to harm self or others. Additionally, per Florida Law you are required to report to the appropriate authorities instances of neglect, abuse, and reportable diseases. Lastly, taking part in this research study may lead to added costs to you as a professional counselor in hours billed which you may be sacrificing to participate in this study.

Benefits:

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include understanding better the process of conducting research, practical aspects of conducting counseling, and the development of your own intuitive expertise as a counselor. Additionally, as a participant you may be contributing to the profession of counseling as a whole as we seek to better understand the role intuition plays in the process of therapy.

Compensation or payment:

Compensation for your participation will be \$10 for each hour session you participate in. If you complete any part of the experiment, you will receive compensation for the time you have spent in the experiment. You will receive your payment at the end of each session in a cash payment. You will be asked to sign a receipt stating you have received payment in full. If you are able to only complete a percentage of the session, your payment will be reduced to reflect a rate of \$10 per hour wage.

Confidentiality:

We will limit your personal data collected in this study to people who have a need to review this information. We cannot promise complete secrecy.

Obtaining a Copy of the Study Results

You may obtain a copy of the results of the study once they have been published in the dissertation. To obtain a copy of the results please contact Jesse Fox at any of the means provided below.

Study contact for questions about the study or to report a problem:

If you have questions, concerns, or complaints, or think the research has hurt you, talk to: Jesse Fox, M.A., Doctoral Candidate (937) 654-0026 or by email at jessefox@knights.ucf.edu

or Dr. W. Bryce Hagedorn, Faculty Supervisor, Department of Educational and Human Sciences at 407-823-2999 or by email at Bryce.Hagedorn@ucf.edu.

IRB contact about your rights in the study or to report a complaint:

Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Your signature below indicates your permission to take part in this research.

DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW

Name of participant

Signature of participant

Date

Signature of person obtaining consent

Date

Printed name of person obtaining consent

APPENDIX B:
MASTERS STUDENT CLIENT INFORMED CONSENT

The Development of the Counselor Intuition Scale (CIS)

Informed Consent

Principal Investigator(s):	Jesse Fox, M.A., Doctoral Candidate
Sub-Investigator(s):	W. Bryce Hagedorn, Ph.D.
Faculty Supervisor:	W. Bryce Hagedorn, Ph.D.
Investigational Site(s):	University of Central Florida Department of Educational and Human Sciences

Introduction:

Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You have been asked to take part in this research study because you are a masters student with expertise in counseling. You must be 18 years of age or older to be included in the research study.

The person doing this research is Jesse Fox, a doctoral candidate in the Ph.D. program in Counselor Education housed in the UCF Department of Educational and Human Sciences. Because the researcher is a doctoral candidate he is being guided by W. Bryce Hagedorn, Ph.D., a UCF faculty supervisor in the UCF Department of Educational and Human Sciences.

What you should know about a research study:

- Someone will explain this research study to you.
 - A research study is something you volunteer for.
 - Whether or not you take part is up to you.
 - You should take part in this study only because you want to.
 - You can choose not to take part in the research study.
 - You can agree to take part now and later change your mind.
 - Whatever you decide it will not be held against you.
 - Feel free to ask all the questions you want before you decide.

Purpose of the research study:

The purpose of this study is to develop a psychological instrument that measures the intuitive expertise of counselors using video based items. Counselor intuition is a vital factor in influencing professional judgment and expertise. Therefore, it is the aim of this research study to create an instrument using video based items to measure how well counselors can create accurate intuitive insights into their client's presenting problems.

What you will be asked to do in the study:

In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to being counseled for one hour with a counselor who is currently a doctoral student in counseling at UCF about a presenting concern you have that is either real *or could be real*. You will be able to participate in only one session lasting at most one hour. In addition, we anticipate it will take at most approximately one hour to review the video segments with you and the informed consent release form for those video clips. The session will take place at the UCF Community Counseling Clinic. The session will be video and audio recorded for subsequent analysis. It is the goal of this study to capture only the experience of the client and their presenting problem. Therefore it is inevitable that your image and voice will be recorded as you are counseled. However, when the scale is assembled, it will not feature the entire session you take part of so that only the short (2 to 5 minute) clips will be extracted and used in the scale. The entire session will only be available to the research team listed on the IRB. Video segments will be extracted from the recorded sessions that reflect the following criteria: (a) the segment is at least two minutes long but no longer than five minutes, (b) the counselor is not speaking (or is only using minimal encouragers) and (c) the segment has potential to elicit an intuitive response. The videos segments will then be given to approximately 45 experts in the counseling field who will provide the researcher with their intuitive insights into each clip. Before each clip is reviewed, you will be given an opportunity to sign a release form giving your approval for each segment to be released to the experts. The video release form only allows the segments to be reviewed by the researcher, the UCF Faculty who serve on this dissertation committee and the identified counseling experts. If the segments are ever to be reviewed by a larger sample for reliability and validity procedures, the primary researcher will seek your permission to release those clips by a third consent form. The video will not be used unless you give your expressed permission at that time. If you decide that you do not want your video segments released to a wider audience, you will be able to withdrawal them from the scale at that time. The timing of each session will be coordinated based upon your availability and the availability of the counselor with whom you are paired. At the conclusion of the session, your counselor will offer a list of referrals in the event that you would like to pursue personal counseling for any of the presenting concerns that were discussed during the course of the session.

During the session you are not required to answer any questions the counselor asks you. However, this research study adheres to both the ethical standards of the **American Counseling Association (ACA)** and the **Laws and Rules of the State of Florida**. Though the research team and the counselor you are paired with will be the only individuals who have access to the recording of the entire session, we are required by professional ethics and state laws to notify the appropriate authorities of the following:

6. When there is a serious threat to your health and safety or the health and safety of another individual or the public. Information will only be shared with a person or organization that is able to help prevent or reduce the threat.

7. When there is suspected abuse or neglect of a child, elderly person, resident of an institution, or a disabled person.
8. As a result of any lawsuit against the counselor and/or legal/court proceedings.
9. If a law enforcement official requires a release.
10. When you (the client) explicitly request in writing that information be shared with a third party.

(ACA Code of Ethics [2005], Section B.2; Chapter 491, state of Florida law governing the practice of Clinical, Counseling, and Psychotherapy Services [2010], Section 491.0147)

Though the issue you discuss with the counselor is either real or could be real, if you discuss a topic that falls under the criteria for mandated reporting described above the counselor is required by professional ethics and state laws to follow up and notify the appropriate channels to ensure your safety or the safety of any individual in question.

Location:

The UCF Community Counseling Clinic

Time required: We expect that you will be in this research study for approximately one to two hours. The counseling session will last approximately one hour and we anticipate it will take at most approximately one hour to review the video segments with you and the informed consent release form for those video clips. The sessions will take place during Fridays with the specific time depending upon your availability and the availability of the counselor you are paired with. If you are not available Fridays, we will make every effort to find a time that will work for you and your counselor.

Audio or Video taping:

The sessions will be audio and video recorded. If you do not want to be audio or video recorded, you will *not* be able to be in the study. Discuss this with the researcher or a research team member. The audio and video recording will be kept in a locked, safe place and two to five minute audio and video segments will be extracted from the session that will feature your voice and image for subsequent analysis. If segments you are featured in pass expert analysis, the segments you are a part of will then comprise the initial form of the CIS for subsequent reliability and validity studies.

Financial disclosure statement:

Though the CIS is not a validated scale, there is potential that the scale could one day be marketable. If the scale were to develop to the point of producing monetary gain, by signing this informed consent you waive any right to a share in the profits or patent it may at any time produce despite your lasting image being a part of its composition.

Risks:

There are minimal foreseeable risks or discomforts involved in taking part in this study to you as the client. As with any therapeutic endeavor, there are some risks associated with participating in therapy. It is not uncommon for participants to feel both positive and

negative emotions during the counseling process. If a participant experiences uncomfortable emotions during the session, it is hoped that the experience will assist the member in moving toward positive resolution and closure. However, positive resolution cannot be guaranteed. If you wish to continue resolution of any issues you discuss during your counseling session you are encouraged to make a counseling appointment at the **UCF Counseling Center** located on UCF's main campus in addition to the referral resources you be given at the end of the session.

Furthermore, the counselor you will see is bound by both professional ethics and legal statutes in the state of Florida to report instances of the intent to harm your self or others. Additionally, per Florida Law, the counselor is required to report to the appropriate authorities instances of neglect, abuse, and reportable diseases. Though the issue you discuss with the counselor is either real or could be real, if you discuss a topic that falls under the criteria for mandated reporting described above in section "**What you will be asked to do in the study**" the counselor is required by professional ethics and state laws to follow up and notify the appropriate channels to ensure your safety or the safety of any individual in question

Lastly, once the video segments are compiled it may be viewed academics or other professionals in the mental health field and there is no guarantee that an individual or individuals whom you may know or will know will not be able to identify you in the clips that feature your image and self-disclosure. Therefore, what transpires during the session is **NOT** guaranteed to remain confidential and may influence your personal and professional reputation.

Benefits:

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include understanding better the process of conducting research, practical aspects of conducting counseling, and the personal growth you may experience from participating in personal counseling. Additionally, as a participant you may be contributing to the profession of counseling as a whole as we seek to better understand the role intuition plays in the process of therapy.

Compensation or payment:

Compensation for your participation will be \$20 for each hour session you participate in. There is a maximum limit of \$20 payment for the session you participate in. If you complete any part of the experiment, you will receive compensation for the time you have spent in the experiment. You will receive your payment at the end of each session. You will be asked to sign a receipt stating you have received payment in full. If you are able to only complete a percentage of the session, your payment will be reduced to reflect a rate of \$20 per hour wage.

Confidentiality:

Signing this informed consent acknowledges that your participation is in this study is **NOT** guaranteed to remain confidential and may influence your personal and professional reputation.

Obtaining a Copy of the Study Results

You may obtain a copy of the results of the study once they have been published in the dissertation. To obtain a copy of the results please contact Jesse Fox at any of the means provided below.

Study contact for questions about the study or to report a problem:

If you have questions, concerns, or complaints, or think the research has hurt you, talk to: Jesse Fox, M.A., Doctoral Candidate (937) 654-0026 or by email at jessefox@knights.ucf.edu or Dr. W. Bryce Hagedorn, Faculty Supervisor, Department of Educational and Human Sciences at 407-823-2999 or by email at Bryce.Hagedorn@ucf.edu.

IRB contact about your rights in the study or to report a complaint:

Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Withdrawing from the study:

After your session is completed, the video clips (2 to 3 minutes) of your session will be compiled within 2 weeks of your session. At that time, you will have the opportunity to view the clips that were selected from your session and decide if you would like to continue to participate in the study. If you decide at that time that you would not like to participate any longer in the study, your session will be withdrawn from the study and destroyed. However, if you decide to continue to participate in the study you will be asked to sign a consent form releasing each video segment for expert review. If you choose at that time that you would like any number of the segments to be withdrawn from the scale they will be removed and deleted. Allowing the video segments to be released only allows the clips to be viewed by the researcher, the UCF faculty comprising the dissertation committee and experts in the counseling field. If the video segments are ever administered for larger sample for reliability and validity procedure your permission will be obtained again through a third consent procedure.

Additionally, you may decide to withdraw from the counseling session at anytime. Be aware that withdrawing from the counseling session will influence your compensation for participating in the study as outline in the **Compensation or payment** section of this

informed consent. Furthermore, if you withdraw your participation during the counseling session, the video and audio recording of the session will be destroyed.

Lastly, The person in charge of the research study can remove you from the research study without your approval. Possible reasons for removal include the risks of harm to self or others as outlined in the sections titled **What you will be asked to in this study** and **Risks** of this informed consent.

Your signature below indicates your permission to take part in this research.
<input type="checkbox"/> DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW
Name of participant
Signature of participant
Signature of person obtaining consent
Printed name of person obtaining consent

APPENDIX C:
QUALITATIVE EXPERT REVIEW INFORMED CONSENT

The Development of the Counselor Intuition Scale (CIS)

Informed Consent

Principal Investigator(s):	Jesse Fox, M.A., Doctoral Candidate
Sub-Investigator(s):	W. Bryce Hagedorn, Ph.D.
Faculty Supervisor:	W. Bryce Hagedorn, Ph.D.
Investigational Site(s):	University of Central Florida Department of Educational and Human Sciences

Introduction:

Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You have been asked to take part in this research study because you are an expert with at least ten years of concentrated study in the counseling and psychotherapy profession. You must be 18 years of age or older to be included in the research study.

The person doing this research is Jesse Fox, a doctoral candidate in the Ph.D. program in Counselor Education housed in the UCF Department of Educational and Human Sciences. Because the researcher is a doctoral candidate he is being guided by W. Bryce Hagedorn, Ph.D., a UCF faculty supervisor in the UCF Department of Educational and Human Sciences.

What you should know about a research study:

- Someone will explain this research study to you.
 - A research study is something you volunteer for.
 - Whether or not you take part is up to you.
 - You should take part in this study only because you want to.
 - You can choose not to take part in the research study.
 - You can agree to take part now and later change your mind.
 - Whatever you decide it will not be held against you.
 - Feel free to ask all the questions you want before you decide.

Purpose of the research study:

The purpose of this study is to develop a psychological instrument that measures the intuitive expertise of counselors using video based items. Counselor intuition is a vital factor in influencing professional judgment and expertise. Therefore, it is the aim of this research study to create an instrument using video based items to measure how well counselors can create accurate intuitive insights into their client's presenting problems.

What you will be asked to do in the study:

In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to reviewing each item (40 total) of CIS and provide qualitative feedback about each item. Each item is a two-minute video clip featuring a client discussing a presenting problem. You will be asked to write what your intuitive insights tell you about the client. The entire process could take between 1 ½ to 2 hours. If you decide to participate in the study, we would ask that you complete your expert review within one week of receiving clearance to view the items of the CIS.

Location:

The CIS is made to be viewed online using Survey Monkey™. Therefore, the expert review you will take part in can be completed online from any computer that has access to the internet.

Time required:

We expect that you will be in this research study for approximately 1 ½ to 2 hours.

Financial disclosure statement:

Though the CIS is not a validated scale, there is potential that the scale could one day be marketable. If the scale were to develop to the point of producing monetary gain, by signing this informed consent you waive any right to a share in the profits or patent it may at any time produce.

Risks:

There are no reasonably foreseeable risks or discomforts involved in taking part in this study. However, taking part in this research study may lead to added costs to you as a professional for hours billed for your profession as a counselor.

Benefits:

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include understanding better the process of conducting research, practical aspects of conducting counseling, and the development of your own intuitive expertise as a counselor. Additionally, as a participant you may be contributing the profession of counseling as a whole as we seek to better understand the role intuition plays in the process of therapy.

Compensation or payment:

A “thank you” for your participation is available if you so choose. To receive the thank you must contact the researcher and provide them with a current mailing address and state that you would like the thank you sent directly to the address you have provided. The thank you will be delivered to you within two weeks of completing the expert review in the form of a Visa Gift Card© totaling \$40. You will not receive a gift card for partial completion of your review. The expert review signifies an “all or nothing” agreement due to the analyses procedures involved in the study. Partial reviews cannot be analyzed in this study.

Confidentiality:

We will limit your personal data collected in this study to people who have a need to review this information. We cannot promise complete secrecy.

Obtaining a Copy of the Study Results

You may obtain a copy of the results of the study once they have been published in the dissertation. To obtain a copy of the results please contact Jesse Fox at any of the means provided below.

Study contact for questions about the study or to report a problem:

If you have questions, concerns, or complaints, or think the research has hurt you, talk to: Jesse Fox, M.A., Doctoral Candidate (937) 654-0026 or by email at jessefox@knights.ucf.edu or Dr. W. Bryce Hagedorn, Faculty Supervisor, Department of Educational and Human Sciences at 407-823-2999 or by email at Bryce.Hagedorn@ucf.edu.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Your signature below indicates your permission to take part in this research.

DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW

Name of participant

Signature of participant

Date

Signature of person obtaining consent

Date

Printed name of person obtaining consent

APPENDIX D:
QUANTITATIVE EXPERT REVIEW INFORMED CONSENT

The Development of the Counselor Intuition Scale (CIS)

Informed Consent

Principal Investigator: Jesse Fox, M.A., Doctoral Candidate

Sub-Investigator & Faculty Supervisor: W. Bryce Hagedorn, Ph.D.

Investigational Site: University of Central Florida, Department of Educational and Human Sciences

Introduction:

Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You have been asked to take part in this research study because you are an expert with at least ten years of concentrated study in the counseling and psychotherapy profession. You must be 18 years of age or older to be included in the research study.

The person doing this research is Jesse Fox, a doctoral candidate in the Ph.D. program in Counselor Education housed in the UCF Department of Educational and Human Sciences. Because the researcher is a doctoral candidate he is being guided by W. Bryce Hagedorn, Ph.D., a UCF faculty supervisor in the UCF Department of Educational and Human Sciences.

What you should know about a research study:

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.

Purpose of the research study:

The purpose of this study is to develop a psychological instrument that measures

the intuitive expertise of counselors using video based items. Counselor intuition is a vital factor in influencing professional judgment and expertise. Therefore, it is the aim of this research study to create an instrument using video based items to measure how well counselors can create accurate intuitive insights into their client's presenting problems.

What you will be asked to do in the study:

In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to reviewing each item (40 total) of CIS and provide quantitative feedback about each item using a Likert scale. Each item is a two-minute video clip featuring a client discussing a presenting problem. You will be asked to rate what your intuitive insights about the client. If you decide to participate in the study, we ask that you complete your expert review within one week of receiving clearance to view the items of the CIS.

Location:

The CIS is made to be viewed online using Qualtrics™ an online survey program. Therefore, the expert review you will take part in can be completed online from any computer that has access to the internet.

Time required:

We expect that you will be in this research study for approximately 1 ½ to 2 hours.

Financial disclosure statement:

Though the CIS is not a validated scale, there is potential that the scale could one day be marketable. If the scale were to develop to the point of producing monetary gain, by participating you waive any right to a share in the profits or patent it may at any time produce.

Risks:

There are no reasonably foreseeable risks or discomforts involved in taking part in this study. However, taking part in this research study may lead to added costs to you as a professional for hours billed for your profession as a counselor.

Benefits:

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include understanding better the process of conducting research, practical aspects of conducting counseling, and the development of your own intuitive expertise as a counselor. Additionally, as a

participant you may be contributing to the counseling profession by helping us to better understand the role intuition plays in the process of therapy.

Compensation or payment:

A “thank you” gift for your participation is available if you so choose. To receive the thank you gift, you must contact the lead researcher (information below) and provide him with a current mailing address and state that you would like to receive the gift at the address you have provided. The thank you gift will be delivered to you within two weeks of completing the expert review in the form of a Visa Gift Card© totaling \$40. In addition, to be eligible for the gift card you must complete the review within one week of receiving access to the CIS items. The expert review signifies an “all or nothing” agreement due to the analyses procedures involved in the study. Partial reviews cannot be analyzed in this study.

Confidentiality:

We will limit your personal data collected in this study to people who have a need to review this information. We cannot promise complete secrecy. You will not be named in the study. However, I would like to recognize your contribution to study by listing you in the acknowledgements section of the study. Should you be willing to be acknowledged in this way, there will be information at the end of this study to designate this option.

Obtaining a Copy of the Study Results:

You may obtain a copy of the results of the study once they have been published in the dissertation. To obtain a copy of the results please contact Jesse Fox at any of the means provided below.

Study contact for questions about the study or to report a problem:

If you have questions, concerns, or complaints, or think the research has hurt you, talk to: Jesse Fox, M.A., Doctoral Candidate (937) 654-0026 or by email at jessefox@knights.ucf.edu or Dr. W. Bryce Hagedorn, Faculty Supervisor, Department of Educational and Human Sciences at 407-823-2999 or by email at Bryce.Hagedorn@ucf.edu.

IRB contact about your rights in the study or to report a complaint:

Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

Your questions, concerns, or complaints are not being answered by the research team.

You cannot reach the research team.

You want to talk to someone besides the research team.

You want to get information or provide input about this research.

You are encouraged to print a copy of this consent form for your records.

APPENDIX E:
EXPERT REVIEWER QUALITATIVE FEEDBACK
INSTRUCTIONS

Instructions:

To participate please view each item on a personal computer (do not attempt to use any other electronic device [e.g., Tablet, Smart Phone etc.]).

Before beginning your expert review of the CIS, take a moment and close all other programs on your computer and ensure that you are in an environment that you will not be disturbed for the duration of the review. Each session you are about to review should remain confidential. Please treat each client you see in the videos as if they were your own client.

You will now be shown a series, two-minute video clips featuring a client discussing a presenting problem with a counselor. Each client was a recruited masters student discussing an issue that was either real *or could be real*. Please watch each clip carefully and give the client the same amount of attention as if they were your own client. Assume that this is a regular client with whom you have already established strong rapport.

After each clip is over, you will be asked to respond to the following prompt:

Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.

After recording your response in the space provided, click NEXT at the bottom of the screen and you will be able to review the next video clip. Repeat this process until all clips have been viewed.

You will only be allowed to view each clip ONE TIME. It is imperative that you only view the item once. Therefore, it will be impossible for you to go back and view clips you have already seen. Internet speeds vary, therefore there may be a delay time between writing your response and the video in process.

Do not use the navigation arrows on your web browser to navigate the CIS since this will disrupt the video sequence.

To ensure that you understand these directions, you will be given an example video clip to record your feedback.

When you are ready to view the example video clip, click NEXT below.

If you were unable to see or hear the video clip just played, or if you are unsure if you were able to record your response, please stop your review and contact the researcher at jessefox@knights.ucf.edu. If you were able to see and hear the video clip please continue.

You will now be shown a series of video clips. You will only be able to see each clip one time. After each clip is over, you will be asked to respond to the following prompt:

Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.

When you are ready please click NEXT below.

APPENDIX F:
EXPERT REVIEWER QUANTITATIVE RATING INSTRUCTIONS

Instructions:

To participate please view each item on a personal computer (do not attempt to use any other electronic device [e.g., Tablet, Smart Phone etc.]).

Before beginning your expert review of the CIS, take a moment and close all other programs on your computer and ensure that you are in an environment that you will not be disturbed for the duration of the review. Each session you are about to review should remain confidential. Please treat each client you see in the videos as if they were your own client.

You will now be shown a series of two-minute video clips featuring a client discussing a presenting problem with a counselor. Each client was a recruited masters student discussing an issue that was either real *or could be real*. Please watch each clip carefully and give the client the same amount of attention as if they were your own client. Assume that this is a regular client with whom you have already established strong rapport.

After watching each clip is in its entirety, click NEXT at the bottom of the screen and you will be asked to respond to the following prompt:

Please indicate the extent to which you agree or disagree that the following statement is an appropriate direction to take the client.

After recording your response using a five-point Likert scale, click NEXT at the bottom of the screen and you will be able to review the next video clip. Repeat this process until all clips have been viewed.

You will only be allowed to view each clip ONE TIME. It is imperative that you only view the item once. Therefore, it will be impossible for you to go back and view clips you have already seen. Internet speeds vary, therefore there may be a delay time between recording your response and the video in process.

Do not use the navigation arrows on your web browser to navigate the CIS since this will disrupt the video sequence.

If you experience any technical difficulties please contact the researcher at jessefox@knights.ucf.edu immediately.

To ensure that you understand these directions, you will be given an example video clip to record your response.

When you are ready to view the example video clip, click NEXT below.

APPENDIX G:
INITIAL EMAIL TO QUALITATIVE EXPERT REVIEWERS

Hello,

I am contacting you because I have identified you as an expert counselor with at least ten years of concentrated study in the field of counseling, or a related field, who is actively involved in clinical work. I would like to ask for your participation in my study and use your accumulated expertise to help develop the Counselor Intuition Scale (CIS).

I am a third year doctoral candidate in the counselor education program at the University of Central Florida and I am currently on the fourth chapter of my dissertation. The purpose of the study is to create an instrument to measure the intuitive expertise of counselors. In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to reviewing each item of the CIS and provide qualitative feedback about each item. Each item is a two-minute video clip featuring a client discussing a presenting problem. You will be asked to write what your intuitive insights tell you about the client simply from watching the brief segment. The entire process could take between 1 ½ to 2 hours. If you decide to participate in the study, we would ask that you complete your expert review within one week of receiving clearance to view the items of the CIS.

There are no reasonably foreseeable risks or discomforts involved in taking part in this study. However, taking part in this research study may lead to added costs to you as a professional for hours billed for your profession as a counselor.

As a token of appreciation for your participation, a “thank you” gift will be made available if you so choose. To receive the thank you gift, you must contact the researcher through email and provide him with a current mailing address. In that email, you will need to state that you would like the thank you gift sent directly to the address you have provided (for our records). The thank you gift will be delivered to you within two weeks of completing the expert review in the form of a Visa Gift Card© totaling \$40. You will not receive a gift card for partial completion of your review as the expert review signifies an “all or nothing” agreement due to the analyses procedures involved in the study. Partial reviews cannot be analyzed in this study.

Please contact me at jessefox@knights.ucf.edu as soon as possible if you would like to be an expert reviewer for the CIS.

Thank you for your time and I hope to hear from you soon.

APPENDIX H:
INITIAL EMAIL TO QUANTITATIVE EXPERT REVIEWERS

Hello,

I am contacting you to be an expert reviewer for the Counselor Intuition Scale. I have identified you as an expert counselor with at least ten years of concentrated study in the field of counseling, or a related field, who is actively involved in clinical work. I would like to ask for your participation in my study and use your accumulated expertise to help develop the Counselor Intuition Scale (CIS). In addition, a “thank you” gift for your participation is available if you so choose. The thank you will be delivered to you within two weeks of completing the expert review in the form of a Visa Gift Card© totaling \$40.

I am a third year doctoral candidate in the counselor education program at the University of Central Florida and I am currently on the fourth chapter of my dissertation. The purpose of the study is to create an instrument to measure the intuitive expertise of counselors. In order to create the CIS, novel counseling scenarios will be used to develop the video clips which will later comprise the individual items of the scale. As a participant in this study, you will be asked to commit to reviewing each item of the CIS and provide quantitative feedback about each item. Each item is a two-minute video clip featuring a client discussing a presenting problem. You will be asked to rate a series of intuitive insights about the client simply from watching the brief segment. The entire process could take between 1 ½ to 2 hours. If you decide to participate in the study, we would ask that you complete your expert review within one week of receiving clearance to view the items of the CIS.

The CIS review will take place online using your computer. Please click on the survey link below and enter your personal access code when asked to begin your review:

Personal Access Code:

CIS link:

Your participation is strictly voluntary and confidential. The access code is used to remove your name from my list once you have completed the review.

To receive the thank you gift must contact the researcher and provide them with a current mailing address and state that you would like the thank you sent directly to the address you have provided. In addition, to be eligible for the gift card you must complete the review within one week of receiving access to the CIS items (today). You will not receive a gift card for partial completion of your review. The expert review signifies an “all or nothing” agreement due to the analyses procedures involved in the study. Partial reviews cannot be analyzed in this study. Please contact me at jessefox@knights.ucf.edu any questions or concerns about being an expert reviewer for the CIS.

Thank you for your time, without your participation the development of the CIS would not be possible! I am excited to see what your intuitive insights tell you about the clients featured in the CIS.

Thank you again for your help,

APPENDIX I:
VIDEO SEGMENT SELECTION PROTOCOL AND TRIAL RUN

What the committee discussed during the last meeting:

As the committee discussed during its last meeting, the research team has uncovered an area of possible weakness in the methodology in developing the Counselor Intuition Scale (CIS). The dilemma is stated as follows: If the primary researcher arbitrarily selects video clips purporting to “trigger” counselor intuition then the researcher would potentially risk selecting insufficient segments because they are not qualified to select those clips in isolation from external expertise. Therefore, this committee is holding this meeting to trial run at least three processes of selecting the video clips that will later comprise each item of the CIS. At the end of the meeting time the research team will come to a consensus regarding the “best” practice for selecting video segments for the CIS.

What the committee will do:

The researcher has selected three sessions that were recorded in the UCF Community Counseling Clinic. The first session, the researcher has previewed and selected four segments for research team to view. The committee will be asked to respond to the same prompt being given to the first round of identified experts. For the second session, the researcher previewed and recorded the timing of the segments, which that could potentially be extracted for subsequent review. The research team will be asked to decide on their own which segments they believe meet the criteria for a “good” segment (a good segment is explained in greater detail below). The third session has been preselected, however it has never been viewed by anyone of the research team including the researcher. The purpose in doing this is to approach the session for the first time together with the committee to identify good segments together as a research team. I have included the specific instructions for how this process will take place in greater detail on the following pages of brief manual.

PLEASE NOTE:

One thing to keep in mind as the committee analyzes each session together is the following. The committee has already discussed that the selection of the video segment does not “determine” the correct intuitive insight the segment stimulates. Instead, the criterion by which a “correct” answer will be scored for the CIS is dependent upon what the experts agree upon is the correct answer. Therefore, in selecting video neither the researcher or the committee is suggesting or even hinting that the video segments have the “right” intuitive responses embedded in them. Relying upon experts to select the correct insight is what makes this methodology similar to the development of the MMPI using “empirical criterion

keying" (see Meehl, 1945). In other words, the experts (i.e. their responses the video clips) *are* the right answer.

First Session:

You will be shown a series of four, two-minute video clips of a client discussing a presenting problem with a counselor. Please watch each clip carefully and give the client the same amount of attention as if they were your own client. Assume that this is a regular client with whom you have already established strong rapport.

After each clip is over, you will be asked to respond to the following prompt:

Please describe what you would explore next with this client. When writing your feedback, please use common jargon with which most counselors would be familiar.

After recording your response in the space provided, you will be able to review the next video clip. Repeat this process until you have viewed all four clips.

You will only be allowed to view each clip ONE TIME. Therefore, it will be impossible for you to go back and view clips you have already seen.

Segment One

Segment Two

Segment Three

Segment Four

Please respond to the following discussion questions:

1. Please share the feedback you recorded with the rest of the committee.
2. Were the segments sufficient to elicit an intuitive response from an expert?
Why or why not?
3. Do you believe the committee should view and select the next selection of segments together? Why or why not?

Second Session

During this second session, please watch the session carefully and give the client the same amount of attention as if they were your own client. As the researcher, I will be indicating when there is a possible segment to be extracted by raising my hand. Assume that this is a regular client with whom you have already established strong rapport. At the same time, please record the time in which you would believe a “good” (i.e. where intuition could be garnered) segment will be used.

Please use the following criteria as you select your clips a good segment:

1. The segment is at least two minutes long but no longer than five minutes.
2. The counselor is not speaking (or is only using minimal encouragers).
3. The segment has potential to elicit an intuitive response.

When you record your time, please record the beginning and ending of the segment (e.g., 5:26 to 7:55).

Time Segment:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

At the end of the session, please share your responses with the rest of the committee with which segments meet the predetermined criteria.

Please respond to the following discussion questions:

1. Please share your feedback about the process of selecting items using the entire committee’s selection of segments.
2. Given what we have discussed, should any “next steps” be taken?

If we need to view the next session, continue. If not, STOP HERE.

Third Session

During this third session, please watch the session carefully and give the client the same amount of attention as if they were your own client. As the researcher have not viewed this session. Therefore we will be “discovering” this session together. Assume that this is a regular client with whom you have already established strong rapport. At the same time, please record the time in which you would believe a “good” (i.e. where intuition could be garnered) segment will be used.

Please use the following guidelines as you select your clips:

1. The segment is at least two minutes long but no longer than five minutes.
2. The counselor is not speaking (or is only using minimal encouragers).
3. The segment has potential to elicit an intuitive response.

When you record your time, please record the beginning and ending of the segment (e.g., 5:26 to 7:55).

Time Segment:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

At the end of the session, please share your responses with the rest of the committee with which segments meet the predetermined criteria.

Please respond to the following discussion questions:

1. Please share your feedback about the process of selecting items using the entire committee’s selection of segments.
2. Please share your feedback about what process, this researcher selecting segments alone or with the committee, is “best practice.”

APPENDIX J:
INSTITUTIONAL REVIEW BOARD PERMISSION LETTER



University of Central Florida Institutional Review Board
 Office of Research & Commercialization
 12201 Research Parkway, Suite 501
 Orlando, Florida 32826-3246
 Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: UCF Institutional Review Board #1
 FWA00000351, IRB00001138

To: Jesse D. Fox and Co-PI: W. Bryce Hagedorn

Date: March 07, 2013

Dear Researcher:

On 3/7/2013, the IRB approved the following human participant research until 2/26/2014 inclusive:

Type of Review:	UCF Initial Review Submission Form
Project Title:	The Development of the Counselor Intuition Scale
Investigator:	Jesse D. Fox
IRB Number:	SBE-12-08999
Funding Agency:	
Grant Title:	ACES Research Grant Award
Research ID:	NA

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form cannot be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 2/26/2014, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a signed and dated copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewska, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 03/07/2013 05:05:03 PM EST

IRB Coordinator

APPENDIX K:
VIDEO RELEASE FORM

Image and Technology Release Form

for

Jesse Fox, M.A. Doctoral Candidate

This Image and Technology Release Form gives Jesse Fox (researcher) consent to use video and audio recordings featuring my image as part of the Counselor Intuition Scale (CIS). Signing this form acknowledges that I have reviewed each video segment featuring me as a client to be used as items of the CIS and gives my expressed, written consent to allow said clips to be released for expert review by professionals in the counseling field. After the expert review has been completed, any future reliability and validity investigations using my video segments will require that I give permission for those segments to be used. Therefore, I give my permission for the researcher, the UCF faculty serving on his dissertation committee, and identified experts to be the only individuals to review the video segments I have reviewed here. Any wider audience or sample used to validate the CIS will require that I give another written consent that is not included in this signed agreement. However, signing this document allows the researcher to contact me by the information here provided asking my permission for any future investigations involving video segments depicting my image and self-disclosure.

Lastly, I am fully aware that in giving my permission for the segments describe below to be reviewed by the researcher, the UCF faculty serving on his dissertation committee, and identified experts could be a student, academics or other professionals in the mental health field and there is no guarantee that an individual or individuals whom I may know or may meet in the future will not be able to identify me in the clips that feature my image and self-disclosure. Therefore, what transpires during the video segments is **NOT** guaranteed to remain confidential and may influence my personal and professional reputation.

Number of Video Clips Reviewed (with times for each segment): _____

Date: _____

Name (please print): _____

Signature: _____

Mailing Address: _____

Email Address: _____

Phone Number: _____

APPENDIX L:
EXPERT QUALITATIVE RESPONSES

Expert 1 Qualitative Responses		
Item Number	Expert Response	Interpreted Statement Included in Quantitative Review
<i>Example</i>	I would ask for more of the "story" concerning her sister -- she just reported the information with very little emotion or passion. Asking for more detail would provide more context concerning her relational style. She is talking about external things -- I would hope to find out more about her internal processes.	Explore more of the story concerning her sister. Explore more of the context concerning her story. Explore her internal processes about her story.
<i>1</i>	I would want to know how she processed the disappointment of "nothing working" and explore the possible details of what she meant by "no healing" -- what would be her goals now in seeking counseling.	Explore how she processed the disappointment of "nothing working." Explore what would be her goals now in seeking counseling. Explore the possible details of what she meant by "no healing."
<i>2</i>	she is telling this tragic story with very little emotion... death of a mother/ abandonment of a husband /insensitive father. These are huge issues which i would hope to explore with more detail. I would want to explore if the events she described were typical ways in which these important persons relate to her. Hoping to discover more about her internal processing and relational style with others.	Explore if the events she described were typical ways in which these important persons relate to her.
<i>3</i>	I would want to explore how she is feeling concerning this story -- she describes a story of finding out her sister's wedding that her partner is dissatisfied in the relationship and is texting other women, yet she is very cut off of any emotional expression.	Explore how she is feeling concerning this story.
<i>4</i>	i would want more detail of the story -- stopping to check-in on how she was processing this "rejection/ disappointment/ disrespect" at the time. i would want to know where the	Explore how she was processing this "rejection/ disappointment/ disrespect" in the moment. Explore where the relationship is

	relationship is now.	now.
5	again her lack of emotion would be a concern. More data of the story would be helpful	Explore her lack of emotion.
6	How has this rejection and disappointment impacted her life today. What did she do to deal with the significant pain in this relationship.	Explore how this rejection and disappointment impacted her life today. Explore what she did to deal with the significant pain in this relationship.
7	I would want to explore what seems to be 'self contempt' -- she seems to live with much shame. I would want to know how she came to see herself in such a negative way. I would want to hear more "story" to give context.	Explore what seems to be self contempt. Explore how she came to see herself in such a negative way.
8	she used the metaphor of a barrier. I would explore and want to let her expand that metaphor -- she seems to be pushing against this barrier now with some change in behavior (going to the gym in the morning, riding her bike). what is going on now that she seems motivated to move against the things that are blocking her.	Explore the metaphor of "a barrier." Explore what is going on now that is motivating her to move against the things that are blocking her.
9	I would explore the significant family dynamics involved in her life. I would want to a hear some specific stories of her interaction with her mother and with her father. I would want to know more of her sisters struggle. I would want to explore her internal dynamics concerning these relationships (high achieving mom/ passive father and depressed sister).	Explore the significant family dynamics involved in her life. Explore more of her sister's struggle. Explore her internal dynamics concerning her relationships with these family members.
10	Her body language and lack of eye contact seems to speak of self disgust -- yet she is not talking about her own emotions or feelings -- she indicated that she understands her sister is like her and says she is worried about her -- I would explore how she sees herself...what parts of her sister is like her ...I would want her to tell more of the stories of her own first years in	Explore how she sees herself. Explore more of the stories of her own first years in college about feeling unattractive and awkward.

	college when she talked about felling unattractive and awkward.	
<i>11</i>	I would explore how she defines her worth based on her weight. More information about the relationship that started with when she lost weight.	Explore how she defines her worth based on her weight. Explore the relationship that started with when she lost weight.
<i>12</i>	would explore the questions concerning depression....she indicated lack of energy...eating may be about comfort. than food.	Explore the questions concerning depression.
<i>13</i>	please tell me a story that if I heard I would understand you relationship with your grandfather. I want to explore the family dynamics	Explore a story that if I heard I would understand you relationship with your grandfather. Explore the family dynamics.
<i>14</i>	I would want to hear about how she sat with him in the last week -- did she get to say goodbye -- I want to explore what how when grieves loss and how her family has dealt with the loss. The difference between her loss and her family's loss seems significant.	Explore how she sat with her grandfather in the last week. Explore what how and when she grieved the loss and how her family has dealt with the loss.
<i>15</i>	the relationship...."if he is blocking me than I will shut down " -- I want to explore the dreams for and plans for the relationship. I want to explore the possible choice that may need to be made between following the relationship or following the dream of dance therapy	Explore the dreams for and plans for the relationship. Explore the possible choice that may need to be made between following the relationship or following the dream of dance therapy.
<i>16</i>	would explore what she wants from him ...What attracts her to "the only person who says she is not content"? More context of the relationship would be helpful. What is she getting from the relationship.	Explore what she wants from him (the partner). Explore what attracts her to "the only person who says she is not content." Explore what she is getting from the relationship.
<i>17</i>	she said "I was appalled" ..when she described her partners relationship with his mother -- strong word I would explore her feelings. The theme of "which dream" and the idea of loss	Explore feeling appalled when she described her partners relationship with his mother. Explore the theme of "which dream"

	would be a part of either choice seems important.	and the idea of loss.
18	I would explore what she gets from the relationship -- she describes his as very different from him. i am curious about how she became so passionate about not missing out...in her history what has given her such a fear of sacrifice or responsibility.	Explore what she gets from the relationship. Explore how she became so passionate about not missing out. Explore her history for what has given her such a fear of sacrifice or responsibility.
19	I wonder what his price of admission might be -- I would want to explore what it would be like to, using her metaphor, deny admission based on the fact that he will not pick up and go. Is the relationship worth breaking one of her rules about the "admissions requirements"	Explore what his price of admission might be. Explore what it would be like to, using her metaphor, deny admission based on the fact that he will not pick up and go. Explore if the relationship is worth breaking one of her rules about the "admissions requirements."
20	explore how lonely it might feel or what other feeling might be there when you can't share your dream with your partner.	Explore how lonely it might feel or what other feeling might be there when you can't share your dream with your partner.
21	explore more stories about how it is different now in the relationship -- what she misses and what she wants	Explore more stories about how it is different now in the relationship-- what she misses and what she wants.
22	explore the ambivalence concerning her relationship with her mother.	Explore the ambivalence concerning her relationship with her mother.
23	explore the way she feels as if it is up to her to please everyone in this situation -- and how the relationship with her mother is all or nothing	1 Explore the way she feels as if it is up to her to please everyone in this situation. Explore how the relationship with her mother is all or nothing.
24	explore what may have caused the change (360) in her behavior. explore how she sees herself her words were "i am now more worthy"	Explore what may have caused the change (360) in her behavior. Explore how she sees herself now "more worthy."
25	explore how she always still feels different from everyone else -- explore what it is like to leave undergrad and	Explore how she always still feels different from everyone else.

	<p>move into a different time of life. explore her relational style</p>	<p>Explore what it is like to leave undergrad and move into a different time of life. Explore her relational style.</p>
26	<p>explore specific family stories, with her emotions connected, concerning her father's response to her emotions. Explore how she describes emotion in an all or nothing sort of process. Explore what was it about the movie rent that captured her attention for two weeks.</p>	<p>Explore specific family stories, with her emotions connected, concerning her father's response to her emotions. Explore how she describes emotion in an all or nothing sort of process. Explore what was it about the movie "Rent" that captured her attention for two weeks.</p>
27	<p>explore the pressure she has felt to "hide who she was since she was 3 years old". I would ask specifically about the funeral and what she said and how she felt. She has been asked to show no emotion all of her life -- in the counseling room she should be allowed to connect with her emotion.</p>	<p>Explore the pressure she has felt to "hide who she was since she was 3 years old". Explore the funeral and what she said and how she felt.</p>
28	<p>explore if the process of repressing and pushing down her feelings was going on in the room at that very moment -- she spoke of the abuse of her father and had to stop and take a deep breath. It looked like she was actually pushing down her feelings. She tells these stories with very little emotion -- i would explore what her emotions were and are as she tells these stories</p>	<p>Explore if the process of repressing and pushing down her feelings was going on in the room at that very moment.</p>
29	<p>explore how she believes someone "gets over" being cheated. explore anger, sadness and extreme disappointment. I am curious of where she gets her dreams of how a family should have been.</p>	<p>Explore how she believes someone "gets over" being cheated. Explore anger, sadness and extreme disappointment. Explore where she gets her dreams of how a family should have been.</p>
30	<p>she showed some emotion as she talked about her dad throwing the vacume cleaner -- explore and invite her to sit in that emotion --she immediately pulled back her emotions and moved on in the</p>	<p>Explore and invite her to sit in the emotion of having her dad throwing the vacuum cleaner.</p>

	story -- I would explore what she was feeling in the counselling room at the time -- process how she manages difficult emotion at that very moment	Explore the process of how she manages difficult emotion at that very moment.
31	explore the idea that her mother put the responsibility for going back to her father on her. Explore the dependency of her mother and the impact that may have had on her. More details and emotion concerning her visits home with her mom and brother.	Explore the idea that her mother put the responsibility for going back to her father on her. Explore the dependency of her mother and the impact that may have had on her. Explore more details and emotion concerning her visits home with her mom and brother.
32	explore the metaphor of a robot --she called herself Dr. Spock. Have more story and context for relationship. Explore how her relational style is helping her. what would be dangerous about emotion?	Explore the metaphor of a robot. Explore how her relational style is helping her. Explore what would be dangerous about emotion?
33	explore her fear of hope...how being a person of faith fits with being a robot with no feelings	Explore her fear of hope. Explore how being a person of faith fits with being a robot with no feelings.
34	explore how she seems to take care of the counselor -- explore loneliness and the isolation of being different from others	Explore how she seems to take care of the counselor. Explore loneliness and the isolation of being different from others.
35	explore the way she minimizes her own relational and emotional experiences...she indicated more important thing are going on , I would want to know what she considers worth her attention.	Explore the way she minimizes her own relational and emotional experiences. Explore what she considers worth her attention.
36	in passing she mentioned conversations with her father -- i would ask for the specific conversations. she indicated that "hurt people hurt people " and then laughed -- I would explore how have hurt people hurt her. she has not told any life examples or stories of her life -	Explore specific conversations she had with her father. Explore how have hurt people hurt her. Explore life examples or stories of

	- I would explore those stories and her reluctance to give substance.	her life and her reluctance to give substance.
37	explore the contradictory beliefs of being relational and being detached...how is being detached working for her in her friendships....	Explore the contradictory beliefs of being relational and being detached. Explore how being detached is working for her in her friendships.
38	"I thought this would fix me" -- explore what she means by fix -- what part of her is broken and how did it get broken.	Explore what part of her is broken and how it got broken. Explore what she meant by "I thought this would fix me."
39	His lack of believing that he does anything wrong concerns me...he avoids the mistakes she makes. I would explore his feeling concerning the lack of trust in the relationship. He mentioned hurt -- I want to hear the story of loss or betrayal with emotional connection.	Explore his lack of believing that he does anything wrong. Explore his feeling concerning the lack of trust in the relationship. Explore the story of loss or betrayal with emotional an connection.

Expert 2 Qualitative Responses		
Item Number	Expert Response	Interpreted Statement Included in Quantitative Review
<i>Example</i>	My immediate concern would be to understand more about the present context of her struggle to confront or challenge others vs protect others. For example, who, when, how etc she protects or confronts.	Explore more about the present context of her struggle to confront or challenge others vs protect others.
<i>1</i>	Grief and loss around broken relationship, possibly a divorce.	Explore grief and loss around a broken relationship, possibly a divorce.
<i>2</i>	How she was impacted by the issues she is talking about.	Explore how she was impacted by the issues she is talking about.
<i>3</i>	Since she is just reporting factually about a purported betrayal, I would seek to understand the emotional impact of this on her.	Explore the emotional impact of the purported betrayal on her.
<i>4</i>	Again, I would pursue how the difficult relational issues she is speaking about have affected her emotionally.	Explore how the difficult relational issues she is speaking about have affected her emotionally.
<i>5</i>	The emotional impact of these events on her person is where I would start.	Explore the emotional impact of these events on her person.
<i>6</i>	Same thing--where she is at emotionally regarding these events she is reporting.	Explore where she is emotionally regarding these events she is reporting.
<i>7</i>	I would use immediacy to speak to what appeared to be tears she was wiping away. So, I would attend to the emotional impact of her issue on her.	Explore what appeared to be tears she was wiping away in the hear and now.
<i>8</i>	Feeling overwhelmed and the pressure and expectations she has for herself in dealing with her weight.	Explore feeling overwhelmed and the pressure and expectations she has for herself in dealing with her weight.
<i>9</i>	The emotions behind the pressure and focus on her weight and working out.	Explore the emotions behind the pressure and focus on her weight and working out.
<i>10</i>	How she feels about being "unattractive" and overweight.	Explore how she feels about being "unattractive" and overweight.
<i>11</i>	Once again, I would start with drawing out her emotions regarding how she feels about her weight.	Explore how to draw out her emotions regarding how she feels about her weight.
<i>12</i>	The emotional impact of her obsessive focus on her weight and eating. She is just reporting factually about a very	Explore the emotional impact of her obsessive focus on her weight and eating.

	deep struggle.	
13	I would ask her to talk about her tears-- what she is feeling in the moment as she is recounting her loss.	Explore her tears--what she is feeling in the moment as she is recounting her loss.
14	I would attend to her emotions. Talk to her in a way that would validate her tears/pain/loss and draw them/it out.	Explore and validate her tears/pain/loss and draw them/it out.
15	How she is feeling about not being able to talk about her feelings/plans/dreams with her guy friend.	Explore how she is feeling about not being able to talk about her feelings/plans/dreams with her guy friend.
16	How she feels about not having her dreams/plans validated by her guy friend.	Explore how she feels about not having her dreams/plans validated by her guy friend.
17	The emotional impact of her concern of compromising herself in regards to her guy friend's plans. I would draw out her emotions about this issue as a starting place to understanding why she is prone to compromise her dreams.	Explore the emotional impact of her concern of compromising herself in regards to her guy friend's plans.
18	The emotions of feeling scared about getting married and having kids. The emotions of having to forsake her future plans for this relationship.	Explore the emotions of feeling scared about getting married and having kids. Explore the emotions of having to forsake her future plans for this relationship.
19	The emotional impact of feeling caught in her dilemma with her guy friend.	Explore the emotional impact of feeling caught in her dilemma with her guy friend.
20	How it affects her that she can't share how she feels about her dreams/plans with her partner.	Explore how it affects her that she can't share how she feels about her dreams/plans with her partner.
21	The emotions of feeling unfulfilled and distant in her relationship.	Explore the emotions of feeling unfulfilled and distant in her relationship.
22	Her emotions around missing her mother	Explore her emotions around missing her mother.
23	Draw out her emotions regarding the situation she is talking about.	Explore and draw out her emotions regarding the situation she is talking about.
24	Guilt, feeling unworthy.	Explore her guilt, feeling unworthy.
25	Her emotions about what she missed out on and feeling different from others.	Explore her emotions about what she missed out on and feeling different from others.
26	Draw out the emotions she tends to	Explore and draw out the emotions

	bottle up. I would invite her to talk about specific situations in order to do this.	she tends to bottle up by inviting her to talk about specific situations.
27	Address her emotions related to her losses.	Explore her emotions related to her losses.
28	Address the emotional impact of her abuse background. Draw out her emotions in the session.	Explore the emotional impact of her abuse background.
29	Draw out her emotions about feeling cheated out of her childhood.	Explore her emotions about feeling cheated out of her childhood.
30	Draw out the emotional impact of the abuse she endured.	Explore the emotional impact of the abuse she endured.
31	Speak to and draw out the emotions of her story she is relating.	Explore the emotions of her story she is relating.
32	Address the emotions behind her laughter.	Explore the emotions behind her laughter.
33	Using immediacy, I would address her laughter and try to draw out the emotions behind them.	Explore her laughter and try to draw out the emotions behind them.
34	I want to get behind the laughter--draw out her emotions related to the situation she is talking about.	Explore her emotions related to the situation she is talking about to get behind her laughter.
35	Once again, get behind the laughter to how she feels. I want her to talk about the stuff the "bothers" her at an emotional level.	Explore the stuff that "bothers" her at an emotional level.
36	Validate her appreciation of logic but draw out her emotions regarding being a "hurt" person.	Explore and validate her appreciation of logic but draw out her emotions regarding being a "hurt" person.
37	She said she misses out on opportunities to get close to people. I think this is because she is emotionally disconnected so I would draw out her emotions regarding these missed opportunities.	Explore her emotions. Explore how she misses out on opportunities to get close to people.
38	Have her talk about feeling "weak" or being vulnerable not at the report level, but the emotional level.	Explore and have her talk about feeling "weak" or being vulnerable.
39	Draw out hurt feelings he mentioned.	Explore and draw out the hurt feelings he mentioned.

Expert 3 Qualitative Responses		
Item Number	Expert Response	Interpreted Statement Included in Quantitative Review
<i>Example</i>	Explore what it is about client's self that makes confrontation difficult. What has she heard/learned over her life that makes confrontation fear inducing?	Explore what it is about client's self that makes confrontation difficult. Explore what she has heard/learned over her life that makes confrontation fear inducing.
<i>1</i>	Describe what it's like for you to trust someone? How is that different than a "normal" relationship? What challenges do you face when you have been betrayed? How does those challenges affect your willingness to trust? You've had issues with previous therapists. What do you think will be different in this therapeutic relationship?	Explore what it's like for her to trust someone. Explore the challenges she faces when she has been betrayed.
<i>2</i>	Explore the sense of victim with her. How does she handle being hurt? What does she do in response to that? Where did she learn that? Has she experienced that alot or a little? Are there any patterns of her reactions that she can discern when bad / hurtful things happen to her?	Explore the sense of being a victim with her.
<i>3</i>	How did you respond to his affair? What kind of boundaries did you set up? What is "holding" you in this relationship? What prevented you from leaving him? Also start to engage her absence of any affect around these traumatic events. Why is she so disconnected from her emotional reality?	Explore how she responded to his affair. Explore her absence of any affect around these traumatic events.
<i>4</i>	Why did you stay in the house? What prevented you from leaving? Have you had unhealthy relationships in the past? Are there any similarities between this relationship and others	Explore and rule out Dependent Personality Disorder.

	<p>you have experienced? Explore and rule out Dependent Personality Disorder.</p>	
5	<p>Challenge her sense of being a "victim" in her previous marriage. How long would you like for your divorce to run your life? What is it about this relationship that you continue to pursue "closure" with your ex when he clearly does not want to talk with you? Start to explore self-esteem / sense of self because her's is weak to non-existent.</p>	<p>Explore and challenge her sense of being a "victim" in her previous marriage.</p> <p>Explore what it is about this relationship that causes her to continue pursuing "closure" when he clearly does not want to talk to her.</p> <p>Explore her self-esteem/sense of self.</p>
6	<p>Where are your tears now? What is holding you back from experiencing the grief around your divorce? You still love him, don't you? What do you hope will happen if you hang on to him? BC client has no sense of self, she cannot let go of this failed marriage. She's detached from herself. Now she has found an identity in complaining about her jerky ex-husband but is still trapped in the middle of the failed marriage.</p>	<p>Explore what is holding her back from experiencing the grief around the divorce.</p> <p>Explore what she hopes will happen if she hangs onto him.</p>
7	<p>How well do you like yourself? Cl seems depressed/sad about her weight but wondering if it's more about her sense of self. I'd pursue more of what she believes about herself. What messages she hears and speaks about her as a woman. Where she learned those messages. What those are tied into emotionally for her. Does she eat out of an emotional place? What drives this self destructive behavior?</p>	<p>Explore how well she likes herself.</p> <p>Explore what she believes about herself.</p> <p>Explore the possibility that eating comes from an emotional place.</p>
8	<p>What holds you back from planning? Do you balance your eating and exercise? What do you mean by healthy eating? What does food symbolize for you? What are you worried about coming back up? Wonder if her sense of self comes into</p>	<p>Explore what holds her back from planning.</p> <p>Explore the emotional drivers behind her struggle with weight and</p>

	<p>play with her eating? Maybe an eating disorder, bulimia? Work through that with her.</p> <p>De-centralize weight and food for her struggle. Make it more about her and her emotional drivers behind this.</p>	<p>food.</p>
9	<p>What does Mom think about your weight? What does she think about you? How does mom feel about you? How does your family deal with weight? What sort of pressure do you perceive from Mom about your wellness?</p> <p>Definitely family dynamics contributed to the messages that she has about her self. I want to see more emotional content from her about her self.</p>	<p>Explore the family dynamics contributing to the messages that she has about herself.</p> <p>Explore more emotional content from her about herself.</p>
10	<p>Would you be willing to care for yourself the way you care for your sister? She seems to have a close space in your heart... can you find a place for you in there as well?</p> <p>Cl is really hard on herself. Need to continue to challenge her own construction of who she perceives herself to be. That distortion really affects her ability to cope and change.</p>	<p>Explore her willingness to care for herself the same way that she cares for her sister.</p> <p>Explore and challenge how she perceives herself to be.</p>
11	<p>How often do you remember getting compliments growing up? How many of those came from Mom and Dad? Do those compliments sink in? How much do you really believe them? How many compliments are about you; aside from your weight or looks? How much do you really believe them?</p> <p>She is crying out for validation of self. She cannot do it and the things she is turning to (weight / looks) won't fill her because she won't allow herself to do self-acceptance.</p>	<p>Explore the compliments she received from her parents growing up.</p> <p>Explore her need for validation of self.</p>
12	<p>Help her explore that resistance to the "one change at a time" model. What core-belief prevents her from trying?</p>	<p>Explore her resistance to making one change at a time.</p> <p>Explore what core-beliefs are preventing her from trying to</p>

		change.
13	<p>Explore the complexities of her loss of her Grandfather.</p> <p>What was it like for you being different than your family in the grieving? How have you been coping with his loss?</p>	<p>Explore what it was like for her to grieve differently than her family.</p> <p>Explore how she has been coping with his loss.</p>
14	<p>How would you describe the guilt that you are experiencing over your Grandfather's loss? What else would you have liked to do in those times? How do you wish things would have been different? Working on verbalizing the thoughts that are affecting her. Working through her trauma surrounding her Grandfather's passing.</p>	<p>Explore the guilt she has been experiencing over her Grandfather's loss.</p> <p>Explore how she would have liked things to be different.</p> <p>Explore the trauma surrounding her grandfather's death.</p>
15	<p>Where do you see your relationship going? How does that change if you pursue the dance therapy program? What holds you back from having a frank discussion about this with your partner? What fears do you have about confronting this?</p>	<p>Explore where she sees her relationship going if she pursues the dance therapy program.</p> <p>Explore what holds her back from having a frank discussion about this with her partner.</p>
16	<p>How do your desires differ from his in terms of your relationship? How do your goals differ and core values differ? How much common respect exists in your relationship? How controlling is your relationship? Looking back in 10 years, which direction will be more fulfilling for you? What's the ambivalence surrounding pursuing your goals and dreams?</p>	<p>Explore the similarities and differences between her and her partner in respect to desires, goals, and core values.</p> <p>Explore her ambivalence surrounding pursuing her goals and dreams.</p>
17	<p>What holds you in this relationship? Why are you staying? Do you love him? Can you articulate more about what the fear surrounds? How much would you say that this fear (of being alone) is driving your decision to make the relationship work? How do you handle being alone? Explore her fears about being alone.</p>	<p>Explore what holds her in this relationship.</p> <p>Explore her fears about being alone.</p>

<p>18</p>	<p>So if that's the wrong way to go about marriage, what would make it the right way? Right way for you? Sounds like you are not content to remain here but don't want to lose the relationship with your boyfriend. What is complicating this decision for you? How often do you wonder if your current partner is the only partner you could be with? How would you know when you are ready to be married? Sidebar (What makes you believe that you are irrational? Who has told you that? Aren't you pursuing a Master's Degree?)</p>	<p>Explore what would be the “right” way to go about marriage for her.</p> <p>Explore what is complicating her decision to leave her home or stay in her relationship.</p> <p>Explore what makes her think she is irrational.</p>
<p>19</p>	<p>What are you going to do? Challenge her to really work this through out of fairness to herself and her boyfriend. They need to assess where they want the relationship to go and deal with their differences. She seems to be pretending that things will work out when, clearly, they are in much different places.</p>	<p>Explore and challenge her to work through what she is going to do concerning her dilemma.</p>
<p>20</p>	<p>Describe what foundation do you want to build your relationship and potential marriage on. Being honest with him will help clarify if this relationship will work or not. What is holding you back from just telling him these dreams and plans? Challenge her to present her dreams directly but openly. Challenge her to have this conversation sooner rather than later.</p>	<p>Explore what foundation she wants to build her relationship and potential marriage on.</p> <p>Explore and challenge her to be open and honest with her partner about her dreams and plans.</p>
<p>21</p>	<p>What are you most concerned about in this relationship? What's stressing you about it? How has that presented and resolved in the past? Need more information about what about this situation is bothering her.</p>	<p>Explore what she is most concerned about in this relationship.</p> <p>Explore what is stressing her about the relationship.</p> <p>Explore how this problem was presented and resolved in the past.</p> <p>Explore more information about how this situation is bother her.</p>

22	<p>How difficult is it to confront your mom about her possessiveness? What fears do you have about separating from her? What kind of boundaries do you have in your relationship with your mom?</p> <p>Explore their relationship and see how enmeshed mom is with daughter.</p> <p>Explore clients feelings about that and what she'd like to do.</p>	<p>Explore how difficult it is to confront her mom about her possessiveness.</p> <p>Explore what fears she has about separating from her mother.</p> <p>Explore what kind of boundaries she has in her relationship with her mom.</p> <p>Explore her relationship with her mother and see how enmeshed they are.</p>
23	<p>How would you like for your relationship with your mom to be different?</p> <p>What would characterize a great relationship with your mom?</p> <p>Boundaries, self differentiation, pleasing behaviors, compliant behaviors.</p>	<p>Explore how she would like her relationship with her mom to be different.</p> <p>Explore elements of enmeshment in her relationship with her mother.</p>
24	<p>How is your anxiety now?</p> <p>Has your partner commented on any changes in you? Are other people noticing as well?</p> <p>What's been the most challenging part of this new success?</p>	<p>Explore her current anxiety.</p> <p>Explore what has been the most challenging part of this new success?</p>
25	<p>How do you look at life differently than others?</p> <p>How have the changes you described effected how you look at life?</p> <p>How is your anxiety doing?</p>	<p>Explore how she looks at life differently than others.</p> <p>Explore how her anxiety is doing.</p>
26	<p>How would you describe how you handle your feelings now? What's changed since you started undergrad?</p> <p>How hard is it for you to let people be close to you emotionally? What messages do you tell yourself when relationships get uncomfortable?</p>	<p>Explore how she handles her feelings now.</p> <p>Explore how hard it is for her to let people close to her emotionally.</p>
27	<p>How do you feel now about those experiences? What holds you back from being engaged, emotionally, now?</p> <p>Work on attaching to her own affective state and learning to engage those</p>	<p>Explore what holds her back from being engaged emotionally now.</p> <p>Explore her affective state and learning to engage those feelings in a healthy way.</p>

	feelings in a healthy way.	
28	What feeling is "it"? Grief? Where does it go? How would you like to process that grief differently?	Explore how she would like to process that grief differently.
29	What keeps you tethered to the past? Who and what do you need to forgive? Do you want to have a relationship with your parents? She has a lot of abuse and neglect to process about her growing up. Also needs tools to help her understand and experience her feelings in a healthy way.	Explore the abuse and neglect she experienced growing up. Explore tools she needs to help her understand and experience her feelings in a healthy way.
30	Continue helping her reframe what has happened to her. Walk her through this emotional experience. Validate her in this.	Explore by helping her reframe what has happened to her.
31	Can you love your mom and be mad at her at the same time? Why not? How do you deal with these conflicting emotions? Deal with the grief and rage from client.	Explore her conflicting emotions about loving and being angry at her mother at the same time. Explore her grief and rage.
32	How do you feel and deal with conflict? How have you dealt with it in the past? How would you describe your normal affective state? How do you handle feelings?	Explore how she feels and deals with conflict.
33	Does thinking about life so much exhaust you? What circumstances overwhelm you? When did you change from being very emotional to non-emotional? What circumstances were going on in that time of your life? Explore why she is so detached from her emotional reality.	Explore if thinking about life so much is exhausting for her. Explore what circumstances overwhelm her. Explore when she changed from being very emotional to non-emotional. Explore why she is so detached from her emotional reality.
34	Do you get lonely living in your head? really push for what has caused her disconnection from her emotional state. She's very intelligent and articulate but	Explore if it gets lonely living inside her head. Explore what has caused her

	will not engage. She pushes back with uncomfortable laughter. What's that about?	disconnection from her emotional state. Explore what causes her to push back with uncomfortable laughter.
35	Why don't you think that your emotions or experiences are important? What makes you think that your logic is less fallible than your feelings? Catch her speaking of herself in the second person and use that to illustrate her detachment from self.	Explore what makes her think her emotions or experiences are less important. Explore how she is speaking of herself in the second person.
36	What about relationships are scary or fearful for you? What do you fear about being hurt? When have you been hurt before? Challenge her cognitive distortions around her feelings.	Explore what the client fears about being hurt in relationships. Explore her cognitive distortions about her relationships.
37	What prevents you from receiving care? What challenges exist there for you in those circumstances? What difficulties do you have being vulnerable with others?	Explore what prevents her from receiving care. Explore the difficulties she has in being vulnerable with others.
38	What happened to cause you to lose trust in Josh? What has changed so that you won't repeat the same mistake again? Need more info about what happened.	Explore what happened to cause her to lose trust in Josh. Explore what has changed so that she won't repeat the same mistake again.
39	Are you working harder in this relationship than she is? What is that about? How has she hurt you in the relationship? What changes have been made since then? Explore his communication clarity and what happened to betray him. Also assess for dependent tendencies.	Explore if he is working harder in this relationship than she is. Explore how she has hurt him in the relationship. Explore what changes have been made in the relationship since she hurt him. Explore his communication clarity and what happened to betray him. Explore the possibility of dependent tendencies.

Expert 4 Qualitative Responses		
Item Number	Expert Response	Interpreted Statement Included in Quantitative Review
<i>Example</i>	I would ask her what she has already tried to resolve the conflict or uncomfortable relationship she has with the relative. I would offer to have a conjoint session, if the other person is available and willing.	Explore what she has already tried to resolve the conflict or uncomfortable relationship she has with the relative. Explore the possibility of a conjoint session if the other person is available and willing.
<i>1</i>	I would let the client tell me more about the breakup of the marriage. I would have her talk about her beliefs and values about marriage and how this is such a disappointment or failure on her part. She needs to finish grieving and move on.	Explore the breakup of the marriage. Explore her values and beliefs about marriage and how this is such a disappointment or failure on her part.
<i>2</i>	The people close to her in her life have disappointed or let her down when she needed the support. She is feeling the part of a victim but perhaps realistically so. I would have her identify what her strengths are at this time, let her grieve the loss of her other, express her anger at her father and sister. Perhaps she could do this via empty chair or letters that are written but not sent.	Explore what her strengths are at this time. Explore and let her grieve the loss of her other. Explore her anger at her father and sister.
<i>3</i>	I would take a reality-based approach and have her review again the facts that she has. Next would be a "what if" exploration...what will happen to the marriage if this is true? Focus too on self-esteem and how she believes she deserves to be treated.	Explore the facts again with a reality-based approach. Explore the what-if's of the marriage. Explore her self-esteem and how she deserves to be treated.
<i>4</i>	I would have her focus again on what she believes she deserves in a relationship and have her examine how this current marriage about to be divorced measures up. Low Self-esteem, neediness, fear of abandonment all fit in. CBT about	Explore how she believes she deserves to be treated in a relationship and how this relationship measures up. Explore what it means to end a relationship or what it means to be

	what it means to end a relationship or be without this man means to her.	without this man.
5	Her lack of emotion does not match the facts/opinions about the injustice she has experienced she expresses. Try to get her more in touch with the feelings, not just tell the story.	Explore her lack of emotion and try to get her more in touch with the feelings, not just tell the story.
6	I would explore with caring confrontation why she let herself be mistreated in this relationship for so long. Also, explore where her responsibility for the failure of the marriage might lie.	Explore why she let herself be mistreated in this relationship for so long. Explore where her responsibility for the failure of the marriage might lie.
7	I would reflect her painful struggle with her weight, validate her resolve to get healthier, encourage her as she identifies the barriers to going to the gym, and express my confidence that she can do this because she wants it.	Explore her painful struggle with weight. Explore and validate her resolve to get healthier. Explore and encourage her as she identifies the barriers to going to the gym. Explore and express confidence that she can do this because she wants it.
8	Validate her for addressing and overcoming the barriers she encounters to her fitness program. Help her understand that her self-worth is not based on her weight. With CBT help her separate self-worth from behaviors. Encourage her in her struggle to overcome something that many many people have to address.	Explore and validate her for addressing and overcoming the barriers she encounters to her fitness program. Explore and separate her self-worth from other behaviors.
9	Explore how one's weight and fitness is a huge issue in the family and a cause of pain for some. She identifies with her dad, respects him, and is concerned about his being overweight...encourage her to share this with him. Concern for sister...some things are not healthy in this family!	Explore how one's weight and fitness is a huge issue in the family and a cause of pain for some. Explore the possibility of sharing her concern with her dad over his weight. Explore her concern for her sister.
10	encourage the client to share her feelings and concerns with the younger	Explore and strengthen the bond between the sisters.

	sister who also struggles with weight issues and also depression and self-harm. Strengthen the bond between the sisters.	
<i>11</i>	Review all the positive, effective strategies that she did after her first year of college to get healthy. remind her that she has been successful before and that she knows what to do to get healthy.	Explore all the positive, effective strategies that she did after her first year of college.
<i>12</i>	I would reflect all the demands on her schedule with work and classes, etc... and encourage her to set a schedule for working out and for eating properly. Identify the ways she makes excuses for not eating properly (cost, etc). Find positive alternatives with the client.	Explore all the demands on her schedule with work and classes and encourage her to set a schedule for working out and eating properly. Explore the ways she makes excuses for not eating properly. Explore positive alternatives with her.
<i>13</i>	Because her grief is so present, I would let her continue to talk about the grandfather and her feelings and how her family reacted differently. She needs to let it out.	Explore her feelings about her grandfather and how her family reacted differently.
<i>14</i>	Her grief and almost trauma surrounding her grandfather's painful suffering death is so intense. i would let her talk about it and remind her how her presence was so beneficial to him and to her. What are her beliefs about dying? Wouldn't she want someone who loved her as much to be with her if she were dying? Validate her love and her strength.	Explore and validate her love for her grandfather and her strength. Explore her beliefs about dying.
<i>15</i>	Explore the conflict between what her goals are regarding more education to become a dance therapist and the impact of that on her relationship with her boyfriend. If it is a "this or that" decision, what would she gain vs. what would she lose? Are there compromises?	Explore the conflict between what her goals are regarding more education to become a dance therapist and the impact of that on her relationship with her boyfriend. Explore the possibility of compromises.
<i>16</i>	She is questioning her commitment to this relationship, based on the apparent differences in their respective life	Explore the pros and cons of staying in the relationship vs. leaving.

	goals. I would let her continue to talk about the pros and cons of staying in the relationship vs. leaving. She seems ready to address this decision.	
17	Her values around family and proximity to same are different than his. Let her explore this as a difference and not a shortcoming on his part. she is looking at this relationship as possibly short-term (3 years)...encourage her to have this discussion with him. If they want different things in life.....	Explore her values around family as a difference and not a shortcoming on his part.
18	She and boyfriend are on very different timelines regarding marriage, moving, and children. Encourage her to bring him in for a couples session. Find out with her why she would stay in the relationship if their goals are so different.	Explore the possibility of doing a couples session to discuss their different timelines regarding marriage, moving and children. Explore why she wants to stay in the relationship if their goals are so different.
19	She has already expressed the dilemma in her relationship, as well as her decision, even if she hasn't realized it yet. I would encourage her to articulate this, after thought, and plan to express to the boyfriend. She herself has admitted he only meets one of the criteria for admission!	Explore the decision she is likely to make to in moving to Chicago.
20	Have her do a cost-benefit analysis of going to Chicago vs. staying in Oviedo with boyfriend, because it doesn't seem like he would move for her. Help her accept that at this point in their relationship, it is acceptable to go separate ways due to different goals	Explore a cost-benefit analysis of going to Chicago vs. staying in Oviedo with her boyfriend. Explore and help her accept that at this point in their relationship, it is acceptable to go separate ways due to different goals.
21	Is she talking about a sister? She is clearly distressed about a lack of communication and time spent with her. Have her continue to explore her feelings. help her be more concrete about the issues.	Explore her feelings and help her be more concrete about the issues.
22	So this is about her relationship with her mother. Encourage client to	Explore what changes she would want to make in her relationship

	describe what changes she would want to make in her relationship with her mother. Identify strengths.	with her mother. Explore her strengths.
23	Explore conflict between commitment to boyfriend vs. family. She is trying to please both and yet their goals are different. Reflect the conflict she must experience trying to please two entities that she loves.	Explore the conflict between commitments to boyfriend vs. family.
24	Validate the positive changes she has made.	Explore and validate the positive changes she has made.
25	what was high school life like for her? What was so bad, if it was bad?	Explore what high school life was like for her.
26	Because she was not allowed to express emotions in her home growing up, what is there now that she wants to let out?	Explore what emotions she would like to let out now.
27	Explore cultural expectations about expressing emotions vs. her desire to show them. Validate her courage	Explore cultural expectations about expressing emotions vs. her desire to show them. Explore and validate her courage.
28	Explore memories of violence and traumatic events involving father and family. Explore feelings of helplessness. Relate this to current relationships with support system and tendency to suppress negative emotions.	Explore her memories of violence and traumatic events involving the father and family. Explore her feelings of helplessness. Explore current relationships with her support system and tendency to suppress negative emotions.
29	Validate her strengths and courage. Reflect her loss and pain at what will never be with her family.	Explore and validate her strengths and courage. Explore her loss and pain at what will never be with her family.
30	Ask if client is having any symptoms related to the violent, traumatic event with father years ago and if so, process. Validate strengths in coping with situation. Address disappointment in not having relationship desired with mother	Explore any symptoms related to the violent, traumatic event with her father years ago and process. Explore and validate strengths in coping with the situation.

		Explore her disappointment in not having relationship desired with her mother.
31	Help client explore mixed feelings about mother and negative feelings about father. How does this affect relationship she has with people today?	Explore mixed feelings about her mother and negative feelings about her father. Explore how this affects relationships she has with people today.
32	Help her clarify what her issue is with her friend	Explore what her issue is with her friend.
33	Explore spirituality in context of her dilemma. what is her dilemma?	Explore spirituality in context of her dilemma.
34	Why is she in my office?	Explore why is she is in my office.
35	I don't hear any real counseling issues here.	Explore that I don't hear any real counseling issues here.
36	No problems identified by "client". BS	Explore that there are no problems identified by the client.
37	More BS.	Explore that there are no problems identified by the client.
38	What does she want in a relationship?	Explore what she wants in a relationship.
39	What does she want in a relationship?	Explore what he wants in a relationship.

APPENDIX M:
ANECDOTAL QUALITATIVE EXPERT FEEDBACK

QUALITATIVE EXPERT 2:

Just some feedback. The quality of the videos was great. The length of time it took me to complete the survey was too long. If I didn't know you personally there is no way I would have taken the time to do this, even though you offer a gift card. This is something to keep in mind for future studies. I found a common theme across the videos so I became bored very quickly. I was tempted to not listen to the whole clip because the theme was so predictable. I could have basically copied and pasted the same response from one clip to the next.

QUALITATIVE EXPERT 4:

You asked me to send you an email after I completed the CIS and to let you know what I thought. I did it last night, and hopefully you can see that I completed it. It was pretty long, but maybe that was because I was doing it starting at 9:00 pm or so. It did take me a little over 2 hours to complete. I didn't have any problems with the technology although in a few "scenarios" I had a little difficulty understanding the client (hard to hear). These situations presented by the "clients" are so different from what I deal with in my job. It was interesting, however, to hear what the "worried well" want to discuss with a counselor! The clients at my agency have significant mental health, addiction, and life problems. That's what I've been used to for years now. Makes me think about private practice again!

QUALITATIVE EXPERT 5:

I am sorry for the delays in working on this project. I did not realize how busy I would be this month and how very little free time I would have. I did attempt to complete the survey. I could not view the videos from home or my day job. So I tried to complete it last night while at my private practice. I am not sure how long it is but I had to stop after working on it for over an hour. It is my understanding that you needed it done by last night so I apologize for not being able to complete it all. I wish there had been some indication as to how many more videos there were as if I knew the end was near I would have tried to finish. I apologize for any inconvenience this causes you in your study and I wish you the best of luck.

QUALITATIVE EXPERT 6:

I am still in corrective action mode at work. I am putting in long days to complete this project. If you need this completed prior to this coming week-end, you will need to withdraw my participation. I don't see any possible way that I will have the time to complete this before. I am sorry, I would rather be looking at video's.

APPENDIX N:
INSTRUCTIONS FOR DOCTORAL STUDENTS AS COUNSELORS

Counselor Instructions:

For this session, you are to facilitate a one-hour individual counseling session with a recruited master's student. The purpose of the session is to ultimately extract several 2 to 5 minute segments from the entire hour-long video taped session using the following criteria:

- the segment is at least two minutes long but no longer than five minutes
- the counselor is not speaking (or is only using minimal encouragers)
- the segment has potential to elicit an intuitive response

Therefore, as the counselor it is hoped that you facilitate the discussion using your basic counseling skills (minimal encouragers, door openers, open ended questions, reflections of content, reflections of emotion, and reflections of meaning, etc.) in order to elicit a rich response from the client. Since the purpose of the video segments is to capture only the client's disclosure, please refrain from using lengthy interventions.

APPENDIX O:
INSTRUCTIONS FOR MASTERS STUDENTS AS CLIENTS

Client Instructions:

For this session, you are paired with a doctoral student who will be your counselor for one hour. The counselor will facilitate the discussion using their counseling skills. Below is a list of possible topics to discuss that are either real or could be real.

- An issue you are having with a co-worker, a friend, significant other, or family member
- A stressful moment in your life
- A time in your life that was very important to you
- A trip you went on that was very important to you
- A story often told in your family
- Something that is standing in the way of a fuller life
- A moment in your life you wish you could do over
- A time when you were confronted by someone, or confronted someone
- Unfinished business you have with someone
- A purpose in my life is...
- A missed opportunity I once had was...
- Something I am very proud of is...
- One of the best experiences I had was...
- What I don't like about this country is...
- What I believe is important about a relationship is...
- Something you wish you could change

Remember, what you choose to discuss is entirely up to you and you are free to talk about an issue that is not included on this list.

APPENDIX P:
COMPILED STATEMENTS FOR ROUND TWO EXPERT REVIEW

Item Number	Interpreted Statement Included in Quantitative Review
<i>Example</i>	<p>Explore more of the story concerning her sister.</p> <p>Explore more of the context concerning her story.</p> <p>Explore her internal processes about her story.</p> <p>Explore more about the present context of her struggle to confront or challenge others vs protect others.</p> <p>Explore what it is about client's self that makes confrontation difficult.</p> <p>Explore what she has heard/learned over her life that makes confrontation fear inducing.</p> <p>Explore what she has already tried to resolve the conflict or uncomfortable relationship she has with the relative.</p> <p>Explore the possibility of a conjoint session if the other person is available and willing.</p>
<i>1</i>	<p>Explore how she processed the disappointment of "nothing working."</p> <p>Explore what would be her goals now in seeking counseling.</p> <p>Explore the possible details of what she meant by "no healing."</p> <p>Explore grief and loss around a broken relationship, possibly a divorce.</p> <p>Explore what it's like for her to trust someone.</p> <p>Explore the challenges she faces when she has been betrayed.</p> <p>Explore the breakup of the marriage.</p> <p>Explore her values and beliefs about marriage and how this is such a disappointment or failure on her part.</p>
<i>2</i>	<p>Explore if the events she described were typical ways in which these important persons relate to her.</p> <p>Explore how she was impacted by the issues she is talking about.</p> <p>Explore the sense of being a victim with her.</p>

	<p>Explore what her strengths are at this time.</p> <p>Explore and let her grieve the loss of her other.</p> <p>Explore her anger at her father and sister.</p>
3	<p>Explore how she is feeling concerning this story.</p> <p>Explore the emotional impact of the purported betrayal on her.</p> <p>Explore how she responded to his affair.</p> <p>Explore her absence of any affect around these traumatic events.</p> <p>Explore the facts again with a reality-based approach.</p> <p>Explore the what-if's of the marriage.</p> <p>Explore her self-esteem and how she deserves to be treated.</p>
4	<p>Explore how she was processing this "rejection/ disappointment/ disrespect" in the moment.</p> <p>Explore where the relationship is now.</p> <p>Explore how the difficult relational issues she is speaking about have affected her emotionally.</p> <p>Explore the emotional impact of these events on her person.</p> <p>Explore and rule out Dependent Personality Disorder.</p> <p>Explore how she believes she deserves to be treated in a relationship and how this relationship measures up.</p> <p>Explore what it means to end a relationship or what it means to be without this man.</p>
5	<p>Explore her lack of emotion.</p> <p>Explore the emotional impact of these events on her person.</p> <p>Explore and challenge her sense of being a "victim" in her previous marriage.</p> <p>Explore what it is about this relationship that causes her to continue pursuing "closure" when he clearly does not want to talk to her.</p>

	<p>Explore her self-esteem/sense of self.</p> <p>Explore her lack of emotion and try to get her more in touch with the feelings, not just tell the story.</p>
6	<p>Explore how this rejection and disappointment impacted her life today.</p> <p>Explore what she did to deal with the significant pain in this relationship.</p> <p>Explore where she is emotionally regarding these events she is reporting.</p> <p>Explore what is holding her back from experiencing the grief around the divorce.</p> <p>Explore what she hopes will happen if she hangs onto him.</p> <p>Explore why she let herself be mistreated in this relationship for so long.</p> <p>Explore where her responsibility for the failure of the marriage might lie.</p>
7	<p>Explore what seems to be self contempt.</p> <p>Explore how she came to see herself in such a negative way.</p> <p>Explore what appeared to be tears she was wiping away in the hear and now.</p> <p>Explore how well she likes herself.</p> <p>Explore what she believes about herself.</p> <p>Explore the possibility that eating comes from an emotional place.</p> <p>Explore her painful struggle with weight.</p> <p>Explore and validate her resolve to get healthier.</p> <p>Explore and encourage her as she identifies the barriers to going to the gym.</p> <p>Explore and express confidence that she can do this because she wants it.</p>
8	<p>Explore the metaphor of "a barrier."</p>

	<p>Explore what is going on now that is motivating her to move against the things that are blocking her.</p> <p>Explore feeling overwhelmed and the pressure and expectations she has for herself in dealing with her weight.</p> <p>Explore what holds her back from planning.</p> <p>Explore the emotional drivers behind her struggle with weight and food.</p> <p>Explore and validate her for addressing and overcoming the barriers she encounters to her fitness program.</p> <p>Explore and separate her self-worth from other behaviors.</p>
<p>9</p>	<p>Explore the significant family dynamics involved in her life.</p> <p>Explore more of her sister's struggle.</p> <p>Explore her internal dynamics concerning her relationships with these family members.</p> <p>Explore the emotions behind the pressure and focus on her weight and working out.</p> <p>Explore the family dynamics contributing to the messages that she has about herself.</p> <p>Explore more emotional content from her about herself.</p> <p>Explore how one's weight and fitness is a huge issue in the family and a cause of pain for some.</p> <p>Explore the possibility of sharing her concern with her dad over his weight.</p> <p>Explore her concern for her sister.</p>
<p>10</p>	<p>Explore how she sees herself.</p> <p>Explore more of the stories of her own first years in college about feeling unattractive and awkward.</p> <p>Explore how she feels about being "unattractive" and overweight.</p> <p>Explore her willingness to care for herself the same way that she</p>

	<p>cares for her sister.</p> <p>Explore and challenge how she perceives herself to be.</p> <p>Explore and strengthen the bond between the sisters.</p>
<i>11</i>	<p>Explore how she defines her worth based on her weight.</p> <p>Explore the relationship that started with when she lost weight.</p> <p>Explore how to draw out her emotions regarding how she feels about her weight.</p> <p>Explore the compliments she received from her parents growing up.</p> <p>Explore her need for validation of self.</p> <p>Explore all the positive, effective strategies that she did after her first year of college.</p>
<i>12</i>	<p>Explore the questions concerning depression.</p> <p>Explore the emotional impact of her obsessive focus on her weight and eating.</p> <p>Explore her resistance to making one change at a time.</p> <p>Explore what core-beliefs are preventing her from trying to change.</p> <p>Explore all the demands on her schedule with work and classes and encourage her to set a schedule for working out and eating properly.</p> <p>Explore the ways she makes excuses for not eating properly.</p> <p>Explore positive alternatives with her.</p>
<i>13</i>	<p>Explore a story that if I heard I would understand your relationship with your grandfather.</p> <p>Explore the family dynamics.</p> <p>Explore her tears--what she is feeling in the moment as she is recounting her loss.</p> <p>Explore what it was like for her to grieve differently than her family.</p> <p>Explore how she has been coping with his loss.</p> <p>Explore her feelings about her grandfather and how her family</p>

	<p>reacted differently.</p>
14	<p>Explore how she sat with her grandfather in the last week.</p> <p>Explore what how and when she grieved the loss and how her family has dealt with the loss.</p> <p>Explore and validate her tears/pain/loss and draw them/it out.</p> <p>Explore the guilt she has been experiencing over her Grandfather's loss.</p> <p>Explore how she would have liked things to be different.</p> <p>Explore the trauma surrounding her grandfather's death.</p> <p>Explore and validate her love for her grandfather and her strength.</p> <p>Explore her beliefs about dying.</p>
15	<p>Explore the dreams for and plans for the relationship.</p> <p>Explore the possible choice that may need to be made between following the relationship or following the dream of dance therapy.</p> <p>Explore how she is feeling about not being able to talk about her feelings/plans/dreams with her guy friend.</p> <p>Explore where she sees her relationship going if she pursues the dance therapy program.</p> <p>Explore what holds her back from having a frank discussion about this wither her partner.</p> <p>Explore the conflict between what her goals are regarding more education to become a dance therapist and the impact of that on her relationship with her boyfriend.</p> <p>Explore the possibility of compromises.</p>
16	<p>Explore what she wants from him (the partner).</p> <p>Explore what attracts her to "the only person who says she is not content."</p> <p>Explore what she is getting from the relationship.</p> <p>Explore how she feels about not having her dreams/plans validated by her guy friend.</p>

	<p>Explore the similarities and differences between her and her partner in respect to desires, goals, and core values.</p> <p>Explore her ambivalence surrounding pursuing her goals and dreams.</p> <p>Explore the pros and cons of staying in the relationship vs. leaving.</p>
17	<p>Explore feeling appalled when she described her partners relationship with his mother.</p> <p>Explore the theme of "which dream" and the idea of loss.</p> <p>Explore the emotional impact of her concern of compromising herself in regards to her guy friend's plans.</p> <p>Explore what holds her in this relationship.</p> <p>Explore her fears about being alone.</p> <p>Explore her values around family as a difference and not a shortcoming on his part.</p>
18	<p>Explore what she gets from the relationship.</p> <p>Explore how she became so passionate about not missing out.</p> <p>Explore her history for what has given her such a fear of sacrifice or responsibility.</p> <p>Explore the emotions of feeling scared about getting married and having kids.</p> <p>Explore the emotions of having to forsake her future plans for this relationship.</p> <p>Explore what would be the “right” way to go about marriage for her.</p> <p>Explore what is complicating her decision to leave her home or stay in her relationship.</p> <p>Explore what makes her think she is irrational.</p> <p>Explore the possibility of doing a couples session to discuss their different timelines regarding marriage, moving and children.</p> <p>Explore why she wants to stay in the relationship if their goals are so</p>

	different.
19	<p>Explore what his price of admission might be.</p> <p>Explore what it would be like to, using her metaphor, deny admission based on the fact that he will not pick up and go.</p> <p>Explore if the relationship is worth breaking one of her rules about the "admissions requirements."</p> <p>Explore the emotional impact of feeling caught in her dilemma with her guy friend.</p> <p>Explore and challenge her to work through what she is going to do concerning her dilemma.</p> <p>Explore the decision she is likely to make to in moving to Chicago.</p>
20	<p>Explore how lonely it might feel or what other feeling might be there when you can't share your dream with your partner.</p> <p>Explore how it affects her that she can't share how she feels about her dreams/plans with her partner.</p> <p>Explore what foundation she wants to build her relationship and potential marriage on.</p> <p>Explore and challenge her to be open and honest with her partner about her dreams and plans.</p> <p>Explore a cost-benefit analysis of going to Chicago vs. staying in Oviedo with her boyfriend.</p> <p>Explore and help her accept that at this point in their relationship, it is acceptable to go separate ways due to different goals.</p>
21	<p>Explore more stories about how it is different now in the relationship--what she misses and what she wants.</p> <p>Explore the emotions of feeling unfulfilled and distant in her relationship.</p> <p>Explore what she is most concerned about in this relationship.</p> <p>Explore what is stressing her about the relationship.</p> <p>Explore how this problem was presented and resolved in the past.</p>

	<p>Explore more information about how this situation is bother her.</p> <p>Explore her feelings and help her be more concrete about the issues.</p>
22	<p>Explore the ambivalence concerning her relationship with her mother.</p> <p>Explore her emotions around missing her mother.</p> <p>Explore how difficult it is to confront her mom about her possessiveness.</p> <p>Explore what fears she has about separating from her mother.</p> <p>Explore what kind of boundaries she has in her relationship with her mom.</p> <p>Explore her relationship with her mother and see how enmeshed they are.</p> <p>Explore what changes she would want to make in her relationship with her mother.</p> <p>Explore her strengths.</p>
23	<p>1 Explore the way she feels as if it is up to her to please everyone in this situation.</p> <p>Explore how the relationship with her mother is all or nothing.</p> <p>Explore and draw out her emotions regarding the situation she is talking about.</p> <p>Explore how she would like her relationship with her mom to be different.</p> <p>Explore elements of enmeshment in her relationship with her mother.</p> <p>Explore the conflict between commitments to boyfriend vs. family.</p>
24	<p>Explore what may have caused the change (360) in her behavior.</p> <p>Explore how she sees herself now "more worthy."</p> <p>Explore her guilt, feeling unworthy.</p> <p>Explore her current anxiety.</p>

	<p>Explore what has been the most challenging part of this new success?</p> <p>Explore and validate the positive changes she has made.</p>
25	<p>Explore how she always still feels different from everyone else.</p> <p>Explore what it is like to leave undergrad and move into a different time of life.</p> <p>Explore her relational style.</p> <p>Explore her emotions about what she missed out on and feeling different from others.</p> <p>Explore how she looks at life differently than others.</p> <p>Explore how her anxiety is doing.</p> <p>Explore what high school life was like for her.</p>
26	<p>Explore specific family stories, with her emotions connected, concerning her father's response to her emotions.</p> <p>Explore how she describes emotion in an all or nothing sort of process.</p> <p>Explore what was it about the movie "Rent" that captured her attention for two weeks.</p> <p>Explore and draw out the emotions she tends to bottle up by inviting her to talk about specific situations.</p> <p>Explore how she handles her feelings now.</p> <p>Explore how hard it is for her to let people close to her emotionally.</p> <p>Explore what emotions she would like to let out now.</p>
27	<p>Explore the pressure she has felt to "hide who she was since she was 3 years old".</p> <p>Explore the funeral and what she said and how she felt.</p> <p>Explore her emotions related to her losses.</p> <p>Explore what holds her back from being engaged emotionally now.</p> <p>Explore her affective state and learning to engage those feelings in a healthy way.</p>

	<p>Explore cultural expectations about expressing emotions vs. her desire to show them.</p>
28	<p>Explore if the process of repressing and pushing down her feelings was going on in the room at that very moment.</p> <p>Explore the emotional impact of her abuse background.</p> <p>Explore how she would like to process that grief differently.</p> <p>Explore her memories of violence and traumatic events involving the father and family.</p> <p>Explore her feelings of helplessness.</p> <p>Explore current relationships with her support system and tendency to suppress negative emotions.</p>
29	<p>Explore how she believes someone "gets over" being cheated.</p> <p>Explore anger, sadness and extreme disappointment.</p> <p>Explore where she gets her dreams of how a family should have been.</p> <p>Explore her emotions about feeling cheated out of her childhood.</p> <p>Explore the abuse and neglect she experienced growing up.</p> <p>Explore tools she needs to help her understand and experience her feelings in a healthy way.</p> <p>Explore and validate her strengths and courage.</p> <p>Explore her loss and pain at what will never be with her family.</p>
30	<p>Explore and invite her to sit in the emotion of having her dad throwing the vacuum cleaner.</p> <p>Explore the process of how she manages difficult emotion at that very moment.</p> <p>Explore the emotional impact of the abuse she endured.</p> <p>Explore by helping her reframe what has happened to her.</p> <p>Explore any symptoms related to the violent, traumatic event with her father years ago and process.</p>

	<p>Explore and validate strengths in coping with the situation.</p> <p>Explore her disappointment in not having relationship desired with her mother.</p>
31	<p>Explore the idea that her mother put the responsibility for going back to her father on her.</p> <p>Explore the dependency of her mother and the impact that may have had on her.</p> <p>Explore more details and emotion concerning her visits home with her mom and brother.</p> <p>Explore the emotions of her story she is relating.</p> <p>Explore her conflicting emotions about loving and being angry at her mother at the same time.</p> <p>Explore her grief and rage.</p> <p>Explore mixed feelings about her mother and negative feelings about her father.</p> <p>Explore how this affects relationships she has with people today.</p>
32	<p>Explore the metaphor of a robot.</p> <p>Explore how her relational style is helping her.</p> <p>Explore what would be dangerous about emotion?</p> <p>Explore the emotions behind her laughter.</p> <p>Explore how she feels and deals with conflict.</p> <p>Explore what her issue is with her friend.</p>
33	<p>Explore her fear of hope.</p> <p>Explore how being a person of faith fits with being a robot with no feelings.</p> <p>Explore her laughter and try to draw out the emotions behind them.</p> <p>Explore if thinking about life so much is exhausting for her.</p> <p>Explore what circumstances overwhelm her.</p>

	<p>Explore when she changed from being very emotional to non-emotional.</p> <p>Explore why she is so detached from her emotional reality.</p> <p>Explore spirituality in context of her dilemma.</p>
34	<p>Explore how she seems to take care of the counselor.</p> <p>Explore loneliness and the isolation of being different from others.</p> <p>Explore her emotions related to the situation she is talking about to get behind her laughter.</p> <p>Explore if it gets lonely living inside her head.</p> <p>Explore what has caused her disconnection from her emotional state.</p> <p>Explore what causes her to push back with uncomfortable laughter.</p> <p>Explore why is she is in my office.</p>
35	<p>Explore the way she minimizes her own relational and emotional experiences.</p> <p>Explore what she considers worth her attention.</p> <p>Explore the stuff that "bothers" her at an emotional level.</p> <p>Explore what makes her think her emotions or experiences are less important.</p> <p>Explore how she is speaking of herself in the second person.</p> <p>Explore that I don't hear any real counseling issues here.</p>
36	<p>Explore specific conversations she had with her father.</p> <p>Explore how have hurt people hurt her.</p> <p>Explore life examples or stories of her life and her reluctance to give substance.</p> <p>Explore and validate her appreciation of logic but draw out her emotions regarding being a "hurt" person.</p> <p>Explore what the client fears about being hurt in relationships.</p>

	<p>Explore her cognitive distortions about her relationships.</p> <p>Explore that there are no problems identified by the client.</p>
37	<p>Explore the contradictory beliefs of being relational and being detached.</p> <p>Explore how being detached is working for her in her friendships.</p> <p>Explore her emotions.</p> <p>Explore how she misses out on opportunities to get close to people.</p> <p>Explore what prevents her from receiving care.</p> <p>Explore the difficulties she has in being vulnerable with others.</p> <p>Explore that there are no problems identified by the client.</p>
38	<p>Explore what part of her is broken and how it got broken.</p> <p>Explore what she meant by "I thought this would fix me."</p> <p>Explore and have her talk about feeling "weak" or being vulnerable.</p> <p>Explore what happened to cause her to lose trust in Josh.</p> <p>Explore what has changed so that she won't repeat the same mistake again.</p> <p>Explore what she wants in a relationship.</p>
39	<p>Explore his lack of believing that he does anything wrong.</p> <p>Explore his feeling concerning the lack of trust in the relationship.</p> <p>Explore the story of loss or betrayal with emotional an connection.</p> <p>Explore and draw out the hurt feelings he mentioned.</p> <p>Explore if he is working harder in this relationship than she is.</p> <p>Explore how she has hurt him in the relationship.</p> <p>Explore what changes have been made in the relationship since she hurt him.</p> <p>Explore his communication clarity and what happened to betray him.</p>

	<p>Explore the possibility of dependent tendencies.</p> <p>Explore what he wants in a relationship.</p>
--	---

APPENDIX Q:
DESCRIPTIVE STATISTICS OF CIS STATEMENT RATINGS

Item 1	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she processed the disappointment of "nothing working."	40	4	1	5	104	2.60	1.081
Explore what would be her goals now in seeking counseling.	40	3	1	4	51	1.28	.599
Explore the possible details of what she meant by "no healing."	40	3	1	4	81	2.03	.832
Explore grief and loss around a broken relationship, possibly a divorce.	40	3	1	4	79	1.98	.974
Explore what it's like for her to trust someone.	40	4	1	5	77	1.93	1.071
Explore the challenges she faces when she has been betrayed.	40	4	1	5	97	2.43	1.130
Explore the breakup of the marriage.	40	4	1	5	107	2.68	1.141
Explore her values and beliefs about marriage and how this is such a disappointment or failure on her part.	40	3	1	4	86	2.15	.949
Item 2	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore if the events she described were typical ways in which these important persons relate to her.	40	4	1	5	86	2.15	1.075
Explore how she was impacted by the issues she is talking about.	40	4	1	5	73	1.83	.931
Explore the sense of being a victim with her.	40	3	1	4	95	2.38	1.102
Explore what her strengths are at this time.	40	4	1	5	85	2.13	1.223

Explore and let her grieve the loss of her other.	40	3	1	4	77	1.93	.888
Explore her anger at her father and sister.	40	3	1	4	79	1.98	.947
Item 3	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she is feeling concerning this story.	40	3	1	4	73	1.83	.747
Explore the emotional impact of the purported betrayal on her.	40	3	1	4	65	1.63	.868
Explore how she responded to his affair.	40	3	1	4	94	2.35	.834
Explore her absence of any affect around these traumatic events.	40	3	1	4	76	1.90	.900
Explore the facts again with a reality-based approach.	40	4	1	5	126	3.15*	1.145
Explore the what-if's of the marriage.	40	4	1	5	146	3.65*	1.051
Explore her self-esteem and how she deserves to be treated.	40	3	1	4	89	2.23	1.000
Item 4	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she was processing this "rejection/ disappointment/ disrespect" in the moment.	40	4	1	5	74	1.85	.921
Explore where the relationship is now.	40	4	1	5	105	2.63	1.148
Explore how the difficult relational issues she is speaking about have affected her emotionally.	40	4	1	5	75	1.88	.966
Explore and rule out Dependent Personality Disorder.	40	4	1	5	135	3.38*	1.192

Explore how she believes she deserves to be treated in a relationship and how this relationship measures up.	40	3	1	4	79	1.98	1.074
Explore what it means to end a relationship or what it means to be without this man.	40	4	1	5	79	1.98	1.121
Item 5	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore her lack of emotion.	40	4	1	5	94	2.35	1.027
Explore the emotional impact of these events on her person.	40	3	1	4	68	1.70	.723
Explore and challenge her sense of being a “victim” in her previous marriage.	40	4	1	5	102	2.55	1.037
Explore what it is about this relationship that causes her to continue pursuing “closure” when he clearly does not want to talk to her.	40	4	1	5	81	2.03	1.187
Explore her self-esteem/sense of self.	40	3	1	4	78	1.95	.783
Explore her lack of emotion and try to get her more in touch with the feelings, not just tell the story.	40	4	1	5	67	1.68	.997
Item 6	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how this rejection and disappointment impacted her life today.	40	4	1	5	80	2.00	.877
Explore what she did to deal with the significant pain in this relationship.	40	4	1	5	87	2.18	1.107

Explore where she is emotionally regarding these events she is reporting.	40	4	1	5	81	2.03	1.121
Explore what is holding her back from experiencing the grief around the divorce.	40	4	1	5	90	2.25	1.171
Explore what she hopes will happen if she hangs onto him.	40	4	1	5	95	2.38	1.372
Explore why she let herself be mistreated in this relationship for so long.	40	4	1	5	109	2.73	1.358
Explore where her responsibility for the failure of the marriage might lie.	40	4	1	5	98	2.45	1.154
Item 7	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what seems to be 'self-contempt.'	40	4	1	5	117	2.93	1.047
Explore how she came to see herself in such a negative way.	40	4	1	5	101	2.53	.987
Explore what appeared to be tears she was wiping away in the hear and now.	40	4	1	5	79	1.98	1.291
Explore how well she likes herself.	40	4	1	5	97	2.43	1.059
Explore what she believes about herself.	40	3	1	4	67	1.68	.730
Explore the possibility that eating comes from an emotional place.	40	4	1	5	89	2.23	1.074
Explore her painful struggle with weight.	40	4	1	5	92	2.30	1.018
Explore and validate her resolve to get healthier.	40	3	1	4	70	1.75	.840

Explore and encourage her as she identifies the barriers to going to the gym.	40	3	1	4	75	1.88	.883
Explore and express confidence that she can do this because she wants it.	40	4	1	5	103	2.58	1.174
Item 8	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the metaphor of "a barrier."	40	4	1	5	90	2.25	1.193
Explore what is going on now that is motivating her to move against the things that are blocking her.	40	2	1	3	63	1.58	.675
Explore feeling overwhelmed and the pressure and expectations she has for herself in dealing with her weight.	40	3	1	4	69	1.73	.847
Explore what holds her back from planning.	40	3	1	4	90	2.25	1.032
Explore the emotional drivers behind her struggle with weight and food.	40	3	1	4	83	2.08	1.047
Explore and validate her for addressing and overcoming the barriers she encounters to her fitness program.	40	3	1	4	68	1.70	.911
Explore and separate her self-worth from other behaviors.	40	4	1	5	81	2.03	1.143
Item 9	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the significant family dynamics involved in her life.	40	4	1	5	72	1.80	1.067
Explore more of her sister's struggle.	40	4	1	5	135	3.38*	1.234

Explore her internal dynamics concerning her relationships with these family members.	40	4	1	5	83	2.08	.944
Explore the emotions behind the pressure and focus on her weight and working out.	40	3	1	4	71	1.78	.947
Explore the family dynamics contributing to the messages that she has about herself.	40	4	1	5	64	1.60	.841
Explore more emotional content from her about herself.	40	3	1	4	79	1.98	.891
Explore how one's weight and fitness is a huge issue in the family and a cause of pain for some.	40	4	1	5	110	2.75	1.193
Explore the possibility of sharing her concern with her dad over his weight.	40	4	1	5	119	2.98	1.330
Explore her concern for her sister.	40	4	1	5	124	3.10*	1.194
Item 10	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she sees herself.	40	3	1	4	72	1.80	.883
Explore more of the stories of her own first years in college about feeling unattractive and awkward.	40	4	1	5	97	2.43	1.152
Explore how she feels about being "unattractive" and overweight.	40	4	1	5	84	2.10	1.128
Explore her willingness to care for herself the same way that she cares for her sister.	40	4	1	5	77	1.93	1.071
Explore and challenge how she perceives herself to be.	40	4	1	5	79	1.98	1.025

Explore and strengthen the bond between the sisters.	40	4	1	5	136	3.40*	1.128
Item 11	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she defines her worth based on her weight.	40	3	1	4	78	1.95	.876
Explore the relationship that started with when she lost weight.	40	3	1	4	103	2.58	.958
Explore how to draw out her emotions regarding how she feels about her weight.	40	4	1	5	94	2.35	1.075
Explore the compliments she received from her parents growing up.	40	4	1	5	113	2.83	1.010
Explore her need for validation of self.	40	3	1	4	79	1.98	1.025
Explore all the positive, effective strategies that she did after her first year of college.	40	3	1	4	70	1.75	1.080
Item 12	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the questions concerning depression.	40	4	1	5	92	2.30	1.067
Explore the emotional impact of her obsessive focus on her weight and eating.	40	4	1	5	87	2.18	1.130
Explore her resistance to making one change at a time.	40	3	1	4	77	1.93	.797
Explore what core-beliefs are preventing her from trying to change.	40	4	1	5	78	1.95	1.037

Explore all the demands on her schedule with work and classes and encourage her to set a schedule for working out and eating properly.	40	4	1	5	94	2.35	1.252
Explore the ways she makes excuses for not eating properly.	40	4	1	5	100	2.50	1.177
Explore positive alternatives with her.	40	3	1	4	69	1.73	.987
Item 13	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore a story that, if I heard, I would understand her relationship with her grandfather.	40	4	1	5	116	2.90	1.172
Explore the family dynamics.	40	4	1	5	102	2.55	1.085
Explore her tears--what she is feeling in the moment as she is recounting her loss.	40	3	1	4	63	1.58	.813
Explore what it was like for her to grieve differently than her family.	40	3	1	4	65	1.63	.774
Explore how she has been coping with his loss.	40	3	1	4	69	1.73	.784
Explore her feelings about her grandfather and how her family reacted differently.	40	3	1	4	80	2.00	.847
Item 14	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she sat with her grandfather in the last week.	40	4	1	5	104	2.60	1.081
Explore what, how and when she grieved the loss and how her family has dealt with the loss.	40	3	1	4	90	2.25	.870
Explore and validate her tears/pain/loss and draw them/it out.	40	4	1	5	74	1.85	1.167

Explore the guilt she has been experiencing over her Grandfather's loss.	40	3	1	4	102	2.55	.932
Explore how she would have liked things to be different.	40	4	1	5	103	2.58	1.130
Explore the trauma surrounding her grandfather's death.	40	4	1	5	71	1.78	1.025
Explore and validate her love for her grandfather and her strength.	40	3	1	4	67	1.68	.917
Explore her beliefs about dying.	40	4	1	5	95	2.38	1.170
Item 15	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the dreams for and plans for the relationship.	40	4	1	5	91	2.28	.933
Explore the possible choice that may need to be made between following the relationship or following the dream of dance therapy.	40	3	1	4	83	2.08	1.023
Explore how she is feeling about not being able to talk about her feelings/plans/dreams with her guy friend.	40	4	1	5	69	1.73	.960
Explore where she sees her relationship going if she pursues the dance therapy program.	40	3	1	4	72	1.80	.823
Explore what holds her back from having a frank discussion about this with her partner.	40	3	1	4	75	1.88	.939

Explore the conflict between what her goals are regarding more education to become a dance therapist and the impact of that on her relationship with her boyfriend.	40	3	1	4	66	1.65	.736
Explore the possibility of compromises.	40	4	1	5	116	2.90	1.257
Item 16	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what she wants from him (the partner).	40	3	1	4	80	2.00	.716
Explore what attracts her to "the only person who says she is not content."	40	3	1	4	93	2.33	.971
Explore what she is getting from the relationship.	40	2	1	3	72	1.80	.723
Explore how she feels about not having her dreams/plans validated by her guy friend.	40	3	1	4	73	1.83	.931
Explore the similarities and differences between her and her partner in respect to desires, goals, and core values.	40	4	1	5	77	1.93	1.047
Explore her ambivalence surrounding pursuing her goals and dreams.	40	3	1	4	77	1.93	.997
Explore the pros and cons of staying in the relationship vs. leaving.	40	3	1	4	94	2.35	1.001
Item 17	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore feeling appalled when she described her partners relationship with his mother.	40	4	1	5	97	2.43	1.059

Explore the theme of "which dream" and the idea of loss.	40	3	1	4	82	2.05	.932
Explore the emotional impact of her concern of compromising herself in regards to her guy friend's plans.	40	3	1	4	74	1.85	.893
Explore what holds her in this relationship.	40	3	1	4	66	1.65	.770
Explore her fears about being alone.	40	3	1	4	77	1.93	.944
Explore her values around family as a difference and not a shortcoming on his part.	40	4	1	5	118	2.95	.959
Item 18	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what she gets from the relationship.	40	3	1	4	87	2.18	.984
Explore how she became so passionate about not missing out.	40	4	1	5	110	2.75	1.080
Explore her history for what has given her such a fear of sacrifice or responsibility.	40	4	1	5	119	2.98	1.187
Explore the emotions of feeling scared about getting married and having kids.	40	4	1	5	114	2.85	1.051
Explore the emotions of having to forsake her future plans for this relationship.	40	4	1	5	78	1.95	1.131
Explore what would be the "right" way to go about marriage for her.	40	4	1	5	102	2.55	1.154
Explore what is complicating her decision to leave her home or stay in her relationship.	40	3	1	4	74	1.85	.864

Explore what makes her think she is irrational.	40	3	1	4	69	1.73	.784
Explore the possibility of doing a couples session to discuss their different timelines regarding marriage, moving and children.	40	4	1	5	113	2.83	1.394
Explore why she wants to stay in the relationship if their goals are so different.	40	4	1	5	68	1.70	.823
Item 19	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what his price of admission might be.	40	4	1	5	109	2.73	1.176
Explore what it would be like to, using her metaphor, deny admission based on the fact that he will not pick up and go.	40	3	1	4	68	1.70	.853
Explore if the relationship is worth breaking one of her rules about the "admissions requirements."	40	4	1	5	80	2.00	.987
Explore the emotional impact of feeling caught in her dilemma with her guy friend.	40	4	1	5	77	1.93	.944
Explore and challenge her to work through what she is going to do concerning her dilemma.	40	4	1	5	77	1.93	1.163
Explore the decision she is likely to make to in moving to Chicago.	40	4	1	5	107	2.68	1.207
Item 20	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation

Explore how lonely it might feel or what other feeling might be there when you can't share your dream with your partner.	40	4	1	5	90	2.25	1.256
Explore how it affects her that she can't share how she feels about her dreams/plans with her partner.	40	4	1	5	64	1.60	.955
Explore what foundation she wants to build her relationship and potential marriage on.	40	3	1	4	74	1.85	.864
Explore and challenge her to be open and honest with her partner about her dreams and plans.	40	4	1	5	66	1.65	.893
Explore a cost-benefit analysis of going to Chicago vs. staying in Oviedo with her boyfriend.	40	4	1	5	111	2.78	1.330
Explore and help her accept that at this point in their relationship, it is acceptable to go separate ways due to different goals.	40	4	1	5	107	2.68	1.269
Item 21	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore more stories about how it is different now in the relationship-- what she misses and what she wants.	40	4	1	5	91	2.28	1.012
Explore the emotions of feeling unfulfilled and distant in her relationship.	40	3	1	4	82	2.05	.986
Explore what she is most concerned about in this relationship.	40	2	1	3	63	1.58	.675
Explore what is stressing her about the relationship.	40	3	1	4	80	2.00	.961

Explore how this problem was presented and resolved in the past.	40	4	1	5	95	2.38	1.005
Explore more information about how this situation is bothering her.	40	3	1	4	72	1.80	.911
Explore her feelings and help her be more concrete about the issues.	40	3	1	4	71	1.78	1.025
Item 22	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the ambivalence concerning her relationship with her mother.	40	3	1	4	80	2.00	.847
Explore her emotions around missing her mother.	40	4	1	5	91	2.28	.933
Explore how difficult it is to confront her mom about her possessiveness.	40	3	1	4	94	2.35	1.075
Explore what fears she has about separating from her mother.	40	3	1	4	82	2.05	.959
Explore what kind of boundaries she has in her relationship with her mom.	40	2	1	3	68	1.70	.687
Explore her relationship with her mother and see how enmeshed they are.	40	4	1	5	98	2.45	1.154
Explore what changes she would want to make in her relationship with her mother.	40	3	1	4	60	1.50	.716
Explore her strengths.	40	3	1	4	85	2.13	.992
Item 23	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the way she feels as if it is up to her to please everyone in this situation.	40	3	1	4	74	1.85	.864

Explore how the relationship with her mother is all or nothing.	40	4	1	5	105	2.63	1.148
Explore and draw out her emotions regarding the situation she is talking about.	40	4	1	5	86	2.15	1.075
Explore how she would like her relationship with her mom to be different.	40	3	1	4	68	1.70	.853
Explore elements of enmeshment in her relationship with her mother.	40	3	1	4	100	2.50	1.155
Explore the conflict between commitments to boyfriend vs. family.	40	3	1	4	80	2.00	1.038
Item 24	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what may have caused the "360 degree" change in her behavior.	40	3	1	4	77	1.93	.797
Explore how she sees herself now as "more worthy."	40	3	1	4	71	1.78	.768
Explore her guilt, feeling unworthy.	40	4	1	5	99	2.48	1.086
Explore her current anxiety.	40	3	1	4	82	2.05	.846
Explore what has been the most challenging part of this new success?	40	3	1	4	80	2.00	.961
Explore and validate the positive changes she has made.	40	3	1	4	68	1.70	.883
Item 25	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she always still feels different from everyone else.	40	4	1	5	75	1.88	1.042

Explore what it is like to leave undergrad and move into a different time of life.	40	4	1	5	102	2.55	1.061
Explore her relational style.	40	3	1	4	96	2.40	.900
Explore her emotions about what she missed out on and feeling different from others.	40	3	1	4	78	1.95	.932
Explore how she looks at life differently than others.	40	4	1	5	75	1.88	.791
Explore how her anxiety is doing.	40	3	1	4	102	2.55	.932
Explore what high school life was like for her.	40	4	1	5	126	3.15*	1.122
Item 26	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore specific family stories, with her emotions connected, concerning her father's response to her emotions.	40	4	1	5	88	2.20	1.159
Explore how she describes emotion in an all or nothing sort of process.	40	4	1	5	86	2.15	1.075
Explore what it was about the movie "Rent" that captured her attention for two weeks.	40	4	1	5	84	2.10	1.033
Explore and draw out the emotions she tends to bottle up by inviting her to talk about specific situations.	40	4	1	5	78	1.95	1.061
Explore how she handles her feelings now.	40	3	1	4	69	1.73	.751
Explore how hard it is for her to let people close to her emotionally.	40	3	1	4	83	2.08	.997
Explore what emotions she would like to let out now.	40	3	1	4	74	1.85	.893

Item 27	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the pressure she has felt to "hide who she was since she was 3 years old".	40	3	1	4	66	1.65	.736
Explore the funeral and what she said and how she felt.	40	4	1	5	110	2.75	1.104
Explore her emotions related to her losses.	40	3	1	4	88	2.20	.883
Explore what holds her back from being engaged emotionally now.	40	3	1	4	76	1.90	.900
Explore her affective state and learning to engage those feelings in a healthy way.	40	3	1	4	66	1.65	.770
Explore cultural expectations about expressing emotions vs. her desire to show them.	40	3	1	4	72	1.80	.823
Explore and validate her courage.	40	4	1	5	80	2.00	1.038
Item 28	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore if the process of repressing and pushing down her feelings was going on in the room at that very moment.	40	2	1	3	65	1.63	.740
Explore the emotional impact of her abuse background.	40	3	1	4	68	1.70	.883
Explore how she would like to process that grief differently.	40	3	1	4	88	2.20	.883
Explore her memories of violence and traumatic events involving the father and family.	40	3	1	4	90	2.25	1.080
Explore her feelings of helplessness.	40	4	1	5	83	2.08	1.141

Explore current relationships with her support system and tendency to suppress negative emotions.	40	3	1	4	74	1.85	.802
Item 29	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she believes someone "gets over" being cheated.	40	4	1	5	96	2.40	1.081
Explore anger, sadness and extreme disappointment.	40	4	1	5	74	1.85	.921
Explore where she gets her dreams of how a family should have been.	40	4	1	5	107	2.68	1.185
Explore her emotions about feeling cheated out of her childhood.	40	3	1	4	67	1.68	.829
Explore the abuse and neglect she experienced growing up.	40	3	1	4	85	2.13	.911
Explore tools she needs to help her understand and experience her feelings in a healthy way.	40	3	1	4	68	1.70	.911
Explore and validate her strengths and courage.	40	3	1	4	68	1.70	.911
Explore her loss and pain at what will never be with her family.	40	3	1	4	74	1.85	.921
Item 30	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore and invite her to sit in the emotion of having her dad throwing the vacuum cleaner.	40	4	1	5	93	2.33	1.289
Explore the process of how she manages difficult emotion at that very moment.	40	2	1	3	62	1.55	.639
Explore the emotional impact of the abuse she endured.	40	3	1	4	66	1.65	.834

Explore by helping her reframe what has happened to her.	40	4	1	5	101	2.53	1.176
Explore any symptoms related to the violent, traumatic event with her father years ago and process.	40	3	1	4	84	2.10	.928
Explore and validate strengths in coping with the situation.	40	3	1	4	71	1.78	1.000
Explore her disappointment in not having relationship desired with her mother.	40	4	1	5	107	2.68	1.328
Item 31	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the idea that her mother put the responsibility for going back to her father on her.	40	4	1	5	87	2.18	1.152
Explore the dependency of her mother and the impact that may have had on her.	40	4	1	5	81	2.03	1.050
Explore more details and emotion concerning her visits home with her mom and brother.	40	4	1	5	103	2.58	1.152
Explore the emotions of her story she is relating.	40	3	1	4	72	1.80	.791
Explore her conflicting emotions about loving and being angry at her mother at the same time.	40	3	1	4	61	1.53	.784
Explore her grief and rage.	40	4	1	5	81	2.03	1.097
Explore mixed feelings about her mother and negative feelings about her father.	40	3	1	4	72	1.80	.791

Explore how this affects relationships she has with people today.	40	2	1	3	55	1.38	.586
Item 32	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the metaphor of a robot.	40	4	1	5	85	2.13	1.042
Explore how her relational style is helping her.	40	3	1	4	77	1.93	.859
Explore what would be dangerous about emotion.	40	3	1	4	72	1.80	.883
Explore the emotions behind her laughter.	40	3	1	4	82	2.05	.986
Explore how she feels and deals with conflict.	40	3	1	4	75	1.88	.939
Explore what her issue is with her friend.	40	3	1	4	98	2.45	.876
Item 33	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore her fear of hope.	40	3	1	4	105	2.63	.952
Explore how being a person of faith fits with being a robot with no feelings.	40	3	1	4	89	2.23	.862
Explore her laughter and try to draw out the emotions behind them.	40	3	1	4	77	1.93	.944
Explore if thinking about life so much is exhausting for her.	40	4	1	5	102	2.55	1.108
Explore what circumstances overwhelm her.	40	3	1	4	91	2.28	.960
Explore when she changed from being very emotional to non-emotional.	40	3	1	4	67	1.68	.797
Explore why she is so detached from her emotional reality.	40	4	1	5	84	2.10	1.150

Explore spirituality in context of her dilemma.	40	4	1	5	98	2.45	1.037
Item 34	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore how she seems to take care of the counselor.	40	4	1	5	100	2.50	1.038
Explore loneliness and the isolation of being different from others.	40	3	1	4	90	2.25	1.006
Explore her emotions related to the situation she is talking about to get behind her laughter.	40	3	1	4	77	1.93	.944
Explore if it gets lonely living inside her head.	40	4	1	5	91	2.28	1.240
Explore what has caused her disconnection from her emotional state.	40	4	1	5	83	2.08	1.023
Explore what causes her to push back with uncomfortable laughter.	40	3	1	4	79	1.98	.947
Explore why is she is in my office.	40	4	1	5	70	1.75	1.104
Item 35	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the way she minimizes her own relational and emotional experiences.	40	3	1	4	72	1.80	.823
Explore what she considers worth her attention.	40	3	1	4	88	2.20	.758
Explore the stuff that "bothers" her at an emotional level.	40	3	1	4	86	2.15	.802
Explore what makes her think her emotions or experiences are less important.	40	3	1	4	78	1.95	.932
Explore how she is speaking of herself in the second person.	40	3	1	4	90	2.25	1.056

Explore that I don't hear any real counseling issues here.	40	4	1	5	107	2.68	1.328
Item 36	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore specific conversations she had with her father.	40	4	1	5	123	3.08*	1.141
Explore how hurt people have hurt her.	40	3	1	4	88	2.20	.966
Explore life examples or stories of her life and her reluctance to give substance.	40	3	1	4	95	2.38	.868
Explore and validate her appreciation of logic but draw out her emotions regarding being a "hurt" person.	40	3	1	4	80	2.00	1.013
Explore what the client fears about being hurt in relationships.	40	2	1	3	68	1.70	.758
Explore her cognitive distortions about her relationships.	40	4	1	5	90	2.25	1.006
Explore that there are no problems identified by the client.	40	4	1	5	123	3.08*	1.207
Item 37	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore the contradictory beliefs of being relational and being detached.	40	3	1	4	76	1.90	.841
Explore how being detached is working for her in her friendships.	40	3	1	4	70	1.75	.809
Explore her emotions.	40	3	1	4	88	2.20	.992
Explore how she misses out on opportunities to get close to people.	40	3	1	4	90	2.25	.899
Explore what prevents her from receiving care.	40	4	1	5	86	2.15	.975

Explore the difficulties she has in being vulnerable with others.	40	2	1	3	61	1.53	.716
Explore that there are no problems identified by the client.	40	4	1	5	125	3.13*	1.285
Item 38	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore what part of her is broken and how it got broken.	40	4	1	5	83	2.08	.888
Explore what she meant by "I thought this would fix me."	40	2	1	3	61	1.53	.640
Explore and have her talk about feeling "weak" or being vulnerable.	40	3	1	4	73	1.83	.844
Explore what happened to cause her to lose trust in Josh.	40	4	1	5	90	2.25	1.032
Explore what has changed so that she won't repeat the same mistake again.	40	4	1	5	91	2.28	1.086
Explore what she wants in a relationship.	40	3	1	4	81	2.03	1.025
Item 39	N Experts	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
Explore his lack of believing that he does anything wrong.	40	4	1	5	120	3.00*	1.062
Explore his feeling concerning the lack of trust in the relationship.	40	3	1	4	74	1.85	.770
Explore the story of loss or betrayal with an emotional connection.	40	3	1	4	77	1.93	.944
Explore and draw out the hurt feelings he mentioned.	40	3	1	4	75	1.88	.966
Explore if he is working harder in this relationship than she is.	40	4	1	5	117	2.93	1.118
Explore how she has hurt him in the relationship.	40	3	1	4	86	2.15	1.051

Explore what changes have been made in the relationship since she hurt him.	40	3	1	4	91	2.28	.847
Explore his communication clarity and what happened to betray him.	40	3	1	4	92	2.30	1.043
Explore the possibility of dependent tendencies.	40	4	1	5	125	3.13*	1.137
Explore what he wants in a relationship.	40	4	1	5	84	2.10	1.215
*Indicates values in the "neutral" range.							

LIST OF REFERENCES

- Allen, M. J., & Yen, W. M. (2002). *Introduction to measurement theory*. Prospect Heights, IL: Waveland Press Inc.
- Ambady, N. (2010). The perils of pondering: Intuition and thin slice judgments. *Psychological Inquiry, 21*(4), 271-278. doi:10.1080/1047840X.2010.524882
- Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin, 111*(2), 256-274. doi:10.1037/0033-2909.111.2.256
- American Counseling Association (2005). *ACA Code of Ethics*. Alexandria, VA: Author.
- American Psychological Association. (2002). Criteria for evaluating treatment guidelines. *American Psychologist, 57*(12), 1052-1059. doi:10.1037/0003-066X.57.12.1052
- American Psychological Association. (2005). *Evidence-Based Practice in Psychology*. Retrieved from <http://www.apa.org/practice/resources/evidence/index.aspx>
- Akhtar-Danesh, N., Baumann, A., & Cordingley, L. (2008). Q-methodology in nursing research: A promising method for the study of subjectivity. *Western Journal Of Nursing Research, 30*(6), 759-773.
- Archer, D., & Akert, R. M. (1977). Words and everything else: Verbal and nonverbal cues in social interpretation. *Journal of Personality And Social Psychology, 35*(6), 443-449. doi:10.1037/0022-3514.35.6.443
- Arnheim, R. (1969). *Visual thinking*. Berkeley: University of California Press
- Baker, T. B., McFall, R. M., & Shoham, V. (2008). Current status and future prospects of clinical psychology: Toward a scientifically principled approach to mental and

- behavioral health care. *Psychological Science In The Public Interest*, 9(2), 67-103. doi:10.1111/j.1539-6053.2009.01036.x
- Bänziger, T., Scherer, K., Hall, J., & Rosenthal, R. (2011). Introducing the MiniPONS: A Short multichannel version of the Profile of Nonverbal Sensitivity (PONS). *Journal Of Nonverbal Behavior*, 35(3), 189-204. doi:10.1007/s10919-011-0108-3
- Bänziger, T., Grandjean, D., & Scherer, K. R. (2009). Emotion recognition from expressions in face, voice, and body: The Multimodal Emotion Recognition Test (MERT). *Emotion*, 9(5), 691-704. doi:10.1037/a0017088
- Barchak, L. J. (1979). Discovery of socialist opinion. *Operant Subjectivity*, 2(3), 69-102.
- Bastick, T. (1982). *Intuition: How we think and act*. Chichester, England: J. Wiley & Sons.
- Baum, K. M., & Nowicki, S. R. (1998). Perception of emotion: Measuring decoding accuracy of adult prosodic cues varying in intensity. *Journal of Nonverbal Behavior*, 22(2), 89-107. doi:10.1023/A:1022954014365
- Benderly, B. L. (1989, September). Everyday intuition. *Psychology Today*, 23(9), 35-40.
- Bernard, J. M., & Goodyear, R. K. (2009). *Fundamentals of clinical supervision*. Upper Saddle River, New Jersey: Pearson Education.
- Berne, E. (1949). The nature of intuition. *The Psychiatric Quarterly*, 23(2), 203-226.
- Benner, P. (1982). From novice to expert... the Dreyfus Model of Skill Acquisition. *American Journal Of Nursing*, 82(3), 402-407.
- Biehl, M., Matsumoto, D., Ekman, P., Hearn, V., Heider, K., Kudoh, T., & Ton, V. (1997). Matsumoto and ekman's japanese and caucasian facial expressions of

- emotion (JACFEE): Reliability data and cross-national differences. *Journal of Nonverbal Behavior*, 21(1), 3-21. doi:10.1023/A:1024902500935
- Bloom, B. S., Krathwohl, D. R., & Masia, B. B. (1956). *Taxonomy of educational objectives: The classification of educational goals*. New York: McKay
- Bohart, A. C. (1999). Intuition and creativity in psychotherapy. *Journal of Constructivist Psychology*, 12, 287-311.
- Bowden, E. (1997). The effect of reportable and unreportable hints on anagram solution and the Aha! experience. *Consciousness and Cognition*, 6(4), 545-573.
- Bowers, K. S., Regehr, G., Balthazard, C., & Parker, K. (1990). Intuition in the context of discovery. *Cognitive Psychology*, 22, 72-110.
- Brown, R. D., & Pirtle, T. (2008). Beliefs of Professional and Family Caregivers about the Sexuality of Individuals with Intellectual Disabilities: Examining Beliefs Using a Q-Methodology Approach. *Sex Education: Sexuality, Society And Learning*, 8(1), 59-75.
- Brown, S. R. (1993). A primer of Q-Methodology. *Operant Subjectivity*, 16, 91-138.
Retrieved from <http://www.fairnessdiscourse.com/pdf/Brown%20-%20A%20Primer%20on%20Q%20Methodology.pdf>
- Burstein, J. W., & Carkhuff, R. R. (1968). Objective, therapist and client ratings of therapists offered facilitative conditions of moderate to low functioning therapists. *Journal Of Clinical Psychology*, 24(2), 240-241.
- Calderwood, R., Klein, G. A., & Crandall, B. W. (1988). Time pressure, skill, and move quality in chess. *The American Journal of Psychology*, 101(4), 481-493.
doi:10.2307/1423226

- Campbell, J., & Moyers, B. D. (1988). *The power of myth*. New York: Doubleday.
- Cameron, J. (1995). *The artist's way: A spiritual path to higher creativity*. New York: G. P. Putnam's Sons.
- Carr, S. C. (1992). A primer on the use of Q-technique factor analysis. *Measurement and Evaluation in Counseling and Development*, 25(3), 133-38.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245-276.
- Cattell, R. B. (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York: Plenum Press.
- Chapman, L. J., & Chapman, J. P. (1967). Genesis of popular but erroneous psych diagnostic observations. *Journal of Abnormal Psychology*, 72(3), 193-204.
- Chase, W. G., & Simon, H. A. (1973). Perception in chess. *Cognitive Psychology*, 4(1), 55-81. doi:10.1016/0010-0285(73)90004-2
- Chase, W. G., & Simon, H. A. (1988). The mind's eye in chess. In A. M. Collins, E. E. Smith (Eds.). *Readings in cognitive science: A perspective from psychology and artificial intelligence* (pp. 461-494). San Mateo, CA: Morgan Kaufmann.
- Christie, R., & Geis, F. L. (1970). *Studies in machiavellianism*. New York: Academic Press.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334. doi:10.1007/BF02310555
- Cicchetti, D. V., & Sparrow, S. A. (1981). Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency*, 86, 127-137

- Cloninger, K. (2006). Making intuition practical. A new theoretical framework for education. *Curriculum & Teaching Dialogue*, 8(1/2), 15-28.
- Comrey, A. (1973). *A first course in factor analysis*. New York : Academic Press.
- Costanzo, M., & Archer, D. (1989). Interpreting the expressive behavior of others: The Interpersonal Perception Task. *Journal of Nonverbal Behavior*, 13, 225-245.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10, 1-9.
- Council for Accreditation of Counseling and Related Educational Programs (CACREP). (2009). *2009 standards for accreditation*. Alexandria, VA: Author.
- Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience*. New York: Harper Perennial.
- Crandall, B., & Calderwood, R. (1989). Clinical assessment skills of experienced neonatal intensive care nurses. Yellow Springs, OH: Klein Associates Inc. Final Report prepared for the National Center for Nursing, NIH under Contract No. I R43 NRO1911 01.
- Crocker, L., & Algina, J. (2008). *Introduction to classical and modern test theory*. Mason, OH: Cengage Learning.
- Dane, E., & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision making.. *Academy Of Management Review*, 32(1), 33-54.
doi:10.5465/AMR.2007.23463682
- De Groot, A. D. (1965). *Thought and choice in chess*. The Hague: Mouton.

- DePaulo, B. M. (1992). Nonverbal behavior and self-presentation. *Psychological Bulletin*, 111(2), 203-243. doi:10.1037/0033-2909.111.2.203
- DeVellis, R. F. (2003). *Scale development: Theory and applications*. Thousand Oaks, CA: Sage Publications.
- de Winter, J. F., & Dodou, D. D. (2012). Factor recovery by principal axis factoring and maximum likelihood factor analysis as a function of factor pattern and sample size. *Journal of Applied Statistics*, 39(3-4), 695-710
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). Hoboken, N.J: Wiley & Sons.
- Dreyfus, S. E. (2004). The five-stage model of adult skill acquisition. *Bulletin Of Science, Technology & Society*, 24(3), 177-181.
- Drummond, R. J., & Jones, K. D. (2010). *Assessment procedures for counselors and helping professionals*. Boston: Pearson Education Inc.
- Dziopa, F., & Ahern, K. (2011). A systematic literature review of the applications of Q-technique and its methodology. *Methodology*, 7(2), 739-755.
- Eisengart, S. P., & Faiver, C. M. (1996). Intuition in Mental Health Counseling. *Journal Of Mental Health Counseling*, 18(1), 41-52.
- Emery, M. (1994). *Intuition workbook*. Englewood Cliffs, NJ: Prentice-Hall.
- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist*, 49(8), 709-724. doi:10.1037/0003-066X.49.8.709
- Epstein, S. (2010). Demystifying Intuition: What It Is, What It Does, and How It Does It. *Psychological Inquiry*, 21(4), 295-312. doi:10.1080/1047840X.2010.523875

- Ericsson, K., & Lehmann, A. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review of Psychology*, *47*, 273-305.
- Evans, J. (2003). The heuristic-analytic theory of reasoning: Extension and evaluation. *Psychonomic Bulletin & Review*, *13*(3), 378-395.
- Faiver, C. M., McNally, C. J., & Nims, P. J. (2000). Teaching a workshop on creativity and intuition in counseling. *Journal of Humanistic Counseling, Education & Development*, *38*(4), 220-229. DOI: 10.1002/j.2164-490X.2000.tb00083.x
- Finke, R. A., Ward, T. B., & Smith, S. M. (1996). *Creative cognition: Theory, research, and applications*. Cambridge, Mass: MIT Press. Available from <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=1709>
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, *51*, 327-358.
- Gendlin, E. T. (1970). The significance of felt meaning. In R. Cormier, E. Chinn & R.H. Lineback (Eds.), *Encounter: An introduction to philosophy*, (pp. 561-566). Glenview, IL: Scott, Foresman & Company. Retrieved from http://www.focusing.org/gendlin/docs/gol_2084.html
- Gendlin, E. T. (1981). *Focusing*. New York: Bantam Books
- Gao, F., & Chen, L. (2005). Bayesian or Non-Bayesian: A comparison study of item parameter estimation in the three-parameter logistic model. *Applied Measurement In Education*, *18*(4), 351-380.

- Gaudio, B. A., Brown, L. A., & Miller, I. W. (2011). Let your intuition be your guide? Individual differences in the evidence-based practice attitudes of psychotherapists. *Journal of Evaluation In Clinical Practice*, *17*(4), 628-634. doi:10.1111/j.1365-2753.2010.01508.x
- Gobet, F., & Simon, H. (1996). Templates in chess memory: A mechanism for recalling several boards. *Cognitive Psychology*, *31*(1), 1-40.
- Goldberg, L. R. (1970). Man versus model of man: A rationale, plus some evidence, for a method of improving on clinical inferences. *Psychological Bulletin*, *73*(6), 422-432. doi:10.1037/h0029230
- Goleman, D. (2006). *Social intelligence: The new science of human relationships*. New York: Bantam Books.
- Gore, J., & Sadler-Smith, E. (2011). Unpacking intuition: A process and outcome framework. *Review of General Psychology*, *15*(4), 304-316.
- Goto, K., Tiffany, J., Peltó, G., & Pelletier, D. (2008). Use of Q Methodology to Analyze Divergent Perspectives on Participatory Action Research as a Strategy for HIV/AIDS Prevention Among Caribbean Youth. *AIDS Education And Prevention*, *20*(4), 301-311.
- Graf, P., Squire, L. R., & Mandler, G. (1984). The information that amnesic patients do not forget. *Journal Of Experimental Psychology: Learning, Memory, And Cognition*, *10*(1), 164-178. doi:10.1037/0278-7393.10.1.164
- Gregg, L. W., & Simon, H. A. (1967). An information-processing explanations of one-trial and incremental learning. *Journal of Verbal Learning & Verbal Behavior*, *6*(5), 780-787. doi:10.1016/S0022-5371(67)80086-0

- Glaser, R. (1997). Instructional technology and the measurement of learning outcomes: Some questions (1963). In J. M. Notterman (Ed.), *The evolution of psychology: Fifty years of the American Psychologist* (pp. 337-342). Washington, DC: American Psychological Association. doi:10.1037/10254-024
- Gurman, A. S. & Messer, S. B. (Eds.). (2003). *Essential psychotherapies: Theory and practice*. The New York: Guilford Press.
- Gustafson, B., Hanley, M., & Popovich, M. (2008). Women's perceptions of female body shapes and celebrity models: The dove firming cream advertising revisited. *American Academy of Advertising Conference Proceedings*, 39-51.
- Hammond, K. R. (1996). *Human judgment and social policy: Irreducible uncertainty, inevitable error, unavoidable injustice*. New York: Oxford University Press.
- Hammond, K., Hamm, R., Grassia, J., & Pearson, T. (1997). Direct comparison of the efficacy of intuitive and analytic cognition in expert judgment. In W. M. Goldstein, & R. M. Hogarth (Eds.) *Research on judgment and decision making: Currents, connections, and controversies*. Cambridge: Cambridge University Press.
- Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, 7(2), 191-205. doi:10.1177/1094428104263675
- Heaton, J. M. (2001). Evidence and psychotherapy. *European Journal Of Psychotherapy, Counselling & Health*, 4(2), 237-248. doi:10.1080/13642530110080998

- Henry, S. (2010). Polanyi's tacit knowing and the relevance of epistemology to clinical medicine. *Journal Of Evaluation In Clinical Practice*, 16(2), 292-297.
doi:10.1111/j.1365-2753.2010.01387.x
- Hodgkinson, G., Langan-Fox, J., & Sadler-Smith, E. (2008). Intuition: A fundamental bridging construct in the behavioral sciences. *British Journal of Psychology*, 99(1), 1-27.
- Hoffman, R. R., Shadbolt, N. R., Burton, A., & Klein, G. (1995). Eliciting knowledge from experts: A methodological analysis. *Organizational Behavior & Human Decision Processes*, 62(2), 129-158.
- Hogarth, R. M. (2001). *Educating intuition*. Chicago: University of Chicago Press.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30(2), 179-185. doi:10.1007/BF02289447
- Jacoby, L. L., & Witherspoon, D. (1982). Remembering without awareness. *Canadian Journal Of Psychology/Revue Canadienne De Psychologie*, 36(2), 300-324.
doi:10.1037/h0080638
- Jeffrey, A. (2012). The clinical intuition exploration guide: A decision-making tool for counselors and supervisors. *Family Journal: Counseling and Therapy For Couples And Families*, 20(1), 37-44.
- Jeffrey, A., & Stone Fish, L. (2011). Clinical intuition: A qualitative study of its use and experience among marriage and family therapists. *Contemporary Family Therapy: An International Journal*, 33(4), 348-363. doi:10.1007/s10591-011-9161-7

- Kagan, K. H., & Kagan, N. I. (1997). Interpersonal process recall: Influencing human interaction. In C. r. Watkins (Ed.). *Handbook of psychotherapy supervision* (pp. 296-309). Hoboken, NJ: John Wiley & Sons Inc.
- Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*, *58*(9), 697-720. doi:10.1037/0003-066X.58.9.697.
- Kahneman, D., & Klein, G. (2009). Conditions for intuitive expertise: A failure to disagree. *American Psychologist*, *64*(6), 515-526.
- Karelaia, N., & Hogarth, R. M. (2008). Determinants of linear judgment: A meta-analysis of Lens Model studies. *Psychological Bulletin*, *134*(3), 404-426.
- Kenny, D. A., & Albright, L. (1987). Accuracy in interpersonal perception: A social relations analysis. *Psychological Bulletin*, *102*(3), 390-402. doi:10.1037/0033-2909.102.3.390
- Kerlinger, F. N. (1973). *Foundations of behavioral research*. New York: Holt, Rinehart and Winston.
- Kubinger, K. D., Holocher-Ertl, S., Reif, M., Hohensinn, C., & Frebort, M. (2010). On minimizing guessing effects on multiple-choice items: Superiority of a two solutions and three distractors item format to a one solution and five distractors item format. *International Journal of Selection & Assessment*, *18*(1), 111-115. doi:10.1111/j.1468-2389.2010.00493.x
- Klein, G. A. (1993). A recognition-primed decision (RPD) model of rapid decision making. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.),

- Decision making in action: Models and methods* (pp. 138–147). Norwood, NJ: Ablex.
- Klein, G. A., Calderwood, R., & Clinton-Cirocco, A. (1986). *Rapid decision making on the fire ground. A cradle for human factors*. Proceedings Of The Human Factors Society 30th Annual Meeting, Dayton, Ohio, 1, 576-580.
- Kruglanski, A., & Orehek, E. (2007). Partitioning the domain of social inference: Dual mode and systems models and their alternatives. *Annual Review Of Psychology*, 58, 291-316.
- Langan-Fox, J., & Shirley, D. (2003). The nature and measurement of intuition: Cognitive and behavioral interests, personality, and experiences. *Creativity Research Journal*, 15(2-3), 207-222. doi:10.1207/S15326934CRJ152&3_11
- Lee, H., Jo, K., Chee, K., & Lee, Y. (2008). The perception of good death among human service students in South Korea: A Q-methodological approach. *Death Studies*, 32(9), 870-890.
- Levinson, S. C. (1995), Interactional bias in human thinking. In E. Goody (Ed), *Social intelligence and interaction: Expressions and implications of the social bias in human intelligence*. Cambridge, England: Cambridge University Press.
- Lichtenberg, J. W. (1984). Believing when the facts don't fit. *Journal of Counseling and Development*, 63(1), 10-11. doi:10.1002/j.1556-6676.1984.tb02670.x
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence.

- Journal of Personality and Social Psychology*, 37(11), 2098-2109.
doi:10.1037/0022-3514.37.11.2098
- Lucock, M. P., Hall, P., & Noble, R. (2006). A survey of influences on the practice of psychotherapists and clinical psychologists in training in the UK. *Clinical Psychology & Psychotherapy*, 13(2), 123-130. doi:10.1002/cpp.483
- Mednick, S. (1962). The associative basis of the creative process. *Psychological Review*, 69(3), 220-232. doi:10.1037/h0048850
- McKeown, B., & Thomas, D. (1988). *Q methodology*. Newbury Park, CA: Sage Publications.
- McKeown, M., Stowell-Smith, M., & Foley, B. (1999). Passivity vs. militancy: A Q methodological study of nurses' industrial relations on Merseyside (England). *Journal Of Advanced Nursing*, 30(1), 140-149. doi:10.1046/j.1365-2648.1999.01058.x
- Meehl, P. E. (1945). The dynamics of "structured" personality tests. *Journal of Clinical Psychology*, 1(4), 296-303.
- Meehl, P. E. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence*. Minneapolis, MN US: University of Minnesota Press.
doi:10.1037/11281-000.
- Mendel, R. R., Traut-Mattausch, E. E., Jonas, E. E., Leucht, S. S., Kane, J. M., Maino, K. K., & ... Hamann, J. J. (2011). Confirmation bias: why psychiatrists stick to wrong preliminary diagnoses. *Psychological Medicine*, 41(12), 2651-2659.
doi:10.1017/S0033291711000808

- Mitchell, M. L., & Jolley, J. M. (2010). *Research design explained: Instructor's edition* (7th ed.). Belmont, CA: Wadsworth/Cengage Learning.
- Moustakas, C. E. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage Publications.
- Mushquash, C., & O'Connor, B. (2006). SPSS and SAS programs for generalizability theory analyses. *Behavior Research Methods*, 38(3), 542-547.
- National Board of Certified Counselors. (2012). The National Counselor Examination for Licensure and Certification. Retrieved from <http://www.nbcc.org/nce>
- Norcross, J. C. (2013). *Psychotherapy relationships that work*. Paper presented at the 5th Annual UCF Counseling Conference, Orlando, FL.
- Norris, J. (1996, March). Rapid decision making on the fireground. *Fire Engineering*, 89.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill, Inc.
- Patel, S. H. (2010). *An investigation of counselor educators' attitudes towards Evidence-Based Practices and perceived barriers to the incorporation of evidence-based practices in counselor education curricula*. (Dissertation). Retrieved from ProQuest Dissertations and Theses.
- Patterson, M. L., & Stockbridge, E. (1998). Effects of cognitive demand and judgment strategy on person perception accuracy. *Journal of Nonverbal Behavior*, 22(4), 253-263.
- Prentice, D. A., & Miller, D. T. (1992). When small effects are impressive. *Psychological Bulletin*, 112(1), 160-164. doi:10.1037/0033-2909.112.1.160

- Prietula, M., & Simon, H. (1989). The experts in your midst. *Harvard Business Review*, 89(1), 120-124.
- Polanyi, M. (1964). *Science, faith, and society*. Chicago: University of Chicago Press.
- Pollock, J. L. (1991). OSCAR: A general theory of rationality. In J. Cummins & J. L. Pollock (Eds.): *Philosophy and AI: Essays at the interface*. Cambridge, MA: MIT Press.
- Porter, S., Doucette, N., Woodworth, M., Earle, J., & Macneil, B. (2008). Halfe the world knowes not how the other halfe lies : Investigation of verbal and non-verbal signs of deception exhibited by criminal offenders and non-offenders. *Legal And Criminological Psychology*, 13(1), 27-38.
- Raidl, M., & Lubart, T. I. (2000). An empirical study of intuition and creativity. *Imagination, Cognition And Personality*, 20(3), 217-230. doi:10.2190/34QQ-EX6N-TF8V-7U3N
- Reber, A. S. (1989). Implicit learning and tacit knowledge. *Journal of Experimental Psychology: General*, 118(3), 219-235. doi:10.1037/0096-3445.118.3.219
- Reber, A. S. (1993). *Implicit learning and tacit knowledge: An essay on the cognitive unconscious*. New York: Oxford University Press.
- Reik, T. (1948). *Listening with the third ear: The inner experience of a psychoanalyst*. New York: Farrar, Straus.
- Richeson, J. A., & Shelton, N. J. (2005). Brief report: Thin slices of racial bias. *Journal of Nonverbal Behavior*, 29(1), 75-86. doi:10.1007/s10919-004-0890-2
- Roediger, H. L. (1990). Implicit memory: Retention without remembering. *American Psychologist*, 45(9), 1043-1056. doi:10.1037/0003-066X.45.9.1043

- Rogers, C. (1986). Rogers, Kohut, and Erikson: A personal perspective on some similarities and differences. *Person-Centered Review, 1*, 125-140.
- Rogers, C. R. (1986). Client-centered therapy. In I. L. Kutash & A. Wolf (Eds.), *Psychotherapist's casebook: theory and technique in the practice of modern psychotherapy* (pp. 197-208). San Francisco: Jossey-Bass Publishers.
- Rogers, C. R., & Traux, C. B. (1967). The therapeutic conditions antecedent to change: A theoretical view. In C. R. Rogers (Ed.), *The therapeutic relationship and its impact: A study of psychotherapy with schizophrenics*. Madison, WI: University of Wisconsin Press.
- Rorty, R. 1967. Intuition. In P. Edwards (Ed.), *Encyclopedia of philosophy*: 204–212. New York: Macmillan.
- Rosenhan, D. L. (1973). On being sane in insane places. *Science, 179*(4070), 250-258. doi:10.1126/science.179.4070.250
- Rosenthal, R. (1990). How are we doing in soft psychology?. *American Psychologist, 45*(6), 775-777. doi:10.1037/0003-066X.45.6.775
- Rosenthal, R., Hall, J. A., DiMatteo, M. R., Rogers, P. L., & Archer, D. (1979). *Sensitivity to nonverbal communication: The PONS Test*. Baltimore: The Johns Hopkins University Press.
- Ross, L., Lepper, M. R., & Hubbard, M. (1975). Perseverance in self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal Of Personality And Social Psychology, 32*(5), 880-892. doi:10.1037/0022-3514.32.5.880

- Sattler, J. M. (2001). *Assessment of children: Cognitive applications*. San Diego: Jerome M. Sattler Publisher, Inc.
- Scherer, K., & Scherer, U. (2011). Assessing the ability to recognize facial and vocal expressions of emotion: Construction and validation of the emotion recognition index. *Journal of Nonverbal Behavior*, 35(4), 305-326.
doi:<http://dx.doi.org.ezproxy.lib.ucf.edu/10.1007/s10919-011-0115-4>
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Seger, C. (1994). Implicit learning. *Psychological Bulletin*, 115(2), 163-196.
doi:10.1037/0033-2909.115.2.163
- Shiffrin, R. M., & Schneider, W. (1977). Controlled and automatic human information processing: II. Perceptual learning, automatic attending and a general theory. *Psychological Review*, 84(2), 127-190. doi:10.1037/0033-295X.84.2.127
- Shirley, D. A., & Langan-Fox, J. (1996). Intuition: A review of the literature. *Psychological Reports*, 79(2), 563.
- Simon, H. A. (1987). Making Management Decisions: the Role of Intuition and Emotion. *Academy Of Management Executive*, 1(1), 57-64.
doi:10.5465/AME.1987.4275905
- Simon, H. A. (1992). What is an “explanation” of behavior? *Psychological Science*, 3(3), 150-161.
- Simon, H. A., & Barenfeld, M. (1969). Information-processing analysis of perceptual processes in problem solving. *Psychological Review*, 76(5), 473-483.
doi:10.1037/h0028154

- Skovholt, T., & Ronnestad, M. (1992). Themes in therapist and counselor development. *Journal of Counseling & Development, 70*(4), 505-515.
- Skovholt, T. M., Rønnestad, M., & Jennings, L. (1997). Searching for expertise in counseling, psychotherapy, and professional psychology. *Educational Psychology Review, 9*(4), 361-369. doi:10.1023/A:1024798723295
- Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin, 119*(1), 3-22. doi:10.1037/0033-2909.119.1.3
- Smith, H. B. (1999). Managed care: A survey of counselor educators and counselor practitioners. *Journal Of Mental Health Counseling, 21*(3), 270-84.
- Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30*(4), 526-537. doi:10.1037/h0037039
- Spengler, P. M., White, M. J., Aegisdottir, S., Maugherman, A. S., Anderson, L. A., Cook, R. S., & ... Rush, J. D. (2009). The meta-analysis of clinical judgment project: Effects of experience on judgment accuracy. *Counseling Psychologist, 37*(3), 350-399.
- Spivack, J. D. (1974). Interpersonal process recall: Implications for psychotherapy. *Psychotherapy: Theory, Research and Practice, 11*(3), 235-238.
- Stainton Rogers, W. (1995). Q-methodology. In J. Smith, R. Harre & L. Van Langenhove (Eds.), *Rethinking methods in psychology* (pp. 178–207). New York: Sage.
- Stanovich, K. E. (1999). Who is rational?: Studies of individual differences in reasoning. Mahwah, N.J: Lawrence Erlbaum Associates.
- Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences, 23*(5), 645–726.

- Strauss, E., Sherman, E. S., & Spreen, O. (2006). *Compendium of neuropsychological tests: Administration, norms, and commentary*. Oxford University Press.
- Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *American Psychologist*, *51*(7), 677-688. doi:10.1037/0003-066X.51.7.677
- Swank, J. M., Lambie, G. W., & Witta, E. (2012). An exploratory investigation of the counseling competencies scale: A measure of counseling skills, dispositions, and behaviors. *Counselor Education & Supervision*, *51*(3), 189-206. doi:10.1002/j.1556-6978.2012.00014.x
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston: Pearson Education, Inc.
- Thordsen, M., Galushka, J., Klein, G. A., Young, S., & Brezovic, C. (1990). *A knowledge elicitation study of military planning*. U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue, Alexandria, VA. Retrieved from www.scholar.google.com
- Thompson, V. A., Prowse Turner, J. A., & Pennycook, G. (2011). *Intuition, reason, and metacognition*. *Cognitive Psychology*, *63*(3), 107-140.
- Tielen, M., van Staa, A., Jedeloo, S., van Exel, N., & Weimar, W. (2008). Q-methodology to identify young adult renal transplant recipients at risk for nonadherence. *Transplantation*, *85*(5), 700-706.
- Trepal, H. C., Wester, K. L., & Shuler, M. (2008). Counselors'-in-Training Perceptions of Gendered Behavior. *Family Journal: Counseling and Therapy For Couples And Families*, *16*(2), 147-154.

- Truax, C. B. (1966). Therapist empathy, warmth, and genuineness and patient personality change in group psychotherapy: A comparison between interaction unit measures time sample measures and patient perception measures. *Journal Of Clinical Psychology, 22*(2), 225-229.
- Ullen, F., De Manzano, Ö., Almeida, R., Magnusson, P., Pedersen, N., Nakamura, J., &...Madison, G. (2012). Proneness for psychological flow in everyday life: Associations with personality and intelligence. *Personality and Individual Differences, 52*(2), 167-172.
- Urbina, S. (2004). *Essentials of psychological testing*. Hoboken, N.J.: John Wiley & Sons.
- Velicer, W. F., & Jackson, D. N. (1990). Component analysis versus common factor analysis: Some further observations. *Multivariate Behavioral Research, 25*(1), 97-114. doi:10.1207/s15327906mbr2501_12
- Velicer, W. F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika, 41*(3), 321-327.
- van Excel, J., & de Graaf, G. (2005). Q-methodology: A sneak preview. Retrieved from <http://www.qmethodology.net/index.php?page=1&year=2005>.
- Ward, C. C., & House, R. M. (1998). Counseling Supervision: A Reflective Model. *Counselor Education & Supervision, 38*(1), 23.
- Warrington, E., & Weiskrantz, L. (1968). New method of testing long-term retention with special reference to amnesic patients. *Nature, 217*(5132), 972-974.
- Warrington, E. K., & Weiskrantz, L. (1970). Amnesic syndrome: Consolidation or retrieval. *Nature, 228*(5272), 628-630.

- Watts, S., & Stenner, P. (2005). Doing Q methodology: Theory, method and interpretation. *Qualitative Research in Psychology*, 2(1), 67-91.
doi:10.1191/1478088705qp022oa
- Waxer, P. H. (1974). Therapist training in nonverbal communication: Nonverbal cues for depression. *Journal of Clinical Psychology*, 30(2), 215-218. doi:10.1002/1097-4679(197404)30:2<215::AID-JCLP2270300229>3.0.CO;2-Q
- Waxer, P. (1976). Nonverbal cues for depth of depression: Set versus no set. *Journal of Consulting And Clinical Psychology*, 44(3), 493. doi:10.1037/0022-006X.44.3.493
- Waxer, P. H. (1977). Nonverbal cues for anxiety: an examination of emotional leakage. *Journal of Abnormal Psychology*, 86, 306-314. doi: 10.1037/0021-843X.86.3.306
- Weis, M. L. (2009). *A phenomenological investigation of licensed professional counselors' perspectives of clinical intuition*. (Doctoral Dissertation). Retrieved from ProQuest Dissertations and Theses.
- Welling, H. (2005). The intuitive process: The case of psychotherapy. *Journal of Psychotherapy Integration*, 15(1), 19-47.
- Westcott, M. R. (1961). On the measurement of intuitive leaps. *Psychological Reports*, 9(2), 267-274. doi:10.2466/pr0.1961.9.2.267
- Williams, D., & Irving, J. (1996). Intuition: A special kind of knowing?. *Counselling Psychology Quarterly*, 9(3), 221-228.
- Wilson, T. D., & Schooler, J. W. (1991). Thinking too much: Introspection can reduce the quality of preferences and decisions. *Journal Of Personality and Social Psychology*, 60(2), 181-192. doi:10.1037/0022-3514.60.2.181

Witteman, C. M., Spaanjaars, N. L., & Aarts, A. A. (2012). Clinical intuition in mental health care: A discussion and focus groups. *Counselling Psychology Quarterly*, 25(1), 19-29.

doi:<http://dx.doi.org.ezproxy.lib.ucf.edu/10.1080/09515070.2012.655419>

Yates, M., McGahan, J., & Williamson, J. (2000). Intuitive covariation assessment of the illusory correlation. *The Journal of General Psychology*, 127(4), 397-411.