

**The Relationship Between Treatment Outcome, the Therapeutic Alliance, Empathy, and  
Heart Rhythm Coherence in Counselors-in-Training and Their Clients in a Community  
Setting**

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A Thesis

Presented to

The Faculty of the Department of Psychology

Brenau University

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In Partial Fulfillment

Of the Requirements for the Degree

Master's of Science

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By

Anna Bishop

Jacqueline Martin

May 2015

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Anna and Jackie

### Dedications

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Jacqueline Martin:

I dedicate this thesis with thanks to my husband and children for being supportive, understanding, and willing to take up a lot of slack for a busy mom in her late-life endeavor.

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### Abstract

The effectiveness of psychotherapy as a treatment for mental health disorders has been demonstrated overwhelmingly in extensive psychological studies. With increased demand for mental health resources, it is important to identify factors that facilitate successful treatment and measure a positive outcome. Three of these factors, therapist empathy, heart rhythm coherence and the therapeutic alliance, have been shown to be necessary for effective treatment. The current study examined the biopsychosocial aspects of empathy in the alliance, using coherence as a physiological marker of emotional self-regulation as a condition for empathy. This study considered possible relationships between treatment effectiveness, empathy, heart rhythm coherence, and the therapeutic alliance. Results indicated that the client's perception of their therapist's empathy was significantly related to their therapist's level of coherence. Client depression scores were also significantly related to their perceptions of client empathy. Finally, the study found that client symptoms significantly decreased from pre-treatment to post-treatment.

Keywords: treatment outcome, therapeutic alliance, empathy, heart rhythm coherence

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## Chapter One

### INTRODUCTION

Mental health includes the social, emotional and psychological well-being areas of life. It can influence how an individual handles stress, interacts with their environment, works productively, gives meaningful advancements to their communities, and make decisions, while simultaneously affecting how one behaves, feels and thinks. With appropriate and strong attention to mental health, a person is more likely to engage in sustaining, productive and positive decision making behaviors. However, some individuals may experience mental health problems that may affect their mood, thoughts or behavior; these challenges may be the result of biological processes, a family history, or negative life experiences. When these problems begin to interfere with his or her everyday functioning, research shows many turn to psychotherapy for assistance in alleviating their symptoms (Burns, 2004; Davydov, Stewart, Ritchie, & Chaudieu, 2004)

Recent data from 2013 in the field of counseling and mental health services that was collected by the National Institute of Mental Health (NIMH) suggests that one out of four adults, or approximately 61.5 million people, will report symptoms of mental illness in one year, while one in 17, or approximately 13.6 million Americans, are diagnosed with a serious mental illness such as Bipolar Disorder, Major Depressive Disorder, or Schizophrenia (National Institutes of Health [NIH], 2013). Addressing these disorders can be complicated because each individual's needs vary according to their specific symptoms; but, research has consistently shown the most widely effective course of treatment for many clients is a combination of psychopharmacology and psychotherapy with a trained mental health professional (Brooks, Pilgrim, & Rogers, 2011;



Palinkas, Ell, Hansen, Cabassa, & Wells, 2011; Prince et al., 2007; Proctor et al., 2009; Wang, Demler, & Kessler, 2002).

Historical data and recent studies support the idea that therapy is effective.

Approximately 40% of those who receive treatment for their mental health complaints will do so from a counselor or psychologist, and those who receive counseling report a higher rate of a reduction of symptoms than those who do not receive treatment (Druss et al., 2007). In 2013, the Substance Abuse and Mental Health Services Administration (SAMHSA) found, in the National Survey on Drug Use and Health, that 34.1 million individuals aged 18 and older, or 14.5% of that population, received counseling or mental health treatment in the past year (Substance Abuse and Mental Health Services Administration, 2013). This number will only increase as the availability of mental health services becomes standard in health insurance coverage.

It is difficult to define and measure a successful outcome in therapy, primarily due to the number of complex constructs involved in the practice. These various constructs can hinder accurate data collection, but mental health practitioners have seen the necessity of implementing outcome measurements in their practices for many reasons: first, an open line of communication regarding the client's progress or stagnation can present an opportunity for both parties to adjust the current course of treatment if needed. Outcome assessments also provide counselors with standardized tools for treatment planning and an ongoing method to measure the client's well-being on a weekly or bimonthly basis (Lambert, 1992; Wampold & Brown, 2005).

There are many factors that comprise a beneficial course of counseling. Extra-therapeutic factors, or those characteristics outside of the treatment setting, are those included in client behaviors, motivations, outside experiences and perceptions, and intra-therapeutic factors, like the relationship between the client and therapist and the level of empathy that the client perceives

from the therapist, are two highly researched elements of counseling. As mental health clinicians become aware of the various factors that are more likely to yield positive treatment outcomes and greater symptom reduction, their ability to reach and assist their clients becomes greatly enhanced, therefore providing a higher level of care (Ackerman & Hilsenroth, 2003; Horvath & Luborsky, 1993; Lambert, 1992; Lutz, Leon, Martinovich, Lyons, & Stiles, 2007; Sprenkle & Blow, 2004).

The relationship that is formed between the client and their therapist, specifically in the context of counseling, is known as the therapeutic alliance. The alliance has been found to be a causative construct in promoting positive treatment outcome (Crits-Christoph et al., 2011; Lambert & Bergin, 1994). Additionally, the therapeutic alliance appears to be a relatively strong predictor of client change, mainly supported by the finding that it is one of the most researched variables in studies analyzing therapy outcome data (Castonguay, Constantino, & Holtforth, 2013; Horvath & Luborsky, 1993; Lambert & Barley, 2001; Thomas, 2006).

Two constructs shown to be directly related to the extra- and intra-therapeutic factors are empathy and heart rate variability. Empathy is a subjective construct with many accepted definitions across theoretical lines, but researchers that study the construct agree that it has cognitive, affective and biological components. Empathy has been characterized as the ability to feel the needs, experiences, frustrations, sorrows, hurt, and desires of others as if they were his/her own; specifically, the construct can be embodied as a counselor feeling, understanding, and experiencing the client's environment as if they were actually entering their client's world to assume their perspective (Decety & Lamm, 2009; Greenberg, Watson, Elliot, & Bohart, 2001; Imel, Hubbard, Rutter, & Simon, 2013).

Counselor empathy, observed from the client's perspective, is frequently interpreted as a pivotal characteristic of the therapeutic relationship, and therapists who are seen by their clients to be highly empathetic are found to be more effective clinicians. The rapport established between the two parties encourages compassion and conveys that the therapist connects with their client's experiences. Attunement through verbal and nonverbal communications provides a two-way continuous effort to stay connected through the collective here-and-now context that counseling fosters in its participants. This attunement can be directly expressed through empathic associations between the therapist and client (Elliot, Bohart, Watson, & Greenberg, 2011; Hall, Harrigan, & Rosenthal, 1996; Imel, Hubbard, Rutter, & Simon, 2013; Ritter et al., 2002; Rogers, 1958).

Next, Heart Rate Variability (HRV) has been shown to reflect and affect psycho-emotional states and as such may be considered a factor both internal and external to therapy. It is the measure of the intervals between heartbeats and serves as an indicator of emotional self-regulation. More variability between heartbeats is a strong indicator of increased health, prosocial behaviors, and physical and psychological well-being. The vagus nerve is the autonomic link between stress, emotional self-regulation and health. Further, it sends information to the brain that effects cognitive function and emotional stability. Greater vagal tone may be useful in promoting empathic behaviors (McCraty, 2003). However, in the therapeutic context, it is largely unknown if greater HRV promotes empathy or a positive relationship between the counselor and the client, or if lower counselor HRV may indicate a lack of empathy or a negative therapeutic relationship.

Much research has been devoted to studying HRV as an indicator of emotional self-regulation, and analysis into the specific psychophysiological measure termed "heart

rhythmcoherence” has been steadily growing. Heart rhythm coherence (HRC) reflects the heartbeat intervals pattern graphed over time, which reflects emotional states. Analysis of these patterns yields more information about emotional regulation than the amount of HRV alone. HRV reflects the flexibility of autonomic response while heart rhythm reflects synchronization between the autonomic nervous system’s response to emotional stimuli, consequent activation of the hormonal system, and mediation by the prefrontal cortex. There is a gap, however, in research concerning heart rhythm coherence and its application in the psychotherapy context, especially inquiry into known therapeutic factors predicting successful therapeutic outcome. This line of research would be particularly useful in training future therapists to deliver optimal treatment. Therefore, the current study seeks to examine levels of therapist empathy and possible correlations to resting therapist heart rhythm coherence measurements; i.e., the study asks whether greater therapist empathy is correlated with a greater percentage of therapist coherence in a resting, baseline state. The study also will examine the correlation between therapist empathy and therapeutic alliance, and the effectiveness of the client’s counseling experience as measured by symptom reduction pre- and post-treatment, and reports of perceived empathy and therapeutic alliance.

In the literature review following, research clarifying and operationalizing these terms will be explored. Developing a greater understanding of the factors involved in sustaining therapeutic bonds and facilitating successful treatment outcomes will greatly enable training of effective counselors. The APA has called for a sustained effort by graduate programs to inculcate empathy in counselors-in-training, and the present study offers an effective means of supporting this effort. The study seeks to demonstrate that empathy levels in counselors-in-training may be to some degree captured by a non-invasive physiological measure; by showing a correlation

between a physiological marker, therapist self-awareness, and client experience the subjective conceptualization of empathy may be made more objective. Currently, physiological indices of psychological states are enormously expensive and impractical for clinical use. With this study, research into effective counselor training in therapeutic empathy will be enhanced. In the clinical context, supportive practice in generating a coherent state conducive of empathy may be initiated, and more resilient therapeutic alliance may be sustained, leading to an optimal level of care for future clients.

Ultimately, in the interest of increasing treatment effectiveness, the coherence measure shows promise towards becoming an established means of assessment, symptom amelioration, as well as a subtle, nonverbal treatment modality. Communication between the counselor and client may be enhanced and measured by heart rhythm coherence biofeedback in real-time through the therapy context, allowing for a window into alliance ruptures and facilitating repair. Coherence research has already produced many replicable studies of lasting effects of heart rhythm coherence biofeedback training on physical and psychological well-being. Many hospitals, schools, universities, corporations, police departments and the United States Armed Services have already adopted coherence training to promote optimal performance and wellness. Currently, coherence training is taught within a coaching modality by trained mentors. It may be only a matter of time before coherence is adopted as an indicator of therapeutic outcome, and significantly, as a reliable and verifiable means to promote empathic understanding in the therapy setting. The present study may contribute to the existing and future studies on the cutting edge of research into what may in the next few years become endorsed as Coherence Therapy. As Shedler (2010) has stated, psychological health is not defined merely by the absence of symptoms, but rather also includes the positive presence of inner capacities and resources for

living a richer, more varied and easeful life. Heart rhythm coherence has been shown to support inner capacities such as resilience to stress and resources of well-being. The current study proposes that empathic connection will be supported by an inner empathic capacity, as reflected in heart rhythm coherence.

## Chapter Two

### Literature Review

Psychotherapy is an established and beneficial treatment for those suffering with psychological distress such as anxiety, depression, personality disorders, trauma, and addiction in the United States. Psychotherapy, or counseling, is described by the American Psychological Association (APA) as the:

informed and intentional application of clinical methods and interpersonal stances derived from established psychological principles for the purpose of assisting people to modify their behaviors, cognitions, emotions, and/or other personal characteristics in directions that the participants deem desirable. (APA, 2012; Norcross, 1990, p. 218-220).

The American Counseling Association (ACA) has defined therapy, or counseling, as the professional relationship that can empower families, groups and individuals to attain mental health, career, education and wellness goals (Kaplan, Tarvydas, & Gladding, 2014). There are many types of counseling interventions that exist to treat clients' various emotional, behavioral, psychological or social challenges. These interventions are based on widely studied and validated theories of development, but it is important to note that despite the orientation or intervention the therapist implements in counseling, research has found each type of therapy frequently yields positive results for the client seeking treatment (Campbell, Norcross, Vasquez, & Kaslow, 2013; Norcross, 2002).

Indeed, psychotherapeutic interventions have been widely accepted as beneficial to those receiving services; 65% of psychotherapy patients will report a positive outcome, compared to 35% of those on a therapy wait-list for the same time period (Norcross & Wampold, 2011; Wampold, 2011). Counseling can be effective for all forms of client challenges. Clinical trials

have shown therapy to be helpful in reducing symptoms related to marital problems, trauma, addiction, anxiety and depression across all populations (Arnow et al., 2013; Druss et al., 2007; Lambert & Ogles, 2004).

Research suggests that the average individual in counseling is healthier overall than 79% of untreated individuals (Campbell, Norcross, Vasquez, & Kaslow, 2013). In further research, when compared to control groups, the effect size of the difference in outcome ranges between .75 and .85. An effect size measures the strength of a phenomenon. An effect size of 0 indicates the phenomenon is considered weak, while an effect size close to 1.0 suggests that the relationship in the phenomenon is stronger. Therefore, an effect size that ranges between .75-.85 indicates a relatively strong correlation between counseling and symptom reduction. This finding, amongst countless similar studies, reinforces the belief that psychotherapy is conducive to client well-being and overall emotional health (Lambert & Ogles, 2004; Rønnestad & Skovholt, 2003; Wise, 2004).

### **Treatment Effectiveness**

To further analyze the benefits of psychotherapy, the APA extensively reviewed existing research and adopted a resolution acknowledging the many assets counseling provides to its clients. The committee responsible for the APA (2012) special report on the effects of therapy concluded that the effects of therapy are significant and large, with variance primarily due to client and clinician/context factors rather than diagnosis or method. They asserted that the therapeutic alliance is atheoretical; regardless of the counseling theory that the therapist uses in treating clients in vivo, the relationship is a necessary underlying element to produce symptom change. Therapy goals, and thus metrics of effectiveness, include symptom relief, personality change, decrease in future symptom episodes, enhanced quality of life, adaptive functioning, an



increase in healthy life choices, and overall benefits from the therapeutic collaboration (Campbell, Norcross, Vasquez, & Kaslow, 2013; Minami et al., 2008; Minami et al., 2009).

Carl Rogers (1959) described the outcomes of therapy as duplicative of the process itself. He noted that gains in, for example, awareness and expression of feelings during therapy become consolidated and apparent outside of therapy, and thus are concluded to be relatively permanent changes in personality. Rogers contended that as long as the initial conditions of empathy, congruence and communication of positive regard are met, the process of change follows, with improvement in psychological adjustment and a reorganized self-concept. Further, Lambert et al. (2001) asserted that at-risk patients were less likely to regress and more likely to stay in therapy for a longer period of time, and approximately twice as many patients improved when outcome measures were integrated into the therapeutic process. Their findings support the ongoing belief of many clinicians that analyzing treatment outcome is an integral element of the counseling practice (Lambert, Hansen, & Finch, 2001; McAleavey, Nordberg, Kraus, & Castonguay, 2012; Wampold & Brown, 2005).

Measuring the efficacy of a course of therapy has been challenging to determine and establish due to the many intricate constructs involved in the process of individual counseling. Researchers have spent years finding the most efficient means to determine the success of therapy. Hans Strupp (1963) asserted that, in his time, the changes made in therapy had not been sufficiently developed and claimed that outcome could be analyzed by what occurs in the counseling session; he recommended that session audio and videotapes be used as a significant tool for measuring outcome (Hill, Chui, & Baumann, 2013; McAleavey, Nordberg, Kraus, & Castonguay, 2012).

### **Symptom Reduction**

Evaluating treatment effectiveness encompasses a range of constructs, including a comparison of improvements or declines in patient symptomatology. To analyze the changes in the client's presenting symptoms, which are often the challenges that caused the individual to seek counseling, a quantitative and/or qualitative baseline is gathered and compared to post-treatment data of the same measures (Eckert, Abeles, & Graham, 1988). Achieving symptom reduction allows for improvement in general functioning and social functioning as well as subjectively experienced well-being, and these effects may be interrelated (Howard, Lueger, Maling, & Martinovich, 1993; Mufson et al., 2004; Sprenkle & Blow, 2004).

Many practitioners use a combination of qualitative and quantitative research designs to assess symptom reduction across time, known as a mixed-methods approach. The different types of design provides a variety of information and can yield a richer interpretation of the data. Additionally, mixed-methods research designs allow for easier generalization from a sample to a population. Qualitative designs give participants an unrestricted platform to fully ponder their responses and may consist of interviews and/or counseling sessions, noting any counselor observations, and interpreting case notes or charts (Heppner, Wampold, & Kivlighan, 2007). Open-ended questions are often used to provide clients an opportunity to fully explain their perspectives in counseling experiences. However, qualitative designs are more likely to be subjective; the conductor's previous influence or knowledge of the client or testing data may produce a bias in the results (Hill, Chui, & Baumann, 2013; McAleavey, Nordberg, Kraus, & Castonguay, 2012; Midgley, Ansaldo, & Target, 2014; Miller, Hubble, Chow, & Seidel, 2013).

Quantitative measures include self-report surveys, controlled clinical trials, and correlational research studies. An argument to support a quantitative approach to measuring outcome is the assertion that these reports are more likely to be objective; a unit of evaluation is established by the survey's authors and interpreted in a standard fashion using predetermined research norms. These types of measurements are often subject to the analyst's interpretation and results can be falsely attributed according to the researcher's experimental hypotheses (Hanson, Creswell, Clark, Petska, & Creswell, 2005; Heppner, Wampold, & Kivlighan, 2007).

The Outcome Questionnaire-45 (OQ-45) is a 45-item self-report quantitative survey that is used to assess the level of client disturbance at the beginning stages of treatment and throughout the individual's therapy. A 5-point Likert scale (5 = Almost Always, 1 = Never) measures the client's recall of the events of the previous week and is similar to the information that would be gathered in a simple clinical interview. Scores on the OQ-45 can be compared to expected treatment results to serve as a reference of treatment outcome on a session-by-session timeline. The measure has a high level of test-retest reliability (.84 over a three-week span) and internal consistency (.90). Another assessment of treatment effectiveness, The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM), is a 34-item self-report survey that assesses the respondent's level of current symptoms of psychological distress. The CORE-OM contains 4 separate subscales: symptoms, well-being, risk/harm and functioning. The assessment is intended to be given at the onset of treatment and after the final session is completed; when the scores are compared, the practitioner can note the degree to which their client's level of presenting symptoms changed. Internal consistency has been shown to be good at .75-.95 (Barkham et al., 2001; Evans et al., 2002).

In addition to personality change as understood by the client-centered orientation, enhanced quality of life has been measured in order to test the effectiveness of therapy with depressed and borderline personality clients (Giesen-Bloo et al., 2006; Minami et al., 2008; Ryff & Singer, 1996). The Clinical Global Impressions Scale, which is a global assessment of improvement, was used to assess improvement following therapy at a university clinic that had recently instituted an EBT approach policy. Based upon a chart review, the one item measure rating a response to therapy, from “very much improved” to “very much worse,” yielded a significant difference in pre- and post-policy change. In a review of outcome research and process research, Drozd & Goldfried (1996) argued for more emphasis on the mechanisms of change rather than on the outcomes of a specific treatment for a specific diagnosis. According to the researchers, a renewed sense of hope, engagement in a warm, supportive therapy relationship, an increased sense of self-awareness, and the corrective experiencing of more functional ways of relating to the world are central to the therapeutic process. However, manualization of evidence-based therapies in outcome studies, primarily focused on symptom reduction, will continue due to the combined pressures of cost effectiveness and standardization of treatment groups for such research.

Data has also supported the theory that treatment effectiveness can be measured by a reduction of the client’s presenting symptoms. Comprehensive research has shown that the therapeutic alliance is correlated with treatment effectiveness. Much consideration has been focused on the points at which therapeutic alliance should be assessed in the course of treatment. Research by Falkenström, Granström, & Holmqvist (2013) supports the idea that symptom reduction and the therapeutic alliance are associated when they found that higher alliance scores immediately measured after a session were associated with symptom reduction at the next

appointment. When controlling for symptoms that might negatively affect the alliance, their research showed a statistically significant effect on the alliance-symptom reduction relationship from session to session. Conversely, they found that when the alliance scores are worse than expected with one client, the client is more likely to report worsened symptoms at the following session.

### **Therapeutic Relationship/Alliance**

As the ACA (2012) definition describes, counseling is a relationship that empowers clients to seek and achieve emotional wellness. This relationship between the therapist and the client is known as the therapeutic alliance. Though the concept has its roots in the psychodynamic and Rogerian theoretical orientations, it is currently considered a widely accepted necessity in all interventions regardless of the counselor's theoretical perspectives (Baldwin, Wampold, & Imel, 2007; Corso et al., 2012; Falkenström, Granström, & Holmqvist, 2013; Horvath & Bedi, 2002; Horvath, Del Ra, Flückiger, & Symonds, 2011; Martin, Garske, & Davis, 2000).

The therapeutic relationship was initially researched by Bordin, who termed the construct the "working alliance." Bordin's research focused on two central elements for change in the counseling environment: the strength of the alliance between the client and what he terms the "change agent," and the magnitude of the tasks that are included in the alliance. According to Bordin (1979), this interaction is the foundation for the patient to be motivated to comply with treatment goals and participate in his own treatment. He asserted that therapeutic effectiveness was mostly related to the degree of the alliance (Ackerman & Hilsenroth, 2001; Bordin, 1983; Bordin, 1994; Horvath & Greenberg, 1989; Sauer, Lopez, & Gormley, 2003). According to Bordin's treatment model, one of the most effective elements of psychotherapeutic change is the

rapport between the counselor and client (Castonguay, Constantino, & Holtforth, 2013; Lambert & Ogles, 2001).

Following on Bordin's initial work, researchers have referred to the different elements of the relationship between clients and their counselors in various terms, including the helping alliance, the therapeutic bond and the therapeutic alliance (Lambert & Hawkins, 2004). The therapeutic alliance aids the counselor when working with clients of all symptomatology; mainly, the ability to feel *with* another person, which is an important feature of psychotherapy, has been found to be central to forming a helping relationship. Similarly, an agreement regarding treatment objectives, confidence, general rapport, and commitment to the kinds of activities that are required in the helping journey are considered indicators of a good alliance (Corso et al., 2012). The alliance is considered in its optimal form when clients and counselors agree to achieve the same goals and actively work to meet them; at this pivot, research asserts, progress is most likely to occur. Similarly, the events of the session are considered more successful when the counselor's and client's perceptions of the alliance are in agreement (Ardito & Rabellino, 2011; Bordin, 1983; Hersoug, Høglend, Monsen, & Havik, 2001; Marmarosh & Kivlighan, 2012). Additionally, in a meta-analysis of 11 studies, comprising 1301 participants, researchers found a moderately strong negative relationship between psychotherapy dropout rates and therapeutic alliance (Sharf et al., 2010).

Scales measuring alliance strength are crucial to understanding the importance of alliance to therapy and are based on varying understandings of the construct from different theoretical orientations. As a part of a larger research effort at the University of Pennsylvania, Luborsky (1994) designed a series of measures to specifically test his psychodynamic perspective of the relationship. The Helping Alliance Counting Signs method tested two types of the alliance: the

patient's perspective of the therapist's ability to provide the necessary help and the patient's view of therapy as a process of working together toward treatment goals. The Penn Helping Alliance Rating and the Helping Alliance Questionnaire, collectively referred to as the Penn Scales, contain many subscales that are highly correlated. These scales measure the extent to which the patient perceives therapy and their counselor as beneficial and helpful. Two types of helping alliance are included in the assessments: Perceived Helpfulness, also known as Type I, which is understood as the patient's perception of the therapist as contributing, or being capable of contributing, the help needed, and Bonding or Collaboration, also known as Type II, which is understood as the client's perception of his or her treatment as a process of working together with the counselor toward treatment goals. (Bethea, Acosta, & Haller, 2008; Horvath, Del Re, Fluckiger, & Symonds, 2011; Martin, Garske, & Davis, 2000). However, the scales only study the relationship from a psychodynamic orientation. Chronbach's *alpha* for the Penn Scales has been shown to be .91, while the interrater reliability is .68. Overall reliability for the scales has been found to be .74 (Luborsky, 1994; Martin, Garske, & Davis, 2000).

At Vanderbilt University, Strupp and his colleagues also formed measures that explore an integrative and dynamic approach to psychotherapy. The authors were guided by the research performed by Orlinsky and Howard (1975). The Vanderbilt Psychotherapy Process Scale (VPSS), which is an 80-item self-report scale, assesses the relationship between the counselor and client as well as the process of therapy. It is a widely used scale and used in many populations, including children, teens and substance use clients. Because the VPSS merges many concepts of the therapeutic alliance, the relevance of the measure is considered to be widespread. Further, the scale has proven to have strong inter-rater reliability (.94-.79), internal consistency

(.96-.82) and validity (Elvins & Green, 2008; Gomes-Swartz, 1978; Krupnick et al., 1996; Orlinsky, Ronnestad, & Willutzki, 2004).

Current research seems to favor the centrality of alliance to therapy outcome, and the APA (2002) special report on therapy effectiveness emphasized the substantial contribution of the relationship to successful treatment outcome. Yet Crits-Christoph and colleagues (2011) noted that there is another body of alliance research that asserts that alliance is less important than technique. In order to investigate the discrepancy, they re-examined the studies reviewed in two meta-analyses, which found that alliance accounted for only 5% of the variance in treatment outcomes (Crits-Christoph et al., 2011; Horvath & Bedi, 2002; Martin, Garske, & Davis, 2000). Crits-Christoph et al. found that the method of the individual studies was primarily to assess alliance at one session. Their own study found that measuring alliance over at least four sessions early in treatment, and averaging the scores, increased the outcome variance to 14.7%. Patient level scores disaggregated from therapist ratings showed alliance accounted for 9% of outcome variance. They concluded that alliance is a dependable predictor of treatment outcome and suggested repeated measures throughout therapy. (Crits-Christoph et al., 2011). This has implications for therapist training, as both the APA (2002) and others have stated that it is crucial for training programs to offer explicit and competency-based training in relationship skills (Lambert & Barley, 2001).

Lambert & Barley's review of the literature, using 100 studies, averaged the effects of several therapeutic effectiveness elements, specifically extra-therapeutic factors, techniques, expectancy and common factors. Their research found that common factors, or client-therapist relationship factors, accounted for 30% of outcome variance, as opposed to 15% for therapeutic techniques. Client-therapist factors, mainly empathy, warmth and congruence, were delineated as



facilitative conditions. They noted that these conditions are overlapping, but therapists should learn to communicate empathy by adapting their therapeutic styles if necessary. Citing a study by Orlinsky et al. (2004), which identified therapist variables like empathic understanding as highly related to client outcome, Lambert & Barley concluded that training in the communication of empathy is vital for the counseling environment; from their extensive meta-analysis, they claimed that an intense empathy training curriculum would be a better conduit of change than any specific counseling technique taught in counseling programs (Lambert & Barley, 2001; Okiishi, Lambert, Nielsen, & Ogles, 2003).

The therapeutic alliance has been found to be positively correlated with positive psychotherapy outcomes and, overall, appears to be a relatively strong predictor of client change (Beutler, Forrester, Gallagher-Thompson, Thompson, & Tomlins, 2012; Falkenström, Granström, & Holmqvist, 2013; Horvath & Bedi, 2002; Horvath & Greenberg, 1989; Lambert & Barley, 2001). Horvath, Del Re, Fluckinger, & Symonds (2011) found a significant correlation ( $p < .001$ ) between alliance and outcome in a meta-analysis of over 200 studies. The alliance has also been found to be a causative factor in positive treatment effectiveness rather than merely a reflection of results (Crits-Christoph et al., 2011; Lambert & Bergin, 1994). Seeking to counter the objection that alliance may be mediated by prior symptom improvement, Falkenström, Granström, & Holmqvist (2013) controlled for this by using a within-client design and measuring alliance at different times. Conversely, they found a reciprocal causal effect, where a positive alliance predicted improvement in symptoms and symptom improvement predicted a positive alliance.

Considerable evidence has repeatedly supported the assumption that one of the most effective elements of treatment is the rapport between the counselor and client; indeed, it is one

of the most researched variables in the therapy outcome data, which accounts for over 1,000 findings (Castonguay, Constantino, & Holtforth, 2013; Horvath & Luborsky, 1993; Lambert & Ogles, 2004). The benefits offered by the collaboration constitute the therapy relationship along with alliance, empathy and goal consensus (Norcross, Butler, & Levant, 2005). Considering evidence-based practices (EBPs) and empirically-supported treatments (ESTs), Norcross and his colleagues concluded that any attempt to promulgate EBPs without stressing the therapy relationship would be “seriously incomplete and potentially misleading” (Norcross, ppt).

The existing literature suggests there is a difference in the client and counselor understandings of alliance (Hatcher et al., 2005). Bedi, Davis, & Arvay (2005) conducted a study that included 9 adult patients that attended between 6 and 20 sessions of psychotherapy with the same counselor. These patients provided a combined 107 incidents within the first 6 weeks of counseling, which the researchers defined as any event or behavior in therapy that was observable and specific. Participants rated the events from 1 (Irrelevant) to 10 (Very Significant). These events were placed in 8 categories based on conceptual similarities. Researchers analyzed the factors that clients identified as important to the alliance formation, which is important because the client’s perspective of the state of the alliance is found to be more closely related to positive treatment outcome than the therapist’s perspective (Hall, Harrigan, & Rosenthal, 1996; Horvath & Bedi, 2002; Sexton, Hembre, & Kvarme, 1996). Their study found that general counseling skills, like the counselor’s nonverbal communications, verbal support or sharing of experiences, accounted for a significant portion of the therapist’s behaviors that strengthened the presence of a working relationship. The counseling environment, tracking of the counseling process, and personal attributes of the counselor also played an important role in the client’s appraisal of the alliance. These researchers suggest that attending skills, reflections, self-

disclosure and verbal expressions of support may comprise some of the most effective means to form a therapeutic alliance. The study supports other existing research, like the one authored by Vicisano et al. (2004), which found that the most effective counselors placed the relationship as a priority in treatment.

The timing of the alliance formation may also affect the course of therapy. Barber et al. (1999) proposed that the alliance is formed after the second session and fluctuates until the fifth session, relative to the chosen intervention. Additionally, some data supports that establishing and securing a positive relationship earlier in the course of treatment may predict fewer instances of dropout and greater reports of positive outcome (Ackerman & Hilsenroth, 2003; Connors et al., 2000; Martin, Garske, & Davis, 2000).

Though the development of the therapeutic relationship is unique to each pair, studies have found that a similar pattern can be seen in most alliance formations. Fitzpatrick, Iwakabe, and Stalikas (2005) studied the course of alliance formation in early, middle and late stages of therapy. He provided therapists and clients with the Working Alliance Inventory (WAI) at each stage and found that their reports of alliance steadily increased through each stage. However, other data suggests that the alliance is a steady variable that remains mostly balanced. Sexton et al. (2005) administered the WAI to clients and therapists after each session for 10 weeks. After analyzing the data, specifically omitting the first session's WAI scores, the researchers failed to find an increase in alliance ratings; they suggest their findings indicate the alliance is formed after the first session. The differences in findings may be due to the frequent collection of data by Sexton et al. (2005); because the working alliance was measured after every session, participants may have failed to see a significant improvement that may otherwise be observed if the data was collected sporadically, as in Fitzpatrick et al. (2005). However, the WAI has been found through

extensive research to be a superior and reliable tool for measuring the quality and strength of the alliance (Hatcher & Gillaspay, 2006; Tracey & Kokotovic, 1989).

Further, Cramer and Tankins (1992) studied the temporal relationship between client ratings of therapist empathy and therapist acceptance, as well as between therapist- and client-measured therapeutic progress at regular treatment intervals, specifically Sessions 2 and 6. Thirty-seven clients participated in weekly 45-minute individual long-term person-centered and psychoanalytic therapy by 37 experienced counselors. Counselors and clients completed short surveys after sessions in the second and sixth week of therapy. These questionnaires were answered on a 4-point Likert scale and consisted of statements regarding the previous session. The two surveys were identical for clients and their therapists; six statements examined therapeutic progress and therapist acceptance. A third assessment, also six statements, tested the client's understanding of their counselor's level of empathy. When the data was analyzed, Session 2 client ratings of progress were a strong predictor of Session 6 client ratings of therapist empathy (TE) and therapist acceptance (TA). Additionally, Session 2 TE showed a negative correlation with Session 6 client ratings of their progress, but Session 2 client ratings of progress was unrelated to Session 6 TA. Finally, Session 2 TA and TE were positively related with Session 6 progress as rated by the therapist. Cramer and Tankin's study reinforced the role of the therapeutic alliance, specifically the role of therapist acceptance and empathy, in promoting the progress of counseling while pinpointing an approximate timeline of appropriate alliance measurement.

Counselor acceptance is an important, but not exclusive, element of the therapeutic alliance. Individuals enter into the counseling relationship with their own distinctive manner of emotional expression, thinking and behaving. Similarly, counselors possess their own

personalities and traits that may shape the way they provide therapy. Clients' perception of the working alliance is a better predictor of therapeutic alliance than personality similarities or client symptomatology (Bachelor, Meunier, Laverdière, & Gamache, 2010; Beutler et al., 2012; Taber, Leibert, & Agaskar, 2011). However, other researchers have found the opposite. In a study of 13 therapists employing exposure-based cognitive therapy with 20 depressed patients, researchers found that both clients' friendly behavior and complementarity with the therapists predicted therapeutic alliance in the beginning of treatment (Altenstein et al., 2013). As the APA (2002) noted in its recognition of therapy effectiveness, variation in therapeutic alliance, and thus outcome, is often due to client and clinician factors rather than a specific diagnosis or therapeutic technique, therefore possibly accounting for the difference in research results.

Those with positive expectations of therapeutic change and those who are well-adjusted are more likely to form stronger alliances. Clients with more mild complaints are more likely to develop solid relationships with their counselor. Conversely, patients who are hostile as well as those with anxiety, personality disorders, paranoia or cognitive impairments may find their diagnoses undermine their perceptions of the therapist, therefore negatively affecting the therapeutic alliance (Bender, 2005; Conners et al., 2000; Messer & Wolitzky, 2010).

In a study with a sample size of 60 clients with a DSM-5 clinical diagnosis of depression receiving a cognitive form of counseling for their symptoms, Lorenzo-Luaces and his colleagues (2014) researched the alliance-outcome relationship across a specific subset of client symptoms. They found that patients with less than 3 depressive episodes reported a substantially greater alliance-outcome correlation, while there was no significant alliance-outcome relationship in patients who reported more than 3 depressive episodes. This may be a result of a variety of factors, but the researchers propose a higher amount of depressive symptom relapse, lifelong or

childhood adversity, and the age of their first depressive episode may cause a lower outcome relationship in this population. They also suggest that those with fewer episodes of depression may be more receptive to negative and positive social interactions, while those who are more likely to experience intense and increased episodes may also experience underlying psychological pathology that may interfere with the establishment of a therapeutic alliance (Lorenzo-Luaces, DeRubeis, & Webb, 2014).

### **Resistance**

Another determinant of the counseling relationship is conscious or unconscious discord from the client, known as resistance. Rooted in classic psychoanalytic theory, it was once characterized as the client's unconscious deflection of the work needed in therapy. Resistance indicates an unwillingness to participate and comply, and it is seen as a kind of direct obstructionism to the actions of the therapist. Improvement is pivotal on cooperation between the two parties, and when a client presents with an active refusal to engage and assist in their own treatment goals, progress towards those goals is dramatically impeded. Researchers have found that clients who are ready to make necessary changes are more likely to form an alliance. Primarily, those who are motivated and eager to improve their symptoms may attend therapy more consistently than their counterparts (Beutler, Rocco, Moleiro, & Talebi, 2001; Meier, 2014).

### **Therapist Differences**

There are various components and conditions derived from the therapist that may be conducive to developing a strong alliance. Evidence suggests that individual differences among mental health practitioners account for a large percentage of treatment outcome relative to specific therapeutic techniques. (APA, 2004; Lutz, Leon, Martinovich, Lyons, & Stiles, 2007;

Taber, Leibert, & Agaskar, 2011). The debate over the therapist's personal characteristics and their influence on treatment outcome is not a new one; Strupp, Fox and Lessler (1969) found that clients who perceived their therapy as successful were more likely to describe their therapist using positive and affirming descriptors like "warm, attentive, interested..." (p. 116) and emphasized the genuine nature of the therapist (Lambert & Barley, 2001).

Luborsky et al. (1985) found that in spite of firm adherence to the study's protocol, there were significant differences between therapists. Further, individual therapist effects can account for approximately 5-8% of outcome variance (Crits-Christoph et al., 1991). Therapist effects were shown to be over 6% in a rigorously controlled study where adherence to treatment was maintained (Project MATCH Research Group, 1998). These effects have often been referred to as nuisance variables that early studies attempted to control, but the data has shown that the influence of these variables may be important in establishing the rapport necessary for a positive alliance (Anderson et al., 2009). As Norcross and Lambert described, "despite impressive attempts to experimentally render individual practitioners as controlled variables, it simply is not possible to mask the person and the contribution of the therapist" (2004, p. 8).

Therapist nonverbal behaviors, such as trunk lean and eye contact, can indicate a readiness to receive and respond to clients' needs. Small interpersonal signals that demonstrate the therapist's interest can be identified as a common component of their client's reported perceptions (Strupp & Anderson, 1997). In a study of perceived empathy and treatment credibility, observers rated videos of four experienced therapists according to combinations of posture and eye contact. The results indicate significant differences exist between forward versus upright posture, and high and low eye contact, thus finding that forward-leaning body language is more likely to convey an empathetic stance (Ackerman & Hilsenroth, 2003; Dowell &

Berman, 2013). Clients who reported their therapist conveyed disinterested and disengaged interpersonal signals were more likely to report negative treatment outcomes (Anderson et al., 2009; Henry, Schacht, & Strupp, 1990; Strupp & Anderson, 1997).

The therapist's interpersonal skills also appear to be a meaningful factor in facilitating positive client outcome. Higher rates of client improvement have been noted from clients whose therapist had higher levels of interpersonal skills when compared to those whose therapist had lower reports of those same skills. Thus, a strong therapeutic alliance is often fostered by an increase in positive communication, openness, empathy, and a lack of confrontational communication on the part of the therapist (Anderson, Ogles, Patterson, Lambert, & Vermeersch, 2009; DeRubeis, Brotman, & Gibbons, 2005; Lutz, Leon, Martinovich, Lyons, & Stiles, 2007; Norcross & Hill, 2002; Wampold, 2011). In his discussion of the relationship effect, Norcross (1990) described an empathically relating therapist as one who offers positive regard, congruence, ongoing feedback, repair of ruptures, self-disclosure, countertransference management and quality relational interpretations. Such a therapist would adapt the therapy for the particulars of each client while bearing in mind general research-based methods. He called for explicit and competency-based training in the effective relational elements in order to inculcate a systematic adaptation to the individual client.

Another active contributor to the therapeutic alliance specifically provided by the counselor is positive regard, or simply regard. Rogers (1957) was a primary proponent who asserted that the counselor's attitude and personable nature were necessary to the therapeutic process and would largely contribute to the client's change; in fact, he surmised that no matter how clinical or scholarly the therapeutic interpretations were, the client's growth could not occur without a strong relational element to the counseling environment (Farber & Doolin, 2011).



To assess positive regard, researchers conceptualized the Truax Relationship Questionnaire (RQ), which is a self-report measure consisting of 141 items, 73 of which are distinctly modeled to assess the concept of warmth (Truax & Carkhuff, 1967). Most have reported that the test-retest and internal reliability ranges between .75-.95, and independent raters have averaged a correlation of .72, showing a solid reliability amongst assessors (Klein, Kolden, Michels, & Chisholm-Stockard, 2002).

Truax and Mitchell (1971) performed a meta-analysis of 12 studies that focused on warmth and regard. Their research found a strong correlation between therapeutic outcome and positive regard (Bergin & Garfield, 1971). However, others asserted that there were other ways to interpret the data Truax and Mitchell initially analyzed. They claimed that out of the 108 relationships found in the Truax and Mitchell summary, 34 were significantly positive (Mitchell, Bozarth, Truax, & Krauft, 1973; Parloff, Waskow, & Wolfe, 1978). This discrepancy may be due to mathematical error or a selective study of the available data (Farber & Doolin, 2011).

Differences or similarities between the personalities of the client and therapist may be crucial in the development of the alliance. Taber, Leibert, and Agaskar (2011) examined the relationship between the degree of personality similarity, the working alliance, and treatment effectiveness. Their results indicate that personality similarity, or congruence, was related to the bond; Taber and colleagues posit that this relationship may be a reflection of the degree to which clients feel validated by their counselor. Conversely, a deficit in congruence may clarify why some therapists have problems forming a bond with their client (Taber, Leibert, & Agaskar, 2011).

It is important for the therapist to communicate openly with the client about the progress of the agreed-upon treatment goals at regular intervals. This communication in the context of

counseling, known as feedback, provides the client with a report of improvements or deficits in the person's behavior or the effects of that behavior. Typically, feedback has evaluative and descriptive elements of one's behavior relative to a standard or goal (Cleiborn, Goodyear, & Horner, 2002). Feedback was first used in the context of group therapy by social psychologist Kurt Lewin (1946), who stated that behavior was the result of the individual and each particular situation.

There are two types of feedback in the context of counseling: positive and negative feedback. Positive feedback can result in the continuation of one's desired behavior by encouraging them to repeat the healthy behaviors. Negative feedback instructs the individual to return to a homeostatic, or baseline, environment; in essence, positive feedback serves as a reinforcer to appropriate behaviors, while negative feedback discourages unhealthy actions (Kokotovic, 1992; Morran, Robison, & Stockton, 1985).

At times, the relationship may suffer a break known as a rupture. An alliance rupture is defined as a fluctuation or a damage in the quality of the therapeutic relationship (Safran, Crocker, McMains, & Murray, 1990). These disruptions can be major events or minor actual or perceived tensions, but increased intensity of the rupture, as reported jointly by counselors and their clients, was associated with poor outcome on factors like empathy and measures of interpersonal functioning. A rupture or perceived weakened alliance is correlated with termination, thus suggesting that addressing the possibility of an alliance rupture may be important in a positive treatment outcome. Dropout rates were found to increase if the therapist failed to resolve these breakdowns (Safran, Muran, & Eubanks-Carter, 2011; Safran, Muran, Samstag, & Stevens, 2001). Because, as noted above, clients' level of attachment to their therapists may be a better predictor of therapeutic alliance than personality or client

symptomatology, so a rupture in that alliance could indicate a serious challenge to treatment effectiveness (Bachelor, Meunier, Laverdière, & Gamache, 2010; Beutler et al., 2012).

The experience level of the therapist has also been studied as a possible variable that affects the alliance (Berman & Norton, 1985; Dunkle & Friedlander, 1996). In a study that compared the effectiveness of professional mental health counselors with paraprofessional counselors, Hattie, Sharpley and Rogers (1984) used a meta-analysis study pattern and found paraprofessionals were more effective than their professional counterparts with a higher level of training; the researchers claim that paraprofessionals should be treated as effective partners in the helping professions despite their lack of equivalent certification or licensure. However, Berman and Norton's (1985) study found no evidence that paraprofessionals with less experience were more effective than professionals; they assert that the discrepancy with Hattie et al.'s research may be attributed to a difference in data analysis.

### **Empathy**

Other, more abstract, qualities of the counseling relationship can be observed as highly significant and beneficial to a positive treatment outcome. Empathy, an intra-therapeutic construct, can be seen as a potential motivator for an individual, like a mental health clinician, aiding others, namely their clients, who are perceived to be in an emotionally distressed state (Greenberg, Watson, Elliot, & Bohart, 2001; McDonald & Messinger, in press; Thomas, 2006). First coined by German philosopher Robert Vischer (1873, as cited in Coplan & Goldie, 2011) as *Einfühlung*, or in-feeling, the current concept was later translated into its common usage, empathy, by psychologist E.B. Titchener (1909, as cited in Olinick, 2014). Vischer initially referred to this connection in aesthetic terms as one's ability to enter into a work of art and feel the emotions the artist wished to convey to the observer. Similarly, a strong relationship

between individuals is dependent on the ability of each party to feel the emotions that the other desires to represent (Clark, 1980; McLaren, 2013; Rogers, 1958).

It has been difficult to find a widely used definition of empathy, which is reflected in the varying conceptualizations in past and current literature. Some have described empathy in a categorical sense, labeling as affective empathy that which allows one person to respond to another using the same emotion (Irving, Dobkin, & Park, 2009), and a cognitive empathy as one's ability to take the intellectual perspective of another individual (Davis, 1996; Gladstein, 1983; Singer & Lamm, 2009). Other researchers have assumed a more experiential aspect of empathy. Clark (1980) characterized empathy as the ability to feel the needs, experiences, frustrations, sorrows, hurt, and desires of others as if they were his/her own by assuming an as if perspective: a counselor feeling, understanding, and experiencing the client's environment as if actually stepping into the client's world to take the client's perspective (Decety & Lamm, 2009; Greenberg, Watson, Elliot, & Bohart, 2001). This prosocial connection with others promotes understanding and encourages compassion (Epley, Keysar, Van Boven, & Gilovich, 2004; Tomova, von Dawans, Heinrichs, Silani, & Lamm, 2014). Some psychologists characterize empathy as a trait or dispositional state reflected in both affective (empathic concern) and cognitive (hypothesis testing) qualities (Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008).

Though the concepts of sympathy and empathy have often been used interchangeably, the constructs should not be confused. Clark (2010) specified that empathy requires self-other boundaries not present in sympathy, and that they may be differentiated along four dimensions: aim, appraisal, apprehension, and agreement. Plainly, sympathy is a self-oriented response, while empathy recognizes a need in the other based on self-perceptions that motivate concern.

Sympathy can be viewed as a compassionate or concerned response to feelings of another and an emotional state of mind. Persons experiencing sympathy may have difficulty disentangling their emotions from the other's emotional state (Decety, 2006; Stepien & Baernstein, 2006). For Kohut (1980), empathy is a form of understanding, a "values-neutral" observation, and a cognitive attribute. The ability to care for the welfare of others without merging aspects of the self into the other differentiates empathy from sympathy. Gruen & Mendelsohn's (1986) original research reinforced the theory that sympathy and empathy are two separate ideas. Continually, psychologists have chosen to define empathy as an emotional process that requires one individual to assume the perspective of another (Batson et al., 1997; Lam, Kolomitro, & Alamparambil, 2011; Riess et al., 2012).

Though Jean Piaget never explicitly mentioned empathy in his developmental model of personality, he referenced the idea when he defined the importance of role-taking in a child's development and growth (Gladstein, 1983; Piaget, 1964, as cited in Olinick, 2014). This indicated achieving the ability to see another's perspective may be a common stage of development. Hoffman (1991) classified empathy as a developed cognitive awareness to others' emotional states using a vicarious affective response.

Because empathy can also be classified as a social connection established by emotional awareness, interactions with others in the social environment can be central to a healthy human life. Research has found that relationships require a level of empathy, specifically an affective form of empathy, to understand and communicate the cognitive and emotional states of others. Specifically, because it has been considered an important indicator of healthy social relationships, the ability to convey empathy is thought to be an important factor in managing and mitigating the psychological, physiological and emotional symptoms of stress (Eisenberg, 2000;

O'Brien, DeLongis, Pomaki, Puterman, & Zwicker, 2009). A lack of received empathy may result in increased levels of stress or a decreased perception of overall psychological well-being.

Because the general population often reports an increased amount of symptoms resulting from stress and may seek psychotherapy based on these symptoms, it is important to understand the interconnection between an individual's perception of stress, overall psychological well-being, empathy, and the emotional regulation skills that may enhance the general quality of life (Brockhouse, Msetfi, Cohen, & Joseph, 2011; Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallup, 2011).

Empathy, as one of many elements of the therapeutic alliance, promotes psychological well-being in clients; counselor empathy is often described as a crucial component of therapeutic alliance and those who are perceived by their clients to be highly empathetic are more effective clinicians (Imel, Hubbard, Rutter, & Simon, 2013; Moyers & Miller, 2013; Ritter et al., 2002). Empathic counselors engaged in both affective and cognitive empathy skills focused on their clients' perceptions, feelings, assumptions and values (Greenberg, Watson, Elliot, & Bohart, 2001). In a 2002 review of the aforementioned APA Task Force, Division 12, charged with identifying evidence-supported treatments, Norcross and Hill (2002) stated that the report had left out the therapeutic relationship. Another Task Force, Division 29, was formed to identify evidenced-supported relationships, or ESRs. The therapeutic alliance was found to be effective, across 87 studies measuring outcome, with an effect size of .21. In addition, the relation of empathy to treatment outcome was found to be demonstrably effective, and indeed causally related to therapy outcome, with an effect size of .32. Discussing the meta-analysis of 47 studies, Norcross and Hill (2002) suggested that empathy is linked to outcome because it promotes an environment of exploration, encourages clients' active growth and self-healing behaviors, is a

positive relationship objective, and can serve as a corrective emotional experience (Mercer & Reynolds, 2002). Empathy, in this context, was defined as a therapist's "sensitive ability to understand the client's thoughts, feelings and struggles from the client's point of view" (p. 20).

Summarizing the findings of the Interdivisional Task Force on Evidence-based Therapy Relationships, Norcross and Wampold (2011) stated that the demonstrably effective elements of the therapy relationship are alliance, empathy and collecting client feedback, while goal consensus, collaboration and positive regard are indicated as probably effective. Norcross and Wampold assert that taking note of possible resistance, preferences, cultural differences and spirituality is a means by which to improve the elements of alliance shown to be definitely and probably effective, and to adapt to particular patient characteristics. In their analysis, practitioners are urged to continually monitor the therapy relationship and adapt as needed. Counselors are also advised to make the cultivation of the relationship a primary goal while using evidence-based guidelines for therapy relationships and evidence-based treatments concurrently.

Psychological researchers have often sought to distinguish whether the administered therapeutic treatments can cure disorders or if therapeutic relationships heal clients. Burns and Nolen-Hoeksema (1992) examined whether empathy caused symptom improvement or if patients who improved perceived their therapists as more empathic. In a study of 185 depressed clients treated by Cognitive Behavioral Therapy (CBT), those who rated their therapists high on empathic concern and warmth showed significantly more improvement than those who rated therapists as less empathic, even when homework compliance, depression severity, borderline personality disorder, medication, therapist experience and other variables were controlled for (Burns & Nolen-Hoeksema, 1992). They found a negligible effect of depression scores upon

clients' perception of therapist empathy, suggesting that severity of symptoms does not account for variance in treatment outcomes.

The researchers found a robust effect of therapist empathy upon reduction in symptoms. Based on their results, and using structural equation modeling, they concluded that evidence existed for a causal relationship between therapist empathy and client recovery even in a technical treatment such as CBT. It is important to note that this study is one of the first to demonstrate that symptom severity, as measured by the Beck Depression Inventory (BDI) did not inherently contaminate results about the impact of therapist empathy. This study was foundational in the APA report on clinical effectiveness.

Interestingly, the authors detected the presence of an unknown variable which was simultaneously associated with higher depression scores and higher empathy ratings. After correlating error terms, they concluded that there must be another variable affecting both empathy and symptom reduction. Trying to account for the opposite effects of this variable they speculated that in this instance, higher BDI scores at 12 weeks co-existing with higher empathy ratings according to the Empathy Scales may describe a subset of patients who are excessively needy and self-blaming, who might show an increase in depressive symptoms at a therapeutic rupture but may idolize the therapist and thus be less likely to rate their therapist as low on empathy (Burns & Nolen-Hoeksema, 1992). The authors cited the works of Beck and Freud for this hypothesis. An unpublished pilot study by the authors of this thesis focusing on empathy and perceived stress had a similarly anomalous finding: scores on the Perceived Stress Scale (PSS) were positively correlated with college students' self-report on the Interpersonal Reactivity Inventory (IRI) measuring empathy, specifically the Fantasy subscale (Bishop & Martin, 2014). The authors had expected higher empathy to be correlated negatively with stress, but there may



be a variable that mediates perceptions of stress, or distress, and self-perceptions of empathy.

Significantly, the fantasy scale measures the ability to identify with fictionalized others, such as an idealized therapist.

Cognitive empathy has also been found to be a protective factor against vicarious distress in therapists. Harrison and Westwood (2009) asked six peer-nominated master therapists the question: “How do you manage to sustain your personal and professional well-being, given the challenges of your work with seriously traumatized clients?” When the clinicians were able to maintain clear boundaries in their empathic engagement, the authors found that the degree of attunement was nourishing and satisfying. The researchers assert that the therapeutic relationship is bidirectional, suggesting the benefits of a healthy alliance positively affect both the client and the therapist. The client may receive the many advantages of a strong alliance, including decreased symptoms, and the therapist may experience the professional satisfaction of assisting them in their counseling process.

Relevant to the therapist experience in the therapeutic relationship is the phenomenon of vicarious distress leading to burnout in physicians. Neumann et al. (2011) suggest that training in coping and self-regulation strategies should help prevent clinicians’ shutting off of an empathic response to their patients in the attempt to avoid burnout. They further cite research indicating that promoting well-being in physicians can increase their capacity to administer care in an empathic manner (West & Shanfelt, 2007).

Researchers allied with schools of medicine are focusing on the effectiveness of clinical empathy, or CE, in physicians upon patient outcomes. After reviewing the literature, Neumann et al. (2011) found that the evidence supported CE as a clear determinant of patient outcome, affecting treatment adherence, willingness to disclose, opportunity for education, and meeting

the need to be valued and understood. Their model of empathic communication in the clinical setting incorporates cognitive, behavioral and affective effects for both clinician and patient. The modes of expression of empathy are assumed to operate along the same dimensions. Feelings of being valued, understood and no longer alone contribute to short-term and intermediate improvement, while the cognitive-behavioral channel works to improve long-term outcomes. Neumann and his colleagues assert that education and adherence to treatment may account for this effect, but the affective channel supports the work going on.

In the 2012 APA resolution concerning the recognition of therapy effectiveness, which stated that effectiveness is rooted in, and enhanced by, the therapeutic alliance, the researchers focused on the client-therapist bond and agreement about goals and tasks. Additionally, emerging research has focused upon the effect of alliance training, with a specific focus on empathy as it relates to client outcomes. In a semi-structured interview, 10 alliance researchers generally concluded that there was a lack of systematic training although there was not consensus support for a gold standard (Constantino, Morrison, MacEwan, & Boswell, 2013).

A few empirical studies have shown that specific training for student therapists is correlated with improved client outcome. Most believed alliance could be fostered through individual and group supervision, coursework and video reviews (Crits-Christoph, Gibbons, Crits-Christoph, Narducci, Schamberger & Gallup, 2006; Constantino et al., 2008; Hilsenroth, Ackerman, Clemence, Strassle, & Handler, 2002; Hilsenroth, Defife, Blagys, & Ackerman, 2006).

In the Hilsenroth et al., (2006) study, first and second year doctoral students received structured training in short-term psychodynamic therapy with an emphasis on psychodynamic interpersonal techniques: training focused on the therapist's situationally-appropriate affect and

expression of emotion, exploration of avoidance, identification of behavior, thought and feeling patterns, past and interpersonal experiences, dreams, wishes and fantasies, and the therapeutic relationship-alliance. Clients who perceived their therapist as possessing greater interpersonal skills reported a substantially lower early termination rate and reduction in depressive symptoms relative to comparison groups. Therapists increased their use of interpersonal techniques while cognitive-behavioral interventions remained unchanged, suggesting the effectiveness of both the training module and the impact of increased therapeutic alliance upon therapy outcome.

When teaching cognitive empathy as an embodied attunement to the client, bodily metaphors help the therapist to experience his or her own empathy in a non-verbal and non-conceptual way (Dekeyser, Elliott, & Leijssen, 2009). Such metaphors include letting go, resonating, moving into, discovering, and grasping. For example, the image of hands letting go of something is linked to the need to be aware of setting aside preconceptions, judgements, and personal issues in order to be present with the client. “Moving into” refers to entering the client’s world and may employ the therapist actively imagining the client’s feelings in his or her own body. The authors suggest that their observations of therapists mimicking clients’ movements reflect not just a phenomenon but an enhanced avenue to empathic resonance (Elliott et al., 2004).

### **The Physiology of Empathy**

This movement into the client’s personal world has a physiological basis. In a comprehensive review of empathy literature, Preston and de Waal (2001) theorized a process model to reconcile the different approaches to understanding empathy, the Perception-Action

Model (PAM). Emotional, cognitive, developmental, physiological, learning and evolutionary models can be integrated into two classes: proximate and ultimate causes. The differing conceptualizations of empathy, then, may be grouped under this umbrella, inviting recognition across disciplines that there need not be conflict. The focus upon the evolutionary basis for empathy, its development in humans, and its appearance across mammalian species suggests that a “phylogenetically continuous” empathy has emerged as a necessary means for survival. Thus, they define empathy broadly as any process whereby the perception of the object’s state generates a state in a subject more like the object’s than what had previously been the state of the subject (Preston & de Waal, 2001). Perception of a sender’s state automatically leads to a representation of that state in the perceiver; the internal representation activates autonomic and somatic responses unless they are inhibited by cortical, effortful control. Individual differences in the strength of empathic response are due to the level of attention to the state of the object. Perceptions may occur from direct observation, or indirectly through association and imagination.

The automatic response to and with the object leads to mimicry, a rudimentary empathy comprised of shared behaviors and imitation that supports the development of empathy. According to a review of applicable studies, imitation is related to rapport, empathy, pro-sociality, and a perception of therapist empathy by a client who has been unobtrusively mimicked (van Baaren, Decety, Dijksterhuis, van der Leij, & van Leeuwen, 2009). There is a biological and evolutionary basis for this finding: to be caring and be cared for, and to communicate that concern, is critical for survival (Preston & de Waal, 2002).

In an interesting example of caring by non-human primates, DeWaal (2014) found that macaques became agitated when observing their conspecifics obtain a different reward for the

same behavior. The reward was either more or less desirable, illustrating a mammalian bias towards fairness. However, chimpanzees were able to forgo their own greater reward, recognizing the less desirable reward of the conspecific; having learned that inequity provokes distress, the chimpanzees would share.

An explanation for this phenomenon may derive in part from a newly emerging theory in the field of socio-cognitive neuroscience, Social Baseline Theory (SBT), which posits that risk distribution and load-sharing among social animals are hardwired into the human brain, enabling our prefrontal cortex (PFC) a means by which to conserve the energy depletion of hypervigilance due to Autonomic Nervous System (ANS) arousal (Coan & Beckes, 2011). In essence, there is a baseline neural state that is maintained by social proximity; being with others, especially in close relationship, allows the PFC to share risk-monitoring and the load of self-regulation with the other. Self-regulation of emotional response involves effortful control and is costly in terms of energy drains, so the adaptation of spreading the function to trusted others allows for efficient energy management. It also, as Coan and Beckes have suggested, argues for considering the social group as the primary unit of study, rather than the individual in isolation (2011).

Discussing empathy in humans from a neurodevelopmental perspective, Decety (2010) described a model of bottom-up processing of affective arousal, and emotional understanding, along with top-down cognitive appraisal, and emotional self-regulation. Her analysis stressed that the complex, socio-cognitive concept of empathy depended upon a whole-body conception, and involved higher and lower brain structures, the autonomic nervous system, and the endocrine system. She theorized that empathy develops from the affective responsiveness of the newborn to faces, involving mimicry and sensorimotor resonance, emerging around two to three years old as

a result of social interactions in the form of emotion understanding, and by ages four or five perspective-taking allows the child to imagine the feelings of another. Emotional regulation is associated with the development of executive function (Decety & Lamm, 2009). Moreover, according to Decety (2010), cognitive processes such as goals, intentions and motivations mediate emotional arousal towards a “mature empathic sensitivity and concern...in the service of goal-directed social behavior” (p. 260). Others have agreed that the overt, automatic responses decline with maturation, as cortical processes come on line and inhibition due to social learning of display rules becomes active. However, the executive functions augment the projection of empathy in the absence of the object, for example, by effortful imagination (Lieberman, 2007; Preston & de Waal, 2001).

Experience-sharing, or affective empathy, had been seen as a separate process involving different areas in the brain from mentalizing, or cognitive empathy, based on early fMRI findings that those brain regions were not on-line concurrently. Recent studies have found that experience-sharing is tied to neural resonance: overlapping systems are engaged when experiencing an interior state while observing the same state in another. Motor intentions, sensory and visceral states are involved automatically in the decoding of another’s goal-oriented movement (Zaki & Oeschner, 2014). The experience-sharing system appears to be complementary to the mentalizing system, perhaps mediating the transfer of information to the temporoparietal junction and the premotor cortex (van Overwalle & Baetens, 2009). Because research designs here-to-fore measured responses to simple and de-contextualized stimuli, such as grasping with the hand, the complementary involvement had been missed (Becchio et al., 2012; van Overwalle & Baetens, 2009; Zaki & Oeschner, 2014). Watching a video with sensorimotor cues and emotional expressions engages experience-sharing while cues to make an

inference engage the mentalizing system, found in the medial prefrontal cortex. Zaki and Oeschner (2014) suggest that areas known to be activated by both processes may be compared with empathic accuracy indices, and in general they recommend neural research be compared to psychological self-report and behavioral measures.

Experience-sharing operates via the mirror neuron system located in the motor and somatosensory cortices, Anterior Cingulate Cortex (ACC), the Orbitofrontal Cortex (OFC), and the Insula. These areas of the brain are activated during experiences related to empathy and attunement (Gallese, Eagle, & Migone, 2007; Gallese, Rochat, Cossu, & Sinigaglia, 2009; Scaer, 2012). Activity in these brain centers was first discovered when researchers observed monkeys watch others reach for food and then reach for food themselves. As described by Scaer (2012), these areas are important for affiliation, bonding and survival. Mirror neurons thus provide support for identification with the behavior of another, and subsequently the perceived emotional state of another.

It appears that people are hard-wired biologically to connect to each other; this organic network can be observed in the bond between mother and infant and family and tribe. Facial expressions, gestures, gaze, and vocal qualities have all been shown to accurately convey emotional and relational states (Buccino et al., 2004). One mechanism by which this happens involves the muscles in the head and neck. Sensory information from these muscles, along with input from the eyes, ears, mouth and nose, is routed directly to the brain regions that receive, organize and associate the communication with procedural memory of similar states. The immediacy of transmission of perceived emotional cues in others attests to the relevance of social connection to safety and vice versa. Porges (2007) proposed a Social Engagement System amongst mammals that involves the limbic, or emotional, center in the brain. When emotions are

expressed or perceived in another, such as by gestures, facial expressions, gaze and prosodic speech, signals travel up the brainstem to the insula and amygdala where the information is processed. The proximity of these muscles to the vagus nerve (discussed below) indicates that feeling states are almost instantaneously recognized and may be acted upon if necessary for survival. In Porges' model, healthy functioning of the vagus nerve is essential to emotional self-regulation, allowing for the perception of safety rather than alarm. Regulation makes empathy, social engagement, and prosocial behaviors possible. As individuals in effect calm down, they are able to differentially allocate resources.

The nervous system's process of continuous assessment and evaluation of risk is termed "neuroception." Inputs from the nervous system are processed in the insula as somatic markers that will be recognized by pattern-matching from the anterior cingulate cortex (ACC) and the orbitofrontal cortex (OFC). According to Damasio (2000), the feeling states that arise from neuroception are body sensations interpreted as emotions and thus play an important role in making conscious our state of well-being from moment to moment (Scaer, 2012). The insula, ACC, and OFC, in addition to being involved in the mirror neuron system, have been shown to be involved in attachment, attunement, empathy and social affiliation.

The mirror neuron and social engagement systems overlap regions in the brain known to be involved in the unconscious regulation of emotion and subject to effects of the Autonomic Nervous System (ANS), suggesting that empathy may be reflected in ANS activity. The same neural systems supporting empathy connect with the amygdala which is the part of the brainstem responsible for survival. In the flight/fight response, when the sympathetic branch of the ANS is activated, the amygdala responds to messages of perceived threat, causing changes in the vagal efferents activating the cardiovascular system (McCraty, 2014). If unregulated by the



prefrontal cortex, the amygdala then initiates a sequence of relays culminating in stress hormone activation by the hypothalamic/pituitary/adrenal (HPA) axis; adrenaline, adrenocorticotropic hormone, and cortisol ready the body to fight. If the HPA axis is activated, these same areas down-regulate the amygdala after the danger is past, enabling the body to return to homeostasis (Scaer, 2012). Cortical inhibition, however, is costly, and activation over time due to perceived stress or intense emotional information prevents energy from supporting more profitable, more recently evolved, cognitive functions.

Much research has focused on how an inability to functionally regulate emotions hinders psychological and physiological well-being and fosters concomitant psychological and physiological disorders. Dysregulation makes it difficult to achieve homeostasis because the stress hormone cortisol remains in the body after the stressful object is removed. Anxiety appears to indicate over arousal of the ANS, while depression may indicate under arousal or the freeze response (Russell-Chapin & Chapin, 2011). Seeking to understand the process linking stress, often perceived as danger, emotional arousal, and disease, researchers have studied the physiological signs of ANS arousal such as heart rate, hormone secretion, and respiration. When a stimulus perceived as stressful activates the fight or flight response, the sympathetic branch (SNS) of the ANS signals the release of adrenaline. Digestion shuts down, breathing becomes shallow, and executive functioning in the prefrontal cortex is slowed amidst a cascade of over 10,000 neurotransmitters. Chronic stress may even be perceived as a normal baseline, such that the emotions associated may be considered the personality and impact self-thoughts (McCraty & Tomasino, 2006; Thayer, Hansen, Saus-Rose, & Johnsen, 2009).

In 2000, Thayer and Lane formulated a model integrating the ANS with emotion regulation: the Neurovisceral Integration Theory. The model accounts for the complex of

cognitive, affective, behavioral and physiological indicators of normal and pathological affective states. Thayer and colleagues defined emotional self-regulation as the ability to read the demands of the environment, select an appropriate emotional response and inhibit the inappropriate. An imbalance in the ANS in which the sympathetic branch is chronically activated, resulting in a decrease in parasympathetic inhibitory control, is implicated in physical and psychological impairment (Thayer & Brosschot, 2005; Thayer & Lane, 2000). They modeled the central nervous system as a central autonomic network; there is structural and functional overlap of many of the above-mentioned cortical and subcortical brain regions which suggests they are integrated into a self-regulatory complex. Because the brain regions are “sparsely interconnected... for maximal organism flexibility in accommodating [to] rapidly changing environmental demands,” dysfunction appears as either “uncoupled” or “rigidly coupled” structures (Thayer & Brosschot, 2005). Interestingly, their description parallels that of Siegel’s understanding of psychological states in trauma survivors who often exhibit either rigidity (avoidance) or chaos (arousal) in response to stimuli (2007). Affective states and associated ANS activation or inhibition directly affect the higher regions of the brain responsible for judgements and adaptive behaviors. Neurovisceral integration explains why higher states of cognitive performance and emotional self-regulation are associated with vagally mediated heart rate variability (Thayer et al., 2009).

### **Heart Rate Variability**

The neurovisceral link between stress, emotional self-regulation and overall positive health is the vagus nerve, which slows the heart and sends information to the brain. Respiratory sinus arrhythmia, the interaction of heart and respiration and associated nerve impulses, affects the sino-atrial node of the heart, resulting in the vagally mediated aspect of heart rate variability

(Task Force, 1996). HRV alternates parasympathetic (PNS) and sympathetic (SNS) processes and produces healthy, adaptive beat to beat variability (Porges, 2007). The complex interactions between the cardiovascular and respiratory control systems and the relative balance between parasympathetic and sympathetic activity is modulated by the medulla oblongata. It integrates the afferent, or ascending, signals coming from peripheral and somato-sensory neurons and the efferent, or descending, signals from the cortical regions of the brain. Most vagal neuron fibers are afferent. The field of neurocardiology has shown that cardiac and brain activity is primarily directed by the intrinsic cardiac nervous system (McCraty & Shaffer,).

HRV, measured as the intervals between heartbeats, serves as a measure of physiological and psychological health. Just as high heart rate indicates vulnerability to heart disease, a finding from the early stress research, low levels of HRV have been linked to dysfunction and disease in the immune, cardiovascular, digestive and endocrine systems (Thayer & Brosschot, 2005). Low HRV has also been associated with panic and anxiety (Friedman & Thayer, 1998a), depression (Thayer et al., 1998), generalized anxiety disorder (Mankus et al., 2013; Thayer, Friedman, & Borkovec, 1996;), and PTSD (Tan et al., 2010). Higher HRV has become an established measure of ANS flexibility, the ability to change from an aroused SNS response to a more context appropriate, resting PNS state (Applehans & Luecken, 2006; Hovland et al., 2013; Task Force, 1996).

As a physiological indicator of emotional self-regulation, central to psychological well-being and empathy, the amount of HRV has been correlated with psychological, self-report testing. A recent study designed to test the association of cardiac vagal tone (CVT) with emotional self-regulation and social engagement found that adults with higher CVT as measured by HRV were more likely to engage in seeking social support in coping with distress. They also

disengaged or became angry less frequently than those with lower CVT (Geisler, Kubiak, Siewert, & Weber, 2013). Therapeutic outcome studies have investigated increasing levels of HRV by methods such as meditation, mindfulness, yoga-based relaxation, and biofeedback training with success (Burg, Wolf, & Michalak, 2012; Mankus et al., 2013; Sarang & Telles, 2006).

Other research has studied the social-psychological effects of the over-arousal of the SNS. The interrelationship of the style and the intensity of emotional regulation appears to predict empathy (Eisenberg et al., 1994). Moderate inhibitory control was correlated with prosocial behaviors and expressions. Personal distress, however, was correlated with higher levels of inhibition and lack of sociality. Lower capacity to self-regulate and inhibit indicated frustration and aggression. Using heart rate (HR) deceleration as a marker of vicarious emotional responding, which has been found to be associated with sympathy-inducing contexts and prosocial behavior in children and adults, the study found that individual differences in responding to others are related to differences in emotionality and regulation (Eisenberg et al., 1989; Eisenberg & Fabes, 1990).

Fabes, Eisenberg & Eisenbud measured HRV levels in children presented with a film of a child in distress and found that those with higher HRV levels showed empathy, or sympathy, in their terminology, rather than avoidance. Children who were able to regulate their emotional reactivity were less likely to display distress and more likely to have dispositional helpful behavior as reported by their mothers. The authors theorized that greater flexibility of vagal activity enabled these children to modulate their arousal, thereby exhibiting prosocial responses. Greater flexibility of vagal tone may be conducive of empathic behaviors (Fabes, Eisenberg & Eisenbud, 1993).

One research group studying the cardiac connection to emotional states, the Institute of HeartMath, has found that heart rhythm pattern analysis yields more information about the physiology of emotional states than the amount of variability, or higher versus lower HRV. When the beat-to-beat intervals are graphed over time, the HRV wave pattern emerges. It is the heart rhythm pattern that indicates ANS dynamics and emotional state. McCraty and colleagues have shown in numerous replicated studies that heart rhythm patterns vary according to emotion, displaying erratic wave patterns in response to anger or frustration, and shifting towards a regular, sine wave form during states of appreciation, compassion and other positive emotions. This latter state McCraty has termed “psychophysiological coherence.” With coherence, synchronization between the two branches of the ANS is reflected, as well as synchronization with cortical, subcortical and brainstem regions of the brain. The associated health benefits are greater respiratory efficiency, cardiovascular output, increased metabolic energy reserves, and a calm, alert, optimally functioning mental state (McCraty, Atkinson, Tomasino, & Bradley, 2009).

When positive emotion activates the system’s resonant frequency, coherence emerges in a natural and sustainable way: one wave pattern pulls another into oscillation with the resonant frequency, thus harmonizing the system (McCraty & Tomasino, 2004). The many sensory neurons in the heart region, termed the intrinsic cardiac nervous system or “heart-brain,” transmit patterns of neurological, blood pressure, hormonal and electromagnetic information to the brain (McCraty, 2009, p. 6). The patterns are the oscillatory rhythms of the heartbeat, blood pressure, respiration, the endocrine system and brain rhythms, and they become synchronized (with similar wave-forms) when there is coherence, so that they oscillate at the same frequency (McCraty, 2003). Coherence is measured by recording HRV from the pulse in the ear or the finger. The data

is then graphed over time; the emerging wave pattern is then broken down into different wavelengths for additional analyses.

Coherence may be initiated and sustained by generating a positive emotion such as appreciation, compassion, love, or another “warm-heartedness construct” combined with rhythmic breathing (McCraty et al., 1998; McCraty & Rees, 2009; McCraty & Tomasino, 2004). Focusing attention upon the heart area, slowing and deepening the respiratory rate, and holding a feeling of compassion activates the PNS more effectively than mindfulness meditation alone.

Heart rhythm coherence adds to the effectiveness of therapeutic interventions. College students who received heart rhythm coherence biofeedback and counseling intervention showed significantly lower anxiety than the group who received counseling alone (Ratanasiripong, Sverduk, Prince, & Hayashino, 2012). An early study measuring coherence-supported biofeedback training showed significant increases in positive emotion scores on the Personal Opinion Survey and significant decreases in negative affect compared to controls who showed no significant change (Barrios-Chaplin, McCraty, & Cryer, 1997). Similarly, in studies that employed heart rhythm coherence biofeedback training, high school students showed lower test anxiety and higher test scores after classroom-based training (Bradley et al., 2010). Physicians showed significantly decreased stress (LeMaire, Wallace, Levin, deGrood, & Schaefer, 2011). Veterans with PTSD showed significantly reduced symptoms (Tan, Dao, Farmer, Sutherland, & Gevirtz, 2010). The effectiveness of simple coherence training techniques facilitates a return to homeostasis from the emotional dysregulation and intrusive memories of PTSD. McCraty and Zayas (2014) suggest that establishing a new, stable baseline of coherence in the emotional regulatory system represents a process of maturation where neural patterns reset and more easily

recognize stimuli as benign, enabling the integration of implicit memories and the dismantling of automatic, familiar filters that prevent awareness of the here and now.

The HeartMath model propose coherence as a means of facilitating resilience to stress. As demonstrated by many studies, after about six weeks of practice the coherent pattern becomes a new, stable baseline in place of a perhaps chronic, erratic heart rhythm (McCraty & Tomasino, 2004). In a 2013 talk at Brenau University, McCraty defined resilience as “the capacity to prepare for, recover from, and adapt in the face of stress, challenge or adversity,” concluding that activating positive emotions sustains heart rhythm coherence, and that psychological, neuroendocrine and autonomic changes result, lowering stress and increasing psychological well-being. In a study comparing heart rates (HR) before and after training in a coherence technique, police officers showed significant differences from controls in the areas of coping skills, family relationships, work performance and interpersonal skills. One officer employed a coherence technique after cuffing a violent offender and was able to reset his HR within ten minutes (McCraty & Atkinson, 2012).

Empathy, long recognized psychodynamically as integral to the therapeutic alliance, has been shown to play an instrumental role physiologically in interpersonal interaction. There have been a few studies employing physiological indices to examine behavioral and physiological synchronization between therapist-client dyads. Skin conductance and body movement matching have been used to assess level of empathic engagement in therapy (Marci, Ham, Moran, & Orr, 2007; Messina, Sambin, & Palmieri, 2013; Ramseyer & Tschacher, 2011). In a study designed to unobtrusively test the association between therapist empathy and vocally encoded arousal, mean frequency of vocal pitch was higher in low-empathy clinical encounters (Imel et al., 2014).

Further, the heart, which produces an electromagnetic field much larger than that of the brain, may act to signal and lock other bodily systems into synchronization. Just as two people may synchronize their speech or movement, research has shown that physiological states may become synchronized as well (McCraty, 2003). During therapy, therapist and client HRV may become synchronized during moments of therapist empathy (Marci & Riess, 2002; Reidbord & Redington, 1993). McCraty showed that the ECG of one person could be communicated to another as reflected by the detection of the ECG signal in the receiver's EEG (2013). Without physical contact, the signal could be detected at 18 inches, and, in a later study, at five feet. Coherence enhanced the entrainment, lending support to the importance of positive emotions in the healing process. Evidence for physiological linkage, the heart's electromagnetic field by means of cardio-electric communication provides a rationale for alternative healing approaches such as acupuncture and energy healing (Bair, 2008; Espinosa, 2014; McCraty, 2004).

Before change can happen within the therapy setting, science supports the idea that the client needs to experience a shift from ANS arousal to a regulated state of coherence. This may be facilitated by the client practicing coherence biofeedback training techniques. However, as the studies cited above have shown one individual's cardio-electromagnetic field, and the emotional information it carries, is perceived by the brain of another as recorded by electroencephalograph (McCraty, 2014). Energetic communication refers to information exchange between the heart magnetic fields surrounding each individual. McCraty and colleagues (2014) believe it is a previously unrecognized ability to convey empathy and sensitivity to others that may be enhanced by psychophysiological coherence in terms of both the receptivity of the receiver and the coherence of the sender's field. In the study cited above, when the HRV and alpha rhythms in the brain were measured in two individuals, a high degree of synchronization emerged; what



was surprising was that the receiver's heart rhythm coherence appeared to determine the degree to which his brain waves became synchronized to the sender's heart rhythms. The author suggests that it is the increased stability of coherence that allows for greater sensitivity to another's field. He notes that the data support the findings that individuals trained in coherence techniques show greater ability to understand what another is attempting to communicate (McCraty, 2014). Therefore, therapeutic empathy and rapport should rest upon coherent communication not only in the cognitive sense, but with effective emotional self-regulation of which the therapist may become more consciously aware.

### **The Purpose of This Study**

Conducting and consolidating the findings of the many studies that have examined treatment effectiveness have been the tasks of the last few decades. But the APA (2012) has issued the verdict: what makes therapy demonstrably effective from amongst the many variables that may affect it is the therapeutic alliance. Similarly, the quest to define empathy, another decades old task, has divided researchers into opposing camps, more or less depending upon the theoretical lens of the researcher. Cognitive, affective, and behavioral models have been joined by evolutionary, developmental and neurophysiological explanations and findings are now being synthesized. The affective, emotion-based component of empathy has been shown to have a physiological basis. Research of emotion has been greatly enhanced by fMRI studies correlating subjective and objective emotional states with the activation of particular brain centers. Clearly, empathy is mediated by the cortical and subcortical brain regions involving emotional self-awareness and self-regulation.

Theoretical speculation had long suggested that therapist empathy, to be effective, must achieve a balance of "feeling with" the client and maintaining separation--optimal regulation--of

the therapist's own emotions. The therapeutic alliance, and ultimately treatment effectiveness, should reflect that balance. After cardiology research established heart rate variability (HRV) as an indicator of emotional self-regulation in the mid-90s, neuro-cardiologists refined the understanding of the mechanisms involved between heart and brain communication, suggesting it is the pathway central to empathic understanding and communication. Because research has shown empathy to be a necessary condition for the successful therapeutic alliance, and alliance to treatment effectiveness, it follows, then, that heart rate variability should be correlated with and serve as a marker for empathy.

There has been ample evidence of the connection between HRV, self-regulatory capacity and stress, between the therapeutic alliance and empathy, and the alliance and its subsequent effects on therapeutic change (Awa, Plaumann, & Walter, 2010; Coplan & Goldie, 2011; Rupert & Kent, 2007). However, there is a gap in the literature concerning the role that heart rhythm coherence plays in the presence of therapist empathy, the therapeutic alliance, and treatment effectiveness. Studying the counselor-in-training population will allow for future research into empathy training.

The current study seeks to understand the relationship between resting levels of heart rhythm coherence, empathy, the therapeutic alliance, and treatment effectiveness.

Specifically, it is hypothesized that:

1. Therapist empathy, as measured by the client and therapist's self-rating, will be positively correlated with the percentage of therapist heart rhythm coherence.
2. Therapist empathy, as measured by the client and therapist's self-rating, will be positively correlated with treatment effectiveness, measured by a reduction in client's symptoms.

3. Therapeutic alliance, as measured by the client and therapist's self-rating, will be positively correlated with therapist empathy.

4. Therapeutic alliance, as measured by the client and therapist's self-rating, will be positively correlated with therapist percentage heart rhythm coherence.

## Chapter Three

### Method

#### Participants

The participants for the current study included counselors-in-training matched with their adult clients. The therapist participants were Masters in Clinical Counseling Psychology students completing their Practicum requirements at the university counseling center. The university has a predominantly female undergraduate population and is located in northeast Georgia. Clients were drawn from the community and an undergraduate personal growth course.

The age range for therapists (n=6) was from 23-27 years of age (M=24.67, SD=1.37). Ethnic breakdown was as follows: 50% Caucasian (n=3), 33.3% African American (n=2), and 16.7% Asian (n=1). Therapist's marital status was comprised of 66.6% Single (n=4) and 33.3% Married (n=2). No therapists indicated a previous heart condition that would interfere with heart rhythm coherence data collection.

Client participants were selected from a pool of incoming clients from the community and were assigned to therapist participants according to both parties' availability (n=10). The age range for participants was from 18-28 years of age (M=19.40, SD=3.09). The gender breakdown consisted of 10% Male (n=1) and 90% Females (n=9). The ethnic breakdown for the participants was as follows: 50% Caucasian (n=5), 30% African American (n=3), and 10% Hispanic (n=2). The current employment status breakdown was as follows: 26.7 % Full Time (n=4), 20% Part Time (n=3), and 53.3 Not Working (n=8). The marital status breakdown was as follows: 90% Single (n=10) and 10% Divorced (n=1). Participants provided their education level, which ranged from 12 years, indicating a High School Diploma or GED equivalent, or 16 years, indicating a Bachelor's Degree. All client participants (n=10) reported receiving 12 years of

education. Clients listed their income in ranges; seven (70%) clients listed their income as \$25,000 or below, two (20%) listed their income as \$26,000-50,000, and one (10%) listed an income between \$51,000-75,000. No client participants indicated they were currently taking any prescribed medications.

Undergraduate students who were enrolled in a personal growth psychology class were assigned counselors for a therapy course of a minimum of six weeks. The students were offered the options of counseling, writing an essay, community service at a volunteer placement, and undergoing psychological testing as mock clients to graduate students participating in an assessments course. Due to HIPAA requirements for confidentiality, all undergraduate personal growth students taking part in the counseling sessions were obligated to pay a total fee of \$20 for six sessions.

### **Measures**

Client and therapist participants each completed anonymous demographics questionnaires to detail various elements of their personal status. The client questionnaire was comprised of general background questions related to their age, gender, ethnicity, employment status, level of education, marital status, and current medications. Client participants were also asked about their counseling history and, if participants had attended therapy, were prompted to rate previous experiences on a Likert scale of 1 = “Extremely Negative” to 4 = “Extremely Positive”. The demographics questionnaire for the therapist participants was comprised of background questions including age, gender, ethnicity, length of time seeing clients as a counselor, and the identified counseling theoretical orientation most frequently used in their counseling sessions.

The Interpersonal Reactivity Index (IRI) is a 28-item multidimensional self-report assessment tool that measures four emotional/affective and cognitive elements of empathy:

social self-confidence, nonconformity, even-temperedness, and sensitivity (Davis, 1983; Johnson, Cheek, & Smither, 1983). The IRI is a 5-item Likert report that ranges from “Does not describe me very well” to “Describes me very well.” It contains four subscales with seven items each: fantasy, empathic concern, personal distress, and perspective taking (Neff & Pommier, 2013). Higher subscale scores on the IRI suggest a greater level of the quality being tested. The measure was originally validated in the college student population but has since been widely used in a variety of environmental, racial/cultural, and population groups.

The perspective taking (PT) subscale is intended to test one’s likelihood to become involved in another person’s perspective, though it did not measure the accuracy of this perspective. The empathic concern (EC) subscale discerns one’s tendency to experience emotional responses of concern for others, while the Fantasy subscale (FS) indicates one’s tendency to become imaginatively engaged with a fictional environment or situation (e.g., “When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me”). Finally, the Personal Distress subscale assesses the degree to which one feels distress while observing another individual’s experiences of emotional distress (Beven, O'Brien-Malone, & Hall, 2004). This measure has exhibited stable reliability: Personal Distress  $\alpha = .79$ , Empathic Concern =  $\alpha .93$ , and Perspective Taking  $\alpha = .81$ , and test-retest reliability, ranging from  $\alpha = .62-.71$  (Cliffordson, 2001; Davis, 1983; Neff & Pommier, 2013; Pulos, Ellissonn, & Lennon, 2004). Specifically, in this study, the researchers used the EC subscale to best describe levels of the effective and interpersonal elements of empathy; thorough research supports the use of this subscale for this purpose.

The Symptom Checklist-90-Revised (SCL-90-R) is one of the most widely used measures to assess general psychological distress with over 1,000 independent studies affirming

its validity and reliability; it is a self-report scale used by mental health clinicians to diagnose, measure treatment outcomes, and assist therapists in treatment planning. Derogatis, Lipman & Covi (1973) initially designed the measure, and it was soon revised by Derogatis, Rickels, & Rock (1976) to more accurately measure its desired constructs. It consists of 90 items on a 5-point Likert scale, where 0 = "Not At All Distressed" and 4 = "Extremely Distressed", where subjects are asked to select the amount they have been distressed in the past 7 days according to each symptom category. It contains nine subscales: obsessive-compulsive (10 items), somatization (12), psychoticism (10), depression (13), hostility (6), interpersonal sensitivity (9), anxiety (10), phobic anxiety (7), and paranoid ideation (6). The total from each of the subscales is divided by the total number of items in that scale, producing a total average score ranging from 0 to 4. Three global indices of distress, the Positive Symptoms Distress Index, the Positive Symptoms Total, and the Global Symptom Index (GSI), can also be measured in the SCL-90-R. The GSI is calculated by totaling the answers from the nine subscales and additional items and dividing by the total number of possible responses (Buckelew, Burk, Brownlee-Duffeck, Frank, & DeGood, 1988; Derogatis, 1983; Derogatis & Unger, 2010; DeRubeis, Brotman, & Gibbons, 2005; Elliott et al., 2006).

Norms were tested in four groups: adult psychiatric outpatients, adult psychiatric inpatients, adult non-patients and adolescent non-patients. Reliability for the SCL-90-R is outlined for test-retest and internal consistency and is considered satisfactory. Inter-item correlations for each subscale were analyzed to establish the reliability of each scale. Internal consistencies range from .77 (Psychoticism) to .90 (Depression), and in test-retest comparisons performed one week apart, correlation coefficients ranged from .78 (Hostility) to .90 (Phobic Anxiety). The current study used the GSI to best describe client participant's overall level of

symptom distress; researchers have found that the GSI is the most sensitive quantitative criterion of the individual's overall psychological distress (Derogatis & Unger, 2010; Elliott et al., 2006).

The Working Alliance Inventory was used to measure the therapist (WAI-T) and client (WAI-C) perceptions of the working alliance. The scales were designed by Horvath and Greenberg (1989) to provide three alliance scales aligned with Bordin's working alliance components: Goal, Task, and Bond. The three subscales that each measure includes are: Agreement on Goals ("The goals of the sessions are important for the client and/or the therapist"), Agreements on Tasks ("The therapist and client agree about the things the client needs to do in therapy to help improve the client's situation"), and the Development of Bonds ("The therapist and client respect each other"). Each subscale contains 12 questions on a 7-point Likert scale (7 = High, 1 = Low) (Andrusyna, Tang, DeRubeis, & Luborsky, 2001; Cecero, Fenton, Frankforter, Nich, & Carroll, 2001; Tichenor & Hill, 1989).

The WAI is the most widely used measure to assess the degree of counselor alliance. Estimates of internal consistency for both client and therapist versions range from .93 to .84, with most reported coefficients in the upper range (Hanson, Curry, & Bandalos, 2002; Hatcher & Gillaspay, 2006; Horvath, 1994; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989).

The Consultation and Relational Empathy (CARE) measure is a 10-question self-administered test that measures empathy during the context of the therapeutic relationship in one-on-one encounters between a patient and their clinician. The doctor's communication and level of empathy, as perceived by the client, is assessed; additionally, clients respond using their view of the doctor's response to their fears and concerns, or relational empathy. An ideal sample for accurate analysis using the CARE measure is 50 participants.



The CARE is a uni-dimensional measure on a 5-point Likert Scale, where 1 = Poor and 5 = Excellent. There is a “Non-Applicable” option and up to two responses or missing values are allowed, but any more than two missing responses will yield an invalid assessment; these options are replaced with the average score of the remaining items. Questionnaires with more than two missing values or “Non-Applicable” responses are removed from the overall analysis. The maximum possible score is 50, suggesting a higher patient perception of empathy in their relationship with their clinician, and the minimum score on the CARE measure that indicates a lower perception of empathy is 10 (Mercer, Maxwell, Heaney, & Watt, 2004; Mercer, McConnachie, Maxwell, Heaney, & Watt, 2005).

The CARE measure is appropriate for use in adults without significant cognitive deficits or communication difficulties. It was initially developed for primary care and outpatient consultation but has been adapted and used in a variety of mental health settings. On average, it should take no longer than 10 minutes for the individual to complete. Internal reliability has been high, with Cronbach's alpha = .93, while validation of the measure has shown to be  $r=0.85$  versus the Reynolds Empathy Scale (RES) and  $r=0.84$  versus the Barrett-Lennard Empathy SubScale (BLESS) (Mercer, Maxwell, Heaney, & Watt, 2004).

## **Materials**

Therapist's heart rates were captured by a plethysmographic ear sensor linked by USB to a laptop emWave<sup>®</sup> program. The program graphed the HR data into coherence percentage. The emWave<sup>®</sup> technology used to measure levels of coherence and heart rate variability, developed by the Institute of HeartMath, is comprised of a noninvasive sensor placed on each participant's earlobe. Through a USB port, pulse wave data is sent to the emWave<sup>®</sup> software to record and

store the amount of time spent in low, medium, or high coherence. Data was collected in a baseline period of 5 minutes for each therapist.

### **Procedures**

Graduate student therapists were assigned new adult clients from the community and the University's undergraduate personal growth classes. Some therapist participants were assigned more than one client; in these cases, they completed separate measures for each client. The study spanned six weeks for each pair and took place during the fall 2014 semester according to the scheduling needs of each pair. Two packets of pre- and post-measures of the IRI and WAI-T were required from therapists for each new client they received, and each packet took about 20 minutes to complete and self-score. Therapists also scored their clients' measures, and the research coordinator, who is one of the present study's researchers, verified those results with a second identical scoring process. Client participants had three packets to complete before or after designated therapy sessions. The client's packets took approximately 15-20 minutes each to complete.

As part of the clinic protocol, therapists took a summary of their own scores and of their client's scores to their weekly individual and group supervisions with their supervisors. Individual supervision incorporated therapist and client ratings of therapist empathy and the therapeutic alliance. Group supervision discussed therapist empathy in a general way via assigned journal reflections and made use of client data for case conceptualization.

While both therapists and clients were mandated to complete the assessments as part of their coursework or as a condition to continue therapy, whether they gave permission for their data to be used in the study was voluntary. Confidentiality for all subjects was maintained. Although the researchers and therapist subjects were involved in a working relationship as a part

of the same degree program in the Clinical Counseling Psychology department, the researchers did not anticipate and did not encounter any conflict of interest or confidentiality problems. In order to ensure confidentiality and eliminate identifying features, all protocols were numerically coded.

After gaining IRB approval, the researchers met with the therapist participants at a mandatory clinic orientation meeting for therapists completing their practicum. At this time, the counselors were informed of the nature of the study and completed the informed consent and demographics questionnaire. Because therapist participants' heart rhythm is a component of their measures, atrial fibrillation, arrhythmia, or pacemakers were criteria for exclusion from the study; none were excluded. Researchers measured baseline resting heart rhythm coherence percentage for each therapist participant at the conclusion of the meeting. During measurement, participants were told to sit comfortably and quietly, avoid large movements, and generally compose themselves for five minutes as if they were "waiting for the bus or a ride to come."

The therapists completed the Interpersonal Reactivity Index (IRI), the empathy measure, and the Working Alliance Inventory, Therapist Version (WAI-T), to assess their perception of the therapeutic relationship with their client, after session three with each participating client. The IRI and WAI-T were completed again after session six.

The therapist participants informed their client participants about the nature of the study and collected their permission through the informed consent to use their data in the current study. All clients receiving counseling at the university clinic, regardless of their participation in the current study, were required to complete a battery of assessments before sessions one, two, four, seven and eight. From these assessments, the researchers used three client measures for analysis in the current study. Clinic coordinators provided clients the appropriate measures at the assigned

week; the informed consent, demographics survey and SCL-90-R were completed at the first appointment. After session three, clients completed the Working Alliance Inventory-Client Version (WAI-C) and the Consultation and Relational Empathy (CARE) measure. The SCL-90-R, WAI-C and the CARE were repeated for post-test data after session six.

## Chapter Four

### Results

The current study begins to address a gap in the literature regarding a potential connection between heart rhythm coherence and empathy by considering the possible roles of perceptions of empathy and therapeutic alliance in the context of counseling. The central research question was whether therapist heart rhythm coherence would be correlated with ratings of therapist empathy, therapeutic alliance, and treatment effectiveness, as indicated by a decrease in client symptoms. It was hypothesized that higher levels of therapist heart rhythm coherence would be correlated with higher ratings of empathy and alliance; these measures, it was further hypothesized, would be correlated with therapeutic outcome.

#### Preliminary Results

Preliminary analyses of the therapist data were run in order to determine the average overall heart rhythm percentage scores, Working Alliance Inventory-Therapist Version (WAI-T) subscales pre-treatment scores, and Interpersonal Reactivity Index (IRI) empathic concern (EC) subscale scores. Preliminary analyses of the client participant data were also run in order to determine the average Consultation and Relational Empathy (CARE) pre- and post-treatment measures, Symptom Checklist-90-Revised (SCL-90-R) pre- and post-treatment differences, and Working Alliance Inventory-Client Version (WAI-C) subscales pre- and post-treatment scores.

The overall therapist heart rhythm coherence percentages ranged from 40 to 82 (M=69.10, SD=16.39). Empathy pre-treatment CARE scores ranged from 47 to 50 (M=49.10, SD=1.1), and CARE post-treatment scores ranged from 46 to 50 (M=49.10, SD=1.29). Pre-treatment WAI-T data was as follows: the Task subscale scores ranged from 55 to 83 (M=69.20,

SD=8.08), the Bond subscale ranged from 61 to 75 (M=68.20, SD=4.63) and the Goals subscale ranged from 56 to 79 (M=70.30, SD=7.85). The therapist empathy scores as measured by the empathic concern subscale of the IRI ranged from 61 to 75 (M=68.20, SD=4.26).

Client symptom change, as indicated by a decrease in SCL-90-R post-treatment scores from pre-treatment scores, ranged from 0 to 29 (M=11.00, SD=8.71). Pre-treatment WAI-C data was as follows: the Task subscale scores ranged from 54 to 84 (M=74.30, SD=10.68), the Bond subscale scores ranged from 61 to 86 (M=77.70, SD=8.68) and the Goals subscale scores ranged from 49 to 90 (M=77.40, SD=11.79). Pre-treatment alliance data, as measured by the WAI-C, was as follows: the Task subscale scores ranged from 60 to 84 (M=78.10, SD=7.82), the Bond subscale ranged from 63 to 84 (M=78.8, SD=6.70), and the Goals subscale ranged from 63 to 84 (M=79.3, SD=6.71).

### **Hypothesis Tests**

The researchers ran a correlational analysis in order to test the hypothesis that therapist empathy, measured by the therapist's self-rating, would be related to the percentage of heart rhythm coherence. Results were not significant ( $r = -.071$ ,  $p = .846$ ). Results indicated that therapists who perceived themselves as more empathetic were not more likely to have a higher percentage of heart rhythm coherence. Results did not support the hypothesis.

In order to test whether therapist empathy, as measured by the client's rating of their counselor on the CARE measure, would be related to the counselor's percentage of heart rhythm coherence, a correlational analysis was run. Results indicated a strong correlation and were significant ( $r = .727$ ,  $p < .05$ ). Results supported the hypothesis.

Next, the researchers analyzed whether therapist empathy, as measured by the client, would be positively related to treatment effectiveness, measured by a reduction in client's

symptoms. A correlational analysis was run to test the hypothesis. Results were not significant ( $r=-.288, p=.420$ ). Results indicated that clients who perceived their therapist as more empathetic were not more likely to have improved treatment outcome. Results did not support the hypothesis.

In order to test the hypothesis that therapist empathy, as assessed by the therapist, would be related to improved treatment outcome, a correlational analysis was conducted. Results were not significant ( $r=.165, p=.648$ ) and indicated that therapist's self-ratings of their empathy were not significantly related to their client's treatment outcome. These results did not support the hypothesis.

The next hypothesis assessed whether therapeutic alliance, as assessed by the client WAI-C scores, would be positively related to their perception of therapist empathy. A correlational analysis was run to test the hypothesis. Results were not significant for the Task subscale ( $r=.065, p=.858$ ), Bond subscale ( $r=.080, p=.826$ ), or the Goals subscale ( $r=.318, p=.371$ ). Results for all subscales did not support the hypothesis.

In order to test the hypothesis that the therapeutic alliance, as assessed by the therapist, would be related to the therapist's self-rating of their empathy, a correlational analysis was conducted. When analyzing the WAI-T scores, the correlation between the Task subscale and therapist empathy as measured by the empathic concern subscale from the IRI, results were not significant ( $r=-.462, p=.179$ ). The Bond subscale was also analyzed against the empathic concern subscale, and results were not significant ( $r=-.201, p=.578$ ). Finally, the Goal subscale was analyzed to find if a correlation exists with the empathic concern subscale, and results were not significant ( $r=-.561, p=.091$ ). Results for all subscales did not support the hypothesis.

In order to test the hypothesis that the therapeutic alliance, measured by the client, would

be related to the percentage of the therapist's heart rhythm coherence, a correlational analysis was conducted. When the WAI-T Task subscale was analyzed against the therapist's heart rhythm coherence percentage, results were not significant ( $r=-.273$ ,  $p=.445$ ). The Bond subscale was analyzed for a correlation against their therapist's heart rhythm coherence percentage, and results were not significant ( $r=-.324$ ,  $p=.361$ ). Finally, when the Goal subscale was analyzed against their therapist's heart rhythm coherence percentage, results were not significant ( $r=-.144$ ,  $p=.692$ ). Results for all subscales did not support the hypothesis.

The final hypothesis test involved testing the hypothesis that the therapeutic alliance, measured by the WAI-T and its task, bond, and goal subscales, would be positively related to the percentage of the therapist's heart rhythm coherence, a correlational analysis was conducted. When the Task subscale was analyzed against their heart rhythm coherence, results were not significant ( $r=.023$ ,  $p=.949$ ). When the Bond subscale was analyzed against their heart rhythm coherence percentage, the results were not significant ( $r=-.368$ ,  $p=.296$ ). Finally, when the Goal subscale was analyzed against therapist coherence percentage, the results were not significant ( $r=.267$ ,  $p=.456$ ). Results for all subscales did not support the hypothesis.

### **Exploratory Analyses**

Additional analyses were run to determine what other significant findings and further explanations of the results would be revealed through examination of the data gathered throughout the course of the study. The first exploratory analysis, a paired samples t-test was run to determine whether there was a difference in client symptoms from before and after therapeutic intervention, as measured by the pre- and post-test Global Severity Index (GSI scores from the SCL-90-R. Results were significant ( $t_{(9)}=3.97$ ,  $p<.05$ ). The average symptom level measured in the pre-test ( $M=44.5$ ,  $SD=10.61$ ) was significantly higher than the symptom level measured in



the post-test ( $M=33.5$ ,  $SD=5.3$ ). These results suggested that the course of treatment was effective in reducing the client's overall level of general symptom distress, as indicated by a decrease in GSI scores from pre- to post-test.

In order to further examine client symptom levels and their relationship to empathy and the therapeutic alliance, the researchers analyzed the Depression subscale of the SCL-90-R. The Depression subscale was chosen as depression symptoms have a high incidence among college and community populations. The scores ranged from 30 to 56 ( $M=39.6$ ,  $SD=9.14$ ), and when a correlation was run to determine the relationship between the SCL-90-R Depression subscale scores and the client's assessment of their therapist's empathy, results were significant ( $r=-.813$ ,  $p<.01$ ). These results suggest that depression scores are related to the client's perception of their counselor's level of empathy.

In order to further examine if a relationship existed between the therapist's self-perception of their empathy and their percentage of heart rhythm coherence, a correlation was run. Specifically, the researchers used the Fantasy subscale of the IRI as an indicator of therapist empathy. The Fantasy subscale was chosen as it had yielded significant results in an earlier pilot study. Results were not significant ( $r=-.111$ ,  $p=.760$ ), indicating that the Fantasy subscale of the IRI as a measure of therapist empathy is not correlated with their percentage of heart rhythm coherence.

## Chapter Five

### Discussion

The present study sought to understand the relationship between treatment effectiveness, therapeutic alliance, empathy, and heart rhythm coherence in counselors-in-training and their adult clients in a community setting. Current research has failed to adequately explore how these constructs are related, particularly regarding heart rhythm coherence and interpersonal characteristics involved in successful psychotherapy. To add to the current research and expand upon the available data for further analysis, four hypotheses were formed.

Researchers in the present study hoped that their findings would provide information on elements of the therapeutic relationship that seem to be associated with empathy in the counseling environment, with the further hope that a decrease in patient symptoms would be associated with higher levels of empathy. This information could aid higher education institutions and community counseling centers in creating interventions and treatment plans for their clients of all symptomatology.

The researchers were interested to see if self-ratings from counselors-in-training would indicate a relationship between their perceived empathy with their clients and their self-rating of the therapeutic alliance. It was expected that working alliance would be positively correlated with the therapist and client rating of empathy. However, the analysis indicated that therapists who perceived their alliance with their clients as positive were not more likely to have rated themselves as possessing higher levels of empathy. This result was surprising due to the extensive data that suggested a relationship between empathy and the therapeutic alliance, but the difference in findings may be a result of low sample size, inexperienced therapists, or a skewed view of therapist's self-rating of their level of empathy. Research has shown that just as

client ratings of therapist empathy are better predictors of therapy outcome than therapist self-ratings, the client perspective of the alliance is found to be more closely related to positive outcome than the therapist's perspective ((Elliott, Watson, Bohart & Greenberg, 2011; Hall, Harrigan, & Rosenthal, 1996; Horvath & Bedi, 2002; Sexton, Hembre, & Kvarme, 1996).

Further, current researchers hypothesized that empathy would be correlated with an improved treatment outcome; results from the collected data indicated that therapists who perceived themselves as more empathetic were not more likely to have clients with improved treatment outcome. It is possible that the therapists rated themselves with higher empathy than they were actually conveying in their sessions, which could have skewed the results from the data analysis. As indicated by the results of the current research, the counselors-in-training may not have been accurately perceiving the correct level of empathy they may have thought they were portraying to their clients, as suggested by the differences in client reports and therapist reports. Further, this finding supports the general need for proper empathy training in graduate level therapist training programs (Decety & Lamm, 2009; Elliot, Bohart, Watson, & Greenberg, 2011).

A positive therapeutic alliance has been shown to be related to improved treatment outcome, based on extensive available research. This hypothesis was not substantiated by the study's results; it is possible that the short 6-week course of therapy provided in this study was not a long enough span of counseling to significantly improve symptoms. Typically, the therapeutic relationship takes longer than 6 weeks to become fully established with optimal exploration for the client's benefit. This short course could have led to the lack of significant results from the current research. Additionally, the therapeutic relationship may have suffered a rupture that was not properly addressed, which may permanently damage the ability to form a

solid alliance, therefore decreasing the likelihood that symptom change would occur (Bachelor, Meunier, Laverdière, & Gamache, 2010; Falkenström, Granström, & Holmqvist, 2013; Safran, Crocker, McMains, & Murray, 1990). Furthermore, the current study's hypothesis only addressed the Global Symptoms Index (GSI), which is an overall indicator of possible emotional distress, rather than using the 9 subscales used in the SCL-90-R that may have provided more in-depth knowledge of patient's level of symptomatology. As previously addressed in the review of the existing literature, clients with more severe presenting symptoms are less likely to be able to form relationships with their counselors (Bender, 2005; Conners et al., 2000; Lorenzo-Luaces, DeRubeis, & Webb, 2014).

Results indicated that clients who perceived their alliance with their therapist as positive were not more likely to have rated their therapist with higher empathy. It is possible that empathy was correlated with therapeutic alliance but not enough to show significance in the current analysis. Also, the researchers who formed the CARE measure suggested that a sample of 50 participants would provide an accurate representation of the data's reliability; the current study's sample size of 10 is a small fraction of the recommended sample size. Because of the small number of participants, the present research using the client's perception of their therapist's empathy may be misrepresented (Mercer, Maxwell, Heaney, & Watt, 2004; Mercer, McConnachie, Maxwell, Heaney, & Watt, 2005).

It was also expected that higher levels of heart rhythm coherence would be correlated with increased scores in working alliance. Higher heart rhythm coherence suggests a therapist is more likely to form better connections with their clients. Results indicated that clients who perceived the task, goal, and bond alliance with their therapist as positive were not more likely to have a therapist with higher percentage of heart rhythm coherence. Because researchers gathered

coherence percentage at one time at the beginning of the study and prior to therapists engaging in treatment with their clients, it is likely that one collection of coherence did not provide an accurate measure of the therapist's coherence level. The researchers also propose that perhaps situational stressors during the coherence data collection at the beginning of the school semester, inhibited the therapist's ability to generate positive emotions and preventing coherence to occur in their therapy sessions.

As hypothesized, results indicated that clients who perceived their therapists as having higher levels of empathy were more likely to have a therapist with higher percentage of heart rhythm coherence. Increased coherence has been shown to enhance one's ability to connect with others in the environment and empathy is a key element in relating to others, consistent with the findings from the current study (Marci & Riess, 2002; Reidbord & Redington, 1993). Because it is especially important for therapists to accurately perceive the emotional states of their clients, these results emphasize the need for heart rhythm coherence training in Masters Level counselors. Finally, it was expected that therapeutic alliance would be positively correlated with higher levels of therapist empathy. However, results indicated that therapists who perceived the alliance with their clients as positive were not more likely to have higher levels of empathy. It is possible that student therapists may have underestimated or overestimated their abilities to connect with their clients. It is also likely that this result supports the extensive prior research that indicates a strong therapeutic alliance includes other indicators besides empathy, like nonverbal behaviors, congruence, and the therapist's personality characteristics (Anderson et al., 2009; Crits-Christoph et al., 1991; Lambert & Barley, 2001; Strupp & Anderson, 1997; Taber, Leibert, & Agaskar, 2011).

Higher depression scores correlated with higher empathy ratings were found in a study by Burns and Nolen-Hoeksema, and they posited that they may describe a subset of patients who might show an increase in depressive symptoms at a therapeutic rupture. This group might also idolize the therapist and thus be less likely to rate their therapist as low on empathy (1992). Higher scores on the Perceived Stress Scale (PSS) were positively correlated with college students' self-report on the Interpersonal Reactivity Inventory (IRI) on the Fantasy subscale (Bishop & Martin, 2014). The authors had expected higher empathy to be correlated negatively with stress, but there may have been an outside variable that mediated perceptions of stress, or distress, and self-perceptions of empathy.

Research has shown that perspective-taking may be more conducive to cognitive and affective empathy as it has been associated with the firing of the auditory mirror neurons (Watson and Greenberg, 2009). In a study employing the IRI, Gazzola found that the perspective-taking subscale correlated with neuron activation, but that the empathic concern, fantasy and personal distress subscales did not. Instead, empathic concern and distress may involve other areas of the brain including the insula (Gazzola, et al., 2006). Perhaps this accounts for the lack of correlation in the current study between the empathic concern subscale and therapist coherence. Because an earlier study also found an unexpected negative correlation it may be concluded that using the perspective-taking subscale may reflect empathy in a more nuanced manner. Sharing the experience of another's pain appears to be implicated with personal distress, and it may not be needed in order to perceive another's pain and to feel empathy (Watson and Greenberg, 2009). Further, this study suggests that clients' perceive empathy and concern in the midst of depression, when cognitions about a therapist may be distorted by

emotional reasoning, for instance. This is another indication of the need for empathy training for counselors to enable them to understand the limitations upon perceived empathy.

### **Limitations**

There exist various limitations within the current study. This study was the first structured attempt of its kind to incorporate a clinic research study protocol in this graduate program and its community counseling center. Because no standards previously existed on which to base the present study's criteria, the researchers frequently had difficulties in consistently gathering the necessary client and therapist data from therapist participants; many counselors often neglected to collect measures from their clients or complete the required therapist measures in a timely manner, which may have skewed the data and its subsequent analysis.

Further, the current researchers were presented with a number of challenges specifically regarding the therapist participants' inconsistent participation during the course of the study. Attrition limited the amount of available data to analyze and interpret.

Another limitation to the current study pertains to its research design. Most of the hypotheses testing analyses in this study were correlational in nature. Although correlational analysis is effective in determining relationships between variables, causation cannot be established. All pen-and-paper assessments used in the study were self-report measures, which may have been biased and unreliable with the current population. Because the study found significance in client ratings of their therapist's level of empathy but did not find significance in therapist self-reports, it is possible that self-report measures were not effective measurements; future studies should incorporate observer ratings or other means of rating rather than self-report surveys.

A lack of a control group also prohibited researchers from determining if effects observed

in the current study were due to the counseling intervention or another outside factor, which threatens the current study's internal validity, specifically its selection variable. Also, the lack of variability in the CARE measure scores may limit interpretation of the data, which presents another internal validity issue based on its statistical regression variable.

There were also other instrumentation differences in the present study that should be adapted for future research. Primarily, the measures used to assess empathy differed in the client and therapist protocols; the clients completed the Consultation and Relational Empathy (CARE) measure, while the therapists completed the Interpersonal Reactivity Index (IRI). The IRI was intended to assess the therapist's affective and cognitive aspects of empathy, but the CARE was designed to measure the client's perception of their therapist's relational empathy. While the researchers sought to limit the number of assessments by shortening the measures as much as possible for both parties due to an overarching study that required more measures from them, this may have led to a difference in data collection.

Another consideration is whether the Working Alliance Inventory has clinical utility. Research has indicated variance due to the timing and number of administrations, and its test-retest fluctuations may be ambiguous. Perhaps the more useful measure would rely upon empathy rather than an assessment of congruence as to tasks, bonds and goals. Burns (1988) has suggested therapists ask clients to complete a 10 item Empathy Scale after each session rating the "extent to which you feel each of these statements is true today." The client is instructed to bring the form to the next session; the therapist explores with the client any scores that indicate negative feelings. To support this assertion, Burns cites the 1989 review by Orlinsky and Howard that found little or no correlation between therapist self-ratings and client rating of therapist empathy. He concludes that the implication is that "our patients' thoughts, rather than our actual



behavior, dominate the way they feel about us” (Burns, 1999). Thus, a continued monitoring of rupture and repair, by simply asking clients how they feel about the therapeutic relationship, may be more relevant than a needs-based assessment, such as the WAI used in this study.

Data for both therapists and their student clients participating in the study was mostly collected at the end of the semester, which is typically viewed as a stressful period due to final exams, projects and other academic deadlines and obligations. A more standard schedule of data collection may provide more consistent results.

Additionally, the Personal Growth client participants that were participating in the study for class credit presented another challenge to the current study. Because they were not seeking services for a specific malady and were instead undergoing counseling for personal exploration, the client participants may not have presented with any clinical issues relevant to psychotherapy.

The current study included mostly female participants and all female therapists. Further, because the study had such a small and similar sample size, it limits the generalizability and power of the results. A larger sample size would allow future researchers to have an increased ability to generalize the study’s results to a wider population with more reliability and less probability for statistical error to occur, which indicates a threat to the study’s external validity. Finally, the therapist and community participants in this study were mostly White females located in the Southeastern area of the United States. It should not be assumed that the same pattern of findings would hold true in a more diverse population or in other parts of the United States or among male participants.

### **Future Research**

The present study affords an opportunity to expand upon related research that involves the field of heart rate variability, psychotherapy, treatment effectiveness and various related

areas. Further studies seeking to correlate coherence and psychological self-report measures of empathy, therapeutic alliance, and ultimately treatment effectiveness is needed. Future research should focus on a longer treatment span. Because the course of counseling was limited to a short 6 week period, it may not have been a long enough time to significantly improve client symptoms. Though there was no significance found in the present study's analysis of therapeutic outcome, there were some improvements found in symptom reduction through comparison of pre- and post-test data. That a significant difference was found before and after brief therapy on the SCL-90-R indicates the effectiveness of psychotherapy as measured by decrease in symptoms. Future studies should be encouraged to administer the CARE and the brief version of the SCL-90-R before and after the course of therapy for more expansive data that possibly yields more information on the beneficial elements of successful counseling.

Despite the small sample size, significant results were found; primarily, therapist heart rhythm coherence was positively correlated with client ratings of therapist empathy. This finding supports the slender body of existing research measuring heart rhythm coherence in the therapeutic context. The correlation of coherence with perceived empathy found by means of a physiological measure and a psychological self-report suggests many promising avenues for exploration. First, the implications of this finding support coherence testing for counselors-in-training as a window into baseline levels of counselor emotional self-regulation. Counselor education programs emphasizing empathy as essential to the therapeutic alliance should incorporate these models to support coherence by the creation of a combined empathy and coherence enhancement module of study. Considering the large body of evidence supporting coherence as a means of managing stress, counseling departments may also be interested in initiating a counselor self-care protocol, specifically focused on heart rhythm coherence,

designed to reduce stress and increase overall psychological well-being.

Further, counseling programs should consider adopting as part of their training a demonstration of the differences between therapist and client ratings of empathy and therapeutic alliance. Observer ratings by means of video review would be useful as well. In their updated meta-analysis of empathy and outcome studies, Elliott, Bohart, Watson & Greenberg (2011) found that client and observer ratings of therapist empathy related to outcome were especially more predictive for inexperienced therapists. Therapists' "sensitive ability" to immerse themselves in the client's point of view may be compromised by cognitive, top-down, effortful control, or cortical inhibition. Although research has shown that the executive functions are necessary to empathy, studies have also found that moderate inhibitory control allows for emotional self-regulation and attuned communication (Decety, 2010; Preston & DeWaal, 2010).

Beginning therapists, it may be supposed, are often thinking to the exclusion of sensing the feelings of the client. Future research might investigate those different relational modes, and heart rhythm coherence would be an important measure for assessing emotional self-regulation. Evidence suggests that coherence declines when attention shifts to an analytical or critical mode. Future studies should also vary the timing of the collection of data, and should focus on a wider and more diverse participant and therapist population to optimize generalizability to a wider population. Further, heart rate coherence was measured one time in the beginning of the study. Future studies in this matter should incorporate a pre- and post-measure coherence collection into the study protocol. The current research emphasizes the importance of coherence training and ongoing education into the necessity of heart rhythm coherence; the results of this study indicate heart rhythm coherence training should be integrated into the therapist's school protocol for an optimal measure of the relationship between coherence and other variables. For both client

and therapist, heart rhythm coherence testing should be employed to glean more detailed information about coherence in the counseling context, as a synergistic relationship would be expected to occur. Indeed, research has shown that coherence is communicated between individuals; if therapist and client are both actively practicing coherence training techniques, over time, the coherence levels of both would be expected to increase. The researchers propose that a design employing a therapeutic and a control group would yield interesting results with the measurement of coherence and empathy.

Overall, the current study demonstrated that a university counseling center could feasibly implement a research protocol employing a physiological measure in addition to self-report instruments. For researchers interested in the increasingly important field of emotional self-regulation, the portable, easily understood, and relatively inexpensive emWave software could be adopted for training, clinical and research purposes. The emWave could also be employed in individual, couples and group settings as well as classroom modalities. The window into the emotional self-regulation center of the brain and an individual's functional abilities provided by the emWave system and the heart rhythm coherence model constitute a significant advance for the clinical research paradigm. A large-scale, multi-centered clinical study could easily be implemented given the ease of assessment and interpretation of the heart rhythm coherence data analyses.

In the future, ongoing studies in this area will offer promising and significant outcomes for understanding treatment effectiveness, empathy, coherence and the therapeutic alliance. Extensive research has analyzed many areas of investigation regarding the counseling relationship; the present study supports the importance of the therapist's level of coherence and its contributions to empathic behaviors in the context of counseling while providing data for

exploring other intra- and extra-therapeutic factors in the foundation of the alliance. In identifying these elements that are crucial to a positive course of therapy, researchers can identify the components that may enhance treatment effectiveness, thereby increasing the opportunities for clients to enjoy a healthier and more productive life.

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APPENDIX I  
The CARE Measure  
(Mercer, 2004)

Does	Very				
Not	Poor	Fair	Good	Good	Excellent
<i>How was the doctor at ...</i>	<b>Apply</b>				
<b>1. Making you feel at ease.....</b> <input type="checkbox"/> <i>(being friendly and warm towards you, treating you with respect; not cold or abrupt)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. Letting you tell your “ story”.....</b> <input type="checkbox"/> <i>(giving you time to fully describe your illness in your own words; not interrupting or diverting you)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3. Really listening .....</b> <input type="checkbox"/> <i>(paying close attention to what you were sayings; not looking at the notes or computer as you were talking)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. Being interested in you as a whole person ...</b> <input type="checkbox"/> <i>(asking/knowing relevant details about your life, your situation; not treating you as “just a number”)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5. Fully understanding your concerns.....</b> <input type="checkbox"/> <i>(communicating that he/she had accurately understood</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>your concerns; not overlooking or dismissing anything)</i>					
<b>6. Showing care and compassion....</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <i>(seeming genuinely concerned, connecting with you on a human level; not being indifferent or “detached”)</i>					
<b>7 . Being Positive.....</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <i>(having a positive approach and a positive attitude; being honest but not negative about your problems)</i>					
<b>8. Explaining things clearly.....</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <i>(fully answering your questions, explaining clearly, giving you adequate information; not being vague</i>					
<b>9. Helping you to take control.....</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <i>(exploring with you what you can do to improve your health yourself; encouraging rather than “lecturing” you)</i>					
<b>10. Making a plan of action with you ...</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <i>(discussing the options, involving you in decisions as much as you want to be involved; not ignoring your views)</i>					

**APPENDIX II**  
**INTERPERSONAL REACTIVITY INDEX**

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can. Thank you.

ANSWER SCALE:

A	B	C	D	E
DOES NOT				DESCRIBES ME
DESCRIBE ME				VERY
WELL				WELL

1. I daydream and fantasize, with some regularity, about things that might happen to me. (FS)
2. I often have tender, concerned feelings for people less fortunate than me. (EC)
3. I sometimes find it difficult to see things from the "other guy's" point of view. (PT) (-)
4. Sometimes I don't feel very sorry for other people when they are having problems. (EC) (-)
5. I really get involved with the feelings of the characters in a novel. (FS)
6. In emergency situations, I feel apprehensive and ill-at-ease. (PD)
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (FS) (-)
8. I try to look at everybody's side of a disagreement before I make a decision. (PT)
9. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)
10. I sometimes feel helpless when I am in the middle of a very emotional situation. (PD)
11. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)

12. Becoming extremely involved in a good book or movie is somewhat rare for me. (FS) (-)
13. When I see someone get hurt, I tend to remain calm. (PD) (-)
14. Other people's misfortunes do not usually disturb me a great deal. (EC) (-)
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT) (-)
16. After seeing a play or movie, I have felt as though I were one of the characters. (FS)
17. Being in a tense emotional situation scares me. (PD)
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC) (-)
19. I am usually pretty effective in dealing with emergencies. (PD) (-)
20. I am often quite touched by things that I see happen. (EC)
21. I believe that there are two sides to every question and try to look at them both. (PT)
22. I would describe myself as a pretty soft-hearted person. (EC)
23. When I watch a good movie, I can very easily put myself in the place of a leading character. (FS)
24. I tend to lose control during emergencies. (PD)
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. (FS)
27. When I see someone who badly needs help in an emergency, I go to pieces. (PD)
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)

NOTE:(-) denotes item to be scored in reverse fashion

PT = perspective-taking scale

FS = fantasy scale  
EC = empathic concern scale  
PD = personal distress scale

A = 0  
B = 1  
C = 2  
D = 3  
E = 4

Except for reversed-scored items, which are scored:

A = 4  
B = 3  
C = 2  
D = 1  
E = 0

APPENDIX III  
WORKING ALLIANCE INVENTORY  
FORM C  
(Horvath, 1984)

- |  |       |        |              |           |       |
|--|-------|--------|--------------|-----------|-------|
| 1. I feel uncomfortable with _____.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 2. _____ and I agree about the things I will need to do in therapy to help improve my situation. | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 3. I am worried about the outcome of these sessions.   | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 4. What I am doing in therapy gives me new ways of looking at my problem.                        | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 5. _____ and I understand each other.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 6. _____ perceives accurately what my goals are.   | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 7. I find what I am doing in therapy confusing.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 8. I believe _____ likes me.   | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 9. I wish _____ and I could clarify the purpose of our sessions.                                 | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 10. I disagree with _____ about what I ought to get out of therapy.                              | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| <hr/>  |       |        |              |           |       |
| 11. I believe the time _____ and I are spending together is not spent efficiently.               |       |        |              |           |       |

	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
12. _____ does not understand what I am trying to accomplish in therapy.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
13. I am clear on what my responsibilities are in therapy.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
14. The goals of these sessions are important for me.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
15. I find what _____ and I are doing in therapy is unrelated to my concerns.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
16. I feel that the things I do in therapy will help me to accomplish the changes that I want.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
17. I believe _____ is genuinely concerned for my welfare.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
18. I am clear as to what _____ wants me to do in these sessions.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
19. _____ and I respect each other.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
20. I feel that _____ is not totally honest about his/her feelings toward me.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
21. I am confident in _____ 's ability to help me.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often
22. _____ and I are working towards mutually agreed upon goals.	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often



	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
24. We agree on what is important for me to work on.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
25. As a result of these sessions I am clearer as to how I might be able to change.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
26. _____ and I trust one another.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
27. _____ and I have different ideas on what my problems are.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
28. My relationship with _____ is very important to me.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
29. I have the feeling that if I say or do the wrong things, _____ will stop working with me.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
30. _____ and I collaborate on setting goals for my therapy.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
31. I am frustrated by the things I am doing in therapy.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
32. We have established a good understanding of the kind of changes that would be good for me.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
33. The things that _____ is asking me to do don't make sense.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often

34. I don't know what to expect as the result of my therapy.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
<hr/>					
35. I believe the way we are working with my problem is correct.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
<hr/>					
36. I feel _____ cares about me even when I do things that he/she does not approve of.	1	2	3	4	5
	Never	Rarely	Occasionally	Sometimes	Often
<hr/>					

**APPENDIX IV**

WORKING ALLIANCE INVENTORY  
FORM T  
(Horvath, 1984)

- |   |       |        |              |           |       |
|---|-------|--------|--------------|-----------|-------|
| 1. I feel uncomfortable with _____.   | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 2. _____ and I agree about the steps to be taken to improve his/her situation.                  | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 3. I have some concerns about the outcome of these sessions.                                    | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 4. My client and I both feel confident about the usefulness of our current activity in therapy. | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 5. I feel I really understand _____.  | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 6. _____ and I have a common perception of her/his goals..                                      | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 7. _____ finds what we are doing in therapy confusing.  | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |
| 8. I believe _____ likes me.  | 1     | 2      | 3            | 4         | 5     |
|   | Never | Rarely | Occasionally | Sometimes | Often |

9. I sense a need to clarify the purpose of our session(s) for \_\_\_\_\_.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
10. I have some disagreements with \_\_\_\_\_ about the goals of these sessions.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
11. I believe the time \_\_\_\_\_ and I are spending together is not spent efficiently.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
12. I have doubts about what we are trying to accomplish in therapy.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
13. I am clear and explicit about what \_\_\_\_\_'s responsibilities are in therapy.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
14. The current goals of these sessions are important for \_\_\_\_\_.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
15. I find what \_\_\_\_\_ and I are doing in therapy is unrelated to her/his current concerns.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
16. I feel confident that the things we do in therapy will help \_\_\_\_\_ to accomplish the changes that he/she desires.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
17. I am genuinely concerned for \_\_\_\_\_'s welfare.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
18. I am clear as to what I expect \_\_\_\_\_ to do in these sessions.

- |  | 1     | 2      | 3            | 4         | 5     |
|--|-------|--------|--------------|-----------|-------|
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 19. _____ and I respect each other.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 20. I feel that I am not totally honest about my feelings toward _____.                      | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 21. I am confident in my ability to help _____.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 22. We are working towards mutually agreed upon goals.                                       | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 23. I appreciate _____ as a person.  | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 24. We agree on what is important for _____ to work on.                                      | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 25. As a result of these sessions _____ is clearer as to how she/he might be able to change. | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 26. _____ and I have built a mutual trust.   | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |
| 27. _____ and I have different ideas on what his/her real problems are.                      | 1     | 2      | 3            | 4         | 5     |
|  | Never | Rarely | Occasionally | Sometimes | Often |

28. Our relationship is important to \_\_\_\_\_.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
29. \_\_\_\_\_ has some fears that if she/he says or does the wrong things, I will stop working with him/her.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
30. \_\_\_\_\_ and I have collaborated in setting goals for these session(s).
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
31. \_\_\_\_\_ is frustrated by what I am asking her/him to do in therapy.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
32. We have established a good understanding between us of the kind of changes that would be good for \_\_\_\_\_.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
33. The things that we are doing in therapy don't make much sense to \_\_\_\_\_.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
34. \_\_\_\_\_ doesn't know what to expect as the result of therapy.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
35. \_\_\_\_\_ believes the way we are working with her/his problem is correct.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |
36. I respect \_\_\_\_\_ even when he/she does things that I do not approve of.
- |       |        |              |           |       |
|-------|--------|--------------|-----------|-------|
| 1     | 2      | 3            | 4         | 5     |
| Never | Rarely | Occasionally | Sometimes | Often |

**APPENDIX V****Symptom Checklist 90-R**  
(Derogatis, 1994)

Below is a list of problems and complaints that people sometimes have. Please read each one carefully and **enter the number** that best describes how much you were bothered by that problem during the past week.

**Please enter only ONE.**

**FOR THE PAST WEEK, HOW MUCH WERE YOU BOTHERED BY:**  
**Not At All, A Little Bit, Moderately, Quite A Bit, Extremely**

1. Headaches 0 1 2 3 4
2. Nervousness or shakiness inside 0 1 2 3 4
3. Unwanted thoughts, words, or ideas that won't leave your mind 0 1 2 3 4
4. Faintness or dizziness 0 1 2 3 4
5. Loss of sexual interest or pleasure 0 1 2 3 4
6. Feeling critical of others 0 1 2 3 4
7. The idea that someone else can control your thoughts 0 1 2 3 4
8. Feeling others are to blame for most of your troubles 0 1 2 3 4
9. Trouble remembering things 0 1 2 3 4
10. Worried about sloppiness or carelessness 0 1 2 3 4
11. Feeling easily annoyed or irritated 0 1 2 3 4
12. Pains in heart or chest 0 1 2 3 4
13. Feeling afraid in open spaces or on the streets 0 1 2 3 4
14. Feeling low in energy or slowed down 0 1 2 3 4
15. Thoughts of ending your life 0 1 2 3 4
16. Hearing words that others do not hear 0 1 2 3 4
17. Trembling 0 1 2 3 4
18. Feeling that most people cannot be trusted 0 1 2 3 4
19. Poor appetite 0 1 2 3 4
20. Crying easily 0 1 2 3 4
21. Feeling shy or uneasy with the opposite sex 0 1 2 3 4
22. Feeling of being trapped or caught 0 1 2 3 4
23. Suddenly scared for no reason 0 1 2 3 4
24. Temper outbursts that you could not control 0 1 2 3 4
25. Feeling afraid to go out of your house alone 0 1 2 3 4
26. Blaming yourself for things 0 1 2 3 4
27. Pains in lower back 0 1 2 3 4
28. Feeling blocked in getting things done 0 1 2 3 4
29. Feeling lonely 0 1 2 3 4
30. Feeling blue 0 1 2 3 4
31. Worrying too much about things 0 1 2 3 4

32. Feeling no interest in things 0 1 2 3 4
33. Feeling fearful 0 1 2 3 4
34. Your feelings being easily hurt 0 1 2 3 4
35. Other people being aware of your private thoughts 0 1 2 3 4
36. Feeling others do not understand you or are unsympathetic 0 1 2 3 4
37. Feeling that people are unfriendly or dislike you 0 1 2 3 4
38. Having to do things very slowly to insure correctness 0 1 2 3 4
39. Heart pounding or racing 0 1 2 3 4
40. Nausea or upset stomach 0 1 2 3 4
41. Feeling inferior to others 0 1 2 3 4
42. Soreness of your muscles 0 1 2 3 4
43. Feeling that you are watched or talked about by others 0 1 2 3 4
44. Trouble falling asleep 0 1 2 3 4
45. Having to check and double-check what you do 0 1 2 3 4
46. Difficulty making decisions 0 1 2 3 4
47. Feeling afraid to travel on buses, subways, or trains 0 1 2 3 4
48. Trouble getting your breath 0 1 2 3 4
49. Hot or cold spells 0 1 2 3 4
50. Having to avoid certain things, places, or activities because they frighten you 0 1 2 3 4
51. Your mind going blank 0 1 2 3 4
52. Numbness or tingling in parts of your body 0 1 2 3 4
53. A lump in your throat 0 1 2 3 4
54. Feeling hopeless about the future 0 1 2 3 4
55. Trouble concentrating 0 1 2 3 4
56. Feeling weak in parts of your body 0 1 2 3 4
57. Feeling tense or keyed up 0 1 2 3 4
58. Heavy feelings in your arms or legs 0 1 2 3 4
59. Thoughts of death or dying 0 1 2 3 4
60. Overeating 0 1 2 3 4
61. Feeling uneasy when people are watching or talking about you 0 1 2 3 4
62. Having thoughts that are not your own 0 1 2 3 4
63. Having urges to beat, injure, or harm someone 0 1 2 3 4
64. Awakening in the early morning 0 1 2 3 4
65. Having to repeat the same actions such as touching, counting, washing 0 1 2 3 4
66. Sleep that is restless or disturbed 0 1 2 3 4
67. Having urges to break or smash things 0 1 2 3 4
68. Having ideas or beliefs that others do not share 0 1 2 3 4
69. Feeling very self-conscious with others 0 1 2 3 4
70. Feeling uneasy in crowds, such as shopping or at a movie 0 1 2 3 4
71. Feeling everything is an effort 0 1 2 3 4
72. Spells of terror or panic 0 1 2 3 4
73. Feeling uncomfortable about eating or drinking in public 0 1 2 3 4
74. Getting into frequent arguments 0 1 2 3 4
75. Feeling nervous when you are left alone 0 1 2 3 4
76. Others not giving you proper credit for your achievements 0 1 2 3 4
77. Feeling lonely even when you are with people 0 1 2 3 4



78. Feeling so restless you couldn't sit still 0 1 2 3 4
79. Feelings of worthlessness 0 1 2 3 4
80. Feeling that familiar things are strange or unreal 0 1 2 3 4
81. Shouting or throwing things 0 1 2 3 4
82. Feeling afraid you will faint in public 0 1 2 3 4
83. Feeling that people will take advantage of you if you let them 0 1 2 3 4
84. Having thoughts about sex that bother you a lot 0 1 2 3 4
85. The idea that you should be punished for your sins 0 1 2 3 4
86. Feeling pushed to get things done 0 1 2 3 4
87. The idea that something serious is wrong with your body 0 1 2 3 4
88. Never feeling close to another person 0 1 2 3 4
89. Feelings of guilt 0 1 2 3 4
90. The idea that something is wrong with your mind 0 1 2 3 4

**APPENDIX VI**

## Consent Form

**CONSENT TO PARTICIPATE IN RESEARCH STUDY****Relationships between the Therapeutic Alliance, Empathy, Treatment Effectiveness, Heart Rhythm Coherence and Symptom Reduction**

Dear Participant,

You are invited to participate in a research study under the supervision of Dr. Maria Zayas at Brenau University in the Brenau Clinic for Counseling and Psychological Services (BCCPS). Below you will find some of the questions that you may have about your participation.

**Purpose**

The purpose of this study is to determine whether there is a relationship between the Therapeutic Alliance, Empathy, Treatment Effectiveness, Heart Rate Coherence and Symptom Reduction. Also, the study will be used to collect general data from adults seen in the clinic that can be used to further research.

**Procedure**

If you decide to participate, you will be asked to complete a series of surveys at various times in your course of treatment at BCCPS. The questions on the surveys ask about your current thoughts, feelings, and experiences. Providing this information should not take more than 15-20 minutes at a time.

**Risk**

There is low risk in participating in this study and every attempt will be made to ensure safety throughout the testing process. Should you experience any discomfort from the surveys, please discuss these concerns with your counselor.

**Benefits**

I understand that participating in this study will further research. My therapist will also use the survey data to decide how to best help me.

**Privacy and Confidentiality**

Your participation in this study will be kept completely confidential. No identifying information about the participants will be revealed. The results of this study will be summarized and reported in a general group format. Any information linking my name with your data will ONLY be used by the researchers and will be stored in a locked file cabinet in a locked room in the counseling

center. Your therapist will not have access to your data and name and will not associate your name with the data you provide.

### **Voluntary Participation and Withdrawal**

Your participation in this study is entirely VOLUNTARY. You have the right not to be in this study. If you choose to participate, you have the right to withdraw your consent and discontinue at any time. Withdrawal from participation or lack of participation will in no way affect or limit the services I may receive through the BCCPS.

If you have any questions or concerns about your participation in this study, please contact Dr. Julie Battle at (770) 534-6228 or Dr. Kristen Green at (770) 297-5959. You may also contact the Brenau University Institutional Review Board at (678) 707-5029 if you have any questions about this research project.

### **Signature of Research Participant**

My initials below mean that I give permission:

\_\_\_\_\_ I agree to have my data available for future research studies done by Brenau University. I realize that my data (without my name) may be used in professional presentations and/or articles in professional publications.

\_\_\_\_\_ I have read and I understand all of the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have also received a copy of this form to keep.

**By signing this form, I willingly agree to participate in the research it describes.**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**APPENDIX VII**

## Consent Form

**Informed Consent**

I understand that I have been asked to participate in a long-term research study that is being conducted by student researchers at Brenau University, under the direction of Maria Zayas, Ed.D., Assistant Professor of Psychology.

**PURPOSE**

The purpose of this research is to collect heart rate variability and psychological data from graduate student therapists completing their practicum requirements at the BCCPS during the academic year 2014-2015.

These results will be used to advance research in the area of empathy, the therapeutic alliance, therapeutic effectiveness, heart rate variability (HRV), and symptom reduction in clients.

**VOLUNTARY PARTICIPATION AND WITHDRAWAL**

Your participation in this study is entirely VOLUNTARY. You have the right not to be in this study. If you choose to participate, you have the right to withdraw your consent and discontinue at any time.

**PROCEDURE**

I understand that after I sign this form, I will be participating in a study which requires me to participate in a series of assessments where my heart rate will be recorded in a noninvasive manner, as well as a packet of surveys for me to complete. I will complete these surveys at various times during the study.

**RISKS**

I understand that though there are no expected risks associated with this study and every attempt will be made to ensure safety throughout the testing process, should I become distressed by the questions in these surveys, I can discuss my feelings with Dr. Zayas or the Institutional Review Board.

**BENEFITS**

I understand this study may benefit me personally by increasing my self-awareness. I may also attain skills to develop self-regulatory skills, coherence, and empathy. Also, I understand that participating in this study will further research.

**CONFIDENTIALITY/PRIVACY**

Every effort will be made to protect my confidentiality throughout the study. No information about me, or provided by me during the research, will be shared with others without my written permission, except if it is necessary to protect my welfare or if it is required by law. Any information linking my name with my data will ONLY be used by the researchers for the aforementioned purposes. The results of this study will be summarized and reported in a group format only.

**EXCLUSION CRITERIA**

I understand that persons with the following conditions will not be allowed to participate in this study:

Persons with pacemakers, heart transplants, severe arrhythmias, current atrial fibrillation.

My initials below mean that I have read and understand these exclusions:

\_\_\_\_\_ I certify that I do not have any of these conditions.

*My initials below mean that I give permission:*

\_\_\_\_\_ I agree to have my data available for future research studies done by Brenau University. I realize that my data (without my name or identifying information) may be used in professional presentations and/or articles in professional publications.

If I should have any questions or concerns about my participation in this study, I will contact Dr. Zayas at (770) 531-3149 or mzayas@brenau.edu, or the Institutional Review Board at irb.brenau.edu.

### **SIGNATURE OF RESEARCH PARTICIPANT**

I have read and I understand the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have also received a copy of this form to keep.

**By signing this form, I willingly agree to participate in the research it describes.**

---

Signature

---

Date

**APPENDIX VIII**

Client Demographic Sheet

Today's Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
\_\_\_\_\_

**Participant** Number:

Gender: Female \_\_\_\_ Male \_\_\_\_ Age: \_\_\_\_  
\_\_\_\_\_

Race:

Marital Status: \_\_\_\_ Single \_\_\_\_ Married \_\_\_\_ Divorced \_\_\_\_ Widowed

Number of Children: \_\_\_\_\_ Primary Language: \_\_\_\_\_

Are you currently working? Full Time \_\_\_\_ Part Time \_\_\_\_ Not Working \_\_\_\_

Annual Household Income: **less than 25,000** \_\_\_\_ **26,000 to 50,000** \_\_\_\_ **51,000 to 75,000** \_\_\_\_  
**76,000 to 100,000** \_\_\_\_ **More than 100,000** \_\_\_\_

**Highest Level of Education:** \_\_\_\_\_

**Counseling/Prior Treatment History**

**Do you have previous experience in treatment for any of the following?**  
checked yes,

If

\_\_\_\_\_ No Yes When Where  
~~by your answer~~ If you answer yes to any of the following,  
please rate the experience on a four-point  
scale.

rate  
1) Extremely negative, 2) Negative,  
3) Positive, 4) Extremely positive

Counseling/Therapy	<input type="checkbox"/> <input type="checkbox"/>	_____	1	2
3 4				
Drug/alcohol treatment	<input type="checkbox"/> <input type="checkbox"/>	_____	1	2
3 4				
Psychiatrist/Medication	<input type="checkbox"/> <input type="checkbox"/>	_____	1	2
3 4				
Psychiatric Hospitalizations	<input type="checkbox"/> <input type="checkbox"/>	_____	1	2
3 4				
Residential Treatment	<input type="checkbox"/> <input type="checkbox"/>	_____	1	2
3 4				

Have you been to the Brenau Center for Counseling and Psychological Services before?

---

---

**Please list all current medications:**

---

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**APPENDIX IX**

Therapist Demographic Sheet

Today's Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Therapist Participant Number: \_\_\_\_\_

Gender: Female \_\_\_\_ Male \_\_\_\_ Age: \_\_\_\_ Race: \_\_\_\_\_

Marital Status: \_\_\_\_ Single \_\_\_\_ Married \_\_\_\_ Divorced \_\_\_\_ Widowed

Number of Children: \_\_\_\_\_

What is the average number of hours that you spend seeing clients at BCCPS per week? (circle one):

1-3    3-6    6-9    9-12    12+

How would you rate your current level of empathy? (circle one):

Great            Good            Average            Poor

How would you rate your current ability to connect with your BCCPS clients? (circle one):

Great            Good            Average            Poor