THE EFFECT OF CLIENT SELF-DISCLOSURE ON THE PHYSIOLOGICAL AROUSAL OF THE THERAPIST

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ABSTRACT OF THESIS

THE EFFECT OF CLIENT SELF-DISCLOSURE ON THE PHYSIOLOGICAL AROUSAL OF THE THERAPIST

This quantitative study investigated the effect of client self-disclosure on the physiological arousal of the therapist and subsequent ratings of the therapeutic alliance, session smoothness, and session depth. Three therapists and 10 clients participated in a 40-minute videotaped therapy session while being attached to sensors that measured heart rate and skin conductance. The participants completed self-report questionnaires designed to assess the therapeutic alliance and session smoothness and depth immediately following the therapy session. The videotaped therapy sessions were later transcribed and coded by two independent coders for the occurrence of client self-disclosure. Correlation analyses were utilized to determine whether or not a relationship existed between client self-disclosure and the physiological arousal of the therapist. No significant relationships were found to exist between client self-disclosure and the physiological arousal of the therapist. Positive correlations were found to exist between the occurrence of client self-disclosure and the physiological arousal of the therapist as well as between the occurrence of client self-disclosure and the therapeutic alliance. The physiological arousal of the therapist was also found to be positively correlated with the strength of the therapeutic alliance.

KEYWORDS: Client self-disclosure, Therapist, Physiological Arousal, Therapeutic alliance, Session smoothness and depth

Kristyn M. Blackburn

April 25, 2011
THE EFFECT OF CLIENT SELF-DISCLOSURE ON THE PHYSIOLOGICAL AROUSAL OF THE THERAPIST

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April 25, 2011
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THESIS

Kristyn Marie Blackburn

The Graduate School
University of Kentucky
2011
THE EFFECT OF CLIENT SELF-DISCLOSURE ON THE PHYSIOLOGICAL AROUSAL OF THE THERAPIST

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in the College of Agriculture at the University of Kentucky

By
Kristyn M. Blackburn
Lexington, Kentucky

Director: Trent S. Parker, Professor of Family Studies
Lexington, Kentucky
2011

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To my mother who taught me the meaning of compassion.
Acknowledgments

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Chapter 1
Introduction

Self-disclosure is defined as the act of verbally communicating information about oneself to another individual (Chelune, 1975; Cozby, 1973). The process of self-disclosure has been identified as a central facilitator in the building of interpersonal relationships (Altman & Taylor, 1973; Collins & Miller, 1994). Individuals who self-disclose are liked more than those who do not (Collins & Miller, 1994). Additionally, individuals who self-disclose tend to like the people to whom they have disclosed as a result of having done so (Collins & Miller, 1994). The facilitative nature of self-disclosure implies that its occurrence is paramount to the formation of meaningful relationships. With that knowledge, the current study will contribute to the existing literature concerning the impact that self-disclosure has on the therapeutic relationship.

An integral part of the therapeutic relationship is the therapeutic alliance that exists between the client and therapist. A strong link between the client’s perception of the therapeutic alliance and the level of improvement achieved in therapy has been discovered (Escudero, Friedlander, Varela, & Abascal, 2008). The link between the alliance and client progress underscores the importance of understanding the various interpersonal processes that occur in the therapeutic setting. More specifically, there is a need to understand the role that the client and therapist each play in maintaining the alliance.

While some theoretical models advocate for the therapist to assume an expert position, researchers have found the therapeutic alliance to be strongly influenced by its collaborative nature (Horvath & Bedi, 2002). Self-disclosure appears to be an interpersonal process that contributes to the building and maintenance of such a relationship. The
collaboration between the therapist and client often results in a shared sense of trust, liking, respect, and caring (Horvath & Bedi, 2002; Lambert & Okiishi, 1997). Consequently, in addition to the therapist affecting the client, it has been determined that the client also affects the therapist in a unique manner (Rosenblatt, 2009). As is evidenced by research, the therapist plays an important role in the development and maintenance of the therapeutic relationship. Therefore, research concerning the impact of various therapeutic processes on the therapist such as client self-disclosure is vital.

At its most basic level, the therapeutic relationship has been identified as an interpersonal relationship in which the therapist and client communicate their feelings and attitudes concerning each other (Gelso & Hayes, 1998). A significant amount of attention has been paid to researching the interpersonal processes that shape the therapeutic relationship. Self-disclosure is one such process that allows the client and therapist to communicate their thoughts and feelings. However, while research concerning self-disclosure and the therapeutic process has been conducted, few studies have examined the specific effects that client self-disclosure has on the therapist.
Chapter 2

Relevant Literature

Self-Disclosure

Self-disclosure has been assessed on the basis of five different dimensions (Chelune, 1975; Cozby, 1973). These dimensions include: (a) amount, (b) intimacy, (c) duration, (d) flexibility of disclosure patterns, and (e) affective manner of presentation. Each of these dimensions assists researchers in studying the process of self-disclosure in an organized manner. The assessment of self-disclosure on a dimensional level is particularly appealing for the current study because it allows for the systematic analysis of verbal content.

The amount of self-disclosure is determined by the number of thought units stated about oneself (Chelune, 1976). A thought unit is defined as a non-reflexive clause. For instance, if an individual were to state, “I went to the store,” the statement would be viewed as one thought unit. In turn, the judged depth of the thought unit reflects the intimacy of the self-disclosure. Because depth is a subjective concept, it is often viewed along a continuum that assesses for the personal relevance of the self-disclosure. Duration is a dimension that builds upon the aforementioned concept of amount. The amount of time that an individual engages in self-disclosure is duration. By looking at these dimensions, researchers have the ability to determine the impact of each dimension on various therapeutic processes.

Self-disclosure flexibility refers to the variability that may exist in various contexts. For instance, an individual may disclose more to a close friend than to an acquaintance. The affective manner of presentation is judged on the basis of congruence between the intimacy of the disclosure and the affect expressed (Chelune, 1976). If an individual were to disclose that his parent recently died but did so in a cheerful manner, the affect expressed would not
be deemed congruent with the intimacy of the disclosure. These dimensions serve the purpose of emphasizing the differences that individuals may express in the process of self-disclosure.

**Client Perception of Self-Disclosure**

A substantial body of literature exists concerning the manner in which clients perceive self-disclosure. Clients have been found to view self-disclosure as an event that is facilitated by the quality of the therapeutic relationship. Farber, Berano, and Capobianco (2004) found that while clients reported feeling anxious and vulnerable immediately before and following a self-disclosure, they also reported feeling relief and safety following the disclosure, provided the therapeutic relationship was considered safe. The interplay between client self-disclosure and the therapeutic relationship is interesting. The therapeutic relationship has been noted in the literature as being a substantial contributing factor to therapeutic outcome (Wampold, 2001). Since many models of therapy, such as Emotionally Focused Therapy (Johnson, 2004) rely on intimate levels of self-disclosure for therapeutic progress, the role of the therapist is important to understand.

Research has shown that clients are likely to perceive self-disclosure positively if they view their therapist as possessing empathy and warmth (Halpern, 1977). This finding makes sense in that it is evident that the therapeutic relationship not only encourages self-disclosure, but also influences how clients perceive their own self-disclosure. If a client perceives the therapist as being empathetic, they are more likely to self-disclose and have a positive reaction to the self-disclosure process. Based on this research, it is apparent that the therapist, as a member of the therapeutic relationship, has the potential to impact the client’s perception of self-disclosure.
Stiles (1987) found that clients are prone to disclose at higher levels when they are under high levels of psychological distress. As a result of disclosing, the clients reported experiencing catharsis and self-understanding. Farber, Berano, and Capobianco (2004) have found clients to view initial self-disclosure as a means of encouraging future disclosures to their therapists. Conversely, they found that clients report secret keeping as having the potential to damage progress made in therapy. From this body of literature, it appears that clients perceive self-disclosure to be a facilitative and important process in the therapeutic context.

**Client Self-Disclosure and the Therapeutic Alliance**

Client self-disclosure has been identified as one of the key processes that contribute to the development of a strong therapeutic alliance (Farber & Hall, 2002). The therapeutic alliance is defined as the collaborative relationship that exists between client and therapist. Bordin (1976) viewed the alliance as an integrated relationship. However, Bordin also identified three critical components of the alliance: (a) tasks, (b) goals, and (c) bond. Tasks refer to the therapeutic behaviors and thoughts that contribute to the therapeutic process. Goals refer to outcomes mutually desired and strived for by the client and therapist. Bond refers to the personal relationship existing between the client and therapist that includes mutual trust, acceptance, and confidence.

Researchers have identified a number of consequences associated with a therapeutic alliance characterized by low levels of self-disclosure and high levels of secret keeping. Clients who keep a secret from their therapists score lower on the Working Alliance Inventory (WAI) than those who do not (Horvath & Greenberg, 1986; Kelly & Yuan, 2009). Furthermore, the therapists working with these clients report a weaker working alliance.
(Kelly & Yuan, 2009). Environments in which clients withhold information from their therapists appear to be disingenuous. In turn, the therapeutic alliance is stunted. Understanding ways in which the alliance can be fostered, such as the encouragement of disclosure, is important to client comfort and therapeutic progress.

It has also been discovered that sessions in which clients self-disclose are more likely to receive a greater observer-rated level of depth than those in which client self-disclosure does not occur (Kahn, Vogel, Schneider, Barr, & Herrell, 2008). As is shown by this research, client self-disclosure has the potential to positively influence the therapeutic process by means of strengthening the therapeutic alliance.

**Therapist Role in the Therapeutic Process**

In recent years, a greater emphasis has been placed on research concerning the impact of the therapist on the therapeutic process. This research suggests that the individual therapist, as opposed to treatment approach, may account for much of the variance in treatment outcome (Wampold, 2001). More often than not, clients credit their therapist with successful treatment outcome (Sloane, Cristol, Yorkston, & Whipple, 1975). The notion that clients credit much of their success in treatment directly to the presence of the therapist is profound. It is apparent that clients value the presence of their therapist during the treatment process.

In particular, the therapist’s ability to engage with his or her client has been identified as a predictive factor of successful treatment outcome (Orlinsky, Graves, & Parks, 1994). This finding places an emphasis on the actions of the therapist in the therapy room and on the importance of understanding how therapists interact with their clients. While this research
touches on the impact that the therapist has on the therapeutic outcome, it does not detail the actions that the therapist must take in order to do so.

Earlier research has examined the specific therapist conditions that potentiate successful treatment outcome in the therapeutic context. Rogers (1957) asserted that there are a number of distinct criteria that must be met by the therapist in order for the client to achieve a successful outcome. Rogers believed these conditions to be: (a) psychological contact with the client, (b) therapist congruence, (c) unconditional positive regard for the client, and (d) an empathic understanding of the client. The criteria are believed to be satisfied when the therapist reaches a certain level of self-awareness.

Of particular interest for this study is the concept of therapist congruence. Congruence is the state of full awareness of the feelings within the therapist at various moments throughout the therapeutic encounter (Rogers, Gendlin, Kiesler, & Truax, 1967). Beyond awareness, congruence encompasses the therapist’s ability to successfully access and communicate his or her feelings to the client. The therapist must also recognize the continually changing state of their awareness. With the knowledge that the therapist is affected by his or her client through interpersonal processes such as self-disclosure, it is clear that these processes may affect therapist congruence.

The concept of therapist congruence shares many commonalities with the concept of relational depth. During moments of relational depth the therapist experiences empathy, acceptance, and transparency within the therapeutic relationship (Cooper, 2005). At these moments, therapists report feeling as if their clients are engaging in the moment with them. Interestingly, the therapist’s experience during moments of relational depth meets the criteria aforementioned for successful treatment outcome (Rogers, 1957). The collaborative nature
of the therapeutic relationship allows for such moments of congruence and relational depth to occur. In turn, the client benefits and experiences a successful treatment outcome.

Research conducted by Bordin (1976) provides insight regarding the influence that inner awareness may have on the therapeutic alliance, a process that he asserts to be a central factor in change. Bordin states that more meaningful bonds of trust and attachment are developed when an inner awareness is accomplished by the therapist and client. However, the state of internal awareness described by these researchers is abstract in nature. While much of the reviewed literature has focused on the inner processes occurring within the therapist during the therapeutic encounter, little is known about the exact nature of these processes; especially on a physiological level.

**Physiological Responses in Therapy**

Emotions are often characterized by varying degrees of physiological arousal (Levenson, 2003). Physiological arousal is regulated by the autonomic nervous system (ANS). The ANS is comprised of the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). Physical or psychological stress, such as self-disclosure, triggers activation of the SNS. In turn, activation of the SNS prepares the body to adapt to situations deemed challenging. The PNS is dominant during times of safety and stability which results in a lower degree of arousal. The interaction between the sympathetic and parasympathetic nervous systems is measured by heart rate variability.

The autonomic nervous system (ANS) is capable of affecting heart rate (Ohman & Stefan, 2003). When the sympathetic nervous system (SNS) is activated by a psychologically stressful situation such as self-disclosure, it results in increased heart rate.
Situations determined to be safe and stable result in the activation of the parasympathetic nervous system (PNS) and decreased heart rate.

Skin conductance is another physiological measure commonly utilized in research. The measure refers to the ability of the skin to conduct electrical current (Hugdahl, 1995). As an indicator of emotions, events that are characterized as novel, surprising, intense, or significant are found to result in larger skin conductance responses (Dawson, Schell, & Filion, 2007). In a setting such as the therapy room in which emotions are present, assessing physiology provides insight into the effect that interpersonal interactions have on both the client and the therapist.

Research concerning the impact of physiological responses on the therapeutic process has been conducted. Most recently, the relationship between client-perceived empathy and physiologic concordance has been an area of interest in the literature. Physiologic concordance is defined as the nature of physiological reaction to vary together between two individuals. Physiologic concordance refers to the reactive nature of physiological responses between two individuals (Marci & Orr, 2006). For instance, when one individual’s physiology changes, the other individual’s physiology often changes in the same direction. Marci and Orr (2006) utilized a physiologic measure to assess for the effect of emotional distance on the therapeutic process. Two conditions were created in which therapists were asked to interact with their clients in either an emotionally neutral or emotionally distant manner. The therapist’s gaze during the interaction was coded in order to determine emotional distance. During these interactions, simultaneous measures of skin conductance were recorded from the therapist and client. Immediately following the interaction, the clients were provided with a questionnaire designed to measure therapist empathy. The
results indicate that increased emotional distance is associated with lower levels of physiologic concordance and lower ratings of client-perceived empathy, indicating the importance of engagement between the therapist and client.

In a follow up study, Marci, Ham, Moran, and Orr (2007) collected simultaneous measures of skin conductance during a full-length therapy session in order to determine the effect of social-emotional interaction on physiologic concordance and client-perceived empathy. Video recorded therapy sessions in which the clients and therapists were connected to physiologic equipment were coded for social-emotional interaction. A significant positive correlation between skin conductance concordance and client-perceived therapist empathy was found. Additionally, during moments of high skin conductance concordance, significantly more positive social-emotional interactions were found. As is elucidated by these studies, psychological responses have the ability to impact the therapeutic process.

What is of interest in the current study is gaining an understanding of how the therapist’s physiology is affected by the therapeutic process.

**Hypotheses**

Based on the reviewed literature, it is hypothesized that: (a) the occurrence of client self-disclosure will be positively correlated with the increased physiological arousal of the therapist, (b) the strength of the therapeutic alliance will be positively correlated with the occurrence of client self-disclosure, (c) the therapeutic alliance will be positively correlated with the increased physiological arousal of the therapist, and (d) the increased physiological arousal of the therapist will be positively correlated with session ratings of smoothness and depth as measured by the Session Evaluation Questionnaire (SEQ).
Chapter 3
Methodology

Participants

Sample.

The sample for this study was drawn from a larger research study, which recruited participants from the UK Family Center. The UK Family Center is a clinic located on the campus of the University of Kentucky that provides mental health services to individuals, couples, and families from the greater Lexington area. The UK Family Center is staffed by graduate students pursuing a Master’s degree in marriage and family therapy. The students are supervised by licensed marriage and family therapists from the Department of Family Studies. The UK Family Center is a training institution; therefore, severe mental health issues are screened out and referred to other community resources. The sample included 3 female therapists, 4 couple cases, and 2 individual cases. Clients ranged in age from 26 to 58 years of age ($M = 39.4$, $SD = 10.2$). Therapists ranged in age from 23 to 24 years of age ($M = 23.6$, $SD = .58$) and were all Caucasian.

Participant selection.

All therapists at the UK Family Center received an email asking for their participation in the study. Interested therapists were provided with fliers to distribute to their clients. Clients who expressed interest in the study were instructed to provide their contact information. Interested clients were contacted to receive further information about the study and to have their questions answered. If the clients then agreed to participate, a session was scheduled in the Family Interaction Research Lab.
Measures

Self-report measures.

As part of the larger study, all participants were provided with a number of self-report measures. The self-report measures assessed psychological functioning, session evaluation, and perceived level of empathy of the therapist. Each member of the couple dyad completed additional assessments aimed at measuring relationship satisfaction. For the research purposes of the current study, the self-report measures assessing the working alliance and session depth were utilized in the data collection process.

Working Alliance Inventory (WAI).

The WAI (Horvath & Greenberg, 1986) is a 36-item assessment that includes three subscales: goals, tasks, and bond (see Appendix A). The assessment is based on Bordin’s (1976) conceptualization of the therapeutic alliance. Each subscale includes 12 items rated on a 7-point Likert scale. Reliability of the assessment is good with an alpha of .93. The assessment also has good convergent and discriminate validity (Horvath & Greenberg, 1989).

Session Evaluation Questionnaire (SEQ).

The SEQ (Stiles & Snow, 1984) is composed of 21 bi-polar scales on which respondents rate the therapy session on four dimensions: depth, smoothness, positivity, and arousal (see Appendix B). Each item is scored from 1 to 7, with higher scores indicating greater depth, smoothness, positivity, or arousal. Reliability of the assessment varies with alphas from .90 to .93 (Reynolds, Stiles, Barkham, Shapiro, Hardy, & Rees, 1996). The SEQ has demonstrated good validity (Stiles, Reynolds, Hardy, Rees, Barkham, & Shapiro, 1994).
Physiological measurement.

The Family Interaction Research Lab contains equipment designed to measure autonomic physiological arousal and brain activity (EEG). Additionally, the lab is outfitted with three cameras designed to record interactions between participants. The video streams, physiological arousal, and EEG are combined and recorded for each participant. For the research purposes of this study, heart rate and skin conductance were utilized to measure the physiological arousal of the therapist. The therapy session was also video recorded.

Coding system.

The Self-Disclosure Coding System (Chelune, 1976) is a systematic analysis procedure designed to assess the major dimensions of self-disclosing behavior. These dimensions include: (a) the amount or breadth of self-disclosure, (b) the depth or intimacy of self-disclosure, (c) the rate of self-disclosure, (d) the affective manner of presentation, and (e) self-disclosure flexibility. The verbal behavior associated with each of the dimensions of self-disclosure is coded according to 11 categories.

While all 11 coding categories were included in the coding process, only three of the categories were utilized in the data analysis procedures of the current study. These categories include: (a) amount, (b) self-reference, and (c) intimacy. Amount is defined as the number of independent thought units expressed in the interval. A statement such as “I went to dinner with my wife” would be considered self-disclosure because it is an independent thought unit and would be scored as one point. Conversely, a statement such as “I thought about” would not be considered self-disclosure because it is an incomplete thought unit. The interrater reliability of the amount category is .94. Self-reference refers to the number of thought units describing a quality of the speaker. The aforementioned statement would be
considered a self-reference and would be scored as two points because the reference was first person. The interrater reliability of the self-reference category is .94. Intimacy is defined as the judged depth of the verbal content. The intimacy of the self-disclosures is determined on the basis of a scale ranging from a statement void of any personal element to a very personal statement. The interrater reliability of the intimacy category is .29

Prior to coding, two coders were trained on the Self-Disclosure Coding System. The training session reviewed the Self-Disclosure Coding System Manual (see Appendix D) which includes definitions and examples of each coding category. The coders were provided with examples from a transcribed session and given the opportunity to ask questions during the training session.

The verbal behavior comprising each of the coding categories was scored by the coders using both a written transcript and a tape recording of the therapy session. The written transcripts were divided into 30-second segments of dialogue. The coders were instructed to identify the number of independent thought units and self-references in each segment. Additionally, the coders were instructed to rate the intimacy of each independent thought unit. The video recordings were used by the coders to judge the effect of the self-disclosure. A worksheet on which to record the occurrence of these self-disclosing behaviors (see Appendix C) was provided. For sessions in which a couple participated, the coders were instructed to code the self-disclosure of the male and female participants separately.

**Procedures**

*Informed consent process.*

Upon arriving at the Family Interaction Research Lab, participants were informed of the procedure, risks and benefits, and voluntary nature of the research study. It was stated
that participants were able to withdraw at any time without penalty. The informed consent form found on UK’s research website was used to obtain consent.

Research procedures.

Following the informed consent process, the participants were asked to complete the self-report assessments. After completion of the assessments, lab assistants connected each participant to sensors designed to measure heart rate and skin conductance. A sensor was placed on each of the participant’s inner wrists to measure heart rate and two sensors were placed on the palm of the participant’s non-dominant hand in order to measure skin conductance. As part of the larger study, the participants were also connected to an electro cap in order to measure brain activity. A series of baseline physiological measurements were then taken. These measurements included eyes open for 5 minutes and eyes closed for 5 minutes.

A 40-minute therapy session then occurred. During the therapy session, physiological measurements were taken. A second set of baseline measurements was taken at the conclusion of the therapy session. These measurements included eyes open for 5 minutes and eyes closed for 5 minutes. The therapy session was video recorded and transcribed for later coding of self-disclosure.
Chapter 4

Results

Analysis Strategy

It was initially thought that path analysis would be utilized in anticipation of a larger sample size. However, given the small sample size of the study, it was determined that Pearson correlation analyses were more appropriate. The data analysis process also revealed that there was a problem with the equipment used to measure the therapist’s physiological arousal. Due to a faulty sensor, the data collected measuring galvanic skin response was corrupt and unsuitable for analysis, leaving the therapist’s heart rate as the sole indicator of physiological arousal. The change in the therapist’s heart rate was calculated by determining the difference between the therapist’s heart rate during the eyes closed baseline condition and the therapist’s heart rate during the middle 10 minutes of the therapy session. Calculating the difference resulted in the therapist’s average heart rate change that was used in the correlation analyses.

Hypothesis 1

Pearson correlation analyses were utilized in order to determine the relationship between the occurrence of self-disclosure and the increased physiological arousal of the therapist (see Table 4.1). The amount of self-disclosure was positively correlated with change in the therapist’s heart rate ($r = .23, p = .56$). However, negative correlations existed between the intimacy ($r = -.10, p = .79$) and self-reference ($r = -.06, p = .88$) components of self-disclosure and change in the therapist’s heart rate.
Table 4.1

Client Self-Disclosure and Therapist Heart Rate

<table>
<thead>
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<th>Client Self-Disclosure</th>
<th>Amount</th>
<th>Intimacy</th>
<th>Self-Reference</th>
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<tbody>
<tr>
<td>Therapist Heart Rate</td>
<td>.23</td>
<td>-.10</td>
<td>-.06</td>
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</table>
**Hypothesis 2**

Pearson correlation analyses were utilized in order to determine the relationship between the strength of the therapeutic alliance and the occurrence of self-disclosure (see Table 4.2). Analyses were computed between the amount, intimacy, and self-reference components of self-disclosure and the bond, task, and goal components of the therapeutic alliance. The amount of self-disclosure was positively correlated with the bond ($r = .16, p = .66$), task ($r = .19, p = .60$), and goal ($r = .36, p = .31$) components of the therapeutic alliance. The intimacy of self-disclosure was positively correlated with the bond ($r = .06, p = .87$), task ($r = .27, p = .45$), and goal ($r = .20, p = .58$) components of the therapeutic alliance. The self-reference component of self-disclosure was positively correlated with the bond ($r = .01, p = .98$), task ($r = .23, p = .53$), and goal ($r = .33, p = .35$) components of the therapeutic alliance.
Table 4.2

*Client Self-Disclosure and Therapeutic Alliance*

<table>
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<tr>
<td>Task</td>
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<td>.23</td>
</tr>
<tr>
<td>Goal</td>
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<td>.20</td>
<td>.33</td>
</tr>
</tbody>
</table>
Hypothesis 3

Pearson correlation analyses were utilized in order to determine the relationship between the therapeutic alliance and the increased physiological arousal of the therapist (see Table 4.3). Analyses were computed between the bond, task, and goal components of the therapeutic alliance and change in the therapist’s heart rate. The bond component of the therapeutic alliance was positively correlated with change in the therapist’s heart rate ($r = .30, p = .43$). The task component of the therapeutic alliance was positively correlated with change in the therapist’s heart rate ($r = .44, p = .26$). The goal component of the therapeutic alliance was positively correlated with change in the therapist’s heart rate ($r = .50, p = .17$).
Table 4.3

*Therapeutic Alliance and Therapist Heart Rate*

<table>
<thead>
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<td>Bond</td>
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<td><strong>r</strong></td>
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<tr>
<td><strong>Therapist Heart Rate</strong></td>
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</tbody>
</table>
Hypothesis 4

Pearson correlation analyses were utilized in order to determine the relationship between the increased physiological arousal of the therapist and session ratings of smoothness and depth (see Table 4.4). Change in the therapist’s heart rate and session smoothness were negatively correlated ($r = -.02, p = .96$). A negative correlation also existed between change in the therapist’s heart rate and session depth ($r = -.07, p = .82$).
Table 4.4

*Session Smoothness and Depth and Therapist Heart Rate*

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<tr>
<td>Therapist Heart Rate</td>
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<td>-.07</td>
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</table>
Chapter 5

Discussion

Interpretation

The purpose of the current study was to determine the effect of client self-disclosure on the physiological arousal of the therapist. Additionally, the effect of the therapist’s physiological arousal on subsequent ratings of the therapeutic alliance and session smoothness and depth was explored. Given the small sample size of the study, no significant results were found. However, the results do reveal a number of correlations that support the notion that the therapist is an integral part of the therapeutic process.

While not statistically significant, the findings suggest that the amount of self-disclosure influences the physiological arousal of the therapist during session. The relationship supports previous research asserting the powerful nature of the collaborative relationship that exists between the therapist and client (Rosenblatt, 2009). In this context, the client’s self-disclosing behavior demonstrates an effect on the physiological reaction of the therapist in the therapeutic setting. As was identified by Orlinsky, Graves, and Parks (1994), the therapist’s ability to engage with his or her client has the potential to determine treatment outcome. Later research conducted by Cooper (2005) hinted at the importance of engaging with one’s client in an encompassing manner that included a bodily awareness. These results support the idea that the therapist’s physiology simultaneously influences and is influenced by the therapeutic process.

Not all components of self-disclosure were positively correlated with change in the therapist’s physiology. The intimacy and self-reference components of self-disclosure were negatively correlated with the physiological arousal of the therapist. Most likely, these
correlations were the result of the small sample size of the study. The low interrater reliability of the intimacy component of client self-disclosure may have also influenced the negative correlation. Prior research conducted by Marci, Ham, Moran, and Orr (2007) do not support such negative correlations. In fact, the researchers found an increased number of social-emotional interactions between client and therapist to result in greater skin conductance responses, indicating intimacy to be an important factor in the therapist’s physiology.

The results revealed that the occurrence of client self-disclosure is related to the strength of the therapeutic alliance. Ratings of the therapeutic alliance increased when client self-disclosure occurred. These findings support earlier research conducted by Farber and Hall (2002) that identified client self-disclosure as a contributing factor in the development of a strong therapeutic alliance. It makes sense to see such a relationship with the knowledge that clients and therapists alike perceive client self-disclosure to be a positive event in the therapeutic setting.

Taking the small sample size of the study into account, a fairly strong positive correlation exists between the physiological arousal of the therapist and client ratings of the therapeutic alliance. This finding is not surprising considering earlier research conducted by Marci and Orr (2006) that found more therapist engagement to result in greater ratings of client-perceived therapist empathy. The current study expounds upon those findings by suggesting that therapist engagement on a physiological level during session is associated with the client’s perception of the goals, tasks, and bond shared and worked toward with the therapist.
The physiological arousal of the therapist was not found to be positively correlated with session ratings of smoothness and depth. With the knowledge that client self-disclosure influences the physiology of the therapist, this finding is at odds with other studies. For instance, sessions in which client self-disclosure occurs have been found to be more prone to receive a greater observer-rated level of depth than those in which client self-disclosure does not occur (Kahn, Vogel, Schneider, Barr, & Herrell, 2008). A larger sample size may help to shed light on the adversarial nature of these findings.

**Implications**

Results from the current study suggest a number of implications for researchers and clinicians. The exploratory nature of the study revealed that little research regarding the influence of client behaviors on the therapist has been conducted. More specifically, no research examining the impact of client self-disclosure on the physiological arousal of the therapist has been conducted.

While no significant results were found in the current study, positive correlations were found to exist between: (a) the occurrence of client self-disclosure and the therapist’s physiological arousal, (b) the occurrence of client self-disclosure and the strength of the therapeutic alliance, and (c) the physiological arousal of the therapist and the strength of the therapeutic alliance. It is suspected that future research utilizing a larger sample size may yield significant positive correlations between these variables. Future research regarding the effect of client self-disclosure on the physiological arousal of the therapist will also provide the therapeutic community with valuable insight into the role that the therapist plays in the therapeutic process. As an active member of the therapeutic system, it is important to uncover various client behaviors that have the potential to influence therapist behaviors.
The findings of the current study also have implications for clinicians. In a world where a multitude of treatment modalities exist, it is important to understand the benefits of assuming a more humanistic stance in the therapy room versus a more detached stance. An awareness of the impact that various client behaviors have on the therapist may assist therapists in arriving at a sense of acceptance and transparency with their clients in the therapy room which would be in line with more humanistic treatment modalities. As was proposed by Rogers (1957), therapist congruence is a vital contributing factor to successful treatment outcome. Incorporating the therapist’s inner processes with his or her outward behaviors is an important part of being congruent in the therapeutic setting.

Limitations

Some limitations exist in the current study. Due to the limited sample size, more simplistic statistical analyses were utilized. Although correlations have the ability to identify a relationship between two variables, this method of analysis does not account for causality or the direction of the relationship between variables. Simply stated, the results cannot be said to imply that one variable causes another. The small sample size of the study also limits the generalizability of the results to a larger population.

The study also relied solely on the therapist’s heart rate to assess physiological arousal. Future studies examining the influence of various client behaviors on the physiology of the therapist should utilize other measures such as galvanic skin response in order to provide a more comprehensive assessment of the processes occurring within the therapist.
Appendix A

Working Alliance Inventory

Form T

Instructions

On the following pages there are sentences that describe some of the different ways a person might think or feel about his or her client. As you read the sentences mentally insert the name of your client in the place of _____ in the text.


If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.

1. I feel uncomfortable with _____.
2. _____ and I agree about the steps to be taken to improve his/her situation.
3. I have some concerns about the outcome of these sessions.
4. My client and I both feel confident about the usefulness of our current activity in therapy.
5. I feel I really understand _____.
6. _____ and I have a common perception of his/her goals.
7. _____ finds what we are doing in therapy confusing.
8. I believe _____ likes me.
9. I sense a need to clarify the purpose of our session(s) for _____.
10. I have some disagreements with _____ about the goals of these sessions.
11. I believe the time _____ and I are spending together is not spent efficiently.
12. I have doubts about what we are trying to accomplish in therapy.
13. I am clear and explicit about what _____’s responsibilities are in therapy.
14. The current goals of these sessions are important for _____.
15. I find what _____ and I are doing in therapy is unrelated to his/her current concerns.
16. I feel confident that the things we do in therapy will help _____ to accomplish the changes that he/she desires.
17. I am genuinely concerned for _____’s welfare.
18. I am clear as to what I expect _____ to do in these sessions.
19. _____ and I respect each other.
20. I feel that I am not totally honest about my feelings toward _____.
21. I am confident in my ability to help _____.
22. We are working towards mutually agreed upon goals.
23. I appreciate _____ as a person.
24. We agree on what is important for _____ to work on.
25. As a result of these sessions _____ is clearer as to how she/he might be able to change.
26. _____ and I have built a mutual trust.
27. _____ and I have different ideas on what his/her real problems are.
28. Our relationship is important to _____.
29. _____ has some fears that if she/he says or does the wrong things, I will stop working with him/her.
30. _____ and I have collaborated in setting goals for these session(s).
31. _____ is frustrated by what I am asking her/him to do in therapy.
32. We have established a good understanding between us of the kind of changes that would be good for _____.
33. The things that we are doing in therapy don’t make much sense to _____.
34. _____ doesn’t know what to expect as the result of therapy.
35. _____ believes the way we are working with her/his problems is correct.
36. I respect _____ even when he/she does things that I do not approve of.
Working Alliance Inventory

Form C

Instructions

On the following pages there are sentences that describe some of the different ways a person might think or feel about his or her therapist (counsellor). As you read the sentences mentally insert the name of your therapist (counsellor) in place of _____.

1. I feel uncomfortable with _____.
2. _____ and I agree about the things I will need to do in therapy to help improve my situation.
3. I am worried about the outcome of these sessions.
4. What I am doing in therapy gives me new ways of looking at my problem.
5. _____ and I understand each other.
6. _____ perceives accurately what my goals are.
7. I find what I am doing in therapy confusing.
8. I believe _____ likes me.
9. I wish _____ and I could clarify the purpose of our sessions.
10. I disagree with _____ about what I ought to get out of therapy.
11. I believe the time _____ and I are spending together is not spent efficiently.
12. _____ does not understand what I am trying to accomplish in therapy.
13. I am clear on what my responsibilities are in therapy.
14. The goals of these sessions are important to me.
15. I find what _____ and I are doing in therapy is unrelated to my concerns.
16. I feel that the things I do in therapy will help me to accomplish the changes that I want.
17. I believe _____ is genuinely concerned for my welfare.
18. I am clear as to what _____ wants me to do in these sessions.

If the state ment describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.

1 2 3 4 5 6 7
Never Rarely Occasionally Sometimes Often Very Always

Often
19. _____ and I respect each other.
20. I feel that _____ is not totally honest about his/her feelings toward me.
21. I am confident in _____’s ability to help me.
22. _____ and I are working towards mutually agreed upon goals.
23. I feel that _____ appreciates me.
24. We agree on what is important for me to work on.
25. As a result of these sessions I am clearer as to how I might be able to change.
26. _____ and I trust one another.
27. _____ and I have different ideas on what my problems are.
28. My relationship with _____ is very important to me.
29. I have the feeling that if I say or do the wrong things, _____ will stop working with me.
30. _____ and I collaborate on setting goals for my therapy.
31. I am frustrated by the things I am doing in therapy.
32. We have established a good understanding of the kind of changes that would be good for me.
33. The things that _____ is asking me to do don’t make sense.
34. I don’t know what to expect as the result of my therapy.
35. I believe the way we are working with my problem is correct.
36. I feel _____ cares about me even when I do things that he/she does not approve of.
Place an “X” on each line to show how you feel about this session.

This session was

- Bad ___ ___ ___ ___ ___ Good
- Safe ___ ___ ___ ___ ___ Dangerous
- Difficult ___ ___ ___ ___ ___ Easy
- Valuable ___ ___ ___ ___ ___ Worthless
- Shallow ___ ___ ___ ___ ___ Deep
- Relaxed ___ ___ ___ ___ ___ Tense
- Unpleasant ___ ___ ___ ___ ___ Pleasant
- Full ___ ___ ___ ___ ___ Empty
- Weak ___ ___ ___ ___ ___ Powerful
- Special ___ ___ ___ ___ ___ Ordinary
- Rough ___ ___ ___ ___ ___ Smooth
- Comfortable ___ ___ ___ ___ ___ Uncomfortable

In regard to the problem the participant discussed, how much was she/he helped?

1 2 3 4 5 6 7
Not at all Very much

To what extent do you feel that you presented the information/story effectively?

1 2 3 4 5 6 7
Not effective Very effective

Which affect construction formula did you use?
SESSION EVALUATION QUESTIONNAIRE
Client Version

Place an “X” on each line to show how you feel about this session.

This session was

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In regard to the problem you discussed, how much were you helped?

1 2 3 4 5 6 7
Not at all Very Much
Appendix C

Coding Summary Sheet

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<thead>
<tr>
<th>Interval</th>
<th>A</th>
<th>SR</th>
<th>SR%</th>
<th>SR+</th>
<th>SR-</th>
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Rate = SR total/minutes

= ______

Totals:
SR% ______
SR+ ______
SR * ______
SRo ______
SR ______
A ______
SRw ______
I ______
Af ______
Appendix D

Self-Disclosure Coding System Manual

Instructions for Coders:
1. Since the responses you will be rating are tape-recorded, you may find it helpful to listen to each 30 second segment before you code it.
2. Rating of the responses will require your careful evaluation. Score only what is said or directly implied. Record your scores on the Coding Summary Sheet.
3. Be as objective as possible and try not to allow your personal reactions to influence your judgments.
4. You should assume that the coding categories are independent and not correlated. Thus, a subject may score high on some dimensions but low on others (e.g., a subject may disclose a great deal of intimate information yet be rated low on affective manner of presentation).

Coding Categories:

Amount (A)

The overall amount of information communicated in a 30 second time interval is scored by counting the number of thought units or independent clauses within that interval (Dollard & Mowrer, 1947). The grammatical unit or “thought unit” is a non-reflective clause, that is, one that can stand alone and does not distort the meaning of the rest of the sentence if it is taken away.

Since this coding category provides the basis for several other codes and is more restrictive in definition than Dollard and Mowrer’s unit (1947), it is necessary that it be scored as accurately as possible. To assist coders in the scoring of this category a number of examples will be presented from Marriner’s English Grammar and Composition (1963).

An independent clause expresses a complete thought and could be considered a sentence by itself and is, therefore, scored as 1 thought unit. A subordinate clause does not express a complete thought and must be attached to an independent clause and is not scored.

1. Simple sentences are always scored as 1 thought unit.
   a. He went to the store. (1 unit)
   b. I am afraid of heights. (1 unit)

2. Compound sentences are scored according to the number of independent clauses they contain.
   a. The visiting dignitaries were met by the President, and they were entertained at the White House. (2 units)
   b. Sally learned to knit during the summer, and now she spends most of her time knitting socks for Bill. (2 units)

3. Complex sentences are scored as only 1 thought unit.
a. The look that she gave me was discouraging. (1 unit)
b. I did not know the girl who spoke to me. (1 unit)
c. What the announcer said was not clear. (1 unit)
d. There is a man everybody admires. (1 unit)
e. He runs as if he is afraid. (1 unit)

4. Compound-complex sentences are scored only for the number of independent clauses they contain.
   a. The visiting dignitaries, who landed at National Airport, were met by the President, and he escorted them to the White House. (2 units)

Special notes for scoring amount (A):

1. Independent clauses may be joined by coordinating conjunctions (and, but, nor, or, for) or by conjunctive adverbs (accordingly, also, besides, consequently, hence, however, moreover, nonetheless, otherwise, then, therefore, thus, still) and each clause should be scored as a thought unit.
2. Expressions used as introductions that have no obvious information value should not be scored: “It wasn’t fair. You know, I got the shaft.” (2 units)
3. Occasionally words may be missing or implied in a subject’s statements. A thought unit is scored when the subject of an independent clause is implied and conveys a thought different from the preceding clause.
   a. I don’t worry if I make a mistake / but (I) just try to do better next time. (2 units)
   b. I try to be understanding / and don’t tease people very often. (2 units)
   c. When I’m depressed I don’t show people the full extent and mope around. (1 unit)
   d. When I’m depressed I try to think of something happy and remember all the happy things which have happened to me. (1 unit)
4. The individual may pose questions which are: (a) a repetition of the disclosure topic given to them, (b) directed toward the interviewer, or (c) directed toward themselves.
   a. Score only those questions which the individual poses to himself as a form of self-reflection and are not a repetition of the topical question given him by the interviewer.
5. Special uses of “that.”
   a. When “that,” in the form of a demonstrative pronoun, is used as the subject of a clause, the clause is scored.
      i. e.g., There are some people who can rattle on about nothing / and that bothers me. (2 units)
   b. “That” used as a relative pronoun (a substitution for “who” or “which”) or as part of a relative clause is not scored.
      i. e.g., It makes me feel good when somebody does something that (which) makes me know that they care (relative clause). (1 unit)
Self-Reference (SR)

Not all information communicated by an individual belongs to the class of verbal behavior referred to as self-disclosure. True self-disclosure describes some personal aspect of the speaker. Thus, the amount of self-disclosures in a 30 second interval of communication will be scored in terms of the number of thought units which describe the speaker in some way. These thought units will be referred to as self-references (SR) and will be the basic index of the amount of self-disclosure.

A self-reference (SR) will be operationally defined as a verbal response (thought unit) which describes the subject in some way, tells something about the subject, or refers to some affect the subject experiences (Rogers, 1960; Powell, 1963).

1. I’ve done well in school thus far.
2. I’ve done a lot of hiking this summer.
3. Living alone depresses me.

Special note on self-reference (SR):

1. Statements beginning with “I think…” or “I know…” must be judged carefully. Coders must evaluate whether the individual is expressing something about his/her self or about someone or something else. Score only those expressions which describe the speaker.
   a. I know the economy is in bad shape. (not scored as SR)
   b. I don’t think the reasons that they criticize are substantial (not scored as SR)
   c. I started thinking that maybe it was my fault. (scored as SR)
   d. I know what my thoughts are. (scored as SR)
2. Reflexive third person references are scored as SRs.
   a. You (I) tell yourself (myself) that…
   b. You (I) really feel good when…

Self-Reference: Positive (SR+), Negative (SR-), and Neutral (SRO)

A self-reference (SR) may be judged to be positive SR+ (favorable); negative SR- (unfavorable); or neutral SRO (neither) if no determination can be made between SR+ and SR-. These judgments will be based upon the subject’s frame of reference, that is, whether or not the subject considers the references to be positive or negative of him or her self.

For each 30 second segment the total number of self-reference thought units (SR) will be recorded. These will then be broken into the subcategories SR+, SR-, and SRO according to their judged valence.

1. Little things make me happy. (SR+)
2. It depresses me to live alone. (SR-)
3. I'm pretty religious. (SRo)

Self-Reference Percent (SR%)

Two individuals may make the same number of self-reference (SR) statements during a given time interval, but one may be judged as more self-disclosing because his/her proportion of SRs to A is higher than the other individual’s. Therefore, the percentage of self-references will be computed for the total transcript. Self-reference percent (SR%) will be calculated by the following formula: \( SR% = \frac{SR}{A} \). In the same manner, percentages for SR+, SR-, and SRo will be calculated, but only for the total transcript. SR% provides an index of the dimension of “amount” of self-disclosure.

Self-Reference Weighted (SRw)

This category weights self-references according to the schemata devised by Haymes (1969). Instead of coding 30 second intervals as Haymes did, each self-reference (SR) will be evaluated and given an appropriate weight.

1. A weight of 2 will be given to those self-reference statements which are first person references (I, me, my, we, us, ours).
   a. All I want is…
   b. It depresses me when…
   c. We gave our parents…

2. A score of 1 will be given to those self-references which are reflexive third person references. These statements in the third person, in which the word “you” is an obvious substitution for saying “I,” are scored 1.
   a. You (I) tell yourself that…
   b. You (I) really feel good when…

3. Non-reflexive third person references, such as “people always…,” in which the person is not really revealing any information about himself will not be scored.

Intimacy (I)

The depth or intimacy of each 30-second interval will be scored on a five-point scale. This coding procedure involves the subjective evaluation of the ego relevance or intimacy of the content revealed by an individual during a 30-second interval. Such a subjective scalar method or assessing intimacy (I) has been successfully used by a number of authors (Pedersen & Breglio, 1968; Vondracek, 1969; Burhenne & Hirels, 1970; Shimkunas, 1972). The following rating scale is an adaptation from Durhenne and Hirels (1970) and Shimkunas (1972) and represents a continuum from 1 to 5. The coder should feel free to use any number from 1 to 5 using the following three scale descriptions as guidelines:

1. Absence of personal involvement; superficial evaluation of the topic. The respondent seems to be defensively guarding against having anything about himself (herself) known. His (her) statements are cultural stereotypes, and he (she) seems not to be in “touch” with his (her) feelings.
a. Aspects of the personality which you dislike or regard as a handicap? Well...I don't know if I really consider the personality as something to worry about. You know, if there's an aspect of my personality that I would worry about then I would get uptight about it.” (score 1)

2. ..... 
3. Equal attention to superficial and personal aspects of the topic. The person clearly places himself (herself) in the context or his (her) experiences, but information about the self is more oriented toward description rather than exploration of the self. The individual speaks to the question in a direct manner, yet his (her) answers seem vague and general with respect to himself (herself) so that one gets no real feeling about him (her). Content tends to be implicit rather than explicit.
   a. Sometimes no response at all will hurt my feelings. Sometimes rudeness and inconsideration will hurt my feelings. In fact, most of the time...if I'm around people, that's when my feelings get hurt...when they don't consider how I feel. Depressed? I don't get depressed too often. (score 3)

4. ..... 
5. Response has non-defensive quality so that one gets the impression that his person is allowing the subjective aspects of his (her) “self” to be seen. The individual expresses personal information about himself (herself) in a way that the observer truly understands where the person stands in terms of his (her) feelings and cognitions regarding the topic. Content is explicit and personal.
   a. I started feeling responsible because it seemed like nobody I'd known died, and then, as soon as my father died, everybody else started dying. I started feeling like a jinx for a while. You know, like maybe it was my fault but I couldn't have done anything about it. (score 5)

Note: Intimacy (I) refers to the ego relevance of the content. It should not be confused with the congruence of affective manner of presentation which refers to the way the person sounds in relation to the content. Score intimacy (I) on the basis of content before listening to the tape.

Congruence of Affective Manner of Presentation (Af)

It has been noted by Chelune (1975) that the disclosure of intimate information occasionally occurs in an intellectualized, non-emotional manner, or conversely, in a hyperbolized emotional manner. In both cases, the emotional manner of presentation is not appropriate to the content revealed. Congruence of affective manner of presentation (Af) implies that there is an appropriate affective charge attached to the revelation of intimate information. It is similar to Roger’s concept of congruence (1961) in that there is a congruence between what the individual is now experiencing and the representation of this in his (her) verbal behavior.

Congruence of affective manner of presentation must be distinguished from intensity of affect. An individual may describe the unhappiest moments of his (her) life in a highly affective but jovial manner. While the responses are affectively intense, the jovial manner of presentation is clearly incongruent with the verbal content. Likewise, a statement with little
affect regarding the weather may be of low intensity but affectively congruent with the content of the statement. The accurate portrayal of information via the paralinguistic affective manner of presentation is felt to be an important parameter of self-disclosing behavior. The manner of presentation provides a great deal of information about the individual in that a few highly congruent affective statements can convey as much information about a person as a large number of non-emotional or emotionally incongruent comments.

Each 30-second interval is to be scored for congruence of affective manner of presentation (Af). This affective dimension must be subjectively coded by the rater using both the written transcript and the tape-recording. Since the manner of presentation may vary within a given interval, each interval is to be scored for the highest level of affective congruence achieved within the given interval. The rater must remember that congruence of affective manner of presentation (Af) depends on how the person sounds in relation to the verbal content and is conceptually independent of both the intimacy of the content and the intensity of the affect.

To score each 30-second interval, use the five-point scale adapted from Kiesler (1967) presented below:

1. The manner of presentation is very defensive and mechanistic. The individual is clearly suppressing (or hyperbolizing) his/her emotional experience of the content he/she is relating. Self-experience and verbal content are clearly incongruent.
   a. From the individual’s voice quality it seems evident that he/she is emotionally aroused but is attempting to deny this by expressing the opposite or neutral feelings—“How do I respond to criticism? Usually it makes me hostile (laugh).” In this example the individual’s affect, laughing, represents an attempt to express an emotion opposite to the one represented in the verbal content, hostility, and is therefore scored 1 – incongruent. Note: The response is incongruent even though affectively intense.

2. ..... 
3. ..... 
4. ..... 
5. The person is communicating openly and freely his/her feelings, both positive and negative, about the subject matter as he/she experiences it at that given moment.
   a. Manner of presentation is spontaneous and affectively congruent with the subject matter. The individual is clearly expressing feelings and inner experience. The feelings are congruent and appropriate with respect to his/her verbal content – “How do I react to criticism? Usually it makes me hostile!!!”

Rate (R)

Since the interviews are of a standard length, duration of self-disclosure has no meaning here. The rate (R) of disclosure per minute will be calculated by the ratio of SR units divided by the length of disclosure in minutes – R = SR total/minutes. This ratio is to be distinguished
from SR% which uses A as the denominator and represents density of information rather than rate of information.

**Self-Disclosure Flexibility (SDF)**

Self-disclosure varies from situation to situation in response to interpersonal and situational variables. Such flexibility of disclosure patterns is considered to be an important correlate of positive interpersonal functioning (Jourard, 1964; Chelune, 1975).

To score self-disclosure flexibility (SDF) it is necessary to have repeated observations on a subject from different situations or from different points in time. SR% is the primary index that will be used to compare self-disclosure from situation to situation. SR% can be compared with SR%(2)...SR%(k). If there are three or more observations on a given subject, a standard deviation can be calculated and used as the index of SDF. This method can be used to assess changes in other dimensions (SR+%, R, I, Af, etc.) as well.
Appendix E

Initial Review

Approve Ends
October 21, 2011

IRB Number
10-0612-F48

TO:
Trent Parker, Ph.D.
Family Studies
315 Funkhouser Bldg
Campus 0054
PI phone #: (859) 257-2617

FROM:
Chairperson/Vice Chairperson
Non-medical Institutional Review Board (IRB)

SUBJECT:
Approval of Protocol Number 10-0612-F48

DATE:
October 26, 2010

On October 22, 2010, the Non-medical Institutional Review Board approved your protocol entitled:

The Physiology of Couple’s Therapy: A Pilot Study

Approval is effective from October 22, 2010 until October 21, 2011 and extends to any consent/assent form, cover letter, and/or phone script. If applicable, attached is the IRB approved consent/assent document(s) to be used when enrolling subjects. [Note, subjects can only be enrolled using consent/assent forms which have a valid “IRB Approval” stamp unless special waiver has been obtained from the IRB.] Prior to the end of this period, you will be sent a Continuation Review Report Form which must be completed and returned to the Office of Research Integrity so that the protocol can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions, and requirements. The research procedures should be implemented as approved in the IRB protocol. It is the principal investigators responsibility to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in writing immediately to the IRB. Furthermore, discontinuing a study or completion of a study is considered a change in the protocol’s status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's Guidance and Policy Documents web page [http://www.research.uky.edu/ori/human-guidance/PI-Guidance.html]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI’s web site [http://www.research.uky.edu/ori]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

[Signature]
Chairperson/Vice Chairperson
Procedures, Research Description

Modification Review

Approval Ends
October 21, 2011

IRB Number
10-0612-F4S

TO:  Trent Parker, Ph.D.
     Family Studies
     315 Funkhouser Bldg
     Campus 0054
     PI phone #: (859)257-2617

FROM: Chairperson/Vice Chairperson
       Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request for Protocol 10-0612-F4S

DATE: November 9, 2010

On November 8, 2010, the Institutional Review Board approved your request for modifications in your protocol entitled:

The Physiology of Couple's Therapy: A Pilot Study

If your modification request necessitated a change in your approved informed consent/assent form(s), attached is the new IRB approved consent/assent form(s) to be used when enrolling subjects. [Note, subjects can only be enrolled using informed consent/assent forms which have a valid "IRB Approval" stamp, unless waiver from this requirement was granted by the IRB.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's Guidance and Policy Documents web page [http://www.research.uky.edu/ori/human/guidance/hsop#14emp]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site [http://www.research.uky.edu/ori]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

Chairperson/Vice Chairperson
References


Escudero, V., Friedlander, M. L., Varela, N., & Abascal, A. (2008). Observing the therapeutic alliance in family therapy: Associations with participants’ perceptions and


(Eds.), *Handbook of affective sciences* (pp. 256-273). New York: Oxford University Press.


VITA

Kristyn M. Blackburn was born September 26, 1988, in Elmira, NY.

EDUCATION

University of Georgia, Athens, GA
   B.S. in Psychology, 2009
   Minor in Child and Family Development

PROFESSIONAL EXPERIENCE

Department of Family Studies, University of Kentucky
   Research assistant, 2009-2011

University of Kentucky Family Center
   Marriage and Family Therapist Intern, 2009-2011

SCHOLASTIC & PROFESSIONAL HONORS

Alda Henning Scholarship, 2009-2010

PROFESSIONAL MEETINGS & WORKSHOPS

Kentucky Association for Marriage and Family Therapy (KAMFT) Conference.
   Louisville, KY, 2010

American Association for Marriage and Family Therapy (AAMFT) National Conference
   Atlanta, GA, 2010

Family Psychological Services, Reaching Children Through Play Therapy Workshop, 2011

Active Relationships Center, Active Military Life and Resiliency Skills Workshop, 2010

PROFESSIONAL AFFILIATIONS

American Association of Marriage and Family Therapy (AAFMT)
Kentucky Association of Marriage and Family Therapy (KAMFT)
University of Kentucky Student Association for Marriage and Family Therapy (SAMFT)