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ABSTRACT OF THESIS

ASSESSING IMPACT OF AFFECT RECOGNITION ON THERAPEUTIC RELATIONSHIP

Therapeutic alliance and its relationship to client nonverbal behavior, specifically facial expressions, were examined. Therapist interpretation of the client nonverbal behavior, or affect, influences the therapeutic alliance and process. Based on a sample of clients from a graduate school therapy training facility, results suggest therapist training in facial expressions, and how they relate to client emotion, improve the therapeutic alliance between therapist and client. After a micro-expression training for therapists, clients reported higher life functioning on the Outcome Rating Scale (ORS) and an improved therapeutic alliance on the Session Rating Scale (SRS). Overall, these findings support the benefit of incorporating micro-expression training into therapy instruction.

Keywords: therapeutic alliance, nonverbal behavior, therapeutic outcomes, micro expression, facial expression

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June 24, 2010

ASSESSING IMPACT OF AFFECT RECOGNITION
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ASSESSING IMPACT OF AFFECT RECOGNITION
ON THERAPEUTIC RELATIONSHIP

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

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2010

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Chapter 1

Introduction

Marriage and family therapy (MFT) has a history of interdisciplinary scholarship and practice. Both researchers and clinicians have considered MFT theory through frameworks of other fields, including psychology, cybernetics and system maintenance, philosophy, information theory, human development, and communication. Strategic models pay particular attention to communication theory, and the verbal and nonverbal exchanges within a family system. For example, Watzlawick and colleagues (1974) laid the groundwork for the Mental Research Institute (MRI) when they identified first level communication (the verbal message) and second level communication (“metacommunication,” or the nonverbal behavior that either reinforces or contradicts the spoken message).

Research has shown that, regardless of therapeutic orientation, including MRI, the therapeutic relationship between therapist and client(s) is the best predictor of therapy outcome (Hubble et al., 2006; Johnson & Wright, 2004; Orlinsky et al., 2004). This was first formally proposed by Bordin (1979) whose pan-theoretical model includes three dimensions of alliance: (a) the development of bonds, (b) the assignment of tasks, and (c) the agreement on goals. Despite the therapeutic relationship being influenced by both verbal and nonverbal communication, a modest amount of research has studied the influence of nonverbal behavior on the therapeutic alliance. The present research is an attempt to begin the process of incorporating nonverbal behavior theory into the field of marriage and family therapy.

Chapter 2

Literature Review

Although some social scientists argue upwards of 93 per cent of communication is nonverbal in nature (Adler & Proctor, 2007; Mehrabian, 1971), most sources cite an estimate closer to 65 per cent (Adler & Proctor, 2007; Burgoon, 1994). Regardless of the exact percentage, nonverbal messages have been found to be of particular importance when communicating emotion, feelings, and attitudes (Ekman, 2003; Mehrabian, 1971), particularly when incongruence exists between verbal and nonverbal messages (Mehrabian, 1971). The general consensus amongst researchers is that “emotions are most directly and truthfully expressed through the face, voice, and body” (Philippot, Feldman, & Coats, 2003, p. 3), not through verbal communication (Burgoon & Floyd, 2000).

These estimates on the prevalence of nonverbal behavior pertain to daily interactions between individuals, not exchanges between therapist and client within the context of psychotherapy. Within this context, nonverbal behavior is referred to as the “affect” of the client and is considered in clinical interviewing when developing a Mental Status Examination (MSE; Sommers-Flanagan & Sommers-Flanagan, 2009), comprised of therapist notations on client(s) appearance, behavior, psychomotor activity, and speech. Although nonverbal behavior is a consideration when conducting a MSE, overall it “has received very little attention from clinical researchers and practitioners” in the diagnostic process (Philippot et al., 2003, p. 3), except for certain diagnoses, including Schizophrenia, Depression, Autistic Disorder, and Social Anxiety Disorder (Ekman & Friesen, 1974; McGee & Morrier, 2003). After an extensive literature review, Philippot

and colleagues (2003) argue most therapeutic processes (excluding the behavioral approach) and diagnosis are based on verbal analysis.

Historically, this was not always true. Early mental health practitioners in the late 19th and early 20th century recognized the importance of nonverbal behavior, such as psychomotor activity and speech patterns (Griesinger, 1876; Kraepelin, 1913). Another wave of interest in nonverbal behavior in relation to therapeutic change occurred in the 1960s and 1970s, though it waned again “due in part to the emergence of cognitive theories and therapies for psychopathology” (Perez & Riggio, 2003, p. 17). After two decades, interest in nonverbal communication in relation to psychopathology is emerging again (Perez & Riggio, 2003), with an emphasis on nonverbal communication skills in relation to emotional communication and expression (Feldman, Philippot, & Custrini, 1991; Riggio, Messamer, & Throckmorton, 1991).

The purpose of the present study is to explore the connection between nonverbal behavior of the client, specifically how emotion is expressed through facial expressions, and its impact on the therapeutic alliance. One hour trainings administered to college students and volunteer participants in facial expressions have been shown to increase accurate emotion detection (DeTurck, Harszrak, Bodhorn, & Texter, 1990; Ekman, 2009). It is hypothesized that a brief training in nonverbal communication will increase the ability of the therapist to identify certain facial expressions, thus accurately detecting the cause or emotion of the expression, culminating in strengthening the therapeutic alliance.

Nonverbal Communication

Understanding nonverbal communication and developing nonverbal skills are vital to cultivating and maintaining human relationships (Riggio, 2006). It is an indicator

of a felt emotion in reaction to others and the environment (Darwin, 1872), and those who master its complexities are more successful professionally, romantically, and socially (Jones & LeBaron, 2002). It also has communicative value. Even if one purposefully suppresses those nonverbal actions within his/her control, a message is still being communicated (Adler & Proctor, 2007).

Nonverbal communication is a message intentionally or unintentionally displayed non-linguistically. As previously stated, researchers agree at least 65 per cent of communication is nonverbal (Adler & Proctor, 2007; Burgoon, 1994). Some research posits it is not possible to study verbal communication without considering nonverbal communication (Jones & LeBaron, 2002), and accurate nonverbal encoding and decoding skills have been shown to be strong predictors of popularity, attractiveness, and socio-emotional well-being in studies conducted with college student participants and their peers (Burgoon & Hoobler, 2002).

Within the context of therapy, nonverbal communication should be a consideration as “nonverbal skills are vital for competent communicators...and reveal attitudes and feelings, in contrast to verbal communication, which is better suited to expressing ideas” (Adler & Proctor, 2007, p. 230). Little research has been conducted connecting specific forms of nonverbal behavior with the marriage and family therapy setting, yet an MFT client(s) interpersonal relationships are considered in the treatment plan, diagnosis, and overall therapeutic process (American Association of Marriage and Family Therapy, 2002). MFT also pays special attention to the unique characteristics of each “system” (Goldenberg & Goldenberg, 1983) and has a foundation in human communication processes (Bateson, 1972). The manner in which system members function and interact with each other and the therapist include all aspects of nonverbal

communication, including body posture, facial expressions, and paralanguage (Helmeke & Prouty, 2001). So much so that Vincent and colleagues (1979) report that nonverbal behaviors are immune to “purposeful distortion” (p. 564) and are a “critical factor in understanding the nature of marital discord” (p. 565).

Types of nonverbal communication included in the therapy environment include (a) proxemics, (b) kinesics, (c) appearance, (d) haptics, (e) paralanguage, and (f) facial expressions (Sommers-Flanagan & Sommers-Flanagan, 2009). Facial expressions will be discussed in the subsequent section in relation to emotion.

Proxemics

Proxemics refers to the use of physical, interpersonal space, and has two dimensions: distance and territoriality (Andersen, Guerrero, & Jones, 2006). Hall (1966) found individuals in the North American culture utilize four types of distance, or spatial zones: intimate distance (measure from skin-to-skin contact to keeping a distance from another individual of approximately 18 inches); personal distance (measure from keeping a distance of 18 inches to four feet away from another individual); social distance (measure from keeping a distance of four to seven feet away from another individual); and public distance (measure from keeping a distance from another individual outward from 12 feet) (Hall, 1966).

Whereas spatial zones involve distance, territoriality is stationary. It is the feeling or degree of ownership one has toward their physical space, including the home, office, certain pieces of furniture, etc. Those who are afforded more space, or allowed more of a territory (e.g. a personal office rather than a cubicle), are often more powerful (Brown, Lawrence, & Robinson, 2005).

Kinesics

Kinesics, or body orientation, include body posture (e.g. standing up straight), body motion (e.g. turning toward or away from another), and gestures (movement of the hands and arms) (Coulson, 2004). Specifically, kinesics is the degree to which the body is oriented, including feet and head, toward another.

A sub-category of kinesics is gestures, of which there are four types: illustrators, emblems, adaptors, and manipulators (Adler & Proctor, 2007). Illustrators are arm and hand movements that, when isolated from verbal communication, cannot be understood. For example, one who “talks with their hands” is using illustrative gestures. Studies have shown illustrators are more prevalent the more emotionally agitated the speaker (Sueyoshi & Hardison, 2005; Zahn, 1989).

Emblem gestures are intentionally communicated and can stand on their own, as they have a precise meaning within cultural groups (e.g., head nodding “yes” or “no”; Sueyoshi & Hardison, 2005). Conversely, adaptors are unconscious, such as shivering when it is cold and/or folding one’s arms to stay warm. Manipulators are a type of adaptor. These self-touching gestures are also unconscious and a way to self-soothe, especially when experiencing discomfort (Fisher, 1983).

Appearance

Appearance is divided into two categories, physical attractiveness and clothing (Adler & Proctor, 2007). Attractiveness is measured by how an individual uses their posture, gestures, and facial expressions. Research has shown people who are considered attractive are more likely to be hired or promoted (Hosoda, Stone-Romero, & Coats, 2003), and are judged as more intelligent, friendly, and popular (Ritts, Patterson, & Tubbs, 1992). The degree of familiarity between two individual’s effects perceived

attraction; the more individuals become acquainted with another, the more attractive they will appear (Albada, Knapp, & Theune, 2002).

As with individuals becoming more attractive over time, over the length of acquaintance clothing becomes less important (Temple & Loewen, 1993). Initially, however, clothing choice is significant and can convey up to ten messages to the public: economic background, economic level, educational background, educational level, level of sophistication, degree of success, moral character, social background, social position, and trustworthiness (Thourlby, 1978).

Haptics

Haptics is the nonverbal communication of touch. Research studies have shown the persuasion of appropriate touching. One study reported wait staff receiving larger tips when they lightly touched their customers (Crusco & Wetzel, 1984), while another reported greater compliance in garnering petition signatures when participants were lightly touched (Willis & Hamm, 1980). Touch can also be therapeutic. When used appropriately, it has been shown to ease and calm individuals who are agitated and/or upset (Gleeson, 2004; Grandin, 1992) and therapeutic touch has been used as a nursing intervention to promote comfort and healing with premature infants (Meehan, 1998).

There are five categories of touch: professional (e.g. medical exam or massage); social/polite (e.g. a handshake), friendship (e.g. “high five” or an embrace), sexual (e.g. kissing and/or caressing), and aggression (e.g. shoving, slapping, pushing, etc.) (Adler & Proctor, 2007; Heslin & Alper, 1983).

Paralanguage

Paralanguage is the voice, tone, rate, pitch, and volume of the speaker. Stated differently, paralanguage is nonverbal vocal messages. People detect feeling through

paralanguage. For example, research has shown infants to be more affectionate with those who speak “warmly” to them, as opposed to those who speak in a more frank manner (Trees, 2000). Pauses in speech often signal deception (Guerrero & Floyd, 2006), and rate of speaking is seen as favorable if it matches the receiver’s rate (Buller & Aune, 1992).

Felt emotion unintentionally effects paralanguage, including voice, tone, rate, pitch, and volume (McKay, Davis, & Fanning, 1995). For example, if a client is feeling a strong emotion during a therapy session, his/her paralanguage will be affected. This variation is the key component to paralanguage, and affects volume, speed, and pitch in particular (McKay et al., 1995).

Facial Expression in Relation to Emotion

Facial Expressions

Unlike some types of nonverbal communication which are easier to manipulate, such as emblem gestures, nonverbal cues of the face and eyes are emotionally truthful and difficult to fake or hide (Ekman, 2009). For this reason, some researchers say facial expressions are *the* most telling of all nonverbal behavior (DeVito & Hecht, 1990). Facial expressions, which refer to all areas of the face and the eyes, are created by the isolated or joined movement of 52 facial muscles (Ekman & Friesen, 2003; *Gray’s Anatomy*, 2008). These expressions are divided into three categories: static, slow, and rapid. Static expressions are attributes of the face which are stationary, such as skin pigmentation and bone structure. Slow signals change over time, as seen when facial skin wrinkles with age. Rapid signals are signals of emotion which are produced by facial muscle movement, either voluntarily or involuntarily (Ekman & Friesen, 2007). Voluntary rapid signals are intentional, manipulated facial expressions, such as a fake smile (Adler &

Proctor, 2007); involuntary rapid signals are uncontrollable expressions of emotion and caused by the autonomic nervous system (ANS) (Ekman & Friesen, 2003). Involuntary rapid signals and their relationship to emotion in relation to therapeutic alliance are the focus of this study.

Emotion and the Autonomic Nervous System

Involuntary rapid facial signals are caused by emotion and cannot be controlled (Ekman, 2003; Ekman, O'Sullivan, Friesen, & Scherer, 1991). "The face is directly connected to those areas of the brain involved in emotion, and words are not. When emotion is aroused, muscles on the face begin to fire involuntarily" (Ekman, 2009, p. 84). This process, and the part of the brain emotion is connected to, begins in the ANS.

The autonomic nervous system is the visceral, or emotional, nervous system. The ANS operates below the level of consciousness and its actions include involuntary rapid signal facial expressions (Rang, Dale, Ritter, & Moore, 2003). When an emotion is felt, it triggers changes in the ANS to regulate heart rate, breathing, perspiration, and pupil dilation. It also sends out signals to alter facial expressions and other nonverbal signals, including body posture and paralanguage (Ekman, 2003). These changes are not chosen or controllable by the individual (Ekman, 2003; Rang et al., 2003). Research has shown that "people cannot voluntarily move the particular [facial] muscles needed to realistically falsify distress or fear" (Ekman, 2009, p. 36).

When an emotion is being felt, the ANS prepares the body for action. For example, during a feeling of fear, heart rate increases in preparation of movement, and blood flow increases in the legs and decreases in the hands in preparation for the leg muscles to flee—all caused by the ANS receiving and interpreting the proper physical

reaction to a particular emotion (Ekman, Levenson, & Friesen, 1983; Levenson, Ekman, Heider, & Friesen, 1992).

Darwin (1872) asserted a functionalist perspective that links physiology with emotion. Functionalists contend emotions have evolved over time to serve a purpose, such as the biological response to acute stress (fear) described above (Freitas-Magalhaes, 2007). By making this argument, Darwin “demonstrated the continuity of the species” (Darwin, 1872; Ekman, 2009).

Darwin (1872) contended there were eight basic emotions: surprise, fear, disgust, contempt, anger, happiness, sadness, and interest. These emotions range in intensity, are equally important, are present in all homo-sapiens across all cultures, and may be displayed in a facial expressions (Darwin, 1872). Researchers who study emotion in relation to the autonomic nervous system support Darwin’s assertions, and have based research on the eight basic emotions he proposed (Levinson, Ekman, Friesen, 1990; Levenson et al., 1992; Panksepp, 1998).

Micro expressions

Micro expressions are brief flashes of emotion across one’s face, lasting as little as 1/25 of a second (Ekman & Friesen, 2003). They are a felt emotion being processed by the autonomic nervous system and manifesting into a facial expression (Ekman, 2009). These expressions are difficult, if not impossible, to conceal by the giver, or to catch by the receiver (Ekman & Friesen, 2003). However, if the recipient *is* able to notice and interpret the micro expression, they are likely to deduce the emotion being felt by the person communicating the facial expression (Ekman & Friesen, 2003; Ekman, 2009).

Research has shown seven basic emotions can be expressed through a micro expression: surprise, fear, disgust, contempt, anger, happiness, and sadness (Darwin’s

eighth emotion of “interest” is not included) (Ekman & Friesen, 1974; Ekman, Friesen, & O’Sullivan, 1988; Ekman et al., 1983). These seven emotions either manifest themselves as a micro expression at the same time or blend together, with some easier to identify than others, such as happiness (Hess, Blairy, & Kleck, 1997).

Micro expressions were discovered by Haggard and Isaacs (1966), who purported these facial expressions are not visible in real-time and are signals of repressed emotion. Three years later, Ekman and Friesen (1969) independently discovered micro expressions, finding they actually were visible in real-time and could be either suppressed or repressed. A suppressed emotion is the effort to deliberately stop feeling an emotion (Ekman & Friesen, 1969); a repressed emotion is not available as a memory for recall (Haggard & Isaacs, 1966). Whether it is a suppressed or repressed emotion, the micro expression will appear the same (Ekman, 2003) and provides “...subtle clues [to] accurate information about felt emotions” (Ekman, Friesen, & O’Sullivan, 1988, p. 418).

Training in Micro expressions and Emotion

How to detect a micro expression and its corresponding emotion has been the focus of research for Ekman and Friesen for over 40 years. In 1978, they introduced the Facial Action Coding System (FACS) to systematically study the expression of emotion on the face. FACS examines the movement of each facial muscle and links it to an emotion (or a melding of two emotions). It evaluates 32 different muscle movements, labels the movement, and interprets it into the likely emotion (Ekman & Friesen, 1978).

The first time FACS was tested by researchers was within the context of deception. Ekman, Friesen, and O’Sullivan (1988) focused on smiles and certain types of smiles which indicate a deception. Facial expressions were shown to most often signal a deception when it involved an emotion on the part of the deceiver. This was supported by

a follow up study where the accuracy level in detecting deceit “is most likely in deceptions which involve emotion” (Ekman et al., 1991). Thus, it was concluded that feeling an emotion was vital to producing a micro-expression.

FACS is an intensive training curriculum lasting several months. Due to time constraints, Ekman, Friesen, and others began creating simpler training modules lasting no more than two hours (DeTurck, Harsztrak, Bodhorn, & Texter, 1990; Levine, Asada, & Park, 2006; Zara et al., 2009), or training modules better suited for their own purposes (Gottman, McCoy, Coan, & Collier, 1996). DeTurck and colleagues reported their training, lasting approximately 30 minutes, achieved “relatively high levels of accuracy” (DeTurck et al, 1990, p. 196) in detecting deception through nonverbal behavior cues. Ekman’s (2009) F.A.C.E. (Facial Expression Awareness Compassion Emotions) training is a condensed version of FACS based on years of his research (Ekman, 1988; Ekman, 2003; Ekman, 2009; Ekman et al., 1988; Ekman et al., 1991), and can be administered in approximately one hour or self-taught. Gottman (1996) developed the Specific Affects Coding System (SPAFF), used in the “Love Lab” at the Gottman Institute to code 10 negative and five positive emotions and related behaviors in an effort to predict marital outcome (Gottman, McCoy, Coan, & Collier, 1996).

Although nonverbal training is not a guarantee on accuracy, the micro expression, or the pure emotion flashed across one’s face, should be a consideration in therapy, specifically in relation to the therapeutic alliance, as a micro expression is not possible to manipulate or conceal. This affords a viewpoint for the therapist into the client’s emotional mind.

Therapeutic Alliance

From the psychoanalytic perspective, ideas on the therapeutic alliance were first developed into a theory by Bordin (1979), who stated the “working therapeutic alliance between the person who seeks change and the one who offers to be a change agent is one of the keys, if not *the* key, to the change process” (p. 252). Bordin (1979) theorized the therapeutic alliance includes three elements: the development of bonds, the assignment of tasks, and agreement on goals. The development of an emotional bond between a client and therapist allows the client to make therapeutic progress, and is the part of the therapeutic alliance that encompasses the “human relationship between therapist and patient” (Bordin, 1979, p. 254). This “human relationship” includes nonverbal behavior, communication, and affect.

Although a “consensus has not been achieved on a definition of the therapeutic relationship” (Hubble et al., 2006, p. 137), Hubble and colleagues suggest the best description is offered by Gelso and Carter (1994), who said it should be defined as “the feelings and attitudes that counseling participants have toward one another, and the manner in which these are expressed” (p. 159) (Hubble et al., 2006). The “feelings and attitudes” are those emotions processed in the autonomic nervous system (Ekman et al., 1983; Levenson et al., 1992, Rang et al., 2003); “the manner in which these are expressed” may be manifested with a micro expression (Ekman, 2009; Ekman et al., 1988).

Orlinsky, Ronnestad, and Willutzki (2004) state over 1,000 research findings prove the therapeutic alliance is the one of the most reliable predictors for therapeutic outcome, and thus vital to the therapeutic process. Research also has shown the therapeutic alliance to be the best indicator of therapeutic outcome (Hubble, Duncan, &

Miller, 2006; Johnson & Wright, 2004), with an early alliance a better predictor of success (Gelso & Carter, 1985; Martin, Garske, & Davis, 2000).

A modest amount of research has been conducted on the benefits of strengthening the therapeutic alliance through interpreting nonverbal behaviors (Philippot et al., 2003); none has been conducted specific to micro expressions. However, in the few studies that have been completed, a nonverbal understanding has shown to be important to the therapeutic relationship (Perez & Riggio, 2003; Philippot et al., 2003; Tickle-Degnen & Gavett, 2003). A study in which nonverbal behavior sensitivity training was administered to experimental and control conditions found “brief training in nonverbal attending and responding skills resulted in...higher client ratings on a measure of the working alliance” for those that received the training (Grace, Kivlighan, & Kuncze, 1995, p.550). Bedi (2006) reviewed client perception on positive alliance formation factors. After clients received counseling services, they recorded what created a strong alliance, if any, between themselves and their therapists. Among the 11 categories they offered were several nonverbal behaviors, including body language, appearance, and gestures. Online counseling clients reported the absence of nonverbal communication to be detrimental to the therapeutic alliance (Leibert, Archer, Munson, & York, 2006).

Awareness of client(s) nonverbal behaviors aids the therapist in paying attention to the process, rather than the content, thus building a better therapeutic alliance (Helmeke & Prouty, 2001). In a nonverbal exercise for therapists-in-training, Helmeke & Prouty (2001) found that “so much of connecting to another human being is about understanding and caring about each other. By decreasing...reliance on verbal language, therapists...are provided an opportunity to discover that they have far more tools than they realized to be able to connect with other human beings” (p. 542). Further research in

better utilizing nonverbal communication and behaviors in order to strengthen the therapeutic alliance between client and therapist would be useful, especially in consideration of the importance of therapeutic alliance in relation to outcome.

Purpose

The basis of clinical processes is emotion (Bordin, 1979), and nonverbal expressions, especially those as seen in the face displayed as a micro expression, are emotion-based (Darwin, 1872, Levinson, Ekman, Friesen, 1990; Levenson et al., 1992; Panksepp, 1998). Therefore, if therapists could accurately detect and determine what emotion is being displayed across their client's face, it may aid to strengthen the therapeutic alliance, which is a strong predictor of positive client outcomes.

In the current study, resident intern therapists attended a one hour professional development workshop on micro expressions, based on the FACS training and Ekman and Friesen's research (Ekman, 1988; Ekman, Friesen, & O'Sullivan, 1988; Ekman et al., 1991; Ekman, 2003; Ekman, 2009). The expectation was the accuracy of emotion detection through facial expressions would increase, thus positively impacting the therapeutic alliance (as measured by the Session Rating Scale) and client functioning (as measured by the Outcome Rating Scale).

Chapter 3

Method

Participants

The participants were therapy clients at the University of Kentucky Family Center, an on-site therapy clinic within the Family Studies program at the University of Kentucky. A total of 80 participants (25 male and 55 female) reported SRS scores for

their first session and 38 participants (10 male and 28 female) reported ORS scores for the first and fifth session. The participants ranged in age from 22-67.

Eleven intern therapist participants (100% female: nine Caucasian, two African-American, one Arab-American) in the Marriage and Family Therapy (MFT) masters program in the Family Studies department at the University of Kentucky participated in a professional development workshop in micro-expression training on January 6, 2010.

Design

The present study is an archival design from the months of September 2009-March 2010. The scores of the ORS/SRS for September 1, 2009-January 6, 2010 (before the micro-expression workshop) were compared with the ORS/SRS scores for January 7-March 31, 2010 (after the micro-expression workshop). SRS results from the initial or intake session were also used from the pre-micro expression workshop time period (September 1, 2009-January 6, 2010) and the post-micro expression workshop time period (January 7-March 31, 2010).

Measures

The instruments utilized for this archival study were the Outcome Rating Scale (ORS; Miller, Duncan, Brown, Sparks, & Claud, 2003) and the Session Rating Scale (SRS; Duncan et al., 2003). The ORS/SRS are both visual analog scales and encourage client-directed therapy by gauging client treatment progress, perception, and relationship with therapist (Duncan et al., 2003; Miller et al., 2003).

The SRS examines the therapeutic relationship (Duncan et al., 2003; Miller, Duncan, Sorrell, & Brown, 2004). It addresses client perception regarding the actual therapy session and the strength of the alliance with the therapist. While the ORS is based on the OQ-45, the SRS draws from Bordin's description of the therapeutic alliance,

specifically the relational bond between therapist and client (1979). The Session Evaluation Questionnaire (Stiles & Snow, 1984), which “assesses the depth and smoothness of the session” (Duncan et al., 2003, p. 5), and the Empathy Scale (Burns & Nolen-Hoeksema, 1992), a clinical tool which “specifically addresses the relationship” (Duncan et al., 2003, p. 5), is the groundwork for the SRS.

Specifically, the SRS asks the client to rate his/her relationship with the therapist in the present session, if treatment goals were addressed, if the client thought the therapist’s approach fit well with his or her own, and overall how the client felt the session functioned. This instrument is a four item paper-and-pencil scale and administered toward the end of the session (Duncan et al., 2003). The SRS has been found to have “solid reliability, adequate validity, and high feasibility” (Duncan, Miller, Sparks, et. al, 2003, p. 9).

The ORS assesses life functioning of the client (Miller et al., 2003) and is based on the three subscales of the Outcome Questionnaire (OQ-45; Lambert et al, 1996). This instrument is a four item paper-and-pencil scale that asks the client to summarize how his/her time between the current session and the last session was in the following areas: individually (personal well-being); interpersonally (family and close relationships); socially (work, school, and friendships); and overall (general sense of well-being). This scale considers the actual problem of the client and client coping mechanisms in daily activities, outside of therapy. The reliability and validity of the ORS scores has been tested extensively for all administrations ($\alpha = .93$, $n = 336$; Miller et al., 2003; Duncan, et al, 2003). Others who have replicated their original study have “found that the ORS has adequate concurrent validity, and moderate to high reliability” ($\alpha = .93$; Bringham, Watson, Miller, & Duncan, 2006, p. 28).

Procedures

Eleven intern therapist participants in the Marriage and Family Therapy (MFT) masters program in the Family Studies department at the University of Kentucky participated in a professional development workshop in micro-expression training on January 6, 2010. Every therapist in the MFT program participated in the micro expression workshop.

As this was a professional training, pre-test and post-test scores were not collected to directly evaluate the effectiveness of the training. All 11 therapists worked in the UK Family Center, and administer the ORS/SRS scale to clients at the beginning and end of every session.

The instruction was based on Ekman's condensed training module, F.A.C.E. (Facial. Expression. Awareness. Compassion. Emotions; Ekman, 2003; Ekman, 2009). A request to administer F.A.C.E. at a reduced, academic rate was denied. The principal investigator developed the curriculum based on F.A.C.E. as summarized in Emotions Revealed (Ekman, 2003), Unmasking the Face (Ekman & Friesen, 2003), and other research by Ekman and Friesen (1978).

The one-hour training reviewed the seven basic emotions communicated through facial expressions, which include the following: surprise, fear, disgust/contempt, anger, happiness/enjoyment, and sadness. Only facial expressions and the seven basic emotions were taught in the training. The expectation was the intern therapist's accuracy of detecting the correct emotion of a particular micro-expression would increase after the workshop, thus potentially strengthening the therapeutic alliance.

During the training, close-up photographs of individuals expressing each of the seven emotions were used for demonstration purposes (surprise, p. 44; fear, p. 59;

disgust/contempt, p. 70; anger, p. 91; happiness/enjoyment, p. 104; and sadness, p. 120; Ekman & Friesen, 2003). Each photo was discussed and facial muscles and muscle groups were isolated and identified as a signal of a particular emotion. The photographs utilized for the training were of one Caucasian woman (approximate age: 30) and one Caucasian man (approximate age: 50; Ekman & Friesen, 2003).

During the testing portion of the workshop, fourteen photos from Ekman (2003) were flashed across a large computer screen in less than one second in order to mimic a micro-expression. These photos were close-ups of individual people expressing one of the seven emotions or a combination of two of the seven basic emotions: surprise (p. 248; Ekman, 2003); fear (p. 250, 254, 256; Ekman, 2003); disgust (p. 246, 251; Ekman, 2003); contempt (p. 258; Ekman, 2003); anger (p. 249, 252-253, 255, 257; Ekman, 2003); happiness (p. 248; Ekman, 2003); and sadness (p. 245, 247; Ekman, 2003). The fourteen photos were of a different woman (approximate age: 20).

In order to tangentially test the impact of the professional development training, archival data from the ORS/SRS rating scales for the months of September 2009 through March 2010 was requested of the UK Family Center Clinic Director. Data from minors was excluded from the study. Once received, the data was examined to determine if the clients experience improved after the therapists completed the micro-expression training.

It was hypothesized SRS scores were likely to improve after the training, based on the therapist's enhanced ability to interpret facial expressions of the client(s). Average SRS scores of intake sessions prior to the micro expression workshop were compared to average SRS scores after the micro expression workshop.

It was hypothesized ORS scores between the first and fifth sessions were likely to improve after the micro expression workshop, based on the therapist's enhanced ability to

interpret facial expressions of the client(s). This hypothesis is based on research that suggests most clients improve by the fourth session (Duncan & Miller, 2000). After the micro-expression workshop was administered, the difference between ORS scores from the first and fifth session of therapy from before the training were compared to first and fifth session scores from after the training. This fifth session was used due to the ORS/SRS literature reporting positive therapeutic change, as experienced by the subjective experience of the client, is often evidenced by the fourth session (Duncan & Miller, 2000).

Results

It was hypothesized SRS scores were likely to improve after the micro-expression workshop, based on the therapist's enhanced ability to interpret facial expressions of the client(s). Stated differently, training in facial recognition will positively impact the therapeutic alliance.

An independent sample *t*-test showed the SRS scores at the intake session prior to the micro expression workshop to be significantly different from SRS intake scores after the micro expression workshop. It was found the variances between the two groups were not equal (see Table 1 and Table 2). To account for that, the *t*-test not assuming for equal variance was used ($t = 2.13, p = .038$).

It was hypothesized ORS scores between the first and fifth sessions were likely to improve after the micro-expression workshop, based on the therapist's enhanced ability to interpret facial expressions of the client(s). Stated differently, training in facial recognition will positively impact the therapeutic alliance and positively impact therapeutic growth.

An independent *t*-test showed that treatment gains as evidenced by the difference between ORS scores of the first and fifth session of therapy from before the micro expression workshop, when compared to the difference of first and fifth session scores from after the micro expression workshop, to be statistically significant ($t = -2.074$, $p = .045$; see Table 2).

Table 4.1

SRS Independent Samples Test

		Levene's Test for Equality of Variances				
		F	Significance	T	Df	
Significance tailed)						(2-
SRS	Equal Variances Assumed	8.571	.004	-2.288	78	.025
	Equal Variances Not Assumed			-2.130	48.510	.038

Table 4.2

Averages and Deviations

		N	Mean
Standard			
Deviation			
SRS (intake)	Pre-Training	30	32.217
	Post-Training	50	35.309
ORS (1 st -5 th session)	Pre-Training	21	4.000
	Post-Training	17	10.6559

Chapter 4

Discussion

This study investigated the connection between nonverbal behavior, micro expressions in particular, and the therapeutic alliance. It was hypothesized a better understanding of nonverbal behavior by the therapist may strengthen the therapeutic relationship, which is a strong predictor of positive client outcomes (Ekman, 2009; Perez & Riggio, 2003; Philipot, et. al., 2003; Tickle-Degnen & Gavett, 2003). Based on a sample of therapy clients, results suggest therapist training in facial expressions, and how they relate to client emotion, improved the therapeutic alliance between therapist and client.

This study showed an improved therapeutic alliance rating on the SRS for the intake session after the therapists attended a micro expression training. The SRS is a measure of therapeutic alliance (Campbell & Hemsley, 2009; Miller et al., 2003), a process which begins during the first session, or intake. There were no differences between the clients distress level at the intake session. Thus, a statistically significant result suggests the therapists who attended the micro expression training were superior at relating to their clients. This is in agreement with research which shows a nonverbal understanding between the therapist and client to be “an important medium for the communication of inner feelings and intentions” (Philipot et al., 2003, p. 6), especially when strengthening the therapeutic alliance (Perez & Riggio, 2003; Tickle-Degnen & Gavett, 2003). Several components of the therapeutic relationship are based in nonverbal communication, including empathy, mirroring behaviors, and mimicry through such behaviors as leaning forward, nodding one’s head, and facial expressions (Ekman, 2009; Tickle-Degnen & Gavett, 2003).

The ORS is a measure of distress and coping skills between therapy sessions (Campbell & Hemsley, 2009; Miller, et. al., 2003). The present study showed clients had improved more by the fifth session after micro expression training than those clients who started therapy with the therapists before the micro expression training. An improved score in this area over time supports current ORS literature, which indicates therapeutic change is evidenced by the fourth session (Crits-Christolph, Connolly, Gallop, Barber, Tu, Gladis, & Siqueland, 2001; Duncan & Miller, 2000; Hubble, et. al., 2006). The findings also support the importance of nonverbal communication for the client in building the therapeutic relationship (Bedi, 2006; Leibert, et. al., 2006; Perez & Riggio, 2003; Philippot, et. al., 2003; Tickle-Degnen & Gavett, 2003), and the therapeutic alliance to be the best indicator of therapeutic outcome (Hubble, Duncan, and Miller, 2006; Johnson & Wright, 2004), with an early alliance a better predictor of success (Gelso & Carter, 1985; Martin, Garske, & Davis, 2000).

Limitations of the Study

Previous training in nonverbal behavior within the context of a therapy session could have influenced the present study. In particular, Practicum, the live or video supervision by approved MFT supervisors of the actual therapy of the intern therapist, could have affected results. This required curriculum is on-going throughout MFT programs and includes individual supervision (with one or two people at a time) and group supervision (having no more than eight at a time). Practicum focuses heavily on nonverbal behavioral observations that would be covered in a mental status examination, including appearance, psychomotor activity, affect, paralanguage, facial expressions, perceptual disturbances, orientation, and gestures (Sommers-Flanagan & Sommers-Flanagan, 2009). Although practicum does not specifically focus on micro expressions,

distinguishing between the effect of nonverbal training and the experience of practicum on the intern therapists should be established. Practicum operates within a clinical training programs, giving students daily practice in therapy sessions at interpreting nonverbal behavior, which should also be isolated.

As this was an archival design, it is important to note the composition of the therapists as random assignment of therapists was not possible. The ORS/SRS pre-micro expression workshop results were primarily from a second-year cohort; the ORS/SRS post-micro expression workshop results were primarily from a first-year cohort. The second-year cohort was more experienced with over 400 hours of therapy experience. The first-year cohort was students just beginning their clinical hours. The first-year cohort, despite their inexperience, showed higher scores with clients than did the more experienced, second-year cohort, potentially attesting to the significance of the micro expression training. Ideally in future studies, therapists would be randomly assigned.

A micro expression in itself should be approached with caution. Ekman (2003) warns micro expressions happen so quickly they can easily be missed or misinterpreted. If and when they are noticed, “a concealed emotion in a micro expression or a normal facial expression that contradicts the words, voice, or gesture of the person indicate that we need to ask for further explanation; that is all” (p. 223). In other words, a definitive interpretation of a client’s perceived emotion is not possible without confirmation from the client. It is also important to note that “not everyone who suppresses or represses an emotion shows a micro expression related to it” (Ekman, 2003, p. 223).

Future Research

Participants in future studies should be given a pre-test to rate their current accuracy at detecting micro-expressions, followed by the workshop in nonverbal facial

expressions, and then given a post-test to ascertain their progress. This would control for those who have already researched, studied, or been trained in nonverbal behavior, specifically facial expressions and emotion.

It would also be helpful if the interpretation of micro-expressions by the therapist could somehow be isolated. Although Ekman (2009) contends that you cannot turn this type of knowledge “off” when interacting with others, there is no clear evidence linking the nonverbal workshop to the improved ORS/SRS scores. Therefore, future studies should implement a measure to assess whether the nonverbal workshop is the reason for the improved SRS scores, or if the clients are simply getting better by building the therapeutic alliance with their therapist in an alternative manner.

Ideally in any study on nonverbal behavior, but especially for one on micro-expressions, the resources would be available to conduct therapy process research. Video-recording the client(s) and the therapist with both close-up shots (to record facial expressions) and wide-angle shots (to capture body language) would be ideal. These specific behaviors could then be coded and compared, drawing a clearer link between the effect of nonverbal behavior and detection by the therapist *and* the client.

No prior study has examined micro expressions in relation to emotion and the building of the therapeutic alliance. Yet this type of data and further analysis can, theoretically at least, aid the therapeutic process for the client. Future research should consider the effect of all nonverbal communication in relation to the therapeutic alliance, and the clinical and/or training implications for therapists both professionally and in therapy programs.

Chapter 5

Conclusion

Each outcome from the current study supports the findings of other researchers in the area of nonverbal communication, including Ekman and Friesen (1969, 1974, 1978, 1983, 1988, 2003, 2009), and the hypothesis that nonverbal detection strategies in relation to micro-expressions may improve and strengthen the therapeutic alliance. While this is encouraging, further research is still needed in order to better understand and ascertain its effects on the relationship between client and therapist.

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