Examining the persuasive effect of metaphor use in psychotherapy: an experimental test of contributing factors

Walter A. Kendall

University at Albany, State University of New York, copyshopwk@aol.com

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EXAMINING THE PERSUASIVE EFFECT OF METAPHOR USE IN PSYCHOTHERAPY:
AN EXPERIMENTAL TEST OF CONTRIBUTING FACTORS

by

Walter A. Kendall

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Examining the Persuasive Effect of Metaphor Use in Psychotherapy: An Experimental Test of Contributing Factors

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Walter A. Kendall

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Abstract

Research suggests that metaphors can facilitate attitude change in psychotherapy. Based on social influence theory (Strong, 1968) and the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) of persuasion, this analogue study tested the impact of metaphor use in the context of advice as a therapeutic intervention. In an experimental design, 138 adult participants were randomly assigned to observe a brief videotaped vignette in which a therapist’s advice to a client either did or did not include a novel metaphor. After observing the video, participants completed a measure of therapist credibility, the Counselor Rating Form-Short Version (CRF-S; Corrigan & Schmidt, 1983), the Cognitive Involvement subscale from the Elaboration Likelihood Model Questionnaire (ELMQ-CI; Heppner et al., 1995), and rated the impact of the advice on a modified Tasks Impact subscale from the Session Impact Scale (SIS-TI; Elliott & Wexler, 1994).

It was hypothesized that (a) advice that included a metaphor would predict greater advice impact (SIS-TI), over and above perceived therapist credibility (CRF-S), (b) credibility would also predict advice impact, and (c) the relation between metaphor use and advice impact would be mediated by greater cognitive involvement with the advice (ELMQ-CI). Results supported the second hypothesis only; the relation between metaphor use and advice impact was nonsignificant, but perceived credibility did predict advice impact, accounting for 20% of the variance. Although the third hypothesis was not tested due to the lack of a direct effect, additional analyses showed that, with CRF-S scores covaried, metaphor use significantly predicted ELMQ-CI scores, which in turn significantly predicted SIS-TI scores. These findings suggested that the use of a metaphor
may increase the client’s cognitive elaboration of a therapist’s advice, and greater
cognitive elaboration may prompt acceptance of that advice. In other words, consistent
with ELM, cognitive involvement (central route processing) seems to account for attitude
change, with metaphors potentially prompting greater cognitive involvement. However,
in this study, metaphor use was not predictive of greater attitude change. Results are
discussed in light of the study’s strengths and limitations, their implications for theory,
practice, and future research.
Chapter I

Statement of the Problem

There is extensive literature on the use of metaphor in psychotherapy (e.g. Barker, 1996; Cowen & Presbury, 2000; Lenrow, 1966; Long & Lepper, 2008; Lyddon, Clay, & Sparks, 2001). In general, studies suggest that metaphor can facilitate meaning (Clark, 1989), illuminate clinical issues (Rasmussen & Angus, 1996), and increase the memorability of therapeutic events (Donnelly & Dumas, 1997; Martin, Cummings, & Hallberg, 1992). The purpose of the present study was to test the impact of metaphor as a therapeutic intervention, within the general framework of social influence theory (e.g., Strong, 1968) and, more specifically, the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1981) of persuasion.

Strong (1968) proposed that the social power a therapist exerts on a client determines the success of the therapy. In Strong’s two-stage model of social influence, a therapist must first be perceived as credible, i.e., as expert, attractive, and trustworthy, before exerting influence on the client to make therapeutic changes. Theoretically, although change results from interventions (usually verbal actions), these interventions only have an impact on the client if the therapist has some degree of social power over the client (Strong & Matross, 1973). In essence, this social power is derived by the client’s perception, on a number of dimensions, that the therapist is able to meet his or her needs. In other words, the therapist’s credibility helps the client overcome opposing forces that resist change (Strong & Matross, 1973).

The use of metaphor has received a great deal of attention in persuasion research within social psychology. A meta-analysis of 29 studies on the persuasive effects of
metaphor (Sopory & Dillard, 2002) concluded that metaphors facilitate attitude change, with an overall effect size of $R^2 = 0.5$. However, metaphor use seems to be unrelated to the communicator’s perceived competence or character. In other words, the content of a message that includes a metaphor is likely to be more persuasive than the characteristics of the individual delivering the message. In discussing their meta-analysis, Sopory and Dillard (2002) concluded that metaphors appear to enhance persuasion because they facilitate the cognitive organization of a message.

According to the ELM (Petty & Cacioppo, 1986), the careful scrutiny of a persuasive message involves central route processing, whereas persuasion based on factors other than the message itself, such as the messenger’s characteristics, involves peripheral route processing. McNeill and Stoltenberg (1989) suggested that the ELM plays a role in the social influence process in the context of psychotherapy. These authors suggested that because social influence resulting from the clients’ favorable perceptions of the therapist is the result of peripheral route processing, this influence may be effective in the short-term but produces only minimal long-term effects. By contrast, central route processing is likely to produce more stable and salient attitude change, and may be more predictive of future behavior (McNeill & Stoltenberg, 1989).

In a survey of mental health counselors (Houser, Feldman, Williams, & Fierstien, 1998), metaphor was the most frequently used social influence tactic across theoretical orientations. (Other social influence tactics included modeling, critiquing, and appealing to the client’s loyalty to the counselor.) However, empirical studies involving metaphor and social influence in psychotherapy have failed to establish a clear relation between metaphor use and clients’ perceptions of the therapist’s persuasive attributes, i.e.,
expertness, attractiveness, or trustworthiness (e.g., Reinsch, 1971; Suit & Paradise, 1985). In addition, no research to date has examined metaphor use in a psychotherapy context from an ELM perspective.

Based on previous research, it was hypothesized that therapeutic advice that includes a metaphor would be likely to change participants’ attitudes more so than literal advice, i.e., advice offered without a metaphor. Based on social influence theory (Strong, 1968) it was hypothesized that the perceived credibility of the therapist would be positively related to attitude change, and that the effect of metaphor use on attitude change would be over and above participants’ perceptions of the therapist as credible. Finally, based on the ELM (Petty & Cacioppo, 1986), it was hypothesized that metaphor use would be more effective in changing attitudes because it facilitates central route processing.

To test these predictions, the present analogue study exposed participants to one of two experimental manipulations: therapeutic advice that included a metaphor, or the same advice in literal language, i.e., without a metaphor. Participants completed a measure of perceived therapist credibility, and the metaphor manipulation was assessed for its effect on therapy session impact as an indication of attitude change, over and above the impact of therapist credibility. Because it was reasoned that the persuasive effect of metaphor use is due to central route processing, a measure of cognitive elaboration was tested as a mediator.

A metaphor’s effectiveness may also be affected by the client’s personal characteristics. Previous researchers identified three individual difference variables that influence how individuals respond to persuasive messages: need for cognition (Cacioppo,
Petty, & Kao, 1984), need for affect (Haddock, Maio, Arnold, & Huskinson, 2008), and psychological reactance (Dillard & Shen, 2005). In the present study, the potential confounding influence of the three individual difference factors was taken into account in the experimental design.

Need for cognition refers to an individual’s tendency to use and enjoy cognitive effort (Cacioppo, Petty, & Kao, 1984). Cacioppo, Petty, and Morris (1983) found that participants with a relatively high need for cognition tended to focus more on message quality in persuasive communications. Need for affect, on the other hand, refers to an individual’s tendency to take pleasure in emotional experience and make decisions based on emotional reactions (Maio & Esses, 2001). In one study, participants high in need for affect were more persuaded by messages that contained affective components (Haddock, Maio, Arnold, & Huskinson, 2008).

Psychological reactance, manifested as oppositional behavior that results from a perceived threat to individual freedom (Brehm, 1966), is said to be a somewhat stable dispositional trait (Brehm & Brehm, 1981; Dowd, Milne, & Wise, 1991). Individuals who are high in reactance tend to resist persuasive messages (Dillard & Shen, 2005). A fair amount of evidence suggests that reactant clients tend to have relatively poorer outcomes in psychotherapy (Beutler, et al., 1991). Although reactant clients seem to be more responsive to nondirective than directive therapeutic interventions (Beutler, Moleiro, & Talebi, 2002), no research has found a clear relation between metaphor use and client reactance. Nonetheless, several authors suggested that metaphors tend to be effective with reactant clients, either (a) because their indirect nature gives the client the option of accepting the message, in that it does not directly request compliance (Romig &
Gruenke, 2001), or (b) because the metaphor allows the client to consider new information without being directly challenged.

Results of the present study were expected to have important practical implications for therapists and advance our understanding of why metaphors seem to be effective in psychotherapy. Previous research on this topic has failed to explore potential mechanisms that may account for the persuasive effect of metaphor in therapy. Moreover, results of this study were expected to be a meaningful extension of the social influence literature on therapeutic change.

Although several previous therapy studies used metaphors to suggest solutions for clients’ problems, these studies focused either on clients’ perceptions of the therapist (e.g., Suit & Paradise, 1985) or on helpfulness ratings of the therapist’s advice (Donnelly & Dumas, 1997). That is, no previous research has included both factors simultaneously. Based on Strong’s (1968) theory of psychotherapy as persuasion and the application of the ELM (Petty & Cacioppo, 1981) to psychotherapy, the inclusion of perceptions of the therapist and of the advice itself seems essential.

It was reasoned that significant results in the present study would support the application of the ELM (Petty & Cacioppo, 1981) to psychotherapy by suggesting that one specific type of intervention, i.e., metaphor, may affect attitude change. Such findings would suggest that although common factors, like therapist credibility, client motivation, or the working alliance (Wampold, 2001), are important for successful outcomes, this therapeutic intervention may have an important independent effect on clients.
If metaphor use were found to be persuasive but unrelated to central route processing, it may be that inclusion of a metaphor makes the therapist’s advice more salient (e.g., memorable) without increasing the client’s cognitive processing of the message. Alternatively, the metaphor may elicit an emotional response, rather than increased cognitive involvement, which in turn leads to persuasion. If the present results were to show that only the therapist’s credibility affected attitude change, this finding would underscore the critical importance of perceptions of the therapist in determining the effectiveness of a specific verbal intervention. This result would also suggest a limitation of the ELM, i.e., the distinction between central and peripheral route processing, to psychotherapy research.
Chapter II

Review of the Literature

This chapter summarizes the relevant literature on metaphor as a linguistic device, metaphor use in psychotherapy, social influence and persuasion in psychotherapy, the ELM, metaphor and persuasion, and the contributions of individual differences. The chapter concludes with a summary and the hypotheses tested in the present study.

Linguistic Functions of Metaphor

In its simplest form, metaphor is a linguistic comparison in which “A is B” (Campbell & Katz, 2006). A metaphor transfers meaning from a secondary subject, usually called the vehicle, to a primary subject, usually called the topic or the base. The metaphor links these two concepts. Through the use of metaphor, meaning is transferred to the topic that might not otherwise be considered (Campbell & Katz, 2006).

In linguistics, metaphors are considered to be distinct from other devices, such as idioms. Idioms are expressions that, while metaphorical, have over time become fixed or frozen in everyday language, such as the phrase “keep a stiff upper lip” (Sopory & Dillard, 2002, p. 414). Analogies and similes, which also involve some degree of linguistic specificity, are similar to metaphors in that they also involve a comparison of concepts (Sopory & Dillard, 2002). In brief, an analogy focuses on the structural aspects of a comparison, i.e. “A is structurally similar to B,” whereas a simile makes a direct comparison such that “A is like B.”

Researchers outside the field of linguistics often use these terms interchangeably (Sopory & Dillard, 2002), and many authors (e.g., Long & Lepper, 2008) use the term metaphor to refer to all figurative language. McCurry and Hayes (1992) pointed out that
theorists who focus on the applied aspects of metaphor use a more liberal definition of the term, often including thematic stories that suggest solutions to problems. In a study of the use of metaphor in psychotherapy, for example, Hill and Regan (1991) noted definitional problems. These authors’ criteria for a metaphor included the non-literal use of words, an implicit or explicit comparison, and the creation of a visual image.

According to Long and Lepper (2008), the term metaphor indicates figurative language in general, whereas a novel metaphor is a metaphor that is not common in everyday language (Lakoff & Johnson, 1980), and a key metaphor symbolizes an individual’s singular view of self, or of his or her life (Siegelman, 1990). Key metaphors, also used to depict aspects of a diagnosis or a core internal conflict (Long & Lepper, 2008), usually involve implied comparisons to a person’s experience, e.g., “It seems like you fell off the roof when she died” links a psychological reaction (A) to an event (B), i.e., reacting to death is like falling off a roof (Long & Lepper, 2008, p. 348). Research suggests that the use of key metaphors in therapy sessions helps to sharpen conceptualization and facilitates a focus on therapeutic work (Long & Lepper, 2008). McCurry and Hayes (1992) suggested that clinical metaphors are more effective when they contain concrete elements that are easily pictured and relate to a specific client problem. For this reason, in the current study the advice offered by the therapist included a key metaphor.

Lakoff and Johnson (1980) wrote extensively on conceptual metaphors. These authors suggested that metaphors tap into existing mental representations of complex concepts. Metaphorical phrases used to describe arguments, for example, “a new line of attack” and “his points were right on target,” are based on a conceptual framework of
“argument is war” (Lakoff & Johnson, 2003, cited in Smith, 2008, p. 20). Such representations are a way of categorizing and understanding something that otherwise has no intrinsic meaning (Lakoff & Johnson, 1999, cited in Smith, 2008). The symbolism creates a means to understand the world via language. For example, the words “ahead” (good) and “up” (positive) have metaphoric meanings, based in part on cultural values (Smith, 2008). Even the word “depressed,” which comes from the Latin _depressus_, meaning “to push or press down” (Smith, 2008, p. 20), is based on a metaphorical understanding that down is bad. When a person is “running behind,” the close relation between “behind” and “down” implies a potential for negative feelings (Smith, 2008). Therefore, in the context of psychotherapy, metaphors can facilitate the understanding of feelings and experiences that otherwise are difficult to express (Lakoff & Johnson, 1980).

**Metaphor in Psychotherapy**

The use of metaphor in psychotherapy has received considerable attention in the clinical literature. Metaphor is said to enhance a wide variety of theoretical orientations, including psychoanalytic (e.g., Long & Lepper, 2008), psychodynamic (e.g., Rasmussen & Angus, 1996), cognitive-behavioral (e.g., Blenkiron, 2005), and process-experiential approaches (Levitt, Korman, & Angus, 2000). Some theorists use metaphor as a major component of their therapeutic models. For example, in Acceptance and Commitment Therapy (ACT; Hayes, McCurry, Afari, & Wilson, 1991), metaphor is used to help clients see the futility of problematic behaviors. For example, an agoraphobic client may be told that his or her situation is like “being in a tug-of-war with a monster,” and the best solution is to “let the rope go” (Hayes et al., 1991; cited in McCurry & Hayes, 1992, p. 769).
Metaphors can serve various functions in psychotherapy, including simplifying events into schemas or concepts to highlight some properties over others, providing novel ways of thinking about a problem, and communicating information in a non-intrusive manner (Lenrow, 1966). Additionally, metaphors can serve as a vehicle for clients to express what may otherwise be inexpressible, facilitate communication between therapist and client, and help the client see problems in a new and unusual way (McMullen, 1985). Through figurative language, complex internal states can be symbolized, creating a shared language between client and therapist and increasing a sense of shared meaning (Angus & Korman, 2002; Angus & Rennie, 1988, 1989).

It has been suggested that metaphors lead directly to the unconscious and become representative of aspects of the self (Siegelman, 1990). The self-representation explanation is supported by Clarke’s (1991) study of metaphor in the creation of meaning, i.e., interventions that therapists use to help clients understand an experienced emotion. Clarke (1996) defined creation of meaning as an emotional processing task in which clients, faced with emotional arousal and confusion, need to construct meaning for their problematic thoughts and feelings (Clarke, 1996). The therapist facilitates the meaning process by suggesting a metaphor, which condenses the client’s feelings into words and synthesizes multiple feelings. In her research, Clarke (1996) found that symbolization distinguished successful therapy sessions in which new meaning was created. In an earlier analogue study, Clarke (1989) showed that creation of meaning interventions resulted in deeper levels of emotional experiencing than did nondirective, reflective exploration of feelings.
Metaphor is also relevant for cognitive-behavioral psychotherapy. Metaphorical language can be used to expand the boundaries of beliefs and to reflect distorted thinking (Abbatello, 2006). In rational-emotive therapy, a client’s core beliefs can be identified through metaphor and disputed using images within the metaphor (Smith, 2008). Similarly, figurative language can help clients integrate new information, create new mental models, and highlight irrational assumptions (Blenkiron, 2005). For example, the metaphor, “Crabs need to lose their shells as they grow, leaving them vulnerable for a while until a new shell that fits is found,” points out that change carries risks (Blenkiron, 2005, p. 52). Other metaphors are specifically designed to promote change, such as “How many people on their death bed wish they had spent more time at the office?”, a metaphor that implies a need for balance and prioritizing (Blenkiron, 2005, p. 57).

Empirical research on the clinical use of metaphor began in the late 1970s, when psychotherapists became interested in the dynamics of figurative language (Angus & Rennie, 1988). However, research in this area developed slowly and had methodological inconsistencies (McMullen, 1996). Two methodologies are prominent: qualitative investigations of the naturalistic use of metaphors in clinical situations, and quantitative studies that include discrete outcome variables. However, studies of metaphor have rarely been designed to address specific theoretical questions (McMullen, 1996).

In a review of studies that assessed the frequency of metaphors generated by therapists and clients (e.g., Hill & Regan, 1991), McMullen (1996) concluded that the use of figurative language was variable across sessions and individuals. Moreover, there appeared to be no relation between the number of metaphors generated in sessions and successful treatment outcomes. This finding is consistent with clinical literature that
stresses the specific functions of metaphor in therapy; that is, it is these functions, rather than the metaphor itself, that is useful therapeutically. As McCurry and Hayes (1992) pointed out, metaphors are effective only to the degree that they accomplish a specific clinical goal. For this reason, in the present study metaphor was used in the context of advice.

Several early studies used therapy transcripts to examine patterns of metaphor use in sessions and the relation of metaphor use and positive outcomes. Pollio and Barlow (1975) examined one highly successful therapy hour in which the client was actively involved in identifying problems and generating solutions. In this session, the client produced “frozen figures” (referred to as “idioms”) at a fairly regular rate, whereas novel figurative language tended to occur in bursts, was repeated, and related to the development of major themes and problem solving. In a subsequent study, Barlow, Polio, and Fine (1977) used trained judges to rate therapy transcripts for the presence of figurative language; a second group of judges rated the presence of client insight. Results showed one pattern, with a simple co-occurrence of metaphor and insight, and a second pattern in which a high frequency of metaphor was followed by a period of literal (i.e., non-figurative) language that suggested insight.

Angus and Rennie (1989) used an interpersonal process recall methodology to investigate clients’ post-session reactions to selected metaphors. The metaphors appeared to be embedded in what the authors termed “an associated meaning context” (p. 374), in which memories, feelings, and images were elicited. These authors suggested three organizing principles that structured this context: The metaphor serves as an associated link to other feelings and experiences, represents aspects of self-identity, and represents
role relationships. At times, the elicited meaning contexts differed between therapist and client, in that the contexts provoked subjective and idiosyncratic associations related to each individual’s personal experiences (Angus & Rennie, 1989).

Several studies reported relations between patterns of figurative language and positive therapeutic outcomes. In unsuccessful therapy cases, clients actively resisted some therapist-generated metaphors (McMullen, 1989). In a successful session, the client repeated more of the figures that were originally used by the therapist, and the therapist repeated and elaborated more of his own figures than those of the client. In a less successful session, however, both client and therapist tended to focus on their own figures (McMullen, 1985). Although McMullen (1996) found less convincing support for this pattern in subsequent studies, she concluded that clients’ elaboration of major therapeutic themes, with bursts of figurative language or with metaphors, was generally related to successful outcomes.

Angus and Rennie (1988) found evidence for two distinct patterns when metaphors were repeated throughout a therapy session. The first pattern, termed meaning conjunction, involves a collaborative elaboration of the metaphor by client and therapist, leading to a shared understanding of the underlying meaning of the metaphor. The authors suggested that this pattern reflects the collaborative nature of the therapeutic relationship. In contrast, a second pattern, termed meaning disjunction, refers to a lack of shared understanding, occurring when client and therapist focused on their own discrepant interpretations of the metaphor. These findings suggest that aspects of the working relationship, as well as characteristics of the client, are likely to affect the relation between metaphor use and positive outcomes.
A limited number of studies manipulated metaphor use in psychotherapy. In Martin et al.’s (1992) study, therapists were coached to use metaphors intentionally in therapy sessions. Clients then completed the Episodic Memory Questionnaire, which asked them to remember specific phrases from the session, the most memorable event in the session, and reasons for remembering this event. Clients also rated the helpfulness of the session. Results showed that clients recalled 66% of the metaphors over the course of 8 to 14 sessions, and rated the sessions in which they recalled the metaphors as significantly more helpful. Reasons for remembering the events included enhanced emotional awareness, conceptual bridging, goal clarification, and improved relationship with the therapist.

In an analogue study, Donnelly and Dumas (1997) asked participants to read a series of 10 vignettes that included information about a client’s current stressor and a personal hobby. In the metaphor condition, the therapist’s advice used the individual’s hobby as a vehicle for a metaphor; in the literal (control) condition, the advice was not metaphorical, and the hobby and stressor were kept separate. Participants were then asked to rate the helpfulness of the advice in each vignette, as well as rate nine items about the reasons the advice was helpful, e.g., “It was helpful because it suggested new solutions to the problem.” Participants were also instructed to take on different roles when reading the vignette, with one group taking the role of the client, one group taking the role of the therapist, and a third group taking the role of observer.

Across all three role conditions, participants rated the metaphor condition significantly more helpful than the literal (control) condition, and participants in the metaphor condition rated the advice as significantly more helpful on four of the nine
items: (“…throws new light on the problem,” “…suggests new solutions to the problem,” “…enables the patient to look at the problem from a different perspective,” and “…makes it easier for the patient to understand the problem”).

Next, Donnelly and Dumas (1997) administered a cued recall procedure, asking participants to write as much information about each session as they could remember. Participants were cued for each session by the client’s hobby and the stressor. It was found that in the metaphor condition, participants recalled more information about the advice, whereas in the literal condition, they recalled more information about the stressor. The effect was greatest for participants who were asked to assume the role of the client. Donnelly and Dumas (1997) speculated that metaphors provide clients with a new way of viewing information that they have probably already spent time dwelling on in an unproductive way, whereas literal advice may only focus their attention on negative thoughts, with which they are all too familiar.

Several authors investigated the impact of therapist-generated metaphors on clients’ evaluations of the therapist. Suit and Paradise (1985), for example, using an analogue design, asked participants to rate a therapist on perceived empathy, regard, expertness, trustworthiness and attractiveness after listening to an audio-taped session in which the therapist used a non-metaphorical “facilitative response” or a metaphor that was either a complex metaphor (CM), narrative analogy (NA), or a cliché (CL). Participants in the control and the NA conditions rated the therapist significantly higher on empathy, expertness, and positive regard than did participants in the CL condition. The authors argued that these results supported the use of moderately complex metaphors. However, looked at another way, using ratings of therapist characteristics as a
dependent variable, metaphor was no more effective than the control. The study also suggests that clichés are relatively ineffective. Although the authors included therapist attributes as a measure of social influence, they did not include a specific measure of attitude change.

In a similar analogue design, Reitenbach (2000) included client psychological reactance as a factor, and varied the degree of ambiguity (4 levels) in the metaphors. High reactant participants rated the therapist significantly lower on the working alliance, willingness to see the therapist, and perceptions of therapist’s expertness, attractiveness, and trustworthiness. Low reactant participants reported an increased willingness to see the therapist in the least ambiguous metaphor condition, with the reverse pattern occurring in the second least ambiguous metaphor condition. Considering the large sample used in this study ($N = 1,483$), the lack of other significant effects for metaphor use is notable. It may be that despite variations in metaphor ambiguity and levels of client reactance, the design did not distinguish between the effectiveness of the message (i.e., the metaphor) and the effectiveness of the messenger.

As a therapeutic intervention, metaphor appears to play a role in changing the perceptions or attitudes of the client. In the above literature, metaphor use in therapy has been found to facilitate organization of ideas and feelings, clarify goals and concepts, and make interventions more memorable and easier to understand. However, investigators have found little support for a relation between metaphor use and participants’ ratings of therapist attributes. Given these findings, it appears that the persuasive impact of metaphor is a function of the message itself, not the messenger who delivers it. The next
section reviews the persuasion literature in psychotherapy with a focus on the Elaboration Likelihood Model (Petty & Cacioppo, 1981).

**Persuasion and Social Influence in Psychotherapy**

Much of the early research on social influence was devoted to investigating the specific social influence characteristics that were said to contribute to client attitude change (Heppner & Claiborn, 1988). Although some studies suggested that clients’ ratings of therapists on these dimensions leads to better therapeutic outcomes (e.g., Grimes & Murdock, 1989; Heppner & Heesacker, 1983), Heppner and Claiborn (1988) argued that investigators had paid too much attention to therapist attributes and too little attention to the influence process per se. Heppner and Claiborn also noted the weak correspondence between social influence research and theory. These authors argued that the overall goal in social influence theory is to change clients’ attitudes or behaviors, i.e., the second stage in Strong’s (1968) model, yet few researchers had directly assessed attitude change as the result of therapist verbal interventions. Heppner and Claiborn reported a small number of studies examined the relative effectiveness of interpretive versus non-interpretive therapist statements on client attitudes, showing that these statements tended to lead to more attitude change. However, dependent measures in these studies were varied, including expectancy to change and reported changes in discrete behaviors such as procrastination (Claiborn, Ward, & Strong, 1981).

Soon after Heppner and Claiborn’s (1988) call for a closer look at social influence processes in psychotherapy, McNeill and Stoltenberg (1989) suggested that the ELM (Petty & Cacioppo, 1981) might be a more comprehensive model of attitude change in therapy. According to the ELM, attitude change can occur either through message
elaboration, called *central route processing*, or by responding to peripheral cues, usually the characteristics of the source of the persuasive message, which is called *peripheral route processing*. In the former situation, individuals evaluate, integrate, and assess issue-relevant information, and attitude change is based on the merits of the argument. Central route processing requires motivation and cognitive resources, and attitude change tends to be more stable and predictive of future behavior. Although persuasion through message elaboration is based on properties of the message, and peripheral processing is based on aspects of the messenger, this is not always the case. For example, the mere repetition of messages (Petty & Cacioppo, 1984) or the use of familiar phrases or clichés (Howard, 1997) can also invoke peripheral route processing. Therefore, it is important to consider the content and structure of a persuasive message to maximize its effects. Overall, ELM research (Petty & Cacioppo, 1986) indicates that when more issue-relevant thought takes place, attitude change is more salient and has a greater impact on other attitudes and behaviors.

According to McNeill and Stoltenberg (1989), the social influence literature in psychotherapy is flawed because processing route has not been considered. First, within the ELM, client responses to therapist verbal behaviors may involve either central or peripheral route processing, based on the clients’ motivation and cognitive effort. Therapist characteristics, such as expertness or attractiveness, are related to peripheral route processing (McNeill & Stoltenberg, 1989). This confounding of factors may account for the inconsistent findings related to social influence in therapy (McNeill & Stoltenberg, 1989). Second, few studies in therapy settings have assessed the motivation...
or resources of the client to process a message, which in turn affects the persuasiveness of a message (McNeill & Stoltenberg, 1989).

Supporting this point, Stoltenberg and McNeill (1984) found that participants in a high-involvement condition were influenced more by high-quality messages than were participants in a low-involvement condition. On the other hand, in a subsequent study (McNeill & Stoltenberg, 1988), participants’ responses to a therapist’s advice were only influenced by the quality of the message, regardless of the participant’s level of involvement. Similarly, in a study of ELM in an assertiveness training workshop (Ernst & Heesacker, 1993), participants’ motivation to consider a topic had no relation to their attitude change, possibly because by being willing to attend the workshop, participants were motivated to process information. It appears that there may be difficulties in clearly delineating message quality and personal relevance as they relate to motivation. For example, certain aspects of a message may, in some cases, increase the awareness of the listener and affect how personally relevant an individual finds the message. One of the functions of metaphor may be to increase the motivation of the listener to process the message, facilitating attitude change if the argument is sound.

In reviewing the application of the ELM to psychotherapy, McNeill and Stoltenberg (1989) suggested that although studies have not consistently supported the effects of moderating variables (such as motivation) found in social psychological studies, results generally support the ELM, in that attitude change in psychotherapy seems to be due to central route processing more so than peripheral route processing, based on cues like therapist expertness, attractiveness, and trustworthiness. In other words, the client’s thoughtful and deliberative processing of verbal interventions seems to
be more influential in attitude change than the clients’ perceptions of the therapist’s attributes (McNeill & Stoltenberg, 1989).

Metaphor and Persuasion

Although there are few empirical studies of metaphor as a persuasive technique in psychotherapy, the use of metaphor as persuasion has received considerable attention in social psychology (Ottati, Rhoads, & Graesser, 1999), consumer research (Roehm & Sternthal, 2001), and political discourse (Voss et. al., 1992). Sopory and Dillard (2002) conducted a meta-analysis of 29 empirical studies ($N = 3,945$) on the persuasive effects of metaphors across a variety of disciplines. Overall, metaphoric language was significantly more persuasive than literal language, but the effect size was small, accounting for 0.5% of the variance. Sopory and Dillard noted that this effect size was comparable to meta-analytic findings for other message-related variables in social psychological research. However, the authors determined that when metaphor was used in specific ways, it accounted for 17% of the variance in attitude change. An examination of factors relevant to the persuasive impact of metaphor use is summarized below.

Although there are numerous theories of metaphor comprehension, Sopory and Dillard (2002) examined three of the major theories: literal-primacy theory, salience imbalance theory, and structural mapping theory. First, according to literal-primacy theory (MacCormac, 1985; cited in Sopory & Dillard, 2002), metaphors are exceptional language that require three stages of processing: (a) attempting to derive literal meaning, (b) testing whether the literal meaning makes sense and detecting an anomaly, and (c) seeking an alternative meaning when the literal meaning fails to make sense (Gibbs, 1994). Cognitive tension is said to arise when an anomaly is encountered, and the
individual’s desire to reduce this tension is achieved when an alternative meaning is understood.

Second, according to salience imbalance theory (Ortony, 1979) the metaphoric expression of “A is B” is understood by deriving a set of shared attributes between A and B, then selecting attributes that have low salience for the target (A) and high salience for the base (B). Ortony (1979) offered the example, “Encyclopedias are gold mines,” (p. 174), and explained that attributes such as “digging” and “valuable nuggets” are highly salient for the base (gold mines) and less salient for the target (encyclopedias). Therefore, the implication is that encyclopedias have valuable pieces of information (nuggets) that can be found through effort (digging). Salience imbalance theory explains the directionality of metaphor (Ortony, 1979). If the terms were reversed, salient attributes of encyclopedias (such as historical facts) would not facilitate a meaningful set of shared attributes.

Third, according to structure mapping theory (Gentner, 1983), rather than a comparison of attributes between the target and the base, relations among attributes are compared for their similarities. Essentially, the listener finds a way to map the relational structure of the base onto the target. With the “encyclopedias are gold mines” metaphor, for example, the listener notes a structural match (“valuable nuggets that are found by digging”) between the target and the base.

Theories of metaphor comprehension have guided explanations of the persuasive effects of metaphor (Sopory & Dillard, 2002). Prior to the 1980s, views of metaphor and persuasion were drawn from the literal primacy theory of comprehension, but more recent views are largely based on either salience imbalance or structural mapping theories.
Sopory and Dillard (2002) described six views on the persuasive nature of metaphors that have evolved over time, and the authors developed hypotheses to test these views as part of their meta-analysis.

Sopory and Dillard’s (2002) first view of metaphor and persuasion (based on the literal primacy theory of comprehension) is pleasure or relief (Bowers & Osborne, 1966). In this view, the listener seeks to resolve the anomaly and understand the meaning. When understanding is accomplished, negative tension is relieved, resulting in pleasure. This pleasurable feeling is paired with the message, leading to reinforcement and resulting in greater persuasion.

The second view of persuasion (Sopory & Dillard, 2002), communicator credibility (Bowers & Osborn, 1966), is also based on the literal primacy theory of comprehension, and overlaps to some degree with the pleasure or relief view. From this perspective, the use of metaphor gives the speaker increased credibility, either because the listener takes pleasure in discovering new relations between discrepant concepts, or because the listener is impressed by the linguistic abilities of the speaker, so that the increased credibility of the speaker results in persuasion.

Later views on metaphor and persuasion moved away from the literal-primacy theory of comprehension, drawing instead on the salience imbalance and structural mapping theories. These theories are reflected in the third and fourth views on persuasion (Sopory & Dillard, 2002), which involve the use of cognitive resources. According to Guthrie’s (1972; cited in Sopory and Dillard, 2002) reduced counterarguments view, processing a metaphor requires more cognitive resources, which interferes with counterarguments, leading to increased persuasion. Jaffe’s (1988; cited in Sopory and
Dillard, 2002) resource matching view suggested that finding the meaning of a
metaphorical statement requires cognitive elaboration, which leads to increased
integration of high quality messages into memory, and in turn to greater persuasion.
However, sufficient cognitive resources must be available for elaboration to take place,
and if resources are not available, comprehension is undermined. This theory also
suggests that if excess resources are available, such as when a cliché is used, irrelevant
thoughts may arise that dilute the impact of the message. From this perspective,
persuasion is optimal when cognitive resources match the demands of the message.

In the fifth view tested by Sopory and Dillard (2002), stimulated elaboration (e.g.,
Whaley, 1991; cited in Sopory & Dillard, 2002) metaphors stimulate associations in
semantic memory by focusing on similar relational structures. Theoretically, a greater
number of associations leads to increased elaboration of the message. Provided that the
listener possesses adequate resources and motivation, and the message is compelling,
more thoughts will be generated that are in agreement with the message, and persuasion
will be increased.

Finally, in the superior organization view (Read, Cesa, Jones, & Collins, 1990),
metaphors stimulate more semantic associations because they structure and organize the
message more effectively than does literal language. Aspects of the argument are
connected more effectively, via a greater number of pathways, which in turn highlight the
argument in memory and make it more apt to be processed (McGuire, 1985).

The last three views involve greater elaboration of the message, but with some
differences as to how this elaboration takes place. In Jaffé’s (1988) resource matching
view, elaboration is the result of trying to find the meaning of the metaphor. In the
stimulated elaboration view (e.g. Whaley, 1991), the relational structure of the vehicle and topic in a metaphor stimulates semantic associations, which leads to greater elaboration. Finally, the superior organization view (Read et al., 1990) agrees that semantic associations lead to elaboration, but suggests these associations are due to metaphor’s ability to structure and organize information, making it more memorable and more likely to be processed.

In their meta-analysis, Sopory and Dillard (2002) found no relation between metaphor use and communicator credibility with respect to competence or character, but a small relation to dynamism (extraversion). The authors also found that metaphors benefited communicators with initially low credibility more so than communicators with initially high credibility. Extended metaphors appeared to be slightly more persuasive than non-extended ones, and the use of one metaphor was more effective than multiple metaphors. Metaphors used at the beginning of a persuasive message were significantly more effective than those used later in the message. To some extent, the receiver’s knowledge of the metaphor target (i.e., in the metaphor “encyclopedias are goldmines,” *encyclopedias* is the target) led to greater persuasion. Novel metaphors were significantly more persuasive than non-novel metaphors, and messages presented in audio, versus written, format were slightly more effective.

In addition to testing the direct effects of the above factors on the persuasiveness of metaphor, Sopory and Dillard (2002) used a model fitting approach, similar to a multiple regression analysis, that accounted for potential moderating effects. In other words, the model was able to clarify relationships between the predictors and attitude change by controlling for the moderating effects of other predictors. Based on this model,
Sopory and Dillard (2002) found that metaphors tended to be most effective when they were single, placed early in the message, novel, and had a familiar target.

The above findings clarify questions raised by researchers who investigated message vividness. Frey and Eagly (1993), for example, found that the vividness of a message undermines its persuasiveness. These authors defined vivid information as “emotionally interesting, concrete and imagery provoking, and proximate in a sensory, temporal, or spatial way” (cited in Nisbett & Ross, 1980, p. 45). According to Frey and Eagly (1993), vivid information undermines persuasion because it elicits extraneous images and information, interfering with cognitive elaboration.

In a test of their proposition, Frey and Eagly (1993) found that vivid editorials were less persuasive than similar editorials using “pallid” (abstract and bland, p. 33) language. However, an examination of the stimulus materials revealed several key points. The vivid editorials used multiple metaphors throughout the argument (as many as six times in each paragraph), they were almost exclusively clichés, and the metaphors were not conceptually connected to the argument. These results could be explained by the superior organization view (Read et al., 1990), in that the use of clichés and multiple metaphors may undermine organization, preventing a persuasive effect. The results may also suggest why previous studies on metaphor use in psychotherapy had mixed results, i.e., the impact of metaphors may depend on how they are constructed or delivered.

Sopory and Dillard (2002) made several conclusions about the persuasive effects of metaphor. First, there appears to be no support for the theory that metaphors are persuasive due to increased credibility of the messenger. This finding is notable, given the common use of therapist credibility as the dependent variable in psychotherapy
studies with metaphor. For example, in one of the earliest studies on this topic (Reinsch, 1971), metaphors were found to be significantly more persuasive than non-metaphorical messages, but there was no effect on source credibility.

Second, it appears that, overall, the superior organization theory of metaphor and persuasion received the most support; that is, more effective metaphors were presented early in the message, were singular, and possessed familiar targets. The view that metaphor leads to enhanced organization via stimulation of semantic memory is consistent with studies that found metaphor to be more memorable in clinical settings (e.g., Martin et al., 1992). The enhanced organization view also reflects arguments made by researchers for the value of metaphor in psychotherapy, including creation of meaning (Clarke, 1989), simplifying events into schemas (Lenrow, 1966), and an associated meaning context (Angus & Rennie, 1989). In the context of the ELM, enhanced organization and elaboration are consistent with central route processing.

The above findings informed the present study in the following ways. First, they suggested that the effectiveness of a metaphor in therapy may be related to the content and quality of the message itself, rather than to the credibility of the therapist who delivers the metaphor. Second, the findings suggested that metaphors may be persuasive because they stimulate cognitive involvement and are thus more memorable. This argument is consistent with the literature in which metaphors used in therapy enhanced the recall of therapeutic events (Martin et al., 1992) and helped clients see problems in a new way (e.g., Clarke, 1991; Donnelly & Dumas, 1997), as well as with assumptions in the ELM that central route processing leads to greater attitude change than does peripheral route processing. Third, research on metaphor and persuasion suggests how a
metaphor can be presented to maximize its potential persuasive effect. Based on Sopory and Dillard’s (2002) findings, the metaphor in the present study was placed early in the advice intervention, and was both novel and familiar to participants.

**Individual Differences in Attitude Change**

Based on the above literature review, three factors appear to differentially affect attitude change in therapy generally and the impact of metaphor advice in particular. These factors are an individual’s need for cognition, need for affect, and psychological reactance. Although predictions could have been made about the moderating effects of each of these three factors with the use of metaphorical advice, the present study controlled for these factors. That is, if randomization failed to achieve nonsignificant differences by experimental condition, scores on measures of these factors would be used as covariates. A review of each factor follows.

**Need for cognition.** Need for cognition refers to an individual’s tendency to engage in and enjoy cognitive effort (Cacioppo & Petty, 1982). Individuals who are high in need for cognition tend to seek out information, and think carefully about that information before making a judgment (Cacioppo & Petty, 1982). Using the Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984), Haugtvedt and Petty (1992) found that need for cognition was positively related to the tendency to focus on message quality in persuasive communications.

Not only does need for cognition relate to individual differences in the likelihood of engaging in cognitive elaboration, it also relates to the motivational aspect of central route processing within the ELM (Haugtvedt & Petty, 1992). It was reasoned that participants in the present study who had a relatively higher need for cognition might be
more likely to engage in cognitive elaboration regardless of the experimental condition to
which they were assigned. Thus, because this factor may differentially affect participants’
processing of metaphorical advice, it was assessed in a preliminary analysis.

Need for affect. Need for affect (Maio & Esses, 2001) refers to an individual’s
belief in the desirability of emotions and the need to experience them. A high need for
affect suggests a desire to approach emotional situations, understand the emotions of self
and others, and the use of emotions to make decisions and judgments. The need for affect
has been related to attitudes that are based on affective information (Haddock &
Huskinson, 2004). Haddock, Maio, Arnold, and Huskinson (2008), for example, found
that individuals who were high in need for cognition were more influenced by
cognitively-based arguments, whereas individuals who were high in need for affect were
more influenced by affect-based arguments.

Because metaphor use in therapeutic situations can elicit semantic memory
structures (e.g., Gentner, 1983) that involve both cognitive and affective components, it
was reasoned that in the present study, participants’ individual differences in terms of
need for affect could influence their responses, since the therapist was advising the client
to explore and express emotions. That is, participants who have a relatively greater need
for affect may be persuaded because the advice contains a strong emotional element. In
contrast, those with higher levels of emotional avoidance may be more persuaded by the
advice because they could personally relate to the presenting problem. Therefore, need
for affect was assessed in the preliminary analysis.

Reactance. The term psychological reactance originally referred to situation-
specific motivation to restore a perceived loss of personal freedom (Brehm, 1966). That
is, when a threat exists, individuals act to restore this freedom, either by direct or indirect oppositional behavior. Although Brehm’s (1966) original conceptualization referred to situational rather than dispositional reactance, subsequently Brehm, and other authors, argued that reactance is primarily a trait or dispositional characteristic of individuals (Beutler, 1983; Brehm & Brehm, 1981; Dowd et al., 1991).

Much of the research on dispositional reactance has focused on its therapeutic implications. Reactant clients are described as oppositional, they tend to miss more appointments, terminate sooner, and report relatively less satisfaction with therapy (Dowd et al., 1991). According to Courchaine and Loucka (1995), reactant clients may perceive the therapeutic process as a threat to individual freedom. Supporting this reasoning, participants in an analogue study who scored higher on a measure of psychological reactance perceived the therapist less favorably and rated the working alliance lower (Courchaine & Loucka, 1995). Theoretically, a person who is high in psychological reactance may try to control events, rather than be controlled, resisting influence by a therapist (Dowd & Wallbrown, 1993).

Psychological reactance has also been associated with attitude change in social psychology. Petty and Cacioppo (1986) suggested that reactance plays a role in reducing the persuasiveness of arguments because it results in more counterarguments. Dillard and Shen (2005) found that reactance mediated the relation between a persuasive health communication (the importance of dental flossing) and attitude change (positive ratings of the message). The authors also varied the degree of the threat to freedom in the messages (i.e., the use of more forceful, directive language). It was found that reactance
proneness, threat to freedom, and the interaction of these two variables were related with relatively less positive attitudes about the message.

In the context of social influence theory in psychotherapy, Strong and Matross (1973) argued that resistance results from the “act of requesting change” (p. 26), and that the therapist’s credibility (expertness, attractiveness, and trustworthiness) tend to lower a client’s resistance to change. In support of this view, Bischoff and Tracey (1995), using archival therapy data, found that directive behavior by the therapist was related to client resistance.

Because an individual’s level of psychological reactance appears to have an impact on the persuasiveness of messages, and because reactance or opposition may be stimulated when receiving advice in particular, this individual difference factor was assessed in the preliminary analysis.

**Summary**

A review of the clinical literature suggests that metaphor is a frequent and useful tool in psychotherapy (Houser, Feldman, Williams, & Fierstien, 1998; Lenrow, 1966; Rasmussen & Angus, 1996). Much of the literature points to the ability of metaphor to structure and communicate internal psychological experiences that are otherwise difficult to express (e.g., Clarke, 1989). The use of metaphor as a social influence strategy has received attention in psychotherapy research, but studies to date have failed to distinguish between influence due to the message itself and influence due to characteristics of the messenger. Studies that investigated the message content (e.g., Donnelly & Dumas, 1997) have used dependent variables such as helpfulness, which were not guided by theory.
However, the use of metaphor as a persuasive tactic has received considerable attention in the literature on social psychology (Ottati et al., 1999), communication (Sopory & Dillard, 2002), and consumer behavior (Roehm & Sternthal, 2001). In general, studies suggest that metaphor influences attitudes because it leads to better organization and greater elaboration of the message. Nonetheless, it has yet to be established whether metaphor facilitates this type of cognitive processing better than literal language, regardless of the peripheral cues that are present.

Strong’s (1968) social influence model of psychotherapy holds that influence is accomplished through verbal interventions but facilitated through the client’s positive perceptions of the therapist’s characteristics. This model is similar to the ELM (Petty & Cacioppo, 1981), in which peripheral processing relates to therapist characteristics, and central processing to the verbal intervention. Because previous research on metaphor and persuasion suggests that metaphors tend not to prompt more favorable ratings of the source (or messenger), it is possible that the persuasive effects of metaphor may be uniquely due to the message itself. However, because no previous studies on metaphor use in psychotherapy included perceptions of the source as a predictor variable, it is unclear how favorable impressions of the therapist independently or jointly contribute to the persuasive effect of metaphor in psychotherapy. In addition, whereas previous research has found that metaphor use in psychotherapy can make interventions more memorable, and can organize the information, no previous study has specifically investigated central route processing as a potential mechanism for these outcomes.

In the present study, the term persuasion was considered synonymous with attitude change. McNeill and Stoltenberg (1989) suggested that attitude change is the
assumed goal of therapy, which is a persuasive social context (Strong, 1968). Verbal interventions in psychotherapy are the mechanisms by which attitudes are changed (Claiborn, 1979; Strong & Matross, 1973). In the present study, the therapist’s goal was to change the client’s attitude about her presenting problem by advising her to look at her underlying emotions. Therefore, attitude change was operationalized as the reported impact of the therapist’s advice.

**Hypotheses**

The following hypotheses were tested:

1. Participants in the metaphor condition will report greater attitude change (i.e., advice impact) than those in the no-metaphor condition, independent of (a) the therapist’s perceived credibility, and (b) the participants’ individual differences (need for cognition, need for affect, and psychological reactance.)

2. Participants’ ratings of the therapist’s credibility (i.e., expertness, attractiveness, and trustworthiness) will be positively associated with self-reported attitude change (i.e., advice impact.)

3. Metaphor use will affect attitude change by way of greater central route processing. That is, greater cognitive involvement with the therapist’s advice will mediate the relation between metaphor use and attitude change (i.e., advice impact.)

Figure 1 displays Hypotheses I and III.
Note. A: Direct effect (Metaphor use predicting advice impact). B: Indirect effect (with ELMQ-CI scores as mediator).
Chapter III  

Method  

Participants  

A sample of 146 nonclinical adults was recruited to participate in “a research study on individual reactions to a psychotherapy session.” There were no inclusion or exclusion criteria other than age (minimum 18 years). The data for eight participants were excluded due to invalid responses (i.e., using “yes” rather than numeric choices, or giving the same response for all items), resulting in a final sample of 138.  

Participant Characteristics. As shown in Table 1, participants included 80 men (58%), 54 women (39%), 4 (no response), who ranged in age from 19 to 80 ($M = 44.50$ years, $SD = 12.99$) and self identified as Caucasian ($n = 89, 64$%), African American ($n = 44, 32$%), multiethnic ($n = 3, 2$%), and 2 (no response, 1%). The majority of participants (55%) reported being single; 27% were separated, divorced, or widowed, 13% were married, and 5% were single and living with a partner. Regarding the highest education level attained, 18 (13%) reported having a graduate degree, 21(15%) had a bachelor’s degree, 9 (6%) had an associate’s degree, 48 (35%) had some college or technical school, 36 (26%) had a high school diploma, and 6 (4%) had less than high school. Nearly half the participants (43%) reported having previously engaged in psychotherapy; of these, 60% reported over one year of therapy during their lifetime, and 35% had had more than three years.  

Power Analysis. In an a priori power analysis, the sample size was determined based on conventions that suggest minimum statistical power of .80 and an alpha level of
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*Note. N = 138.*
.05 (Cohen & Cohen, 1983). The effect size for the independent variable (metaphorical versus no metaphor) was estimated based on previous research on (a) metaphor and persuasion, and (b) metaphor in psychotherapy.

Specifically, in Sopory and Dillard’s (2002) meta-analysis, the use of metaphor in certain ways resulted in an adjusted mean effect size of $r = .31$, $R^2 = .09$. Previous studies of metaphor in psychotherapy (e.g., Donnelly & Dumas, 1997; Martin, 1992) reported moderate effect sizes ranging from $R^2 = .09$ to .18. With an $R^2 = .09$, i.e., a moderate effect size (Murphy & Myors, 2004), eight predictor variables, power of .80, and $\alpha = .05$, the power analysis indicated a minimum sample size of $N = 108$.

Power analysis was also used to estimate the sample size needed to test the hypothesis that cognitive elaboration would mediate the relation between metaphor use and advice impact. Although there has been no previous research on metaphor use and the ELMQ, Donnelly and Dumas (1997) reported a moderate effect size for the use of metaphor on participants’ ratings of a single item, i.e., the advice “is helpful because it makes it easier for the patient to understand the problem.” The few studies that used the ELMQ did not directly correlate scores on the measure with attitude change. However, Gilbert, Heesacker, and Gannon (1991), using items similar to those in the ELMQ (e.g., “…did you feel motivated to think carefully about the information presented?”, “…did you find the presentation easy to understand and follow?”, and “… did you evaluate the logic and accuracy of the arguments?”), found moderate to large effect sizes for these items on reported attitude change. Based on Fritz and MacKinnon’s (2007) recommendations regarding sample size in mediation designs, using bootstrap tests of mediation, a moderate direct path effect size, and estimates of moderate (i.e., $R^2 = .07$)
effect sizes for path $a$ (IV to mediator) and moderate to large effect sizes for path $b$
(mediator to DV), results indicated a minimal sample size of $N = 124$. Therefore, the
present sample ($N = 138$) was adequate to achieve a power of .80 with $\alpha = .05$.

**Design**

A between-groups analogue design was used, with participants randomly assigned
to experimental condition (metaphor versus no metaphor). The stimulus was a brief
videotaped vignette of a psychotherapy session that either did or did not contain a
metaphor preceding the therapist’s advice to the client (to explore her feelings more
deeply). Participants were asked to consider themselves in the role of the client and rate
the therapist’s credibility (i.e., expertness, attractiveness, and trustworthiness) on the
Counselor Rating Form-Short (CRF-S; Corrigan & Schmidt, 1983), which was the
second predictor variable. The criterion variable, advice impact, was operationalized as
the sum of the participants’ scores on four items from the Tasks Impact subscale of the
Session Impact Scale (SIS-TI; Elliott & Wexler, 1994). Participants’ scores on the
Elaboration Likelihood Model Questionnaire, Cognitive Involvement subscale (ELMQ-
CI; Heppner et al., 1995) served as the mediator variable.

If randomization failed to assign participants who had similar scores on the
individual difference variables to the two conditions, three variables were to be included
as covariates in the major analysis. These potential covariates were scores on (a) the
Need for Cognition Scale (NFCS; Cacioppo et al., 1984), (b) the Need for Affect Scale
(NFAS; Maio & Esses, 2001), and (c) the Therapeutic Reactance Scale (TRS; Dowd et
al., 1991). Participant gender, education level, and prior therapy experience were also
assessed in preliminary analyses for their potential inclusion as covariates.
In the final sample, 71 participants were in the experimental condition (i.e., metaphor), and 67 were in the control condition (no metaphor). The unequal sample sizes were the result of invalid data from two participants in the metaphor condition and six participants in the control condition. To determine if participants’ demographic characteristics differed significantly by experimental condition, $F$ tests were performed for age and education level, and chi-square tests were used for gender and previous psychotherapy (yes or no). Distributions of race/ethnicity and marital status characteristics (Table 1, p. 35) were visually examined.

Stimulus Materials

All participants viewed a 3.5-min role played videotape of a psychotherapy session in which two female doctoral students portrayed a therapist and a client (see Appendix A for the transcript). The video was constructed such that the camera focused directly on the therapist, with the back of the client in the foreground. This positioning was used to reduce error variance due to participants’ perceptions of the client’s appearance.

For the first part of the vignette, the video was identical in both conditions. The experimental manipulation occurred in the second part of the vignette, in which the therapist gave advice to the client. The client described her problem as having random outbursts of emotion, mostly anger. In the vignette, the therapist suggested to the client that her problem might stem from some deeper feelings that she was finding difficult to discuss, and that exploring these feelings might be helpful. This presenting problem was chosen because it is relatively general and common to therapy situations. To increase the
realism of the role play, most of the dialogue was unscripted but guided by specific content, such as key phrases, that the actors were asked to use.

Specifically, the client began by describing a party that she was planning, a topic that was not relevant to her emotional problem. The therapist then asked her to discuss the problem for which she was in therapy, i.e., outbursts of emotion, especially anger, that appear to “come out of nowhere” and eventually subside. In this section of the vignette, the client appeared to be struggling with exploring her feelings. The therapist then made a statement about how the therapy process works, including the need to explore emotions, which was met with some reluctance by the client. This reluctance was a salient aspect of the client’s presentation, so that the therapist’s subsequent advice to explore her feelings would be a clear prompt for the client to change her attitudes.

At this juncture, the experimental manipulation took place. In both conditions, the therapist began by explaining that therapy is the place to explore emotions, and that doing so could help the client solve her problem. In the metaphor condition (but not the control condition), the therapist began by saying, “It reminds me of having problems with a car…if you have problems with your radiator. Say your driving down the road, and all of a sudden your car starts to overheat, and it starts to shake and make different noises, and eventually it stops working. And you realize if you just get a little bit of water, and put a little bit of water in…it will work again.”

The car metaphor was chosen for several reasons. First, it is novel (i.e., not a part of everyday language), single (i.e., it is used only once), non-extended (i.e., it is not used throughout the session), and uses a familiar topic (car problems). These aspects reflect Sopory and Dillard’s (2002) conditions about the use of metaphor for persuasion. Second,
the overheating car is consistent with Lakoff and Johnson’s (1980) description of conceptual metaphor, i.e., human emotions can be understood within a conceptual framework of physical events, leading to phrases such as “boiling over,” “exploding,” and “breaking down.” Finally, the metaphor conformed to Long and Lepper’s (2008) description of a key metaphor, in that it depicted salient aspects of the client’s experience and presenting problem.

Based on the literature on metaphor and persuasion (e.g., Sopory & Dillard, 2002), metaphors appear to be most effective when used at the beginning of a persuasive message because they help the listeners organize subsequent information by triggering semantic associations and facilitating greater elaboration of the message. For this reason, the metaphor was introduced at the beginning of the speaking turn in which the therapist gave the client advice to explore her underlying feelings.

In both conditions the therapist explained that therapy would be helpful if the client is willing to invest the time and effort to explore her feelings. Overall, the advice was aimed at persuading the client to (a) learn something new, i.e., that outbursts may be related to deeper feelings, (b) increase her awareness of her feelings, (c) clarify the need for change, i.e., to solve the client’s problem with outbursts, and (d) explain to her how to work on the problem, i.e., by exploring her feelings in therapy.

The vignette ended at this point, i.e., before the client responded to the therapist’s advice. This timing was designed to avoid confounding the impact of the advice with knowledge of the client’s response to the intervention.
Instruments

Need for Cognition Scale. The Need for Cognition Scale (NFCS; Cacioppo et al., 1984; see Appendix B) is a brief, 18-item measure that assesses an individual’s tendency to engage in and enjoy effortful cognitive endeavors. This measure was selected because of its frequent use in social psychological studies involving persuasion and its relation to the ELM (Haugtvedt & Petty, 1992). Items include “I would prefer to solve complex to simple problems” and “I only think as hard as I have to” (reverse coded). Responses are rated on a 5-point scale, ranging from 1 = extremely uncharacteristic of you (not at all like you) to 5 = extremely characteristic of you (very much like you). Total scores are achieved by first reversing 9 of the items, then summing all items, resulting in a range of 18 to 90. Higher scores indicate a greater need for cognition. Cacioppo et al. (1984) reported an internal reliability \( \alpha = .90 \); Haddock, Maio, Arnold, and Huskinson (2008) reported \( \alpha = .84 \). Previous research has demonstrated a test-retest reliability of .88 (Sadowski & Gulgoz, 1992). The internal consistency reliability for the current sample was \( \alpha = .84 \).

Moderate positive correlations have been found between the NFC and measures of self-esteem and absorption (Osberg, 1987), as well as with curiosity (Olsen, Camp, & Fuller, 1984). Individuals who are high in NFC have been found to be more influenced by the quality of a persuasive message, with those low in NFC more influenced by peripheral cues (Haugtvedt & Petty, 1992). NFC has been established as a moderating effect on persuasion in numerous studies (e.g., Haddock et al., 2008).

Need for Affect Scale. The Need for Affect Scale (NFAS; Maio & Esses, 2001; see Appendix C) is a 26-item self-report measure that assesses the degree to which an
individual tends to approach or avoid emotion-inducing situations. The NFAS contains two subscales, Emotional Approach and Emotional Avoidance; total NFA scores are achieved by summing the two subscales. Total scores were used in the current study; potential range is -78 to 78.

Research suggests that the NFAS moderates the degree to which an individual is persuaded by messages that include affective content (e.g., Haddock et al., 2008). Sample items include, “I think it is very important to explore my feelings.” Responses are rated on a 7-point Likert scale, ranging from −3 (strongly disagree) to +3 (strongly agree). Total scores are achieved by reversing 13 items (e.g., “If I reflect on my past, I see that I tend to be afraid of feeling emotions.”) and summing the responses. Higher scores indicate a greater need for affect. The reverse-coded items also make up the Emotional Avoidance subscale of the measure, such that lower scores reflect higher levels of avoidance.

Maio and Esses (2001) reported internal consistency of $\alpha = .87$ for the total NFA scale, and Haddock et al. (2008) found similar results ($\alpha = .84$). The measure has shown test-retest reliability of .85 for periods ranging from 1 week to 2 months (Maio & Esses, 2001). Internal consistency for the current sample was $\alpha = .86$ for the total score.

Research has shown significant negative correlations between the NFAS and neuroticism (Maio & Esses, 2001). Positive correlations were reported between the NFAS and the extraversion, openness, and agreeableness facets of personality (Maio & Esses, 2001). Haddock et al. (2008) found that individuals who were higher in NFA tended to be more influenced by affectively-based messages than cognitively-based messages.
Therapeutic Reactance Scale. The Therapeutic Reactance Scale (TRS; Dowd et al., 1991; see Appendix D) is a 28-item, self-report measure that assesses psychological reactance on two dimensions, verbal reactance and behavioral reactance. However, because researchers noted that the subscales seem to be less reliable and valid than the total score (Seemann, Buboltz, Thomas, Sopor, & Wilkinson, 2005), the latter was used for the current study. The measure was selected because of its wide use in assessing clients’ reactions to therapists and therapeutic advice (e.g., Dowd & Wallbrown, 1993). Items include “I am very open to solutions to my problems from others” (reverse coded) and “I resent authority figures who try to tell me what to do.”

Responses were rated on a 4-point Likert scale, ranging from 1= strongly disagree to 4= strongly agree. Eight of the 28 items are reverse coded, and total scores can range from 28 to 112, with higher scores indicating greater psychological reactance. In Dowd et al.’s (1991) original sample, total scores were $M = 66.88$, $SD = 6.59$. The authors reported internal consistency reliabilities ranging from $\alpha = .75$ to $\alpha = .84$, and a test-retest reliability of $\alpha = .60$ over 3 weeks (Dowd et al., 1991). Buboltz, Donnel, and Thomas (2002) reported an internal consistency reliability $\alpha = .65$. Other studies have found adequate internal consistencies, ranging from $\alpha = .77$ to $\alpha = .91$ (Arnow et al., 2003; Baker, Sullivan, & Marszalek, 2003; Dowd & Wallbrown, 1993). The internal consistency reliability for the current sample was $\alpha = .66$.

Dowd et al. (1991) cited evidence of convergent validity, in that TRS scores were positively correlated with Rotter’s (1966) Internal Locus of Control Scale and negatively correlated with the K-scale of the Minnesota Multiphasic Personality Inventory (MMPI). Dowd et al. (1991) also reported divergent validity with the State-Trait Anxiety Inventory.
(Spielberger, Gorsuch, & Lushene, 1970) and the Beck Depression Inventory (Beck, 1972). As evidence of construct validity, Dowd et al. (1991) reported inverse correlations with clients’ expectancies for change and positive correlations with no-show rates for therapy sessions.

**Counselor Rating Form.** The short version of the Counselor Rating Form (CRF-S; Corrigan & Schmidt, 1983; see Appendix E) is a 12-item self-report scale that assesses perceptions of therapist credibility on three sub-scales: Expertness, Attractiveness, and Trustworthiness. The measure was selected due to its widespread use for assessing therapist influence, based on Strong’s (1968) model. The measure consists of four items per dimension, and can also be used to compute a total score, which was used in the current study. Participants were asked to rate their view of the therapist on items such as “sincere,” “expert,” “prepared,” and “honest.” Each item was rated on a 7-point scale, ranging from 1 = not very to 7 = very. Scores are achieved by summing the items, such that each subscale ranges from 4 to 28, and total scores range from 12 to 84. Higher total scores indicate perceptions of the therapist as more credible.

The short form of the CRF was developed from Barak and LaCrosse’s (1975) Counselor Rating Form, a 36-item self-report measure designed to measure the three therapist attributes. Research by developers of the short-form CRF (Corrigan & Schmidt, 1983) reported split-half reliabilities of .90 (expertness), .91 (attractiveness), and .87 (trustworthiness). Subsequent studies have found reliability coefficients of .94, .92, and .92, respectively, as well as .95 for the total scale (Tracey, Glidden, & Kokotovic, 1988). Internal consistency for the current sample was $\alpha = .91$. 

45
A factor analysis by Corrigan and Schmidt (1983) supported a three-factor model, with the three dimensions seen as related but independent. However, some authors (e.g., Ponterotto & Furlong, 1985) raised questions about the independence of the trustworthiness factor. Tracey, Glidden, and Kokotovic (1988) found that a two-level factor structure was most appropriate, with Expertness, Attractiveness, and Trustworthiness on the first level, and another level, “global positive evaluation,” based on total scores. These authors argued that the total score factor had a more sound structure than the three lower-level factors.

In Heppner and Claiborn’s (1988) review of the literature, research supported the relation between responses to the CRF-S and certain aspects of therapist credentials, verbal and nonverbal behaviors, and personal qualities. Other studies suggested a relation between CRF-S ratings and client improvement and symptom change (Grimes & Murdock, 1989). Heppner and Claiborn (1988) pointed out that the dimensions assessed by the CRF-S are related to the first stage of Strong’s (1968) model of social influence, in which the therapist establishes herself or himself as credible in the eyes of the client. Other authors argued that clients’ ratings of therapists on the CRF-S were specifically related to peripheral route processing (McNeill & Stoltenberg, 1989).

**Elaboration Likelihood Model Questionnaire.** The mediator variable was scores on a modified version of the Cognitive Involvement scale from the ELMQ (Heppner et al., 1995; see Appendix F), a 12-item self-report measure that was designed to assess the necessary components of central route attitude change. These components include (a) motivation to thoughtfully hear and evaluate the message, (b) ability to think about and understand the message, and (c) favorable thoughts about the quality of the
message. The ELMQ was selected because it is the only published measure that specifically assesses central-route processing based on the ELM. Sample items include, “To what extent did you find the presentation well organized and easy to follow?” and “During the presentation I was distracted from thinking about the topic.”

Because the ELMQ was originally designed to be used in a group psycho-educational setting, the wording was slightly altered for the present study to reflect an individual therapy context, i.e., “the presenter” was changed to “the therapist,” and “the presentation” was changed to “the therapist’s advice.” For example, the item “To what extent did you find the presentation well organized and easy to follow?” was changed to “To what extent did you find the therapist’s advice well organized and easy to follow?”

Although Heppner et al.’s (1995) initial factor analysis of the ELMQ suggested a single factor and internal consistency reliability of $\alpha = .83$, a subsequent study (Heppner, Neville, Smith, Kivlighan, & Gershuny, 1999) found that a two-factor solution best fit the ELMQ items. The authors reported an internal consistency reliability of $\alpha = .81$ for what they called the Cognitive Involvement (CI) factor (8 items), and $\alpha = .61$ for the Presentation Quality (PQ) factor (3 items). Subsequent research (Orchowski, 2006) confirmed a two-factor solution, with $\alpha = .78$ for the CI factor, and $\alpha = .56$ for the PQ factor. Items are rated on a 7-point Likert scale (0-6), with higher scores indicative of greater central route processing. Total scores range from 0 - 48 on the CI subscale and 0 - 18 on the PQ subscale.

In the current study, only the CI subscale was used for the mediation analysis for two reasons. First, this scale has shown higher levels of internal consistency, which is an important consideration when choosing an instrument to assess mediation (Frazier, Tix,
& Baron, 2004). Second, cognitive involvement seemed better suited than presentation quality for operationalizing the indirect effect of metaphor use on attitude change. In the current study, the internal consistency reliability for the CI scale was $\alpha = .84$.

Previous research found that participants who were exposed to an interactive drama scored significantly higher on the ELMQ than did those who viewed a didactic video (Heppner et al., 1995). In the same study, scores on the ELMQ were moderately correlated with the frequency of issue relevant thoughts generated in a thought-listing procedure. Heppner et al. (1999) reported that African-American participants exposed to a psychoeducational program designed to be culturally relevant scored significantly higher on the Cognitive Involvement scale than did participants in other conditions. Orchowski (personal communication, February 23, 2009) reported using the ELMQ Cognitive Involvement scale to assess the effectiveness of sexual assault risk reduction programs.

**Session Impact Scale.** The 5-item Task Impacts subscale from the Session Impacts Scale (SIS-TI; Elliott & Wexler, 1994) was adapted for the proposed study to operationalize attitude change (see Appendix G). The SIS is a brief, 15-item self-report measure designed to assess the impact of therapeutic events in a session on a client. Task Impacts, one of three subscales, refers to the client’s perceptions of events in the session that focused on his or her presenting problem. The other two subscales are Relationship Impacts, which refers to positive feelings about the therapist, and Hindering Impacts, which refers to negative perceptions of the session that undermine the therapy process. The items from the SIS (Elliott & Wexler, 1994) Task Impacts subscale were chosen because of the scale’s utility and evidence of its validity, that is, the items assess attitude
change in a therapy context and include aspects of cognition, emotion, and behavioral intentions.

The four items used from the TI scale were, “Realized something new about myself,” “More aware of or clearer about feelings or experiences,” “Definition of problems for me to work on,” and “Progress toward knowing what to do about a problem.” Original SIS items used the opening stem “As a result of the session...” In the current study, the phrase “Based on the therapist’s advice” preceded the above items, in order to focus participants’ attention on the experimental manipulation. (The fifth SIS item, “Realized something new about someone else” was omitted because this item was irrelevant to the content of the video vignette used in the study.)

Each item is rated on a 5-point Likert scale, with 1 = not at all true, 2 = not very true, 3 = neutral, 4 = somewhat true, and 5 = very true. Total scores were achieved by summing the four items, resulting in a range of 4 – 20. Elliott and Wexler (1994) reported internal consistency on the Task Impact subscale of $\alpha = .84$. The internal consistency reliability for the current sample, using only the 4 items, was $\alpha = .75$.

Elliott and Wexler (1994) reported that 40% - 50% of the variance in SIS scores was related to session-specific factors, with no significant sequential effects across sessions. These findings suggested that the measure is well suited to assessing discrete events within a single session. Mallinckrodt (1994) stated the SIS is best viewed as a “content-specific measure of change in a client’s way of thinking and feeling about presenting problems...” (p. 187). Mallinckrodt (1994) also suggested that the SIS could be well suited to assess perceptions of a specific change event in therapy.
Demographic questionnaire. A demographic questionnaire (see Appendix H) was included to describe the sample and obtain information for the potential covariates. Participants were asked to provide their, age, race/ethnicity, education level, and marital status.

Pilot Study

A pilot study was conducted to assess the validity of the experimental manipulation and the realism of the therapist and the therapy vignette. In addition, the internal consistency of the modified SIS and the modified ELMQ Cognitive Involvement scale were assessed.

The stimulus videotapes were previewed by a convenience sample of 10 volunteer Ph.D. students in counseling and clinical psychology. Half of the participants viewed the metaphor condition, and the other half viewed the no metaphor (control) condition. After viewing the videos, the volunteers completed the ELMQ-CI and the SIS-TI scales.

In response to the question, “Did the therapist give advice to the client?”, seven of 10 participants responded “yes.” However, in responding to the open-ended question “What was the advice,” nine of 10 participants correctly identified the advice as intended (i.e., that the client needed to pay more attention to her feelings), and one participant wrote that the therapist was “summarizing the client’s problem.” In response to the question, “Did the therapist use a metaphor to give advice?”, all participants in the metaphor condition responded “yes.” In the no metaphor condition, two participants responded “no,” two responded “not sure,” and one responded “yes.” However, in subsequent discussion with these two participants, they indicated not having remembered a metaphor but were not certain, and the participant who responded “yes” stated that he
could not remember a metaphor but assumed that he must have missed it. Supporting the validity of the manipulation, all five participants in the metaphor condition recognized the metaphor; appropriateness of the metaphor for the problem being discussed (on a 5-point scale, from “not at all” to “very much”) was rated $M = 4$ by these five participants.

Using a 5-point scale (from “not at all” to “very”), the ten pilot participants rated the therapist favorably on the dimensions of realism ($M = 4.5$, $SD = .53$), empathy ($M = 3.9$, $SD = .88$), and skill ($M = 3.8$, $SD = .63$). These results were within the expected limits.

Overall, the pilot test findings suggested that the therapist appeared genuine, the experimental conditions differed only in the use of a metaphor, the metaphor was seen as appropriate to the client’s problem, and the same advice was perceived in both conditions.

Participants were also asked for general feedback regarding the experimental manipulation. Several participants stated that it would have been helpful to have received some basic information about the client and the session beforehand, i.e., the nature of client’s presenting problem and the number of previous sessions. This information was thus included in the final procedure.

The internal consistency of the four SIS-TI items and the ELMQ-CI were also assessed. The internal consistency for the SIS-TI was $\alpha = .82$, with $M = 12.1$, $SD = 3.9$. For the ELMQ-CI, $\alpha = .49$; $M = 29.8$, $SD = 5.2$. An item analysis of the ELMQ-CI scale revealed that item six, “To what extent did you find it difficult to concentrate on the therapist’s advice?” (0 = not at all difficult to 6 = very difficult) was negatively correlated with the other seven items on the scale. When this item was removed, the alpha for the
remaining items became .81. Based on these findings, and the reasoning that this item would be more consistent with the other items by reversing its valence, the item was reverse coded, which resulted in $\alpha = .84$ for the 8-item scale.

**Procedure**

Volunteers aged 18+ were recruited for “a research study on individual reactions to a psychotherapy session.” Flyers were posted on community bulletin boards (in coffee shops, restaurants, laundromats, etc.), and advertisements appeared in a free community newspaper. To encourage participation, volunteers were offered an incentive of $20.

Volunteers contacted the investigator by telephone and were given a date, time, and location for participation. Volunteers left initials to identify them when they arrived. Participants were told that the study did not involve actual psychotherapy.

Volunteers participated in the study in small groups of no more than eight. Participants were randomly assigned to either the metaphor or no metaphor condition by alternating the condition for each group in sequence. When one or the other group had more than five completed protocols than the other, that condition was run again until the number of participants in the two groups was approximately even.

Participants were asked to sign a consent form (see Appendix I) indicating that participation was voluntary and confidential, and that they could withdraw at any point. Key aspects of the consent form were also read aloud, and the forms were collected separately from the questionnaires. They were told that their participation would take approximately 30-45 minutes.

After completing the demographic questionnaire and the TRS, NFAS, and NFCS, participants were given a written introduction to the video vignette (see Appendix J),
which was also read aloud by the investigator. In this introduction, participants were told
the duration of the vignette, that it involved a therapy session and was the client’s second
session. A brief summary of the client’s presenting problem and her reluctance to discuss
her emotions was given. These instructions were given to help participants understand the
context of the vignette, as recommended by participants in the pilot study. The
participants were also instructed to put themselves in the place of the client, that is, to
imagine that they had a similar problem and were seeing the therapist for help.

After viewing the video, participants completed the SIS-TI, CRFS, and the
ELMQ-CI. The SIS-TI was given first to assess the impact of the advice before the
participants considered the therapist’s credibility or cognitive involvement with the
advice. The ELMQ-CI was given last in order to allow the greatest amount of time, given
the constraints of the procedure, between the stimulus and the report of cognitive
involvement. After completion of the measures, participants were debriefed about the
purpose of the study, i.e. the persuasive effects of metaphor. They were thanked for their
participation and paid $20 each.

Hypotheses

The following three hypotheses were tested:

(1) Experimental condition will account for a significant unique proportion of the
variance in self-reported advice impact, such that participants in the metaphor
condition will report significantly higher SIS-TI scores than participants in the
no metaphor condition.

(2) Reported therapist credibility, as measured by CRF-S scores, will account for
a significant unique proportion of the variance in advice impact, such that
participants who rate the therapist as significantly more credible will report more favorable scores on the SIS-TI, i.e., advice impact.

(3) The relationship between experimental condition and advice impact will be at least partially mediated by self-reported cognitive elaboration of the therapist’s advice. That is, metaphor (as opposed to no metaphor) will be associated with higher scores on the ELMQ-CI (cognitive elaboration), which in turn will be associated with more favorable scores on the SIS-TI.

Analysis

In preliminary analyses, the internal consistencies of all measures were determined. The means and standard deviations of the major variables were computed, and skewness and kurtosis values were examined to evaluate the normality of the distributions. Regression diagnostics were performed, including an examination of standardized predicted values and standardized residuals in the regression model, to determine if transformation of SIS-TI scores was necessary. Zero-order correlations between all variables were computed; potential covariates (age, education, gender, previous therapy; TRS, NFCS, and NFAS scores) that were not significantly associated with the experimental condition would not be used in the major regression analyses.

A multiple regression equation, with $\alpha = .05$, was used to test Hypotheses I and II. The criterion variable was SIS-TI scores. Hierarchical regression would be used if any of the potential covariates were included (see design section, p. 38). The covariates, if required, would be entered first as a block into the regression equation as step 1, (Cohen & Cohen, 1983). Scores on the CRF-S would be entered as step 2, and experimental condition (metaphor versus no metaphor) as step 3. The significance of the full model,
and the incremental $F$ tests ($R^2$ change) and beta weights for experimental condition (Hypothesis I) and CRF-S (Hypothesis II) were to be examined. A significant $R^2$ change and beta weight for experimental condition would support Hypothesis I; a significant $R^2$ change and beta weight for the CRF-S would support Hypothesis II.

If no covariates needed to be included in the regression model, a single simultaneous regression would be computed. Tests of the beta weights for the two predictors (experimental condition and CRF-S scores) would determine whether the first two hypotheses were supported.

Hypothesis III was designed to be a test of the indirect effect of the proposed mediator, ELMQ-CI scores, on reported advice impact. According to Baron and Kenny (1986), four criteria must be met to establish a significant mediation effect. First, there must be a significant relation (path $c$) between the predictor variable (in this case, experimental condition) and the criterion variable (SIS-TI scores). (If Hypothesis II was supported, i.e., the association between therapist credibility, CRF-S, and SIS-TI, then the CRF-S scores would be covaried in the test of path $c$). Second, the predictor variable must be significantly related to the mediator variable (ELMQ-CI scores; path $a$). Third, the mediator variable must be significantly related to the criterion variable (SIS-TI scores; path $b$). Fourth, the strength of the relation between the predictor and the criterion variables (path $c'$) must be significantly reduced when the mediator is added to the model. The significance of the indirect effect would be tested in an additional step using the bootstrapping methods described in Mallinckrodt, Abraham, Wei, and Russell (2006). The above model is displayed in Figure 1 (p. 33).
If path $c$ was found to be significant, the second step would be to test the relation between the predictor and the mediator (path $a$) by regressing ELMQ-CI scores on metaphor use. (If the test of Hypothesis II showed significant unique variance accounted for by therapist credibility, then the test of path $a$ would include CRF-S as a covariate.) For the third step, a simultaneous regression analysis, with SIS-TI scores regressed on metaphor use and ELMQ-CI scores simultaneously, would be performed. Baron and Kenny’s (1986) third criteria for mediation would be met if there were a significant relation between SIS-TI scores and ELMQ-CI scores (path $b$), and if the relation between metaphor use and SIS-TI scores (path $c$) was no longer significant when ELMQ-CI scores were entered in the equation (path $c'$).

Finally, if all of these criteria were successfully met, the significance of the indirect effect would be tested using a bootstrapping procedure. This approach has been recommended when relatively small sample sizes are used (Mallinckrodt et al., 2006). The procedure involves determining a mean estimate of the indirect effect ($\beta$), derived from a large sampling distribution (sampling with replacement) of the cross-product of paths $a$ and $b$, a standard error statistic, and a 95% confidence interval for the mean indirect effect. If the confidence interval did not include 0, the indirect effect, i.e., the mediation of central route processing on the relation between metaphor use and advice impact, would be considered significant.
Chapter IV

Results

In this chapter, the results of the preliminary analyses are presented first, including the regression diagnostics, followed by the tests of the hypotheses, the additional analyses, and a summary. The Statistical Package for the Social Sciences (SPSS: version 10.0.7, 2000) was used to analyze all data.

Preliminary Analyses

Missing values. Due to blank responses in some survey responses, missing values were replaced with series mean values in order to increase the power of the regression analysis. Based on Downey and King (1998), this procedure appeared warranted because the missing values appeared random, and accounted for fewer than 1% of all responses, and fewer than 5% of respondents. That is, Downey and King suggested that mean substitution can be used when the missing values account for fewer than 20% of (a) the items, (b) the number of items missing in each scale, and (c) the number of respondents with missing values. The present data were well within all three of these criteria.

Descriptive statistics. The means, standard deviations, internal consistencies, skewness and kurtosis values, and intercorrelations for the major variables are presented in Table 2. Three of the measures, the CRF-S, ELMQ-CI, and SIS-TI, showed a moderate degree of negative skewness, and the TRS showed a moderate positive kurtosis. However, examination of the regression diagnostics, discussed below (and presented in Appendices K, L, and M), suggested that the data demonstrated an acceptable level of normality.
Table 2
Intercorrelations, Descriptive Statistics and Internal Consistency Reliabilities of the Major Variables: Total Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>CRF-S</th>
<th>ELMQ-CI</th>
<th>SIS-TI</th>
<th>NFCS</th>
<th>NFAS</th>
<th>TRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRF-S</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELMQ-CI</td>
<td>.66**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIS-TI</td>
<td>.45**</td>
<td>.47**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFCS</td>
<td>-.18*</td>
<td>-.10</td>
<td>-.32**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFAS</td>
<td>.05</td>
<td>.01</td>
<td>-.05</td>
<td>.20*</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>TRS</td>
<td>.02</td>
<td>.10</td>
<td>.03</td>
<td>.27**</td>
<td>-.11</td>
<td>--</td>
</tr>
</tbody>
</table>

| M        | 63.21 | 31.70  | 13.51  | 62.37| 14.10| 71.28|
| Skewness | -0.66 | -0.55  | -0.79  | -0.07| -0.11| 0.17 |
| Kurtosis | 0.24  | 0.16   | 0.55   | -0.19| 0.07 | 1.16 |
| α        | .91   | .84    | .75    | .84  | .86  | .66  |

*Note. N = 138. CRF-S = Counselor Rating Form- Short Version (Corrigan & Schmidt, 1983); ELMQ-CI = modified Elaboration Likelihood Model Questionnaire- Cognitive Involvement scale (Heppner et al., 1995); SIS-TI = modified Session Impact Scale-Task Impacts subscale (Elliott & Wexler, 1994); NFC = Need for Cognition Scale (Cacioppo et al., 1984); NFAS = Need for Affect Scale (Maio & Esses, 2001); TRS = Therapeutic Reactance Scale (Dowd et al., 1991). *p < .05. **p < .01.*
The intercorrelations showed significant relations between the three major measured variables, CRF-S and ELMQ-CI, \( r = .66, p < .001 \); ELMQ-CI and SIS-TI, \( r = .47, p < .001 \); CRF-S and SIS-TI, \( r = .45, p < .001 \). The correlation between experimental condition and the CRF-S was not significant, \( r = -.11, p < .09 \). Of the three individual difference measures (NFCS, NFAS, TRS), only NFCS scores correlated significantly with any of the three major variables. That is, the bivariate correlation between NFCS and SIS-TI was \( r = -.32, p = .001 \), indicating that, across conditions participants with a lower reported need for cognition reported a greater session impact. The bivariate correlation between NFCS and CRF-S scores was \( r = -.18, p = .035 \), indicating that across conditions, participants with a lower reported need for cognition rated the therapist as more credible. Because the latter effect size was small (\( R^2 = .03 \)), and there was no clear understanding of these findings, it was decided to not include NFCS scores as a covariate if randomization resulted in equivalence of NFCS in the two experimental conditions (reported below).

**Present scores in relation to previous research.** The means and standard deviations for the scores on the measures of therapeutic reactance (TRS) and need for cognition (NFCS) were generally consistent with previous research. The mean score for the NFCS was 62.37 (\( SD = 11.56 \)); previous researchers have found similar mean scores across a variety of samples, including undergraduate students (\( M = 65.3 \), no \( SD \) reported; Haugtvedt & Petty, 1992), Hispanic college students (\( M = 60.28, SD = 8.82 \); Culhane, Morera, & Hosch, 2004), and business managers in India (\( M = 65.75, SD = 8.92 \); Unnikrishnan Nair & Ramnarayan, 2000). For the TRS, the current sample’s average score, \( M = 71.28, SD = 6.99 \), was higher than in Dowd et al.’s (1991) original sample (\( M \)
= 66.88; $SD = 6.59$). However, in a subsequent study in which the participants were more similar in terms of gender and ethnicity to those in the current study, TRS scores were similar, $M = 70.7$, $SD = 7.3$ (Buboltz, Donnel, & Thomas, 2002).

In the current sample, scores on NFAS were notably lower, $M = 14.10$, $SD = 21.59$, than scores reported by Maio and Esses (2001), $M = 25.20$, $SD = 18.95$. Emotional Avoidance subscale scores in the current sample, $M = 1.77$, $SD = 16.18$, were somewhat higher compared to those in Maio and Esses, $M = -9.24$, $SD = 12.57$. Emotional Approach subscale scores in the current sample, $M = 12.33$, $SD = 11.86$, were slightly lower than in Maio and Esses, $M = 15.85$, $SD = 10.38$.

Total scores for the CRF-S, $M = 63.21$, $SD = 11.63$, were consistent with previous findings using analogue designs. Priester et al. (2007), for example, reported $M = 56.96$, $SD = 9.70$, and other authors reported $M = 65.65$, $SD = 10.40$ (Hackett, Enns, & Zetser, 1992), and $M = 67.00$, $SD = 10.40$ (Morran et al., 1994). It should be noted that previous researchers did not provide mean scores for the ELMQ-CI scale, and comparisons could not be made with the SIS-TI scale because it was altered in the current study (by dropping one item).

**Participant characteristics by experimental condition.** To determine if, despite random assignment, participants’ demographic characteristics differed significantly by experimental condition, $F$ tests were performed for age and education level and chi-square tests were used for gender and previous psychotherapy (yes or no). Distributions of ethnicity and marital status characteristics (Table 1, p. 35) were visually examined. Results showed no significant differences by condition: age $F(1, 136) = 1.80$, $p = .18$;
education $F(1, 136) = .03, p = .86$; gender $\chi^2(2) = .08, p = .96$; previous therapy $\chi^2(2) = 2.07, p = .36$ (see Table 3).

To determine whether the measured individual difference variables should be included in the regression models as covariates, three one-way analyses of variance (ANOVAs) were performed, with experimental condition as the independent variable and scores on the TRS, NFCS, and NFAS as dependent variables. These results are also summarized in Table 3, which includes the means and standard deviations by experimental condition on these variables.

The nonsignificant results for the demographic characteristics and the NFCS, NFAS, and TRS by experimental condition indicated that randomization resulted in equivalence on all of these factors. Thus, none was included as a covariate in the major analyses.

**Regression diagnostics.** Normality assumptions were examined by plotting standardized predicted values and standardized residuals in the regression model in which the SIS-TI scores constituted the criterion variable. The histogram in Appendix K shows that the standardized residuals were somewhat negatively skewed but approximated a normal distribution. Appendix L shows the observed cumulative probability data plotted against the expected data; the observed data were close to the predicted data, suggesting a normal distribution for the SIS-TI scale. In Appendix M, the scatterplot of predicted standardized values and standardized residuals shows that the points were fairly evenly distributed around the mean, again suggesting normally distributed data. For this reason, no transformation of SIS-TI scores was considered necessary.
Table 3

Means and Standard Deviations of the Demographic and Measured Individual Difference Variables by Experimental Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>Metaphor M</th>
<th>Metaphor SD</th>
<th>No Metaphor M</th>
<th>No Metaphor SD</th>
<th>F(1, 136)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>45.94</td>
<td>12.86</td>
<td>42.99</td>
<td>12.96</td>
<td>1.80</td>
<td>.18</td>
</tr>
<tr>
<td>Education</td>
<td>5.07</td>
<td>1.81</td>
<td>5.01</td>
<td>1.92</td>
<td>0.03</td>
<td>.86</td>
</tr>
<tr>
<td>NFCS</td>
<td>63.36</td>
<td>11.31</td>
<td>61.32</td>
<td>11.81</td>
<td>1.07</td>
<td>.30</td>
</tr>
<tr>
<td>NFAS</td>
<td>13.58</td>
<td>22.31</td>
<td>14.65</td>
<td>20.96</td>
<td>0.08</td>
<td>.77</td>
</tr>
<tr>
<td>TRS</td>
<td>71.10</td>
<td>6.57</td>
<td>71.48</td>
<td>7.45</td>
<td>0.10</td>
<td>.75</td>
</tr>
</tbody>
</table>

*Note. N = 138. Metaphor, n = 71; no metaphor, n = 67. Education level was coded as 1 = middle school, 2 = some high school, 3 = high school, 4 = technical school, 5 = some college, 6 = associate’s degree, 7 = bachelor’s degree, 8 = graduate degree. NFC = Need for Cognition Scale (Cacioppo et al., 1984); NFAS = Need for Affect Scale (Maio & Esses, 2001); TRS = Therapeutic Reactance Scale (Dowd et al., 1991).
Tests of Hypotheses I and II

To test the first two hypotheses, a simultaneous regression analysis was performed. (Hierarchical regression was not used because no covariates were included in the model and there were only two predictor variables). That is, SIS-TI scores were regressed on experimental condition (no metaphor = 0, metaphor = 1) and the CRF-S. As shown in Table 4, this regression model was significant, $F(2, 135) = 16.97, p < .001, R^2 = .20$, indicating that experimental condition and perceived therapist credibility jointly predicted advice impact.

Examination of the beta weights showed that experimental condition ($\beta = .01, t = .03, p < .10$) accounted for no significant unique variance in SIS-TI scores. Therefore, Hypothesis I was not supported. On the other hand, CRF-S scores did contribute a significant unique proportion of variance, .20, to the equation. The value of the beta weight, $\beta = .45, t = 5.80, p < .001$, indicated that reported therapist credibility was significantly associated with greater advice impact. The semipartial correlation was .45. This result supported Hypothesis II.

Test of Hypothesis III

In the first step of the mediation analysis, the direct path ($c$) was examined. As mentioned above, when SIS-TI scores were regressed on experimental condition, the result was nonsignificant, $\beta = .01, t = .03, p < .10$. However, due to the significant bivariate correlations that emerged in the preliminary analysis between ELMQ-CI (the mediator) and SIS-T ($r = .47, p < .01$), it was decided to assess the two other paths ($a$ and $b$) in the mediation model.

According to Frazier, Tix, and Barron (2004), there is some controversy about
Table 4

**Regression Analysis: Tests of Hypotheses I and II**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>Semipartial r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental condition</td>
<td>1.44</td>
<td>.53</td>
<td>.01</td>
<td>.03</td>
<td>.10</td>
<td>.00</td>
</tr>
<tr>
<td>CRF-S</td>
<td>.13</td>
<td>.02</td>
<td>.45</td>
<td>5.80</td>
<td>.01</td>
<td>.45</td>
</tr>
</tbody>
</table>

*Note. N = 138. Experimental condition = metaphor (1) versus no metaphor (0). CRF-S = Counselor Rating Form, Short Version total score. F(2, 135) = 16.97, p < .001, R² = .20.*
Baron and Kenny’s (1986) requirement for a significant direct effect (path c) in step one of a mediation analysis (e.g., Shrout & Bolger, 2002), particularly when the independent variable is an experimental manipulation. Frazier et al. (2004) noted that additional, unknown and unassessed mediators may influence the magnitude of path c, especially in treatment studies in which the intervention has multiple effects on the participants. Based on this reasoning, examination of paths a and b were undertaken, although interpretation of the results in terms of mediation could not be made.

Figure 2 shows the unstandardized regression coefficients for paths a and b, the relation between experimental condition, ELMQ-CI and SIS-TI scores. First, in the analysis of path a, ELMQ-CI scores were regressed on experimental condition (no metaphor = 0, metaphor = 1). CRF-S scores were included as a covariate due to the significant relation between CRF-S and ELMQ-TI ($r = .66$, $p < .01$). As seen in Table 5, this regression model was significant, $F(2, 135) = 57.41$, $p < .001$, $R^2 = .46$, indicating that experimental condition and perceived therapist credibility significantly predicted reported cognitive involvement. Examination of the beta weights showed that experimental condition ($\beta = .16$, $t = 2.51$, $p < .01$, semipartial $r = .16$) accounted for significant unique variance in ELMQ-TI scores, over and above participants’ reported perceptions of the therapist’s credibility. The valence of the beta weight indicated that metaphor use (rather than no metaphor use) was associated with significantly greater cognitive involvement.

Second, in the analysis of path b, SIS-TI scores were regressed on ELMQ-CI scores, again with CRF-S scores covaried. This regression model also was significant, $F(2, 135) = 22.96$, $p < .001$, $R^2 = .25$, indicating that ELMQ-CI and perceived therapist
Figure 2

Test of the Hypothesized Mediation Model

A. Experimental Condition \(\rightarrow\) SIS-TI
\[1.44 \ (0.53)\]
\[c\]

B. Experimental Condition \(\rightarrow\) ELMQ-CI
\[2.63^{**} \ (1.05)\]
\[a\]

ELMQ-CI \(\rightarrow\) SIS-TI
\[0.13^{**} \ (0.04)\]
\[b\]

Note. \(N = 138\). Experimental condition = metaphor (1) or no metaphor (0). A: Direct effect (Hypothesis I). B: Tests of paths \(a\) and \(b\). Scores on CRF-S were covaried in each regression. The depicted values are the unstandardized regression coefficients, with the standard errors in parentheses.

\(^{**}p < .01.\)
Table 5

**Regression Analysis: Test of Hypothesis III**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>Semipartial r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Condition (path a)</td>
<td>2.63</td>
<td>1.05</td>
<td>.16</td>
<td>2.51</td>
<td>.01</td>
<td>.16</td>
</tr>
<tr>
<td>ELMQ-CI (path b)</td>
<td>.13</td>
<td>.04</td>
<td>.31</td>
<td>3.09</td>
<td>.01</td>
<td>.23</td>
</tr>
</tbody>
</table>

*Note. N = 138. Path a: ELMQ-CI regressed on Experimental condition, with CRF-S scores as covariate. F(2, 135) = 57.41, p < .001, $R^2 = .46$. Path b: SIS-TI regressed on ELMQ-CI, with CRF-S scores covaried. F(2, 135) = 22.96, p < .001, $R^2 = .25$.**
credibility accounted for significant variance in reported advice impact. Examination of the beta weight showed that ELMQ-CI ($\beta = .31$, $t = 3.09$, $p < .01$, semipartial $r = .23$) accounted for significant unique variance in SIS-TI scores. The valence of this beta weight indicated that greater reported cognitive elaboration was associated with more favorable advice impact, over and above perceived therapist credibility.

The indirect effect (path $c'$, in Figure 1, p. 33) was not tested because the direct relation between experimental condition and session impact (SIS-TI) scores (path $c$) was nonsignificant. That is, in order to test the indirect effect, the strength of the relation between the predictor and the criterion variables (path $c'$) must be significantly reduced when the mediator is added to the model. In this case, there was no direct effect (path $c$) to compare with path $c'$.

**Summary**

Preliminary analyses indicated that scores on the study variables demonstrated adequate internal consistency reliabilities and that mean scores were consistent with previously published research using similar samples (excepting ELMQ-CI and SIS-TI, due to alterations in the measures). Because no significant differences emerged for experimental condition (metaphor versus no metaphor) on any of the demographic variables or the individual difference variables (need for cognition, need for affect, and therapeutic reactance), it was concluded that random assignment of participants to condition eliminated these factors as confounds. Thus, none of these variables was included as a covariate in the major regression analysis.

Because experimental condition did not account for significant variance in SIS-TI scores, Hypothesis I was not supported. However, scores on the CRF-S accounted for
significant and substantial unique variance ($R^2 = .20$) in SIS-TI scores, which supported Hypothesis II.

Because the direct effect (experimental condition on SIS-TI, path $c$) was nonsignificant, the indirect effect (path $c'$) was not tested. However, paths $a$ and $b$ were assessed for exploratory purposes. Results showed that experimental condition accounted for significant unique variance ($r^2 = .03$) in the ELMQ-CI scores (path $a$), indicating that metaphor use was associated with greater self-reported cognitive involvement. Moreover, ELMQ-CI scores accounted for significant unique variance ($r^2 = .05$) in SIS-TI scores (path $b$), indicating that greater cognitive involvement was associated with greater reported impact of the therapist’s advice.

Taken together, these results indicated that paths $a$ and $b$ were significant (controlling for therapist credibility) in the hypothesized direction, suggesting that the inclusion of the metaphor in this intervention may have led to greater cognitive elaboration, which in turn may have resulted in a more favorable impact. However, the lack of a main effect rules out the suggestion that cognitive elaboration mediates a relation between metaphor use and advice impact.
Chapter V
Discussion

The general purpose of the current analogue study was to investigate the use of metaphor as a specific mechanism of change in psychotherapy and to examine how this persuasive effect might take place. Based on the Elaboration Likelihood Model (Petty & Cacioppo, 1986), it was hypothesized that therapeutic advice that included a metaphor would be more persuasive (i.e., likely to change attitudes) than advice without a metaphor. This reasoning was supported by literature that applies the ELM to the context of psychotherapy (McNeill & Stoltenberg, 1989) and studies indicating that metaphors (a) help clients understand their problems and emotions (e.g., Blenkiron, 2005; Clark, 1989) and (b) facilitate attitude change (Sopory & Dillard, 2002).

It was further hypothesized that perceptions of the therapist’s credibility (expertness, attractiveness, and trustworthiness) would also contribute to attitude change, based on Strong’s (1968) model of social influence and psychotherapy. According to Strong, a therapist must first be perceived as credible before exerting influence on the client to make therapeutic changes. Although change results from interventions (usually verbal actions), these interventions only have an impact on the client if the therapist is seen as credible.

Finally, it was hypothesized that metaphor use would be persuasive because it leads to increased cognitive elaboration, or central route processing, consistent with the ELM (Petty & Cacioppo, 1986). This third hypothesis was based on literature suggesting that metaphors (a) facilitate the cognitive organization of a message (Sopory & Dillard,
The first hypothesis, that advice including a metaphor would be more persuasive than the same advice given without a metaphor, was not supported. That is, there were no differences in participants’ ratings of the impact of the advice based on the inclusion of a metaphor. However, mean scores on the SIS-TI ($M = 13.51$, $SD = 3.46$, potential range 4-20) suggested that, across conditions, the therapist’s advice was moderately powerful.

The second hypothesis was supported, however, in that reported perceptions of the therapist’s credibility were positively and substantially related to their ratings of advice impact. The third hypothesis was not supported. Although the use of metaphor significantly predicted participants’ reported cognitive involvement with the advice, and cognitive involvement predicted a more favorable impact of the therapist’s advice, the lack of a direct effect (metaphor use on advice impact) did not allow the indirect effect to be tested.

One of these findings was, however, consistent with ELM theory. That is, participants’ cognitive elaboration of the therapist’s advice, reflective of central route processing, led to greater attitude change, in this case the impact of the therapist’s advice. This finding is also consistent with the reasoning that metaphor use is effective because it stimulates central route processing.

**Implications for Theory**

The nonsignificant relation between metaphor use and attitude change, operationalized as advice impact, has several implications for theory. First, efforts to structure the metaphor in ways that have been found to maximize persuasion (e.g.,

2002), (b) make the content of a therapy session more memorable (Martin et al., 1992) and (c) help clients integrate new information (Blenkiron, 2005).
Sopory & Dillard, 2002), such as being placed at the beginning of the message, used only once, being novel, and so forth, were not sufficient in this analogue study to create attitude change. This finding suggests that other factors, such as the specific advice used in the vignette, may play a role. For example, the advice used by the therapist may have been so powerful that the metaphor did not enhance its persuasive effect. Alternately, the specific metaphor used in this study may not have been compelling to participants. As in any analogue study that uses a single manipulated intervention, despite strong internal validity, external validity is compromised. Replication with different metaphors is needed to conclude that metaphor use is not a specific mechanism of change. On the other hand, the significant finding that metaphor use was associated with greater cognitive elaboration suggests the possibility that it is not metaphor per se that influences attitude change in clients, but rather that metaphors may prompt greater cognitive involvement with the therapist’s intervention.

Consistent with the ELM (Petty & Cacioppo, 1986), greater cognitive involvement predicted a more favorable impact of the therapist’s advice. However, because there was no direct relation between metaphor use and session impact, the conclusion that central route processing mediates the relation between metaphor use and attitude change is at most speculation. It should be noted that according to the ELM, a person’s systematic consideration of a message does not itself imply attitude change. In other words, with central route processing, the quality of the argument is the ultimate catalyst for attitude change, whereas with peripheral route processing, the quality of the argument itself is less salient. Given that the present participants may have had a variety of reasons to find the therapist’s advice more, or less, compelling - such as their existing
attitudes about exploring their feelings in therapy (the advice given by the therapist) - replication is needed with other kinds of advice, as well as with other metaphors.

Support for the second hypothesis is consistent with the social influence model of psychotherapy (e.g., Strong, 1968) in that participants’ ratings of therapist expertness, attractiveness, and trustworthiness accounted for a significant and substantial proportion of variance (20%) in the impact of the advice. As Strong’s model suggests, participants who saw the therapist as credible were significantly more persuaded by the advice than participants who saw her as relatively less credible. This finding supports the contextual model of psychotherapy effectiveness (Wampold, 2001), which focuses on the importance of common factors such as the relationship between the therapist and client and the client’s adherence to therapeutic tasks. According to the contextual model, the repeated finding that different therapeutic approaches are equally efficacious is due to the fact that they all rely on common factors. In fact, cognitive elaboration could be seen as a common factor in therapy, because thinking more about a therapist’s intervention is likely to lead to greater engagement in the therapy process.

The significance test of path \( b \), in which CRF-S scores were covaried, supports the tenet in ELM that central route processing is persuasive. Results showed that scores on the ELMQ-CI accounted for substantial and unique variance in advice impact scores. In other words, in this study, central route processing accounted for attitude change when the variance attributable to peripheral route processing (i.e., therapist credibility) was controlled.

Several individual difference variables were assessed for potential inclusion as covariates, because previous research suggested that need for cognition, need for affect,
and therapeutic reactance may have an impact on persuasion. It was reasoned that if random assignment to experimental condition was effective, participants’ differences on these variables would not be confounding factors. Results showed no significant differences in participants’ reported levels of these variables based on experimental condition, and therefore they were not included in the final analyses.

One interesting finding, however, was that reported need for cognition was significantly and negatively related to participants’ ratings of the advice impact and the credibility of the therapist. In other words, participants who reported relatively less need for cognition tended to rate the therapist as more credible, and the advice as having greater impact on them.

Numerous ELM studies have suggested that individuals with a low need for cognition tend to be more influenced by peripheral cues, because they lack motivation to carefully scrutinize the message (e.g., Haugtvedt & Petty, 1992). Although an association between need for cognition and processing route was not hypothesized in this study, this ancillary finding is interesting, and warrants further study to determine the extent to which ELM research is applicable to a psychotherapy context.

**Strengths and Limitations**

In this analogue design, participants were asked to imagine themselves in the role of the client in a videotaped session in which the experimental manipulation was tightly controlled. Although such designs maximize internal validity, external validity is limited. First, the vignettes are much briefer than actual therapy sessions. Second, participants do not go through the steps involved in recognizing the need for help and seeking therapy, which tends to create feelings of anticipation, anxiety, or hope. Third, even if the
presenting problem used in this study were relevant for the participants, the procedure did not reflect the actual experience of discussing a problem that is personal and unique. Finally, participants were not actual clients, so that their ratings about the therapist and the advice impact were likely to be different from those made by actual clients. These factors, along with a potential social desirability bias, could well have influenced participants’ responses.

Given these limitations, the current design had several strengths. Results from the pilot study showed that the therapist was seen as realistic and empathic, and the actors in the video improvised most of the content to ensure as much realism as possible. The presenting problem was clearly defined, such that participants would be able to understand it in a brief period of time. Moreover, the pilot participants rated the advice in the two experimental conditions as equivalent, and the first half of the video was identical in both conditions. Pilot participants reported having recalled the metaphor, and they saw it as appropriate to the client’s presenting problem. It should be noted, however, that several participants in the pilot study were uncertain about whether they had heard a metaphor; it is possible that the metaphor manipulation used in this study was not strong enough to produce a greater advice impact than the literal advice language used in the control condition.

In order to design a stimulus that would be relevant to a wide variety of participants, the client’s problem (anger outbursts) and the therapist’s advice were somewhat generic. It is possible that this manipulation weakened the salience of the advice, compared to what might occur in an actual therapy session. The metaphor of a car problem was selected because it was assumed to be familiar to most participants;
however, this particular metaphor may not have been personally relevant for many participants. In addition, the advice involved encouraging the client to explore her deeper emotions. This advice was chosen because it is relevant for a wide range of psychosocial problems, but it may have been less compelling to some participants, thereby affecting its reported impact. Ultimately, external validity is limited to the presenting problem, specific metaphor, and advice used in the current design.

The study relied solely on self-report questionnaires, which present threats to internal validity due to social desirability, mono-method bias, and common method variance (Campbell & Stanley, 1966). The SIS-TI items used to assess attitude change were modified from the original scale. Although Elliott and Wexler (1994) suggested that the SIS subscales could be used separately for specific purposes, there is limited research that documents the psychometrics of the TI subscale when used independently. The use of the ELMQ is a further limitation; this measure has been used in few studies, has shown variability in its factor structure, and has never been applied to a therapy context. However, in both the pilot study and final sample, adequate internal consistencies were found for both measures. The TRS demonstrated the lowest internal consistency ($\alpha = .66$) among the measures used in the study, and if not specific to the current sample, may indicate that the construct of therapeutic reactance, as measured by the TRS, could be better operationalized.

Another potential limitation was the use of the modified SIS-TI items to measure the effects of persuasion. Research on persuasion often uses single item or brief measures that match the specific topic of a persuasive message (e.g., “Will you cut down on smoking?” when smoking cessation is the goal of the persuasive message). It was decided
that the SIS-TI items should be used to increase the generalizability of the results to other therapy contexts. Given the adequate psychometrics of the measure, its use was a strength of the current study.

The modifications to the SIS-TI, changing the item stem from “As a result of the session” to “Based on the therapist’s advice,” could also be considered a potential weakness. However, the finding that CRF-S scores were significantly related to the modified SIS-TI scores provides support for the validity of the modified scale.

The generalizability of the results from this study was also enhanced by the use of a community sample. Participants varied widely in age, a relatively large percentage were African American (32%), and a substantial percentage (56%) reported not having undergone therapy in the past.

Finally, the persuasion measure was administered shortly after the session, as a matter of procedural convenience. However, according to the ELM (Petty & Cacioppo, 1981), central route processing leads to attitude change that is more enduring than the peripheral processing of a message. Therefore, a final limitation is that the present design did not assess long-term attitude change, which is seen as a benefit of central route processing.

**Implications for Practice**

The results of the current study have both general and specific implications for practitioners. The finding that ratings of therapist credibility accounted for substantial unique variance in the SIS-TI underscores the importance of common factors (Wampold, 2001) to therapy outcomes. This finding is especially notable given that the SIS-TI items were focused on the specific intervention, i.e., each item began with “Based on the
therapist’s advice…” In other words, the results suggest that common factors have an impact on how clients respond to specific interventions, beyond a general sense of satisfaction or improvement.

In addition, the positive relation between cognitive elaboration of the therapist’s advice and the impact of the advice, over and above ratings of the therapist, suggests that how clients think about a therapist’s intervention may contribute to the impact it has on them. However, when considering the lack of a relation between metaphor use and advice impact, facilitating greater cognitive involvement about an intervention does not appear to necessarily result in greater impact.

Regarding metaphor use, the results suggest that while clinicians frequently use metaphors to influence clients (Houser et al., 1998), many factors may determine the effectiveness of these metaphors. The results do, however, suggest that increased cognitive elaboration may explain the mechanism by which metaphor use has an influence on clients, independent of clients’ perceptions of their therapists. This finding is consistent with Clarke’s (1989) creation of meaning research, in that even if a therapeutic intervention is focused on emotional content, the use of a metaphor may help the client to organize this information more effectively.

Directions for Future Research

The results of the current study suggest that the use of metaphor in a therapy setting can increase a client’s cognitive elaboration of an intervention. However, the lack of a direct relation between metaphor use and attitude change suggests there may be other factors that influence this effect (see Frazier et al., 2004, for a discussion on unknown mediators canceling out direct effects). ELM researchers (e.g., Haugtvedt & Petty, 1992)
have tested a number of such factors, but as McNeill and Stoltenberg (1989) pointed out, these factors may not operate in similar ways given the complexity of a psychotherapy context. Therefore, more exploratory research, perhaps using structural equation modeling, could be used to help identify additional mediators that were not included in the current design. Such research might include asking participants for their general thoughts after the procedure was completed.

Much of the clinical literature regarding the use of metaphor has noted its usefulness with resistant clients (e.g., Courchaine & Loucka, 1995). Although therapeutic reactance was assessed in the current study, it did not show any relation to session impact or ratings of therapist credibility. However, there was a significant correlation between the TRS and need for cognition ($r = .27$, $p = .001$), and as noted above, need for cognition was negatively related to ratings of the therapist and the session impact. Future research should examine the relation between NFC and reactance, especially in the context of psychotherapy.

The TRS also demonstrated the lowest internal consistency ($\alpha = .66$) among the measures used in the study. These results, if not specific to the current sample, may indicate that the construct of therapeutic reactance, as measured by the TRS, could be better operationalized. A valid measure of client resistance would be necessary to explore the relation between reactance and the use of metaphor.

In addition, it could be argued that the intervention in this study, encouraging the client to explore her feelings, may not have been seen as particularly challenging to the participants. Future studies could use an intervention that would involve a greater degree
of challenge to the participants (e.g., a smoking cessation intervention in which only smokers are sampled).

Finally, ELM (Petty & Cacioppo, 1986) researchers have frequently used time delay as a way to assess the level of central route processing, such that attitude change over time is one of the advantages of such processing. Subsequent studies involving metaphor use and ELM could measure cognitive elaboration after the intervention, and then measure session impact after a delay (e.g., one week). Such a design may also increase the direct relation between metaphor use and session impact, because the greater level of elaboration, according to ELM theory, should reinforce the impact of the session, whereas therapist attributes, i.e., peripheral processing, might have less impact over time.

**Conclusion**

In this study, both a common factor (therapist credibility) and a specific factor (therapist advice) had a persuasive impact on participants. The use of metaphor may increase cognitive elaboration of the advice. The results indicated that credible therapists can change attitudes, but that irrespective of their credibility, metaphors can make clients think more about a therapist’s advice, which in turn can be persuasive.


Appendix A

Transcript of Vignette

Section 1: Identical in both conditions (2 min, 10 sec)

Therapist: So how are you doing?

Client: Umm ok…it’s just been a really hectic week. There’s a colleague of mine who’s become a pretty good friend and she’s moving away soon so I’ve been planning a farewell party for her, so it’s been hard trying to find a venue and a time that works for everybody…and there’s also a deadline at work coming up…and then of course the wedding, that I’ve been planning for a while…so it’s been pretty hectic…

Therapist: Yea, sounds like it’s been a pretty hectic and stressful week.

Client: Yea…yea…

Therapist: Now I know last week we were talking about some feelings of anger that you were having, and these different outbursts that were going on…can we talk a little bit more about that now?

Client: Yea…I mean it happened a couple of times this week as well, but…I don’t know….

Therapist: Do you remember what was happening, when you had these outbursts?

Client: Umm, I mean, nothing much, nothing important…umm, like I know recently, when it happened, my fiancé and I were planning to go out for dinner and, I don’t know, it was no big deal, I just kind of lost it…and it just kind of…came out of nowhere.

Therapist: Hmm, so you feel it just came out of nowhere?
Client: Um hmm…

Therapist: What kind of feelings were happening at that moment?

Client: Umm, well, that’s the thing…I don’t know, I don’t know if I was really feeling anything…it just kind of came out of nowhere, so…

Therapist: So you feel like it just kind of sprung up and came out of nowhere, and your not quite sure it sounds like what was underlying…. 

Client: Yea…I don’t think anything was going on…I don’t remember really feeling anything…I mean it was just, it was no big deal.

Therapist: Sometimes it hard, you know, to talk about underlying thoughts and feelings…that may be contributing to this anger. But if we take a look at that in more depth, and try to look at what’s going on before this anger happens, then maybe we’ll be able to get at what the underlying problem is that’s leading to the anger.

Section 2: Metaphor Condition (1 min, 25 sec)

Therapist: So it seems like what’s been bothering you is that the fact that you sometimes lose control, and that’s confusing you…

Client: Yea…

Therapist: It reminds me of having problems with a car…if you have problems with your radiator. Say your driving down the road, and all of a sudden your car starts to overheat, and it starts to shake and make different noises, and eventually it stops working. And you realize if you just get a little bit of water, and put a little bit of water in…it will work again. But then it starts
happening more often, and it happens at different times…your driving
down the road, and it starts happening again, and then you start to get
really worried about when it’s going to happen again. And you think, you
could take it in, to a shop, to get it fixed, but that would take so much time
and effort that…it doesn’t seem worth it. So you just keep adding a little
bit of water, and a little bit of water, and a little bit of water…as you’re
going on, but it keeps happening more and more and more often. And your
hoping that maybe a quick fix will just come along, and just fix it by
chance, and that you won’t have to take it to a shop to get it fixed.
Now…by looking at these different underlying thoughts and feelings that
you’ve been having, we can get to a solution to a problem, to this problem,
and help you to, kind of understand where this anger is coming from.
Now, it’s going to take some time and effort, but if you’re willing to put in
the work with me, I think we’ll be able to get you to that point.

Section 2: Non-Metaphor Condition (1 min, 20 sec)

Therapist: So it sounds like what’s upsetting you is that sometimes you lose control,
and you don’t really know what’s going on…

Client: Yea…

Therapist: Now, it sounds like these emotions just kind of come out at random times
and eventually you feel paralyzed because they start coming out…and, you find a way to kind of deal with them, over time. But then they start
coming out more and more often, and maybe more strongly, and you’re
not really quite sure how to deal with them, as time goes on…and they
may happen at different times, and with different things, and so, 
eventually, you start feeling a little overwhelmed…and you never really 
know when it’s going to happen, and you’re hesitant, to really look at 
these underlying things that are going- these thoughts and feelings that are 
going on, because your hoping that maybe a quick fix will come 
along…and you’ll just stop feeling that way. But I think that by looking at 
these underlying thoughts and feelings, that maybe we’ll be able to get at 
what’s going on with your anger. And it going to take a lot of time and 
effort, which is going to be hard, but I think that if you’re willing to go 
through this with me, and look at these underlying thoughts and feelings, 
that we can get to a good solution for you.
Appendix B

The Need for Cognition Scale (NFCS; Cacioppo, Petty, & Kao, 1984)

Instructions: For each of the statements below, please indicate to what extent the statement is characteristic of you. Please use the following scale:

1=extremely uncharacteristic of you (not at all like you)
2=somewhat uncharacteristic
3=uncertain
4=somewhat characteristic
5=extremely characteristic of you (very much like you)

1) I would prefer complex to simple problems. ___
2) I like to have the responsibility of handling a situation that requires a lot of thinking. ___
3) Thinking is not my idea of fun. ___
4) I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. ___
5) I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something. ___
6) I find satisfaction in deliberating hard and for long hours. ___
7) I only think as hard as I have to. ___
8) I prefer to think about small, daily projects than long-term ones. ___
9) I like tasks that require little thought once I’ve learned them. ___
10) The idea of relying on thought to make my way to the top appeals to me. ___
11) I really enjoy a task that involves coming up with new solutions to problems. ___
12) Learning new ways to think doesn’t excite me very much. ___
13) I prefer my life to be filled with puzzles that I must solve. ___
14) The notion of thinking abstractly is appealing to me. ___
15) I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought. ___
16) I feel relief rather than satisfaction after completing a task that required a lot of mental effort. ___

17) It’s enough for me that something gets the job done; I don’t care how or why it works. ___

18) I usually end up deliberating about issues even when they do not affect me personally. ___
Appendix C

The Need for Affect Scale (NFAS; Maio & Esses, 2001)

Instructions: For each of the statements below, please indicate to what extent the statement is characteristic of you. Please use the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Neutral</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1. If I reflect on my past, I see that I tend to be afraid of feeling emotions. ______
2. I have trouble telling the people close to me that I love them ______
3. I feel that I need to experience strong emotions regularly. ______
4. Emotions help people get along in life. ______
5. I am a very emotional person. ______
6. I think that it is important to explore my feelings. ______
7. I approach situations in which I expect to experience strong emotions. ______
8. I find strong emotions overwhelming, and therefore try to avoid them. ______
9. I would prefer not to experience either the lows or the highs of emotion. ______
10. I do not know how to handle my emotions, so I avoid them. ______
11. Emotions are dangerous- they tend to get me into situations that I would rather avoid. ______
12. Acting on one’s emotions is always a mistake. ______
13. We should indulge our emotions. ______
14. Displays of emotions are embarrassing. ______
15. Strong emotions are generally beneficial. ______
16. People can function most effectively when they are not experiencing strong emotions. ______
17. The experience of emotions promotes human survival. _____
18. It is important for me to be in touch with my emotions. _____
19. It is important for me to know how others are feeling. _____
20. I like to dwell on my emotions. _____
21. I wish I could feel less emotion. _____
22. Avoiding emotional events helps me sleep better at night. _____
23. I am sometimes afraid of how I might act if I become too emotional. _____
24. I feel like I need a good cry every now and then. _____
25. I would love to be like “Mr. Spock,” who is totally logical and experiences little emotion. _____
26. I like decorating my bedroom with a lot of pictures and posters of things emotionally significant to me. _____
Appendix D

Therapeutic Reactance Scale (TRS; Dowd et al., 1991)

1 = strongly disagree  2 = disagree  3 = agree  4 = strongly agree

1. If I receive a lukewarm dish at a restaurant, I make an attempt to let that be known.
   ______
2. I resent authority figures who try to tell me what to do.
   ______
3. I find that I often have to question authority.
   ______
4. I enjoy seeing someone else do something that neither of us supposed to do.
   ______
5. I have a strong desire to maintain my personal freedom.
   ______
6. I enjoy playing "Devil's Advocate" whenever I can.
   ______
7. In discussions, I am easily persuaded by others.
   ______
8. Nothing turns me on as much as a good argument!
   ______
9. It would be better to have more freedom to do what I want on a job.
   ______
10. If I am told what to do, I often do the opposite.
    ______
11. I am sometimes afraid to disagree with others.
    ______
12. It really bothers me when police officers tell people what to do.
    ______
13. It does not upset me to change my plans because someone in the group wants to do something else.
    ______
14. I don't mind other people telling me what to do.
    ______
15. I enjoy debates with other people.

16. If someone asks a favor of me, I will think twice about what this person is really after.

17. I am not very tolerant of others’ attempts to persuade me.

18. I often follow the suggestions of others.

19. I am relatively opinionated.

20. It is important to me to be in a powerful position relative to others.

21. I am very open to solutions to my problems from others.

22. I enjoy “showing up” people who think they are right.

23. I consider myself more competitive than cooperative.

24. I do not mind doing something for someone even when I don’t know why I am doing it.

25. I usually go along with others’ advice.

26. I feel it is better to stand up for what I believe than to be silent.

27. I am very stubborn and set in my ways.

28. It is very important for me to get along well with the people I work with.
Appendix E

The Counselor Rating Form, Short Version (CRF-S; Corrigan & Schmidt, 1983)

COUNSELOR RATING FORM

On the following pages, each characteristic is followed by a seven-point scale that ranges from “not very” to “very”. Please mark an “X” at the point on the scale that best represents how you viewed the therapist. For example:

**FUNNY**

not very  X ____________ very

**WELL DRESSED**

not very  __________________________ X very

These ratings might show that the therapist did not joke around much, but was dressed well. Though all of the following characteristics we ask you to rate are desirable, counselors may differ in their strengths. We are interested in knowing how you view these differences. This form is confidential and will not be shown to your counselor.

1. **SINCERE**

not very  __________________________ very

2. **SKILLFUL**

not very  __________________________ very

3. **HONEST**

not very  __________________________ very

4. **EXPERT**

not very  __________________________ very

5. **LIKABLE**

not very  __________________________ very

6. **SOCIABLE**

not very  __________________________ very
7. **WARM**
   not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very

8. **TRUSTWORTHY**
   not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very

9. **EXPERIENCED**
   not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very

10. **RELIABLE**
    not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very

11. **PREPARED**
    not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very

12. **FRIENDLY**
    not very ______:_____:_____:_____:_____:_____:_____:_____:_____:_____:____: very
Appendix F

Modified Elaboration Likelihood Model Questionnaire (ELMQ; Heppner, et al., 1995). Cognitive Involvement subscale

Directions: Please think about the advice the therapist gave to the client, and respond to the following questions by circling the number that corresponds to your response.

1. How important was the therapist’s advice to you personally?

   0 1 2 3 4 5 6
   not important at all  very important

2. How motivated were you to listen to the therapist’s advice?

   0 1 2 3 4 5 6
   not motivated at all  very motivated

3. I was distracted from thinking about the advice the therapist gave.

   0 1 2 3 4 5 6
   strongly agree  strongly disagree

4. To what extent did you try hard to evaluate the therapist’s advice?

   0 1 2 3 4 5 6
   did not try at all  tried very hard

5. To what extent did you find the therapist’s advice well organized and easy to follow?

   0 1 2 3 4 5 6
   not at all organized and easy to follow  very organized and easy to follow

6. To what extent did you find it difficult to concentrate on the therapist’s advice?

   0 1 2 3 4 5 6
   not at all difficult  very difficult

7. In your estimation, how logical and accurate was the advice?

   0 1 2 3 4 5 6
   not at all logical and accurate  very logical and accurate

8. How would you rate the quality of the therapist’s advice?

   0 1 2 3 4 5 6
   very poor  excellent
Appendix G

Modified Task-Impacts subscale from the Session Impact Scale (SIS-TI; Elliott & Wexler, 1994)

Putting yourself in the place of the client, please answer the questions below using the following scale:

1 = not at all true
2 = not very true
3 = neutral
4 = somewhat true
5 = very true

1. Based on the advice that the therapist gave at the end of the session, I realized something new about myself. _____

2. Based on the therapist’s advice, I am more aware of or clearer about feelings or experiences. _____

3. Based on the therapist’s advice, I now have a clearer sense of what I need to change. _____

4. Based on the therapist’s advice, I have made progress knowing what to do about my problem. _____
Appendix H
Demographic Questionnaire

Before we begin, we would like you to answer the following questions:

Age ________ Gender: M F

Race/ethnicity:
___ African American/Black ___ Hispanic/Latino(a)
___ Asian/Asian American/Pacific Islander ___ Native American
___ White, non-Hispanic/Latino(a) ___ Multiethnic

Highest educational level:
___ middle school/junior high ___ some high school
___ high school diploma or GED ___ technical school
___ some college ___ associate’s degree
___ bachelor’s degree ___ graduate degree

Marital status:
___ single, never married ___ single, never married, living with a partner
___ married ___ separated
___ divorced ___ widowed
___ remarried

Have you ever had psychotherapy before? Yes No

If yes, in your lifetime, approximately how much psychotherapy have you had:
___ less than 3 months ___ 3 months to a year
___ 1 to 3 years ___ more than 3 years
Appendix I

Informed Consent Form

Informed Consent

**Individual Reactions to a Counseling Session**

Walter A. Kendall, M.S., Principal Investigator, University at Albany

This is a research study that has to do with how different individuals react to a counselor in a counseling **session**. If you choose to participate, you will be asked to fill out some questionnaires about your personality, then view a brief video of a counseling session, and finally fill out some questions about your reactions to what you saw in the video. Your participation is expected to take no more than 1 hour. **You will not be participating in a real counseling session. You will be paid $20.00 for your participation in this study.**

Your participation **puts you at minimal risk**. You may experience some discomfort from viewing a person describing problems in a counseling session. You also may experience some discomfort answering questions about aspects of your personality. Although you may not receive direct benefit from your participation, others may ultimately benefit from the knowledge obtained from this research.

You will not be asked your name or to report any personally identifying information on the questionnaires you **fill out**. The questionnaires you complete will use a code number only. **All information obtained in this study is strictly confidential unless disclosure is required by law.** In addition, the Institutional Review Board and the University or government officials responsible for monitoring this study may inspect these records.

Your participation in this **project is voluntary**. Even after you agree to participate in the research or sign the informed consent document, you may decide to leave the study at any time without penalty or loss of benefits. For example, you may choose not to answer any questions, and you may refuse to complete any portions of the research you do not wish to for any reason. If you do want to continue, hand in a blank questionnaire.

_I have read, or been informed of, the information about this study. I hereby consent to participate in the study. I certify by my signature that I am at least 18-years of age._

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

One copy of this document will be kept together with the research records of this study. **Also, you will be given a copy to keep.**

**Contact Information**

Walter A. Kendall, M.S., Doctoral Student, Department of Counseling Psychology, University at Albany, 518-442-5040
Myrna L. Friedlander, Ph.D., Faculty Advisor, Department of Counseling Psychology, University at Albany, 518-442-5040

If you have any questions concerning your rights as a research participant that have not been answered by the investigator, or if you wish to report any concerns about the study, you may contact the University at Albany’s Office of Regulatory Research Compliance at 518-442-9050 (800-365-9139) or by e-mail at orrc@uamial.albany.edu
Appendix J

Introduction to video vignette

You will now watch several parts of a therapy session.

The client in the video has seen the therapist once before; this is the second session.

In the first session, the client told the therapist that sometimes she was losing control and having outbursts of anger.

The client told the therapist that she had no idea where these outbursts were coming from, and she just wanted to stop them from happening.

In this session the client began by talking about things that had happened during the week; specifically, a party she was planning.

As you watch the video, imagine yourself in the client’s place.

In other words, imagine that you were having the same problem the client was having, that you were dealing with the problem in a similar way, and that you came to the therapist for help. Focus your attention on the therapist, as if you were the client.
Appendix K

Histogram of Regression Standardized Residuals: Task-Involvement

SD = .98
M = 0.00
N = 138
Appendix L

Normal Probability Plot of Regression Statistics: Task Involvement
Appendix M

Scatterplot of Regression Standardized Residuals and Regression Standardized Predicted Values: Task Involvement