The Impact of Metaphor on Clinical Hypothesis Formation and Perceived Supervisor Characteristics

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Abstract:

An analogue methodology was used to examine clinical hypothesis formation and perceived supervisor characteristics when metaphorical or literal language was used by a counselor supervisor.

Article:

In the clinical practice literature, the use of metaphorical communication has been widely cited as an effective intervention (e.g., Bandler & Grinder, 1975; Fine, Pollio, & Simpkinson, 1973; Gore, 1977; Haley, 1987; Martin, Cummings, & Hallberg, 1992; T. Strong, 1989). It is believed that metaphors help clients gain new perspectives on their counseling concerns by generating a wide variety of associations among previously unrelated cognitive structures. As a result of creating new relationships between these structures, clients identify new possibilities for behaving and effecting change in a problem area (Fine et al., 1973; Martin et al., 1992; T. Strong, 1989). In fact, Pollio, Barlow, Fine, and Pollio (1977) found that therapeutic insight often co-occurs with the production of novel metaphorical communications (i.e., language whereby one object is compared to another in a direct manner although in a literal sense the objects are not the same). They found this was true regardless of who generated the figurative expression, the counselor or the client. In general, then, metaphor is considered an effective means for helping clients achieve alternative interpretations of situations and gain increased insight into the functioning of self and others.

One reason metaphor is believed to be an appropriate means to promote clinical change is that it relies on communication at both the conscious and the unconscious levels. It disrupts "the client's conscious frame of reference while generating an unconscious search for new or previously blocked meanings or solutions" (Matthews & Dardeck, 1985, p. 12). In this way, metaphor promotes more complex thinking, because clients use divergent thinking patterns to develop alternative conceptualizations of difficult situations in their lives (T. Strong, 1989).

Such cognitive changes also have great relevance for counselor supervision. In particular, supervision goals include the encouragement of greater divergent thinking and reconceptualizations of client concerns as ways to promote counselors' awareness of previously unrecognized strategies for change (e.g., Blocher, 1983; Loganbill, Hardy, & Delworth, 1982; Stoltenberg, 1981). According to Blocher, characteristics of the highly functioning counselor include abilities to "take multiple perspectives," "differentiate among and manipulate a wide range and large number of relevant facts and causal factors," and "integrate and synthesize in creative and unusual ways large amounts of such information to arrive at an understanding of the psychological identity and life situation of a wide range of other human beings" (p. 28).

In fact, numerous researchers and theorists, in both counselor training and supervision, have argued that the development of counselor cognitive processes and strategies must be an integral component of counselor preparation (e.g., Borders, 1989; Fuqua, Johnson, Anderson, & Newman, 1984; Kurpius, Benjamin, & Morran, 1985). These experts argue that cognitive processes are central in counselors' attempts to formulate and select behavioral responses while engaged in a counseling interaction, as well as their ability to generalize attained skills to unique situations. The cognitive counseling skills involved include the ability to deftly collect information about a client, weigh alternatives, formulate viable clinical hypotheses, and select appropriate

intervention strategies (Morran, Kurpius, Brack, & Brack, 1995). Proficiency in these areas is important, because it is the use of these cognitive skills that ultimately determines the productiveness of the counseling process. Given the importance of cognitive skill development, it seems ironic that most research to date has focused on performance skills (i.e., empathy, self-disclosure, confrontation) even though it has been argued that the development of the cognitive counseling skills are equally, if not more, important in the development of the counselor-in-training (Fuqua et al., 1984). In fact, as early as 1980, Holloway and Wolleat noted that counselors with more developed cognitive abilities were better able to produce effective clinical hypotheses; subsequent work has supported their conclusions (e.g., Holloway & Wampold, 1986). Furthermore, there is some evidence that counselors who produce better hypotheses are more effective clinicians (Morran, Kurpius, Brack, & Rozecki, 1994).

Despite consensus on the importance of cognitive skill goals, few authors have identified supervision methods specifically focused on achieving these goals. These desired outcomes of supervision, however, are similar to the desired effects of the intentional use of metaphor. For example, a spoken metaphor can be used to synthesize various components of an existing situation by suggesting new relationships among the variables involved. This creates in the individual who hears it a previously unrecognized perspective and new understanding. Similarly, the combination of pieces of information into new understanding is a desired outcome of supervision. Yet very few authors have discussed the use of any form of metaphorical intervention in supervision. One of the few metaphorical approaches that has been discussed are the case drawings described by Amundson (1988) and Ishiyama (1988). Both authors describe metaphorical drawings, a technique in which supervisees create drawings (i.e., metaphors) of the dynamics that they believe exist in their difficult cases. Neither Amundson nor Ishiyama, however, provided empirical support for the effectiveness of their metaphorical interventions, although Ishiyama did report that 13 of 19 participants in a supervision group preferred the metaphorical approach to case conceptualization "without reservation," considering it superior to the traditional case report method.

In addition to the potential for the intentional use of metaphor to facilitate the cognitive skill development of counselors-in-training, its use may also affect the counselor's perception of the supervisor. There is some evidence, for example, that a counselor's use of metaphor has a direct influence on the client's perception of counselor desirability or social influence (Gore, 1977; Suit & Paradise, 1985). Suit and Paradise found that when counselors used narrative analogy metaphors (e.g., those that make a direct rather than implied comparison between a subject and an object) to discuss clinical issues, they were rated as "more expert" by undergraduate psychology students; this was as opposed to counselors who used cliches or very complex metaphors. Similarly, Gore found that high-quality, creative metaphors presented in the early stages of counseling were useful in arousing client interest in the counseling process.

It may be, then, that the intentional use of metaphor by clinical supervisors would have an impact on (a) the cognitive counseling skills of synthesizing extraneous clinical information into viable hypotheses and (b) counselors' perceptions of their supervisors' social desirability and influence. Thus, the purpose of this study was to examine the impact of a supervisor-generated metaphor on supervisees' formulation of a clinical hypothesis. Specifically, we investigated how the use of metaphor affected perceptions of a supervisor in terms of social influence dimensions for a sample of counselors-in-training, as opposed to the undergraduate sample examined by Suit and Paradise (1985).

To study the impact of supervisor-generated metaphorical communications on supervisees' formulation of clinical hypotheses and perceptions of supervisor social influence characteristics, a methodological approach was needed that could manage the ambiguity inherent in variables such as metaphors and cognitive processes. In addition, because metaphors need to be relevant to a particular client or issue, it would be inappropriate to use the same metaphor across clients, across supervision sessions, or across counselors (Muran & DiGiuseppe, 1990). Therefore, conducting this study in a naturalistic setting would be difficult to manage, because the treatment (metaphor) could not be replicated.

The analogue approach is useful in controlling variables for specificity and allows for greater precision (Heppner, Kivlighan, & Wampold, 1992). Furthermore, the analogue design provides more direct and unambiguous answers to research questions that are not always possible to investigate in naturalistic settings (Heppner et al., 1992). By isolating the variable of interest (i.e., metaphor versus direct language), it was hoped that the effect of metaphorical communications in clinical supervision could be examined more accurately. In summary, this study was designed to address the following research questions:

1.   What impact does a supervisor's intentional use of verbal metaphorical communications about clinical situations have on supervisees' generation of more varied and complete clinical hypotheses?

2.   What impact does a supervisor's intentional use of metaphorical communications about clinical situations have on supervisees' perceptions of the expertness, attractiveness, and trustworthiness of the supervisor?

METHOD
Participants
Participants in this study were master's-level students in their first year of a full-time, CACREP-approved counselor education program at a public, midsize, southeastern university. Participants consisted of the entire first-year master's class who were in their second semester of studies and had not yet begun their internship training (N = 30). Students from four specialty disciplines in counselor education were represented in the sample: community counseling (26%), student development in higher education (10%), school counseling (30%), marriage and family counseling (26%), and other (7%). Participants tended to be in their 20s (63%) or 30s (30%), with only 7% of the sample in their 40s. Most participants were female (83%) and White (90%). The remaining participants were African American (n = 2) and Asian American (n = 1).

Treatments
Two 9-minute segments of supervision sessions were created and videotaped to serve as the experimental treatments for this study. The supervision sessions were designed to vary on one dimension only: the intervention selected by the supervisor in response to the counselor's work with a particular client. The two treatment conditions for the dimension were (a) a segment of supervision in which the supervisor used a narrative analogy metaphor to interpret clinical issues of the supervisee's client (Treatment 1) and (b) a segment of a supervision session in which the supervisor used literal communications to clarify clinical issues of the supervisee's client (Treatment 2).

Each treatment condition was portrayed by the same female supervisor and female counselor. The supervisor, a current doctoral student, was a 29-year-old White woman who had received her Master of Arts in counseling from a CACREP-approved counselor education program. She had also worked as a counselor for 3 years. The supervisee was a 28-year-old White woman who had a Master of Science in art therapy and was a national certified counselor. She also worked as a counselor in an agency.

In each supervision segment, the supervisor and counselor were discussing a female client (Linda) who was experiencing difficulties in her relationship with her boyfriend (Mike) because of his mother's (Mrs. Walters) overinvolvement, which had created resentment in the client. The scenario was chosen (i.e., difficulty with a relationship) as a typical supervision topic. The concern the counselor brought to supervision was the client's resistance to following through on homework assignments (i.e., to confront the boyfriend's mother) and the counselor's general uncertainty as to how to address the client's concern. In both treatments, the supervisor's intervention was offered in response to the supervisee's description and discussion of the client's behavior in and out of the session. The treatments attempted to assist the counselor in seeing that the client might come to view the situation differently: as a relationship dynamic between the boyfriend and his mother rather than as a direct attack on the client. Also, in both treatments, before offering the narrative analogy metaphor or the direct communication, the supervisor explored how the counselor viewed the clinical situation as well as what areas of the client's life she had explored.

Development of the treatments. A systematic procedure was used to develop the two treatments. First, characteristics of effective metaphors were drawn from relevant literature (e.g., Ortony, Reynolds, & Arter, 1978; Suit & Paradise, 1985). A narrative analogy metaphor, one that has explicit implications for the situation to which it refers and is of moderate complexity, was chosen because it has been found to be rated more favorably when used by counselors than either cliches or complex metaphors (Suit & Paradise, 1985).

Second, transcripts of the two supervision sessions were written to reflect the characteristics in the matrix and the identified metaphor and nonmetaphor dimensions. To control the stimuli in the two interventions, the two transcripts began and proceeded with verbatim dialogue until the final interchange in which the supervisor used a narrative analogy metaphor to discuss the client dynamics in Treatment 1, whereas in Treatment 2 she did not. Third, the two preliminary transcripts were rated by two counselor education professors who had training and experience as counseling supervisors and had conducted research in the area. On the basis of their feedback, a portion of dialogue was added to make the metaphor more clearly a narrative analogy. On the basis of these results, videotaping of the transcripts was begun.

In producing the two videotapes, the same tape was used except for the final statements of the supervisor, which were spliced onto the end of each videotape. Thus, the same stimuli were included in each treatment except for the final statements of the supervisor, the metaphor or nonmetaphor interventions under investigation in this study. Although complete transcripts of the dialogue for each analogue are available from the primary investigator (Young), the final version of the metaphor and literal communication interventions are provided below.

The narrative analogy metaphor was presented as follows:

You know, Linda's approach to dealing with Mike and his morn reminds me of a technique I once heard about for capturing a monkey. A piece of fruit is placed in a jar, the mouth of which is just large enough for the monkey's hand to pass through. Once the monkey reaches into the Jar and grabs the fruit he cannot get his hand out because he has now made a fist. If, however, the monkey would relax and let go of the fruit, he could remove his hand easily. Then, perhaps he could turn the jar over and shake it to remove the fruit. Anyway, the monkey entraps himself because he is unable to see how he is contributing to his own situation.

The direct communication ending was presented as follows:

Yes, I agree and I suppose what I am suggesting is that you help Linda to look at the situation differently, so that she no longer believes that Ms. Walters is the reason she and Mike are having problems. Perhaps Linda may come to understand that it is not her responsibility to force Mike and his mom to be more separate. Also, it seems important that Linda begins to look at what she is doing that enables the relationship to go on as it is rather than blame Ms. Walters for all of her and Mike's problems.

Instruments

Clinical Hypothesis Exercise Form. The Clinical Hypothesis Exercise Form (CHEF; Morran, 1986; Morran et al., 1994) is a self-report, 4-item instrument designed to measure a counselor's clinical hypothesis formation related to a client and the concerns of that client. The intention of the CHEF is to measure thoughts that occur during an activity by using post-activity cognitive assessment. Support for this rationale can be found in Cacioppo and Petty's (1981) validity study of the thought-listing technique, which like the CHEF is administered immediately after a session. Cacioppo and Petty (1981) cited agreement between post-activity cognitive measures and physiological responses measured during the activity as an indication that such post-activity assessment yields cognitive measures that are representative of thinking that occurred during the activity.

In responding to the first three items on the CHEF, counselors write a hypothesis about the client and counselor concern, provide support for that hypothesis, and list information needed to test or validate the hypothesis. On

the fourth item, respondents rate their level of confidence in their hypothesis using an 8-point scale (1 = not at all confident to 8 = extremely confident).

Scoring dimensions were selected from hypothesis evaluation scales used in previous studies of hypothesis formation (e.g., Hirsch & Stone, 1983; Holloway & Wolleat, 1980; Morran, 1986). The seven clinical hypothesis rating scales formulated by Morran et al. (1994) were used in this study. These dimensions are the following:

1.   Number of Hypothesis Units, composed of a frequency count of distinct, nonredundant, and relevant information units contained in a hypothesis

2.   Hypothesis Dimensions, indicated by the presence or absence of client behavior, inferred client internal factors, external factors, and associations between these dimensions

3.   Number of Support Units, composed of a frequency count of distinct, nonredundant, and relevant information units given as support for a hypothesis

4.   Support Statement Dimensions, indicated by the presence or absence of the four supportive information dimensions of client statements, kinesthetic behavior, social-psychological issues, and counselor-client relationship

5.   Overall Quality, a rating of the overall quality of thought and clarity of expression of a hypothesis on a 5-point Likert scale (1 = not at all confident to 5 = extremely confident)

6.   Number of Questions, a frequency count of distinct, nonredundant, and relevant questions found in the application

7.   New Domain Questions, a frequency count of questions representing exploration in a new or different domain from the stated hypothesis

According to Morran et al. (1994), interrater reliabilities for the CHEF range from .82 to .99 across the seven elements. Scoring of the CHEF was performed by two doctoral students who were trained using practice materials until scores reached an average of 80% agreement. Once actual scoring of the instrument began, periodic checks of interrater reliability were performed. Disagreements in ratings were resolved by discussions and a third rater. Interrater reliabilities for the judges' ratings on Scales 1, 3, 6, and 7 were calculated using the Pearson product-moment correlation. Results suggested a moderate level of interrater reliability, with coefficients of .78, .67, .81, and .64, respectively.

Supervisor Intervention Interpretation Form. The Supervisor Intervention Interpretation Form (SIIF) was created for this study to determine participants' ability to accurately interpret the meaning of the two supervision interventions under investigation (i.e., metaphor and direct language). The SIIF included the following statement: 'Explain in your own words what you believe the supervisor on the videotape was trying to communicate to the counselor with her final statements. Please be as specific and detailed as possible.' The instrument was scored by comparing respondents' interpretations of the two supervisor statements to the intended message of each. Specifically, respondents' statement of the nature of the clinical difficulty (i.e., the client is convinced that the problems in the relationship are the fault of her boyfriend's mother), evidence of dynamics supporting the clinical difficulty (i.e., the client's inability to adjust her perspective toward her boyfriend and his mother), and the resolution for the clinical difficulties (i.e., accepting the paradoxical nature of her situation, that the harder she tries to change things the worse they will become) were assessed using presentabsent categories for each dimension.

Two doctoral students, who scored the SIIF, were trained using practice materials until an average of 80% agreement was reached. Once actual scoring of the instrument began, periodic checks on interrater reliability were performed. Differences in ratings were resolved by discussions or a third rater. Using Cohen's kappa, interrater agreement was calculated, yielding coefficients of .79 (nature of clinical difficulty), .73 (dynamics of clinical difficulty), and .85 (resolution of clinical difficulty).

Supervisor Rating Form-Short. The Supervisor Rating Form-Short version (SRF-S; Schiavone & Jessell, 1988) is a 12-item Likert scale instrument designed to rate supervisees' perceptions of supervisors on the social influence dimensions of Expertness, Attractiveness, and Trustworthiness (S. R. Strong, 1968). Respondents used, in a 7-point format, the words not very and very as the anchors to rate their supervisor on each of the 12 items. Reliability coefficients of the SRF-S were determined using the Spearman-Brown formula. The resulting coefficients were Expertness at. 90, Attractiveness at .91, and Trustworthiness at .87 (Schiavone & Jessell, 1988).

Procedure

The researcher recruited master's-level counselors-in-training from counseling theories classes (two sections). All agreed to participate. Each participant was randomly assigned to one of the two treatment groups. Participants then viewed one of the two videotaped treatments before completing the instrument packets during the class period. Participants were urged to focus particular attention on trying to understand the nature of the client's concern and to imagine themselves as the counselor in the supervision session and to respond from that perspective when answering the questions.

TABLE 1

Descriptive Statistics for CHEF Select Scales and SRF-S by Treatment Group

Measure	M	SD
Treatment 1: Metaphorical Communication (n = 15)		
CHEF		
Scale 1: Number of Hypothesis Units	3.07	1.16
Scale 3: Number of Support Units	2.40	1.37
Scale 5: Overall Quality	2.47	1.06
Scale 6: Number of Questions	4.73	1.75
Scale 7: Number of New Domain Questions	2.87	1.41
SRF-S		
Attractiveness	18.93	3.71
Expertness	24.20	2.65
Trustworthiness	23.80	3.91
Treatment 2: Direct Communication (n = 15)		
CHEF		
Scale 1: Number of Hypothesis Units	3.20	1.37
Scale 3: Number of Support Units	2.80	1.26
Scale 5: Overall Quality	2.33	1.18
Scale 6: Number of Questions	5.13	2.67
Scale 7: Number of New Domain Questions	3.00	2.56
SRF-S		
Attractiveness	18.40	4.42
Expertness	21.60	4.26
Trustworthiness	22.73	3.65

Note. CHEF = Clinical Hypothesis Exercise Form; SRF-S = Supervisor Rating Form-Short.

RESULTS
Descriptive Results

Means and standard deviations for each score on each instrument are reported in Tables 1, 2, and 3 by treatment group. Table 2 shows results of both treatment groups for Scale 2 on the CHEF, which classifies the hypothesis

elements contained in Scale 1. Similarly, Table 3 shows the results of Scale 4 on the CHEF, giving the classification for each supportive element (from Scale 3) for the two treatment groups. All scores were plotted for each treatment, and distributions seemed normal.

TABLE 2

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Descriptive Results for Hypothesis Dimensions (Scale 2, CHEF) by
Treatment group
                              Metaphorical              Direct
Dimension                 Frequency   Percent   Frequency    Percent

Client Behavior               6         40.00        2         13.33
Client Internal Factor       10         66.67       10         66.67
Client External Factor       13         86.67       13         86.67
Association                   8         53.33       10         66.67

Note. See Table 1 Note.
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TABLE 3

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Descriptive Results for Categories of Information Sought in
Supportive Statements (Scale 4, CHEF) by Treatment Group

                              Metaphorical              Direct
Dimension                 Frequency   Percent   Frequency    Percent

Client Statement              1          6.67        5         33.33
Counseling/process
 Observation                  9         60.00       10         66.67
Social-Psychological         10         66.67       10         66.67
Counselor Client
 Relationship                 4         26.67        1          6.67

Note. See Table 1 Note.
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In general, both treatment groups had similar scores on the five dimensions used to evaluate responses for the CHEF, with less than a 1-point variation between the two means on all five dimensions. The average clinical hypothesis contained just over three distinct elements and was supported by nearly three supportive information units. Participants also listed an average of just under five questions for testing their stated hypotheses and included, on average, nearly three questions that were judged to be exploring information in a new domain. The average overall quality of the hypotheses and supportive statements were judged by the raters to be just below the midpoint of 2.5 on the 5-point rating scale (M = 2.40).

Item scores on the SRF-S scales tended to be high and similar across treatment groups. The lowest overall mean among the subscales was Attractiveness at 18.66. The Expertness subscale revealed a combined mean of 22.99, and the Trustworthiness subscale had the highest combined mean at 23.26.

Correlations
Pearson coefficients were calculated to examine the relationship among the subscales of the CHEF and the SRF-S, to determine if these subscales did in fact measure distinct elements. Results of these analyses suggested that Scales 1 and 3 (i.e., number of hypothesis and support units) of the CHEF were positively correlated for this sample (r = .62), a result that is not overly surprising because Scale 3 is a continuation of ideas generated in Scale 1. In addition, Scale 5 (i.e., Overall Quality) seemed to be positively correlated to Scales 1 and 3 (r = .83, .61). This finding also is understandable, because Scale 5 is a rating derived from the quality of Scales 1 and 3. The final scales, 6 and 7 (Number of Questions and Number of New Domain Questions), seemed to be positively correlated with each other (r = .76) but not the previous scales. This very likely speaks to the fact that these two dimensions are derived from a single task of creating a list of questions that the respondents could use to test their hypothesis, a task that is not directly related to the tasks of the previous scales.

The correlation analyses for the SRF-S indicated that the Expertness and Trustworthiness scales were correlated for this sample (r = .69). This finding might suggest the need to perform multivariate analyses in hypothesis testing; however, given the relatively small sample size, analyses proceeded with a series of t tests.

Clinical Hypothesis Formation

To test differences in participant's formation of clinical hypotheses, t tests were performed between scores for each treatment group on Scales 1, 3, 6, and 7 of the CHEF (measures of Number of Hypothesis Units, Number of Support Units, Number of Questions, and Number of New Domain Questions). Given that five analyses were performed, alpha was set at .01 for each test to maintain the overall alpha of .05. There were no significant differences between the two treatment group scores for Dimensions 1, 3, 6, and 7 at the .05 alpha level: Number of Hypothesis Units, $t(28) = -0.2870$, ns; Number of Support Units, $t(28) = -0.8944$, ns; Number of Questions, $t(28) = -0.4853$, ns; New Domain Questions, $t(28) = -0.1766$, ns.

A chi-square comparison was performed on Dimension 5 (Overall Quality), because these data were not of a continuous nature. Given that five analyses were performed, alpha was set at .01 for each test to reduce experiment-wise error. The comparison of overall quality between the treatment groups was not significant, $X[sup3](3,N = 30) = 0.3433$, ns.

Perceptions of the Supervisor

Differences in the counselor-in-training perceptions of the supervisor when metaphor or literal language was used were examined using t-test analyses for each of the three subscales of the SRF-S. The alpha was set at .017 for each test to maintain the overall alpha at .05. Results for all three subscales were nonsignificant: Attractiveness, $t(28) = 0.3578$, $p = .7232$; Expertness, $t(28) = 2.0082$, $p = .0544$; Trustworthiness, $t(28) = 0.7716$, $p = .4468$. A power calculation indicated that the Expertness subscale had power of .766, suggesting that if a larger sample had been available, significant differences between the treatment groups may have been found.

Supervisor Intervention Interpretation

No hypothesis was stated for the SIIF. Instead, an exploratory post hoc analysis of the responses was conducted. Study of the responses yielded a meaningful categorical scheme that could be used reliably to classify the responses. Raters classified responses to the SIIF into three components, which addressed the respondents' interpretation of the supervisors' intervention (i.e., metaphorical or direct communication) and discussion of case dynamics.

The first dimension of the SIIF was labeled "Nature of Clinical Difficulty" and consisted of specific statements detailing the clinical problem as presented in the treatment (e.g., "Linda is stuck in her perspective that Mrs. Walters is completely responsible for her and Mike's problems"). For both treatment groups, 40% of participants wrote statements classified in this dimension. The second component of the SIIF, labeled "Dynamics Supporting Maintenance of the Clinical Difficulty," consisted of direct discussion of psychological dynamics that supported the continuation of the problem (e.g., "Linda is unaware that Mike is allowing his morn to be overly involved in his life, which is affecting his relationship with Linda"). Nearly 47% of the metaphor treatment group wrote statements classified in this dimension, and 33.3% of the direct communication group included discussion of this idea in their responses. The final dimension of the SIIF was labeled "Resolution of the Clinical Difficulty," and comprised specific discussions of how the clinical problem might be resolved (e.g., "Linda must come to realize that Mike has to take responsibility for his relationship with his mom and her closeness to him, if she really wants things to change'). Nearly 87% of the metaphor treatment group reported statements in this dimension, while 53.3% of the direct communication treatment group included such ideas in their reactions.

To investigate any relationship between the data, a chi-square comparison among the three intended components of the supervision interventions was performed. To maintain the overall experiment-wise error rate at .05, the alpha was set at .017 for each test. The analysis revealed no statistically significant difference in the

treatment groups at the .05 level of significance on Clinical Difficulty, $X^2(1, N= 30) = 0.000$, p = 1.00; Evidence of Clinical Difficulty, $X^2(1, N = 30) = 0.556$, p = .456; Resolution of Clinical Difficulty, $X^2(1, N = 30) = 3.968$, p = .046. Participants' ability to state an appropriate resolution of the clinical difficulty approaches significance (p = .046), suggesting that the supervisor's use of metaphorical communications may have helped participants generate ideas for how the difficulty might be resolved (i.e., what the client needed to do differently).

DISCUSSION

Overall, results of this study suggest that a single exposure to a supervisor-generated metaphor has no significant impact on the ability of counselors-in-training to generate more varied and complete hypotheses, nor on their perceptions of the desirability of a supervisor who uses metaphor, regarding his or her expertness, attractiveness, or trustworthiness. In fact, this study found little support for the idea that exposure to a metaphor can increase divergent thinking in one who hears it. The results of this study were also inconsistent with the findings of Suit and Paradise (1985) in which counselors who used narrative analogy metaphors were rated as more expert.

The CHEF was developed to measure clinical hypothesis formation capabilities of counselors using multiple dimensions to determine the complexity and quality of a hypothesis statement. Compared with previous research using this instrument, scores for this sample were generally low; however, this is the first time it has been used in a study of supervision issues. Morran et al. (1994) reported average hypotheses (in their sample of 27 counselors-in-training) containing 8.5 hypothesis units, with 6.2 information units given to support the hypothesis. In their study, counselors listed, on average, over six questions for testing their hypothesis, but only .5 of the questions were judged to be exploring in a new domain. The overall quality of this previous sample's hypotheses were judged to be slightly over the midpoint at 3.3. Therefore, means for the current study were lower than in previous research, except for the number of new domain questions, with a mean of 2.93 for the current sample compared with just .5 in the previous study.

The similarity among hypothesis statements by both treatment groups in this study suggests that metaphor does not necessarily affect the ability of counselors-in-training to generate more varied and complete hypotheses. Also, it can be assumed that metaphor was no more helpful than literal communication in clarifying the counselors-in-training' thinking about this clinical situation, given the fact that nearly 40% of participants in both treatment groups were able to clearly discern how the client in the videotape was stuck in her perceptions.

It may also be of consequence that counselors-in-training created hypotheses for a relatively normal counseling scenario after one exposure to a metaphorical or a direct language explanation by a supervisor. Both of these factors may have limited the possibility that either of the supervisory interventions would have greater impact on the participants in terms of their ability to develop hypotheses for the situation and in their ratings of the expertness, attractiveness, and trustworthiness of the supervisor. If the situation depicted in the analogue had been a rather atypical counseling predicament, the stimulus may have had more impact on the participants simply due to its unusualness, thereby enhancing the novelty of the metaphor. Furthermore, the fact that participants received a single exposure to the treatments may have contributed to the participants generation of hypotheses of similar quality and complexity. Future researchers should use multiple exposures to metaphor and nonmetaphor treatments to address a variety of clinical scenarios.

Relatedly, the availability of a small sample yielded low power, limiting the possibility of significant results. This possibility was supported by the results of power calculations for the Expertness scale of the SRF-S, which approached significance and was found to have power of .766. This is consistent with the findings of Suit and Paradise (1985), who found that counselors' use of narrativeanalogy-type metaphors was associated with higher ratings of expertness. Therefore, a larger sample size would be preferable in future studies. Nevertheless, taken together, the results did provide several important insights into the cognitive counseling skills of counselors-in-training. First, the descriptive statistics for the CHEF reveal a tendency for the quantitative scores to be slightly higher for the group that did not receive the metaphor treatment. In contrast,

the overall quality score for the responses on the CHEF tended to be higher for the metaphor treatment group. Although any speculation about these results must be viewed with great caution, it may be that the metaphor treatment group participants could offer fewer specifics but were better able to present their ideas in a clear and well thought out manner. Second, one analysis of the SIIF, which was moving in the direction of significance, suggests that the supervisor's use of a narrative analogy metaphor may have affected the participants' ability to discuss changes in the case's dynamics that must occur for it to be resolved in a successful manner (e.g., Mike must begin to take responsibility for his relationship with his mother).

In an attempt to understand the results of this study and to provide some guidance for future research, a sample of the participants were asked a series of follow-up questions. Ten volunteers from each treatment group were interviewed several weeks after data collection about their initial reactions to the supervisor's final statements (treatments), affective reactions to the tape (including likes, dislikes, etc.), ideas concerning the supervisor's message, and thoughts about clinical interventions needed to help the client resolve her difficulty. Results of these interviews suggest that the participants who received the metaphor treatment were able to talk in greater detail about the case and to suggest possible directions for the counselor. When asked the purpose and meaning of the supervisor's intervention, participants in the metaphor treatment group were able to state clearly their understanding of the supervisor's intervention and to discuss it as it applied to both the supervisee and the client. For example, one participant stated the following:

To back off was the main message I got from that. You're both so in the middle of the problem [Linda and the supervisee] you can't get a good perspective, yet both are capable of solving the problem if they'll just let go of the impulse to grab the fruit and yank it out of the jar. Relax... let go and pullback a little bit and look at the problem from a different perspective.

In contrast, when students in the direct communication group were asked to discuss what they understood from the supervisor's intervention, one person indicated tentatively,

I think the feedback was the right stuff for the counselor to hear. The supervisor was giving her [the supervisee] other options for how to think about it.

No students in this group, however, were able to expound beyond such tentative responses. Interview results suggest that exposure to the metaphor treatment may have influenced the thinking of the participants who received it; however, the instrumentation used and the method of data collection (i.e., pencil and paper) may have lacked the sensitivity necessary to discern its impact.

Therefore, an important consideration in interpreting the outcome of this study is the many obstacles to conducting research on cognitive phenomena in general and cognitive counseling skills specifically. It is obvious that the variables involved in this line of research are abstract and difficult to operationalize. Subsequently, there is a real need for measures that can accurately assess the cognitive skills of counselors (i.e., processes counselors use to seek information about clients, form hypotheses and conceptual models of clients, and select and implement interventions.) To date however, few measures have been developed for these purposes, and those that have are limited by the difficulty in obtaining interrater agreement for the constructs under investigation. In addition, the limited availability of adequate samples of counselors who are actively involved in supervision slows the possibility of sound research in this area. These factors lead to the larger issue of conducting this type of research in naturalistic settings. Although analogue studies allow researchers to have greater control over the factors under investigation and greater flexibility in what can be examined, a major drawback is the uncertainty of the generalizability of results (Heppner et al., 1992; Munley, 1974). In this study, counselors rated what they saw, heard, and felt in response to portions of a videotaped supervision session. Review of an entire supervision session might provide a more in-depth view of the supervisor's use of metaphorical or literal communication and reveal more dynamics, thus allowing for different results. Even more, counselors' responses might be different if they rated a supervisor with whom they had been actively involved in a supervisory relationship over a period of time. For this topic to be studied in such a manner,

however, a naturalistic design would be required, thus sacrificing control of numerous extraneous variables and affecting the outcomes in indeterminable ways. This dilemma is typical in supervision studies that involve an intervention (Borders & Fong, 1994). Studies in which data are gathered over a period of time (using a case study or longitudinal design) from counselors and supervisors involved in an ongoing supervisory relationship may reveal more insights into any differential effects of metaphorical and nonmetaphorical communication. Such approaches would also allow researchers the flexibility needed to address the use of contextually appropriate metaphors. In essence, the literature indicates that metaphors are most effective when they are created to fit a specific situation (i.e., a specific counselor, client, and counseling session). Analogue designs sacrifice the contextual power of metaphors for the power of control over variables. However, systematic use of both approaches (i.e., analogue and naturalistic designs) may be the best alternative, given the differing strengths of each.

An additional consideration for future research would be to examine the impact of a variety of figurative interventions rather than only one type. For example, more complex metaphors (i.e., of the Ericksonian type) as well as narrative analogy metaphors could be used by supervisors to examine their impact on supervisees' cognitive counseling skills. Also, the promising outcomes of the creative technique used in the case studies conducted by Ishiyama (1988) and Amundson (1988) indicate that metaphorical drawings deserve controlled exploration. The use of metaphor in supervision is a topic that has received virtually no attention in the empirical literature. Therefore this study sought to determine the impact of metaphorical and direct language supervisory interventions on the cognitive counseling skills of counselors-in-training as well as their effect on the social influence dimensions of the supervisory relationship. Although it is inappropriate, given the results of this study, to suggest a strong association among the variables investigated, it may benefit supervisors to consider the possible favorable impact that metaphor may have in their relationships with supervisees. At the very least, supervisors could become more aware of the verbal metaphors they do use and begin to observe their impact on their supervisees' client conceptualizations. Because the need exists for effective methods to promote the development of counselors' cognitive skills, additional research to examine the use of metaphorical interventions in a supervision context is needed.

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