School for Social Work: Faculty Publications   School for Social Work

1-1-2012

Interpersonal Complementarity in the Mental Health Intake: a Mixed-Methods Study

Daniel C. Rosen
Bastyr University

Alisa B. Miller

Ora Nakash
Smith College, onakash@smith.edu

Lucila Halpern

Margarita Alegría

Follow this and additional works at: https://scholarworks.smith.edu/ssw_facpubs

Part of the Social Work Commons

Recommended Citation

Interpersonal Complementarity in the Mental Health Intake: A Mixed-Methods Study

Daniel C. Rosen,
Counseling and Health Psychology, Bastyr University;

Alisa B. Miller,
Department of Psychology, Boston University;

Ora Nakash,
School of Psychology, Interdisciplinary Center (IDC) Herzliya, Herzliya, Israel;

Lucila Halperin, and
Massachusetts School of Professional Psychology;

Margarita Alegría
Department of Psychiatry, Harvard Medical School, and Center for Multicultural Mental Health Research, Cambridge Health Alliance, Somerville, Massachusetts.

Abstract

The study examined which socio-demographic differences between clients and providers influenced interpersonal complementarity during an initial intake session; that is, behaviors that facilitate harmonious interactions between client and provider. Complementarity was assessed using blinded ratings of 114 videotaped intake sessions by trained observers. Hierarchical linear models were used to examine how match between client and provider in race/ethnicity, sex, and age were associated with levels of complementarity. A qualitative analysis investigated potential mechanisms that accounted for overall complementarity beyond match by examining client–provider dyads in the top and bottom quartiles of the complementarity measure. Results indicated significant interactions between client's race/ethnicity (Black) and provider's race/ethnicity (Latino) ($p = .036$) and client's age and provider's age ($p = .044$) on the Affiliation axis. The qualitative investigation revealed that client–provider interactions in the upper quartile of complementarity were characterized by consistent descriptions between the client and provider of concerns and expectations as well as depictions of what was important during the meeting. Results suggest that differences in social identities, although important, may be overcome by interpersonal variables early in the therapeutic relationship. Implications for both clinical practice and future research are discussed, as are factors relevant to working across cultures.

Keywords

complementarity; diversity; intake; therapeutic relationship; mixed methodology

Correspondence concerning this article should be addressed to Daniel C. Rosen, Counseling and Health Psychology, Bastyr University, 14500 Juanita Drive NE, Kenmore, WA 98028-4966. drosen@bastyr.edu.

The therapeutic relationship has long been recognized as an essential factor in facilitating client change (Rogers, 1957). As a result, the examination of relational processes promoting effective outcomes has become a major focus of counseling psychology research (C. E. Hill & Corbett, 1993). Interpersonal complementarity (Carson, 1969) has emerged as a central construct in attempting to measure behaviors that facilitate harmonious interactions between client and counselor. The construct of complementarity provides the foundation of a model that elucidates the ideal development of the therapeutic relationship by assessing interpersonal dynamics (Tracey, 1993). Alongside these investigations, findings from psychotherapy dropout studies have documented that nearly half of all clients terminate prematurely (Wierzbicki & Pekarik, 1993), with disproportionate numbers of people of color choosing to discontinue as early as the first session (Sue, 1998). Rather than an anomalous discovery, these data are reinforced by evidence of racial and ethnic mental health disparities in the United States (Agency for Healthcare Research and Quality, 2009; U.S. Department of Health and Human Services, 2001).

Cultural Difference and the Intake Session

Despite the obvious importance of early sessions in client retention and, thus, outcome, a paucity of research exists examining the therapeutic relationship during the initial intake. The challenges of the intake (e.g., establishing rapport, diagnosis, initial treatment planning) are amplified when cultural differences exist (Vasquez, 2007), as an unfamiliarity and/or discomfort with a client's beliefs, practices, understanding of etiology, acceptable approaches of treatment, and communication style may create additional levels of complexity in the initial encounter (Nakash, Rosen, & Alegría, 2009). Recent studies have highlighted the unfortunate manifestations of such cultural disconnects, including the presence of diagnostic bias with clients of color (Alegría, Nakash, et al., 2008).

Premature termination and lower utilization rates of mental health services by ethnic minority groups, including Latinos and African Americans, have been observed in several studies (Alegría, Chatterji, et al., 2008; Cook, McGuire, & Miranda, 2007; U.S. Department of Health and Human Services, 2001). Further, research has demonstrated that clients of color may have reason to mistrust health care services based on the expectation of being stereotyped and receiving lower quality care (Burgess, Fu, & van Ryn, 2004). Clients of color often delay seeking treatment based on mistrust and other obstacles, resulting in delayed treatment entry and increased utilization of psychiatric emergency services (Snowden, Masland, Libby, Wallace, & Fawley, 2008). The Surgeon General's report (U.S. Department of Health and Human Services, 2001) identified the factors of cultural misunderstandings and difficulties in communication between the client and her or his provider as probable barriers to both seeking services and receiving effective mental health care for people of color.

The Matching Hypothesis

Challenges in establishing and maintaining an effective therapeutic relationship with culturally different individuals have led multiple investigators to test the hypothesis that improved outcomes may result from working in culturally matched (same group) dyads

(Cooper & Powe, 2004; Karlsson, 2005; Maramba & Hall, 2002; Sue, 1998; Sue, Fujino, Hu, Takeuchi, & Zane, 1991). This "matching" hypothesis has tested the degree to which shared characteristics—such as race, ethnicity, and sex—relate to service utilization, length of treatment, dropout, and level of functioning. Findings have provided inconsistent answers as to whether shared characteristics between client and provider are related to outcome variables.

Sue et al. (1991) observed that whereas ethnic match was only related to treatment outcome for Mexican American clients, it was associated with greater length of treatment for multiple groups studied. Additionally, match was related to a lower probability of dropping out of treatment for all groups, with the exception of African Americans. Sue (1998) later speculated that lower dropout rates and longer stays in treatment may be attributed to higher levels of rapport and comfort in ethnically matched relationships. This is supported by findings that clients of color may perceive White providers as less credible (Atkinson & Matsushita, 1991) and may have a preference for ethnically matched providers (Atkinson & Lowe, 1995). Results from patient–physician studies have provided additional evidence for racial, ethnic, and language match based on increased levels of patient satisfaction, participation in the treatment process, and longer visits (Cooper & Powe, 2004; Cooper et al., 2003).

Other studies, however, have called findings in support of the matching hypothesis into question. A meta-analysis (Maramba & Hall, 2002) of seven studies found small effect sizes for dropout rates ($r = .03$), length of treatment ($r = .04$), and level of functioning ($r = .01$), leading the authors to conclude that ethnic match is not a significant predictor of these three variables. Karlsson (2005) also tempered support for culturally concordant matching, citing numerous problems from past research, including low validity, uncontrolled within-group differences, and poor conceptualization of key constructs. Cooper and Powe (2004) have called for investigations to examine the processes influenced by communication and relationship variables across ethnic and racial groups in clinical practice, a central purpose of the current study.

Investigating Complementarity

The construct of complementarity appears to provide a unique and underutilized lens in understanding the complexities of establishing harmonious therapeutic relationships across cultures. Complementarity evolved from the interpersonal circle model of personality (Leary, 1957), a foundation of interpersonal theory. Kiesler's (1983) model was developed to assess the validity of the interpersonal circle and is based on Leary's (1957) original assumption that all interpersonal behavior can be reflected by a circumplex structure. The model is defined by two theoretically orthogonal axes of behavior: Control and Affiliation. The Control axis reflects the model's dimension of dominance–submission and is related to the flow and topic of conversation, whereas the Affiliation axis reflects the dimension of friendliness–hostility and is related to affective closeness in the therapeutic relationship. Behaviors are arranged on the circumplex model in accordance to these underlying dimensions. Those behaviors with greater similarities are more proximate to one another, whereas those dissimilar are farther apart.

Complementarity provides "an indicator of the general interactional harmony in any relationship" (Tracey, 2002, p. 267). Rather than focusing at the level of content, it reflects the agreement two individuals have about their relationship and may be understood by the degree to which one person's behavior is related to that desired by her or his counterpart (Tracey, 1993). Within this model, specific behaviors tend to elicit predictable responses (Gurtman, 2001). More specifically, behaviors on the Control axis are defined as complementary if they are opposite of one another (e.g., one follows when another takes the lead), whereas behaviors on the Affiliation axis are complementary when they are similar (e.g., friendly behavior is met with friendly behavior). Complementarity research has examined multiple domains of interaction, including partners' interpersonal styles, influence and adaptation, and specific factors underlying complementarity (Sadler, Ethier, & Woody, 2011). Psychotherapy research investigating complementarity has been conducted in each of these areas and has proven relevant to counseling process and outcomes across theoretical orientations of the provider (Tracey, 2002; Tracey, Sherry, & Albright, 1999).

Psychologists have studied complementarity to gain an enhanced understanding of the processes that facilitate therapeutic change (Gurtman, 2001). Investigations have examined complementarity on multiple levels, ranging from topic determination at each behavioral interchange (Tracey & Ray, 1984) to aggregate measures (Kiesler, 1983) that encompass multiple behaviors on the Control and Affiliation axes. Although aggregate ratings serve only as a distal surrogate for the behavioral interchange, they provide access to capturing both specific behaviors and cross-situational traits (Tracey & Schneider, 1995).

Tracey (1993, 2002) has proposed a three-stage pantheoretical model of counseling based on varying levels of complementarity over time. To promote successful outcome, he hypothesized that a curvilinear U-shaped pattern is ideal with initial levels of high complementarity (on both the Control and Affiliation axes) in the early sessions. With respect to the early stage of therapy, the focus of the present study, the model requires high levels of complementarity to establish rapport such that the client feels understood and a working relationship is formed (Tracey, 1993, 2002).

Outcome research has provided support for complementarity as an important factor in general (C. E. Hill & Corbett, 1993) and for Tracey's (1993) three-stage model in particular (Tracey, 2002). Findings related specifically to the intake (Weinstock-Savoy, 1986) have revealed that higher levels of complementarity (measured using Kiesler's, 1984, Check List of Psychotherapy Transactions [CLOPT]) in the initial session are related to outcome as measured by post-treatment evaluations of therapy across client, provider, and independent rater.

The Present Study

Multiple investigations have substantiated both the importance of relational factors in therapy process and outcome as well as the significant barriers to providing effective services across cultural differences. Few studies have attempted to bring these two findings together. Moreover, there is a significant lack of empirical studies that have investigated the intake session, a central choice point for clients in determining whether to continue services.

The central aim of the study was to understand the impact of dimensions of diversity on complementarity between the provider and client during the intake session.

We examined complementarity during the initial session through multiple dimensions of social identity. More specifically, race/ethnicity, sex, and age were investigated to determine their relationship to levels of complementarity among the client–provider dyad. Based on modest support for the matching hypothesis, we hypothesized that race/ethnicity, sex, and age would each be significantly related to higher levels of complementarity in the intake session. We regarded each hypothesis as exploratory and did not have specific expectations regarding the relative strength of each relationship. To add depth to the quantitative analysis, a mixed-methods approach was taken in which qualitative data were gathered during post-intake interviews with both clients and providers. This analysis served to clarify potential mechanisms that accounted for overall complementarity (beyond match) by examining provider and client dyads in the top and bottom quartiles of complementarity.

Method

Participants

We report data from the Patient–Provider Encounter Study (PPES; Alegría, Nakash, et al., 2008). The PPES utilized a convenience sample of providers and clients who participated in mental health intakes. Data were collected in eight safety-net outpatient clinics in the Northeast offering mental health and substance abuse services to a diverse client population. Provider participants in the study were recruited at the clinics through introductory informational meetings. Client participants' recruitment was conducted through direct person-to-person solicitation upon presentation for intake. Client inclusion criteria were adults 18 years of age and over who did not require interpreter services and for whom the intake was their first contact for a new episode of care. Exclusion criteria included clients identified as psychotic or suicidal by providers, and those who otherwise lacked the capacity to consent. All clients who sought mental health treatment at participating clinics were invited to participate in the study, which totaled 173 adults. Of these, 129 participated in the study (42 clients declined to participate, and two did not pass the capacity to consent screen). At each of the clinics, clients were randomly assigned to providers based on provider availability. An exception to this occurred when a linguistic match was essential to conduct the intake. Data collection was in compliance with all human subject protocols at all participating clinics. Both clients and providers participated in three separate components of the PPES: (1) videotaping of the intake, (2) participation in a post-intake qualitative interview, and (3) completion of a demographic measure. Post-intake interviews with the provider and client occurred immediately after the intake and consisted of a range of questions such as the presenting issue, nature of the provider–client rapport, and the role of socio-cultural factors in care offered. Post-session interview assessments were conducted by eight interviewers. Two interviewers were doctoral level graduate students in psychology, one was a post-doctoral fellow in social work, one was a research associate in psychology, and four were post-baccalaureate. All interviewers were blind to the goals, constructs, and hypotheses of the current study. Further details of the PPES are described elsewhere (see Alegría, Nakash, et al., 2008). The current sample utilized 114 of the 129 videotapes of the

initial sessions (intake) between a client and provider dyad; each videotape recorded the naturalistic session. Data for three Asian providers were excluded from analyses because there were no Asian clients and, thus, did not warrant examination of match. Data on 12 clients were excluded due to missing data. Missing data included items that were not completed by participants (as part of protection of participants rights they had the option not to answer items on the measures) in addition to poor quality videotapes. Of the 129 observations in the original PPES data set, eight videotapes were of poor quality and were not useable for evaluation. The remaining four cases were excluded due to missing information on the client's perception of provider social status. Thus, a sample size of 114 remained for the current study.

Of the 47 providers in the original PPES, 44 participated in the study. The majority of providers were female (68%); 26% were psychologists, 28% were psychiatrists, 38% were social workers, and the remaining were nurses, with the majority of clinicians (70%) having more than 5 years of clinical practice. Approximately 55% of providers self-identified as non-Latino White, whereas 36% self-identified as Latino, and 9% self-identified as non-Latino Black (African American or Afro-Caribbean).

Of the 114 clients who participated in the study, the majority were female (61%). Latinos represented 53% of study participants, with approximately 36% self-identifying as non-Latino White, and 11% self-identifying as African American or Afro-Caribbean. Almost two thirds of the sample (62%) had completed high school, and 44% were employed. Approximately 72% reported a personal income of less than $15,000 per year, and approximately 50% were on Medicaid.

Measures

Demographic questionnaire.—A demographic questionnaire (Alegría et al., 2004) was administered to both clients and providers. Information gathered on this questionnaire and used in the current study included self-report of sex, age, and race/ethnicity.

Complementarity.—The Check List of Psychotherapy Transactions–Revised (CLOPT-R): Short Form (Kiesler, Goldston, & Schmidt, 1991) was used to assess interpersonal complementarity. The CLOPT-R: Short Form is compromised of 48 items descriptive of overt interpersonal behaviors, reduced from the original 96 items. As opposed to a detailed coding of behavioral interchange, the CLOPT-R is an aggregate measure of interpersonal behaviors grounded in the Control and Affiliation axes of the interpersonal circumplex model (Kiesler, 1983). As previously noted, such aggregate ratings serve only as a distal surrogate for each specific interchange, although they have the advantage of capturing behavioral traits across situations. Multiple formats are available, though only the observer version was used in this study. We utilized two versions for observer ratings: (1) client as the observed person (CLOPT-R: Short Form–Client) and (2) provider as the observed person (CLOPT-R: Short Form–Therapist).

The CLOPT-R: Short Form produces 16 interpersonal behavior scores and represents Kiesler's attempt to operationalize Leary's (1957) interpersonal circle. Tracey and Schneider (1995) confirmed that the measure fits the circular model for both clients and providers. One

of the interpersonal behaviors may be selectively combined with another to produce eight scales: Dominant, Cold, Hostile, Unassured, Submissive, Warm, Friendly, and Assured (e.g., Assured = Dominant = Dominant octant). Each of the eight octant scores may then be selectively combined with another to calculate four subscale scores (Dominant, Friendly, Submissive, and Hostile), and the four subscale scores (consisting of 12 items each) may then be selectively combined to calculate the two axes (Control and Affiliation). Although each of the aforementioned scores may be generated independently for each individual, indices of interpersonal complementarity were derived based on coder (observer) ratings of participants in each dyad while viewing the videotape of their intake session. Three separate complementarity scores may be determined: Control (reciprocity complementarity), Affiliation (correspondence complementarity), and Total. Total score does not provide any unique data beyond the Control and Affiliation scores. Individual items were checked by an observer as present or absent during the client–provider interaction as opposed to a moment-by-moment analysis of behavior providing a frequency count (Kiesler, 2004). In their review of psychometric support for the CLOPT-R, Kiesler et al. (1991) concluded that the measure's internal consistency, concurrent validity, and predictive validity had each been adequately established.

Calculation of complementarity.—We calculated dyadic complementarity scores as delineated by Kiesler, Schmidt, and Wagner (2001). Each of the eight octants of the CLOPT-R (e.g., Dominant, Cold, Friendly Assured) is comprised of six items. Each item was assigned either "0," "1," or "2" points, and scale scores were subsequently derived by summing the values of the items. For example, Items 1, 9, 17, 25, 33, and 41 of the CLOPT-R are assigned points and then added together to calculate a score for the Dominant subscale. Each of the eight octant scores was then combined with another to calculate the four subscale scores (Dominant, Friendly, Submissive, and Hostile). For example, the Dominant octant score was combined with the Assured octant score to create the Dominant subscale. The four subscale scores were then combined to calculate the two axes (Control and Affiliation) scores. For example, to obtain a score for the Affiliation axis, the Hostile subscale is subtracted from the Friendly subscale. Subscale scores were calculated separately for each client and provider initially. To calculate complementarity scores for each dyad (the client with the provider) the following formulas were used in calculation:

Reciprocity complementarity on the Control axis:

$$
\begin{aligned}
\text{Complementarity}_{\text{Control}} \\
&= \text{absolute value[(dominant scale client} \\
&- \text{submissive scale client)} \\
&+ \text{(dominant scale therapist} \\
&- \text{submissive scale therapist)]}
\end{aligned}
$$

Correspondence complementarity on the Affiliation axis:

$$
\begin{aligned}
\text{Complemetarity}_{\text{Affliation}} \\
&= \text{absolute value [(Friendly client} - \text{Hostile client)} \\
&- \text{(Friendly therapist} - \text{Hostile therapist)]}
\end{aligned}
$$

Total complementarity:

$$\text{Complementarity}_{\text{Total}}$$
$$= [\text{absolute value (Complementarity}_{\text{Control}} \text{ client}$$
$$+ \text{Complementarity}_{\text{Control}} \text{ therapist)}$$
$$+ \text{absolute value (Complementarity}_{\text{Affliation}} \text{ client}$$
$$- \text{Complementarity}_{\text{Affliation}} \text{ therapist)]}$$

The scores obtained through the aforementioned formulas represent deviations from complementarity (Kiesler et al., 2001) between client and provider, and higher values represent less complementarity. Reciprocity complementarity is accounted for by the Control axis, and correspondence complementarity is accounted for by the Affiliation axis. Because scores reflect a deviation from complementarity, higher axes scores indicate less complementarity, and lower axes scores indicate greater complementarity between the client and provider (see Kiesler et al., 2001, for a more in-depth discussion of scoring methods and formulas). In the present study, scores were multiplied by −1 so that higher scores reflected greater complementarity. With this scoring, 0 is the maximum possible complementarity, and −12 is the minimum value.

Procedures

Coding complementarity.—Assessment of complementarity was restricted to observations of the intake session and was based solely on observer ratings of provider and client behaviors. Three coders utilized two versions, therapist and client, of an observer-report measure (the CLOPT-R: Short Form; Kiesler et al., 1991), coding one form for each client and one for each provider. Two raters were doctoral level graduate students, and one was a postdoctoral fellow in psychology.

A coder viewed each intake video and then filled out the two observer report forms. Each video was coded by a single rater. Coders examined three time points within each intake session to account for a progression in relationship building. Specifically, a coder observed the first 5 min, the middle 5 min, and the final 5 min of each session. The coder then completed the CLOPT-R client form first followed by the CLOPT-R therapist form. This 15-min sample length was consistent with past research (Kiesler, 2004). Intake sessions had an average duration of 51 min ($SD = 11$ min). Due to the unique and varied length of each intake, the middle 5-min segment that was used for coding was calculated separately for each intake video. As such, the middle segment was determined by identifying the midpoint of the intake and then reviewing the 2 min and 30 s surrounding each side.

Coder training and agreement.—CLOPT-R training occurred as an iterative process. Three coders became familiar with both the therapist and client versions of the CLOPT-R by practicing on three of five master videotapes. Coders viewed the videotapes independently and then reconvened to compare the results of their coding. Three separate meetings for each tape were held. Areas of concerns (behaviors or incidents that were deemed difficult to code) that had arisen while viewing the videotapes were identified by coders themselves. On items

that were in disagreement, coders reviewed the segment of the videotape together, and a discussion ensued between the three coders until a consensus of coding (e.g., whether a behavior was present or not) was reached. The final two master tapes were used to calculate inter-rater reliability. Reliability estimates were made on coding prior to the meetings.

Inter-rater reliability was assessed through analysis of the inter-reliability intra-cluster coefficient (ICC) using analysis of variance (Shrout & Fleiss, 1979). Analysis used the mean scores across three raters for two master tapes. The coders maintained a highly acceptable level of inter-rater reliability for complementarity on the Affiliation axis (average measures = .89) and a lower level of acceptability on the Control axis (average measures = .42). After the completion of inter-rater reliability was established, each coder coded intake videos independently. After 42% of the tapes were independently coded, a follow-up meeting was held to ensure fidelity to coding guidelines and to discuss any coding issues or problems that had arisen to account for coders drift. No concerns were noted during this follow-up meeting, and further reliability analysis was deemed unnecessary.

Post-intake interview.—Semi-structured research interviews were conducted with clients and providers separately following each intake. All interviews were audiotaped and fully transcribed using a professional service. These interviews were designed to assess the experiences of clients and providers during the intake visit and lasted approximately 30 min. Provider interviews included questions about their understanding of the client's presenting problem, their clinical decision-making process, their rapport with the client, and their views of the role of socio-cultural factors in the client's presenting problem. Client interviews included questions about their presenting problem, rapport with providers, and significance of socio-cultural factors in the presenting problem. All interviews were conducted in the client's native language by trained research assistants. Supervision was provided throughout the data collection process by an expert in medical ethnography.

Statistical and Qualitative Analysis

A pragmatic paradigm (Hanson, Creswell, Plano Clark, Petska, & Creswell, 2005) guided the study, which employed a concurrent design by collecting quantitative and qualitative data at the same point in time. The study had a predominantly quantitative emphasis, whereas the qualitative portion served primarily to elucidate the quantitative findings through exploration of participant narratives.

Quantitative analyses.—To take into account the fact that clients were nested within providers, we used a two level hierarchical linear model (HLM) analysis to examine the association between complementarity measures (affiliation and control) and selected demographic variables in the initial intake session. The first level of the model describes the association of client characteristics to the complementarity variation, whereas the second level modeled provider characteristics.

Considering the small sample size, we chose to focus on the characteristics of sex, race, and age of client and provider. In terms of race/ethnicity, clients and providers were represented from three racial/ethnic groups (e.g., Black, Latino, and White), with White serving as the reference group.

Level 1:

$$\text{Complementarity} = p_0 + p_1 \text{ (client sex)} + p_2 \text{ (client: Black)}$$
$$+ p_3 \text{ (client: Latino)} + p_3 \text{ (client age)} + e$$

Level 2:

$$p_0 = \beta_{00} + \beta_{10}\text{(provider sex)} + \beta_{20}\text{(provider: Black)}$$
$$+ \beta_{30}\text{(provider: Latino)} + \beta_{40}\text{(provider age)} + r_0$$

$$p_1 = \beta_{01} + \beta_{11}\text{(provider sex)} + r_1$$

$$p_2 = \beta_{02} + \beta_{12}\text{(provider: Black)} + \beta_{22} \text{ (provider: Latino)} + r_2$$

$$p_3 = \beta_{03} + \beta_{13}\text{(provider: Black)} + \beta_{23} \text{ (provider: Latino)} + r_3$$

$$p_4 = \beta_{04} + \beta_{14} \text{ (provider age)} + r_4$$

In these equations, sex is coded with male as reference category, and client or provider ethnicity are coded with White as the reference category. Both client's age and provider's age are centered at the group mean, which are 38.30 for client and 39.93 for provider. In the Level 2 equations, the r terms represent random effects, which describe provider variation for the intercept and various client effects. Although we represent the analytic model using two level notation of Raudenbush and Bryk (2002), we estimated the model using PROC MIXED in SAS, which makes use of a combined model that is obtained by substituting the Level 2 equations into the Level 1 equation (Singer, 1998).

Qualitative analyses.—Qualitative analyses included transcripts of the client–provider dyads that had high complementarity scores (top quartile) and low complementarity scores (bottom quartile) as reflected by Total Complementarity. The top and bottom quartiles were chosen to maximize contrast in outcome measures and to identify differences in the characteristics of each group. The specific groupings selected were believed to be disparate enough to reflect such differences in levels of complementarity and to broad enough to allow themes to be identified in the analysis. Each group included transcripts of 30 client–provider dyads. We conducted thematic analyses of the client and provider interviews using NVivo 7 (Qualitative Solutions Research International, 2006) to identify major themes across selected interviews in the quality of the therapeutic relationship. Analyses procedures followed recommendation made by Braun and Clarke (2006) for using thematic analysis in psychology and involved a series of steps.

First, the research team developed a codebook that included eight a priori determined conceptual categories. These categories represented "buckets" such that they included general rather than specific themes. These general themes were based on review of the literature about mental health intake, the goals of the study, and the guidelines of the semi-structured interviews (e.g., provider decision making, patient–provider interaction, diagnostic assessment, references to cultural factors). Members of the research team coded all the selected interviews using the codebook such that each interview was coded by two members of the team to establish consensus reliability. All the information in the interviews was organized under these major thematic categories. In addition, data extracts from interviews were allowed to be placed under more than one category depending on their relevance to the content of the thematic category (e.g., a quote could be placed under provider decision-making category and patient–provider interaction if it included content that is relevant to both categories). The team met on a weekly basis to discuss coding challenges as well as disagreements. When disagreement arose, the research team attempted to identify the source of the discrepancy, and coded sections were reviewed again until consensus was reached (Braun & Clarke, 2006; E. H. Hill et al., 2005).

To conduct the analyses for the current article, the "client provider interaction" general category was analyzed by the authors of the current article. This thematic category included all references to descriptions of the interactions between clients and providers (including verbal and nonverbal communication). Coders first read the excerpts included in this category individually and organized the selected references into sub-categories. These sub-categories included semantic themes that emerged from the data in an inductive way and were related to the broad research questions of the current investigation that aimed to identify and characterize the quality of the therapeutic relationships formed during the intake process. The team then convened and discussed the emerging sub-categories as well as defined and named the represented themes. When disagreement arose, members of the team identified the source of the discrepancy, and coded sections were reviewed again to refine and revise emerging thematic categories until consensus was reached (Braun & Clarke, 2006). Both client and provider contribution of each dyad were analyzed by the same coder successively, thereby prioritizing the relational factors between the clients and providers rather than viewing each as independent of the other. All coding and analyses were conducted under blind conditions (i.e., research team members were not aware of the complementarity score of the dyad).

Results

Quantitative Analyses

Descriptives.—Fifty-nine percent ($n = 69$) of the dyads were of the same sex, and 64% ($n = 73$) of the dyads were of the same race/ethnicity. Specific combinations of clients and providers on race/ethnicity included the following: Latino client and Latino provider ($n = 37$), Latino client and Black provider ($n = 5$), Latino client and White provider ($n = 19$), Black client and Black provider ($n = 1$), Black client and Latino provider ($n = 1$), Black client and White provider ($n = 10$), White client and White provider ($n = 35$), White client and Latino provider ($n = 1$), and White client and Black provider ($n = 5$). Means and

standard deviations for Complementarity scores and correlations of Complementarity axes scores and provider and client descriptive variables are presented in Table 1.

Correspondence complementarity on the Affiliation axis.—The results of the HLM analyses are shown in Table 2. In addition to the tests of the coefficients from the model, we computed overall tests of main effects and interactions using Type 3 tests. These tests revealed significant main effects of provider sex ($p = .019$, Type 3 test) on the Affiliation axis score. Table 2 also shows a significant interaction effect for Black client by Latino provider (effect $= -6.87$, $SE = 3.06$, $p = .036$). This suggests that the correspondence complementarity on the Affiliation axis among Black clients was greatly diminished when the provider was Latino compared to White. The provider sex effect that was revealed in the Type 3 tests was not apparent in the HLM effects, which included interactions that obscured the main effect. In addition, the interaction between client age and provider age was significant (effect $= 0.004$, $SE = 0.002$, $p = .044$), indicating that complementarity was higher when there was a match in the relative age of the client and provider. Correspondence complementarity on the Affiliation axis increased with provider age for older clients, but it declined with provider age for younger clients as seen in Figure 1.

Although our model allowed for variation of client effects within the providers, Table 2 shows that there was no systematic variation in the effects. Our computation of ICC revealed that variation between providers accounted for 10% of total variance. The fact that it diminished in the model indicates that the provider-level predictors explained most of the provider-to-provider variation in mean complementarity scores.

Reciprocity complementarity on the Control axis.—The Type 3 tests of fixed effects revealed no significant effect of any of the client or provider level predictors as well as their interactions on the Control axis score. As for the random effects, the variance components for both the intercept and the client predictors were 0 or close to 0, and no significant random effects were detected.

Qualitative Analyses

We present major themes related to differences in client–provider interactions of dyads that scored in the upper and lower quartile on complementarity. As a whole, these factors appear to represent more complex relational processes and a richness of references to verbal and non-verbal communication within the dyads in the upper quartile compared to their lower quartile counterparts. Supportive text is included to illustrate these main findings.

A. Match of the client and provider descriptions of the meeting.—The client–provider interactions in the upper quartile of complementarity were consistently characterized by a match between the client and the provider's descriptions of the concerns, expectations, and depictions of what was important during the meeting. In the following example, both provider and client emphasized the importance of the provider's focus on the client's strengths and resilience as key to the quality of the therapeutic relationship:

> Provider: "I think it went well. It seemed that the decision to focus more on sources of support in his life, he left saying that he felt better than he did when he walked

in. I think being able to focus, in addition to focusing on the things he was struggling with, I think being able to spend a bit more time as well talking about positive things in his life was helpful. And, he said leaving, 'God bless you,' and he was really appreciative of having that opportunity, to share what he did, so I felt like it was a pretty good connection."

Client: "She made me somehow relax, and she made me feel better, most important she gave me hope, that it's going to, that it's going to get better … She gave me advice—good advice. She said it was a good thing that I was here … and then she said that me coming here, it shows that I want to better myself … She said, 'It's a good thing that you're here because this is not—this is a good step that you took. Being that this is the first step, once you continue coming, things will get better.' And then she said, 'It seems to me that you want to get better. I can see you want to get better.'"

Conversely, in dyads that scored low on complementarity, there was a mismatch in the descriptions of the client and the provider about what transpired during the meeting. Most discordant descriptions focused on issues of trust and openness as portrayed in the following example:

Client: "I thought she understood what I was saying. The way she responded to things I said, I guess. I thought she knew what I was talking about. The way that things were progressing, talking about stuff and the questions she was asking me. I just felt like things were going right along. I didn't feel like I had to keep explaining things over and over again, like she wasn't getting it or something."

Provider: "I have to say she was a little bit difficult, she was a little bit private, and I got the sensation that I'm not sure whether she's telling me everything."

B. References to the quality of the client–provider relationship versus isolated descriptions of the client or provider.—Client–provider interactions in the upper quartile of complementarity were characterized by more complex depiction of the relational process. The quality of the relationship included references to the impact of the provider on the client and vice versa, more detailed examples of the discussion during the interview, as well as richer examples of the empathic listening. The following client described the interaction with her provider:

"I think part of it is what I said before, the feedback in conversation. The way of making you feel like you're having a conversation instead of an interview. It makes you feel like you're more on the same level in collaborating on something instead of, 'I'm the great doctor on high and you're the lowly patient. I'm going to tell you what to do' type situation. Because it is a collaborative effort, she needs my feedback in order to do what she needs to do. I guess in a way that makes it feel comfortable like that she knows what she is doing."

The following dyad both provided descriptions of their rich interactions:

Client: "She wanted to get to know my life basically see what led up to and what happened, have a better understanding so it started out with childhood. And I never

took it from that point of view either. I never look at my life from the reason why I'm here and stuff like that. Cause I don't like thinking like that. But I think she did that to get to know me. Basically, like a family member, they know you all your life since you were growing up. It's like having a family member help you out."

Provider: "It also happened when he talked about his girlfriend and acknowledged that he had hit her. And he, he became quite labile. And, you know, it was obvious the pain he was feeling, so a decision had to be made to just stop, wait and empathize and allow that. Accept that."

Such descriptions of the relationship were notably absent from client in provider interactions in the lower quartile, focusing instead on individual characteristics of either the client or the provider.

C. References to building the therapeutic relationship as a dynamic process.
—Client–provider interactions highest in complementarity were characterized by descriptions of the therapeutic relationship as a dynamic process that evolves over time and is impacted by the interaction versus a static characteristic of the encounter. As portrayed in descriptions by the following providers, this included an awareness of the factors that supported the development of the therapeutic relationship.

"I think the rapport was good, was firm. She smiled and she said something that is coming to mind. She said, 'I am surprised that I share with you so many things.' Because initially she started off saying you don't know the history, I don't feel like going there, so she was kind of guarded. Which I could understand, I shared that with her. But that led to opening up. But at the end she said, 'I am surprised that I share so much with you.' I think that I take that as a sign that she felt heard."

"When we first sat down, she seemed very overwhelmed by her emotions around the depression and the sadness over this breakup, and she was just kind of telling a story without a lot of relatedness to me as a clinician. But I think as time went on, she seemed to respond a little bit more to my questions. And, I think also I felt more comfortable asking her questions, because in the beginning, 'cause she was wanting to relate some of this story, I didn't feel that I could interrupt her so easily."

D. Complexity and richness of the references to nonverbal and affective communication.—Client–provider interactions in the upper quartile of complementarity were characterized by de tailed descriptions of the nonverbal communication as depicted in the following provider's description of the interaction:

"Her ability to talk quite specifically about feelings currently and her feelings from the past. She also demonstrated some of that affectively. What I would—kind of as observing her, you could see all kinds of feelings running through her. There were times when she became tearful. Which is also—she uses humor really well as a part. She had many losses and hurts and one of her—she has a number of strengths including her intelligence, but her use of humor, so she—right in the course of the interview, we could have a good laugh about something."

Discussion

We aimed to assess the relationship between interpersonal complementarity and three dimensions of social identity, as well as to examine potential underlying variables that support complementarity during the intake session. Our results demonstrate the significance of race/ethnicity, sex, and age in the early formation of the therapeutic relationship, although they do not substantiate the prominence of culturally matched variables (e.g., race/ethnicity, gender) that have been the focus of recent investigations. This finding is significant in that no known studies had yet examined the connection between relational processes and cultural match so early in the therapeutic relationship. Further, qualitative results provide initial insight into client–provider behaviors that facilitate the development of complementarity during the intake session.

Contrary to our expectations, the hypothesis that racial/ethnic match of clients and providers would result in greater levels of complementarity received only partial support. This finding is inconsistent with previous studies that have demonstrated positive outcomes associated with matched relationships (Cooper & Powe, 2004; Sue, et al., 1991) and calls into question the specific advantages that may exist related to such commonalities. It is useful to note, however, that such findings are not entirely at odds with the existing literature. The low effect sizes found in past studies (Maramba & Hall, 2002) and critiques of past methodology and conceptualization (Karlsson, 2005) may each help to contextualize this finding.

Results indicated a significant interaction between Black client and Latino provider, as Affiliation complementarity scores were lower for this pairing compared to their White counterparts. The specific factors that accounted for this finding remains unclear. Given the extremely small sample size, this result needs to be interpreted with caution. Additionally, lower numbers of Black clients and providers may have been an obstacle in observing additional interactions based on match and is a limitation of the current study that needs to be investigated with larger samples. Finally, it is important to note that non-significant findings in the intake session do not necessarily predict whether a racial/ethnic match would take on greater importance in regards to complementarity during future sessions.

Although provider and client match of race/ethnicity received only partial support, a match in age had a significant impact on Affiliation complementarity scores. As described, results indicated an interaction of client age and provider age, suggesting that clients matched with providers of similar age groups fared better in the initial session. Although the current study did not provide definitive answers as to why age match is associated with complementarity for both younger and older clients, we expect that the existence of shared generational reference points and the providers' experiential understating of phase of life concerns may have accounted, at least in part, for this result. In the same way we often attribute a shared worldview as existing within ethnic communities, age often represents a shared set of experiences and cultural reference points that may be useful in developing complementarity in the clinical intake. A significant relationship with the affiliation score suggests that age concordant dyads tended to reciprocate warm/friendly behaviors at greater rates than their discordant counterparts, which we would expect to correlate with the comfort, trust, and familiarity that one feels with their provider. Age match has often been overlooked as a

relevant variable in psychotherapy process and outcome research. Based on the interaction observed in the present study, age may well deserve additional attention in future work.

A match on the variable of sex failed to reveal a significant relationship with the complementarity variables examined. The lack of finding may have been due to lack of variance. Of the 114 sessions reviewed in the current study, 72 were conducted by women (some providers met with more than one client). Although it is unclear how gender socialization and gender roles may impact norms and expectations in an initial meeting like the intake session, it is worth noting the main effect for gender reached statistical significance for complementarity on the Affiliation axis, indicating that male providers reciprocated warm/friendly behaviors more readily than their female counterparts. Future work should examine the characteristics male providers exhibited that are linked to this finding. It is also uncertain to what degree requests for female clinicians were honored by front desk staff. Although inconsistent with study protocol, if honored, such allowances may have created a non-randomized sample based on self-selected gender preference.

Cumulatively, such findings reflect that factors beyond match of cultural variables contributed to attaining high levels of complementarity. It is here that the strength of the mixed methods approach is demonstrated, as the qualitative results shed light on additional factors that may account for higher levels of complementarity. It appears that relational variables offer the opportunity for providers and clients to work effectively across social identities. The most striking of these were differences that emerged between the groups highest and lowest in Total Complementarity scores related to interpersonal dynamics. Providers and clients in the high complementarity group seemed to have a shared experience of their interaction, capturing what may be an underlying foundation of the dyad's interactional harmony (complementarity). These dyads spoke directly to elements of their relationship and its developmental process rather than attributing its success or failure to one of its members. Recognition of the therapeutic interaction and interpersonal communication as a dynamic process, influenced by both members, appears to represent a more refined awareness of the relationship itself. This awareness may mediate the ability of the provider and client to achieve complementarity early in the therapeutic process, when attention to relationship dynamics and one's ability and interest in being able to flexibly interact with another may prove important.

Beyond such interpersonal factors, the limited support found for match on cultural variables may be attributed to a potential constraint of the current study. In part, this may have been due to the nature of the intake session itself. Whereas the mental health clinics expected the collection of essential data in the first visit, opportunities to diverge from a standard interview structure (e.g., counselor asks a question, client responds) may have been less common in subsequent sessions. Kiesler (1996) concluded that complementarity is less likely in situations with a high degree of structure, as is likely in the first session. Consistently, complementarity based on match may be more likely to develop over the course of the relationship, and future investigations assessing later sessions in treatment may well provide additional significant findings on similar measures.

Taking into account the larger context of behavioral interactions when attempting to understand what gives rise to the presence of complementarity in the therapeutic relationship may also be essential to the interpretation of results. Our understanding of complementarity recognizes that individuals have different ideas as to what defines interactional harmony in therapeutic relationships, and that such differences may be found between and within different cultural groups. Examples may include varying interpretations of friendly or hostile behavior across the Affiliation axis, with behaviors that occur as offensive to one individual being highly preferable to another (e.g., use of humor, level of confrontation, adherence to structured protocol). Those provider qualities related to effective treatment by clients (e.g., trust, comfort) could have distinct definitions in accordance to one's worldview and the meaning attributed to specific behaviors. In an alternate study examining PPES data, Mulvaney-Day, Earl, Diaz-Linhart, and Alegría (2010) found that although clients described wanting identical relational qualities from their providers independent of race/ethnicity, the expressions they used and what they meant by similar words and phrases (e.g., listening, managing difference, spending time) differed qualitatively across Latino, Black, and White groups. Investigating how clients operationalize specific behaviors associated with complementarity from their own world-views may prove particularly useful in clarifying where such cultural differences exist. Future investigations are also needed to explore the degree to which contextual variables are mediated by race/ethnicity as well as whether systemic relationships exist between race/ethnicity, personality variables, and presenting problems.

Limitations

Although the present study offers potentially useful information about the quality of the therapeutic relationship in the initial session, results must be understood with regards to some limitations. Though certain advantages for investigating treatment using a naturalistic approach exist in terms of external validity, the lack of controlled random assignment limits any causal statements from being made. Though it was not the direct aim of the present study to provide conclusive evidence for or against the matching hypothesis, future studies intending to do so would benefit from the use of an experimental design. Further, lack of controlled random assignment prevented a consistent number of dyads within each racial/ethnic group. Consequently, we were not able to make many comparisons between dyadic groups (e.g., Latino providers–White clients, White providers–Black clients) and were faced with the unfortunate need to exclude Asian participants due to lack of adequate sample size. How this matches in a completely randomized environment is an empirical question since according to 2005 figures, 3% of psychiatrists and 2% of psychologists were Black, and 5% of psychiatrists and 3% of psychologists were Latino (McGuire & Miranda, 2008).

Another significant limitation was the methodological challenges encountered. The study design was limited to a single coder for each session. Though inter-rater reliability was adequately established, and coder drift was addressed, a larger team of raters would have been ideal, allowing multiple coders to rate each tape. The small sample size of tapes ($n = 2$) with multiple raters limits the reliability of the ICC reported. Modest inter-rater reliability on the Control axis may have potentially concealed significant findings and represents a key limitation of the study. Furthermore, whereas evidence does substantiate a relationship

between complementarity and counseling outcome, the lack of a direct outcome measure in the present study remains a limitation of the investigation.

Generalizing the findings of the investigation beyond the region of the Northeast and outside of the client population studied may also prove problematic. As indicated by descriptive statistics, our sample included a majority of individuals who earned less than $15,000 per year, many of whom were unemployed. Those seeking services at safety net clinics may not be representative of clients who present for care in private practice settings. The sample of clients and providers was also restricted in terms of racial/ethnic group, as only Whites, Latinos, and Black clients were included.

Although our study design allowed us to examine many interaction effects and the modeling accommodated the nested structure of the data (i.e., clients nested within providers), there were inevitable limitations. Our sample size was not large enough to conduct a three-level analysis that would have nested our data within clinic. Additionally, the providers who staffed the eight clinics included a cross-section of those who deliver mental health services. Although the literature did not give us reason to suspect that significant differences would be found based on discipline, this possibility may be worth investigating. Categorizing individuals as White, Latino, and Black undoubtedly oversimplified the many differences that exist within each group. Future research would benefit from including participants from additional racial/ethnic groups as well as from additional geographic areas.

Finally, despite the many advantages of using the CLOPT-R (Kiesler et al., 1991), it fails to capture analysis at the act-by-act or moment-to-moment level. Analyzing the existing data set at this level with an alternate measure would provide further information about the relationship between cultural variables and complementarity.

Implications for Practice and Training

The qualitative findings are especially relevant to clinical practice in the initial intake and have clear applicability across cultures. Regardless of one's social identities, cultivating an awareness of and attentiveness to relational dynamics early in the therapeutic process may support the development of complementary therapeutic relationships in the initial intake. The processes that facilitate this skill for both providers and clients appear of interest and may be a rich area of exploration for future investigations.

Based on observation of the PPES data, Nakash et al. (2009) have developed a comprehensive set of recommendations for working with clients of different cultural, linguistic, and socioeconomic backgrounds during the intake session. Because complementarity is primarily concerned with the interactional harmony present in the relationship, the recommendations may be a first step in translating the results of the present study into direct practice. The authors give specific attention to ensuring that providers proficiently obtain informed consent early in treatment. To this end, they recommend that adequate time be spent describing the purpose and process of the intake session, developing an initial treatment plan, and clarifying expectations for what could be expected in the next session. Understanding the relationship of specific provider behaviors to complementarity may prove rewarding for future research.

Acknowledgments

References

Agency for Healthcare Research and Quality. (2009). National Healthcare Disparities Report, 2009. Rockville, MD: Author.

Alegría M, Chatterji P, Wells K, Cao Z, Chen C-N, Takeuchi D, & Meng XL (2008). Disparity in depression treatment among racial and ethnic minority populations in the United States. Psychiatric Services, 59, 1264–1272. [PubMed: 18971402]

Alegría M, Nakash O, Lapatin S, Oddo V, Gao S, Lin J, & Normand S (2008). How missing information in diagnosis can lead to disparities in the clinical encounter. Journal of Public Health Management & Practice, 14(Suppl), S26–S35. Retrieved from http://journals.lww.com/jphmp/pages/default.aspx [PubMed: 18843234]

Alegría M, Takeuchi D, Canino G, Duan N, Shrout P, Meng X-L,… Gong F (2004). Considering context, place, and culture: The National Latino and Asian American Study. International Journal of Methods in Psychiatric Research, 13, 208–220. doi:10.1002/mpr.178 [PubMed: 15719529]

Atkinson DR, & Lowe SM (1995). The role of ethnicity, cultural knowledge, and conventional techniques in counseling and psychotherapy In Ponterotto JG, Casas JM, Suzuki LA, & Alexander CM (Eds.), Handbook of multicultural counseling (pp. 387–414). Thousand Oaks, CA: Sage.

Atkinson DR, & Matsushita YJ (1991). Japanese-American acculturation, counseling style, counselor ethnicity, and perceived counselor credibility. Journal of Counseling Psychology, 38, 473–478. doi:10.1037/0022-0167.38.4.473

Braun V, & Clarke V (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3, 77–101. doi:10.1191/1478088706qp063oa

Burgess D, Fu S, & van Ryn M (2004). Why do providers contribute to disparities and what can be done about it? Journal of General Internal Medicine, 19, 1154–1159. doi:10.1111/j.1525-1497.2004.30227.x [PubMed: 15566446]

Carson RC (1969). Interaction concepts of personality. Chicago, IL: Aldine.

Cook B, McGuire T, & Miranda J (2007). Measuring trends in mental health care disparities, 2000–2004. Psychiatric Services, 58, 1533–1539. doi:10.1176/appi.ps.58.12.1533 [PubMed: 18048553]

Cooper LA, & Powe NR (2004). Disparities in patient experiences, health care processes, and outcomes: The role of patient–provider racial, ethnic, and language concordance (Publication No. 753). New York, NY: The Commonwealth Fund.

Cooper LA, Roter DL, Johnson RL, Ford DE, Steinwachs DM, & Powe NR (2003). Patient-centered communication ratings of care, and concordance of patient and physician race. Annals of Internal Medicine, 139, 907–915. Retrieved from http://www.annals.org/ [PubMed: 14644893]

Gurtman MB (2001). Interpersonal complementarity: Integrating interpersonal measurement with interpersonal models. Journal of Counseling Psychology, 48, 97–110. doi:10.1037/0022-0167.48.1.97

Hanson WE, Creswell JW, Plano Clark VL, Petska KS, & Creswell JD (2005). Mixed methods research designs in counseling psychology. Journal of Counseling Psychology, 52, 224–235. doi:10.1037/0022-0167.52.2.224

Hill CE, & Corbett MM (1993). A perspective on the history of process and outcome research in counseling psychology. Journal of Counseling Psychology, 40, 3–24. doi:10.1037/0022-0167.40.1.3

Hill EH, Knox S, Thompson BJ, Williams EN, Hess SA, & Ladany N (2005). Consensual qualitative research: An update. Journal of Counseling Psychology, 52, 196–205. doi:10.1037/0022-0167.52.2.196

Karlsson R (2005). Ethnic matching between therapist and patient in psychotherapy: An overview of findings, together with methodological and conceptual issues. Cultural Diversity and Ethnic Minority Psychology, 11, 113–129. Retrieved from http://www.apa.org/pubs/journals/cdp/index.aspx [PubMed: 15884983]

Kiesler DJ (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. Psychological Review, 90, 185–214. doi:10.1037/0033-295X.90.3.185

Kiesler DJ (1984). Check List of Psychotherapy Transactions (CLOPT) and Check List of Interpersonal Transactions (CLOIT). Richmond, VA: Virginia Commonwealth University.

Kiesler DJ (1996). Contemporary interpersonal theory and research: Personality, psychopathology and psychotherapy. New York, NY: Wiley.

Kiesler DJ (2004). Manual for the Check List of Interpersonal Transactions–Revised (CLOIT-R) and the Check List of Psychotherapy Transactions–Revised (CLOPT-R): A 2004 update. Retrieved from http://www.vcu.edu/sitar/CLOITManualUpdate2004.pdf

Kiesler DJ, Goldston CS, & Schmidt JA (1991). Manual for the Check List of Interpersonal Transactions–Revised (CLOIT-R) and the Check List of Psychotherapy Transactions–Revised (CLOPT-R). Richmond, VA: Virginia Commonwealth University, Department of Psychology.

Kiesler DJ, Schmidt JA, & Wagner CC (2001). Formulas for calculating axis, hemisphere, and quadrant scores and for calculating dyadic complementarity using the sixteen scales of the CLOIT-R/CLOPT-R. Unpublished manuscript, Virginia Commonwealth University, Richmond, VA.

Leary T (1957). Interpersonal diagnosis of personality. New York, NY: Ronald Press.

Maramba GG, & Hall GCN (2002). Meta-analyses of ethnic match as a predictor of dropout, utilization, and level of functioning. Cultural Diversity and Ethnic Minority Psychology, 8, 290–297. doi:10.1037/1099-9809.8.3.290 [PubMed: 12143105]

McGuire T, & Miranda J (2008). New evidence regarding racial and ethnic disparities in mental health: Policy implications. Health Affairs, 27, 393–403. [PubMed: 18332495]

Mulvaney-Day N, Earl T, Diaz-Linhart Y, & Alegría M (2010). Preferences for relational style with mental health clinicians: A qualitative comparison of African American, Latino and Non-Latino White patients. Journal of Clinical Psychology, 67, 31–44. [PubMed: 20939021]

Nakash O, Rosen DC, & Alegría M (2009). The culturally sensitive evaluation In Ruiz P & Primm A (Eds.), Disparities in psychiatric care: Clinical and cross-cultural perspectives (pp. 225–235). Baltimore, MD: Lippincott Williams & Wilkins.

Qualitative Solutions Research International. (2006). NVivo 7 [Computer software]. Cambridge, MA: Author.

Raudenbush SW, & Bryk AS (2002). Hierarchical linear models (2nd ed). Thousand Oaks, CA: Sage.

Rogers CR (1957). The necessary and sufficient conditions of therapeutic personality change. Journal of Consulting Psychology, 21, 95–103. doi:10.1037/0033-3204.44.3.240 [PubMed: 13416422]

Sadler P, Ethier N, & Woody E (2011). Interpersonal complementarity In Horowitz LM & Strack SN (Eds.), Handbook of interpersonal psychology: Theory, research, assessment, and therapeutic interventions (pp. 123–142). New York, NY: Wiley.

Shrout PE, & Fleiss JL (1979). Intraclass correlations: Uses in assessing rater reliability. Psychological Bulletin, 86, 420–428. doi: 10.1037/0033-2909.86.2.420 [PubMed: 18839484]

Singer JD (1998). Using SAS PROC MIXED to fit multilevel models, hierarchical models, and individual growth models. Journal of Educational and Behavioral Statistics, 24, 323–355.

Snowden LR, Masland MC, Libby AM, Wallace N, & Fawley K (2008). Racial/ethnic minority children's use of psychiatric emergency care in California's public mental health system. American Journal of Public Health, 98, 118–124. Retrieved from http://ajph.aphapublications.org/ [PubMed: 18048783]

Sue S (1998). In search of cultural competence in psychotherapy and counseling. American Psychologist, 53, 440–448. doi:10.1037/0003-066X.53.4.440 [PubMed: 9572007]

Sue S, Fujino DC, Hu L, Takeuchi DT, & Zane N (1991). Community mental health services for ethnic minority groups: A test of the cultural responsiveness hypothesis. Journal of Consulting and Clinical Psychology, 59, 533–540. doi:10.1037/0022-006X.59.4.533 [PubMed: 1918557]

Tracey TJ (1993). An interpersonal stage model of the therapeutic process. Journal of Counseling Psychology, 30, 396–409. doi:10.1037/0022-0167.40.4.396

Tracey TJG (2002). Stages of counseling and therapy: An examination of complementarity and the working alliance In Tryon GS (Ed.), Counseling based on process research (pp. 265–297). Boston, MA: Allyn & Bacon.

Tracey TJ, & Ray PB (1984). Stages of successful time-limited counseling: An interactional examination. Journal of Counseling Psychology, 31, 13–27. doi:10.1037/0022-0167.31.1.13

Tracey TJG, & Schneider PL (1995). An evaluation of the circular structure of the Checklist of Interpersonal Transactions and the Checklist of Psychotherapy Transactions. Journal of Counseling Psychology, 42, 496–507. doi:10.1037/0022-0167.42.4.496

Tracey TJG, Sherry P, & Albright JM (1999). The interpersonal process of cognitive behavioral therapy: An examination of complementarity over the course of treatment. Journal of Counseling Psychology, 46, 80–91. doi:10.1037/0022-0167.46.1.80

U.S. Department of Health and Human Services. (2001). Mental health: Culture, race, and ethnicity— A supplement to mental health: A report of the Surgeon General. Rockville, MD: Author.

Vasquez M (2007). Cultural difference and therapeutic alliance: An evidence-based analysis. American Psychologist, 62, 878–885. doi:10.1037/0003-066X.62.8.878

Weinstock-Savoy DE (1986). The relationship of therapist and patient interpersonal styles to outcome in brief dynamic psychotherapy (Unpublished doctoral dissertation). Boston University, Boston, MA.

Wierzbicki M, & Pekarik G (1993). A meta-analysis of psychotherapy dropout. Professional Psychology: Research and Practice, 24, 190–195. doi:10.1037/0735-7028.24.2.190
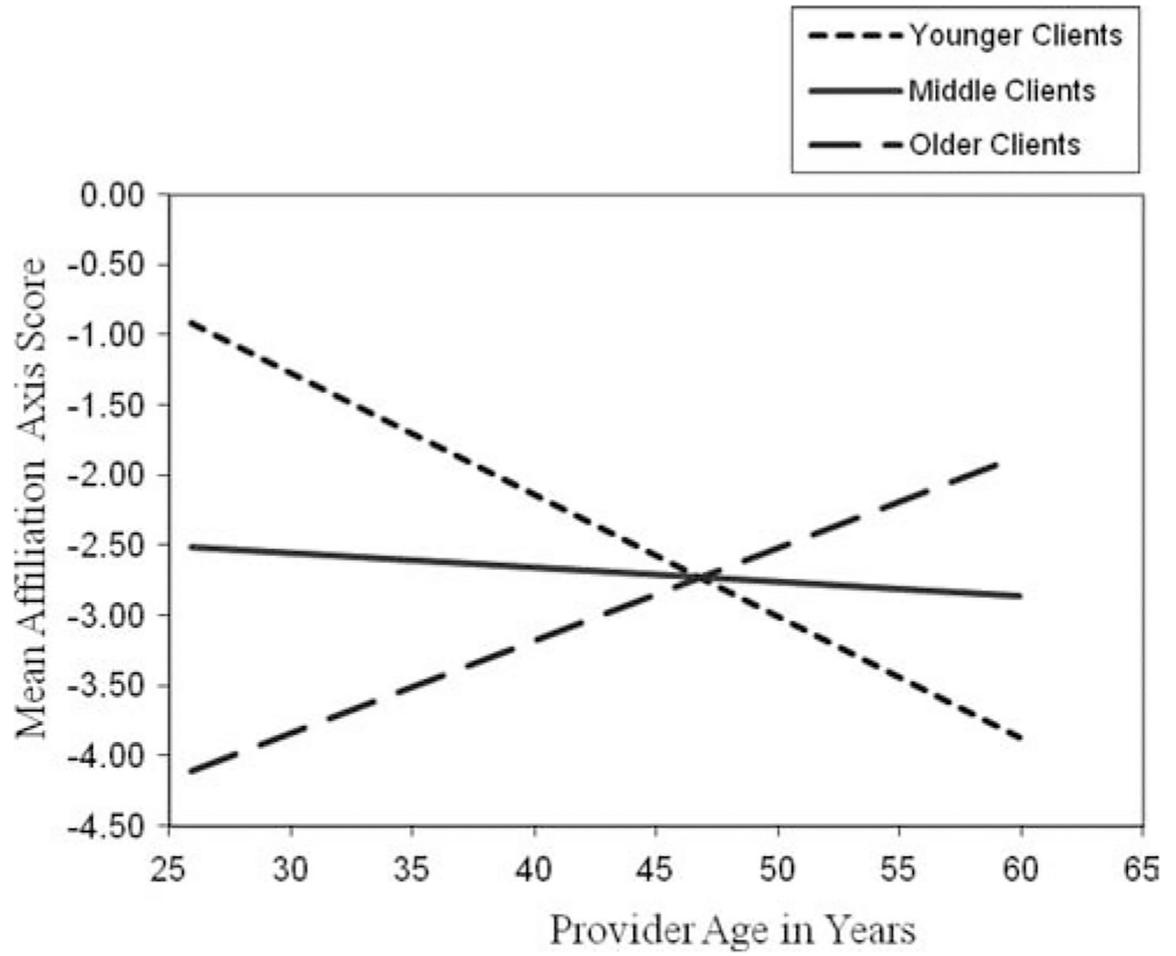
Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Figure 1.
Interaction effect of Provider Age × Client Age as predictors of mean Affiliation axis score.

Table 1

Means and Standard Deviations of Complementarity Scores (Affiliation and Control) and Correlations of Provider and Client Sex, Provider and Client Race/Ethnicity, and Provider and Client Age

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. Affiliation score												
2. Control	-.07	—										
3. Client sex	-.06	-.17	—									
4. Provider sex	.21	-.10	.14	—								
5. White race: Client	-.11	.13	-.16	-.05	—							
6. Latino race: Client	.04	-.13	.28	.17	.78	—						
7. Black race: Client	.10	.02	-.19	-.19	-.28	-.38	—					
8. White race: Provider	-.01	.13	-.38	-.13	.43	-.49	.12	—				
9. Latino race: Provider	.13	.14	.35	.12	.49	.60	-.20	-.77	—			
10. Black race: Provider	-.14	.00	.14	.14	.06	-.04	-.03	-.35	-.23	—		
11. Client age	.16	-.07	.06	-.01	-.15	.06	.13	-.08	.21	-.23	—	
12. Provider age	.03	.11	.11	-.03	.19	-.11	-.11	.06	.00	-.01	.02	—
M	2.91	2.91									38.3	39.9
SD	2.26	2.27									12.8	10.2

Note. Race = race/ethnicity.

Table 2

Parameter Estimates (Standard Errors) of Fixed Effects and Variance Components for the Models for the Two Complementarity Axes Measurements

Fixed effects	Complementarity affiliation Coefficient (SE)	Complementarity control Coefficient (SE)
Intercept (β_{00})	-2.657^{**} (0.559)	-3.670^{**} (4.095)
Provider sex (β_{10})	-0.876 (0.659)	0.241 (0.694)
Provider race: Black (β_{20})	1.749(1.024)	0.336(1.082)
Provider race: Latino (β_{30})	2.892 (1.024)	0.578 (2.237)
Provider age (β_{40})	-0.010(0.020)	-0.022 (0.021)
Client sex: Female (β_{01})	0.489 (0.683)	0.476(0.718)
Client Sex × Provider Sex: Female (β_{11})	-0.396 (0.878)	0.078 (0.924)
Client race: Black (β_{02})	-0.284 (0.777)	0.695 (0.824)
Client race: Black × Provider Race: Black (β_{12})	-2.103 (2.356)	-0.273 (2.473)
Client race: Black × Provider Race: Latino (β_{22})	-6.873^{*} (3.059)	-3.435 (3.215)
Client race: Latino (β_{03})	0.315 (0.608)	0.276 (0.642)
Client race: Latino × Provider Race: Black (β_{13})	-1.268(1.456)	-0.544(1.539)
Client race: Latino × Provider Race: Latino (β_{23})	-3.202 (2.173)	-0.216(2.291)
Client age (β_{04})	-0.026 (0.017)	0.011 (0.018)
Client Age × Provider Age (β_{14})	0.004^{*} (0.002)	-0.001 (0.002)
Random effects		
Intercept	0	0
Slope of client sex	0.005 (0.432)	0
Slope of client race	0	0
Slope of client age	0(.001)	.001 (.003)
Residual	4.111^{**} (0.713)	4.508^{**} (0.744)

Note. Race = race/ethnicity. Reference groups = sex: male; race: White; sex interaction: female client with male provider; race interactions: Black client with male provider; race interactions: Black client with White provider for Black client with "others" provider; Latino client with White provider for Latino client with "others" provider.

*
$p < .05$.

**
$p < .001$.