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Therapist and Patient Perceptions of Alliance and Progress In Psychological Therapy for Women Diagnosed with Gynecological Cancers

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Abstract

Objective—The goal was to understand both therapist and patient perspectives on alliance and session progress for women in treatment for gynecological cancer. We used a longitudinal version of the one-with-many design to partition variation in alliance and progress ratings into therapist, patient/dyad, and time-specific components. We also evaluated therapist and patient characteristics that predict alliance and session progress.

Methods—Two hundred and three women and their therapists completed measures of alliance and session progress across a 6-session course of treatment. Participants also completed pre-intervention measures of self-esteem, depression, cancer-specific distress, emotional expressivity, and use of protective buffering.

Results—Patients reported higher alliance and greater progress than therapists. When therapists reported particularly strong alliance with particular patients, those patients concurred. More experienced therapists reported higher alliances and more progress but their patients did not agree. Patients who began treatment in more difficult psychosocial circumstances tended to have less positive session outcomes on average but evidenced more improvement across therapy sessions.

Conclusions—Patients rated their alliance and progress more positively than their therapists, although there was substantial relative agreement between therapists and patients. Alliance and progress improved over time, particularly among patients who evidenced higher levels of distress and poorer physical functioning. More experienced therapists were more confident in their abilities but their patients did not share this perception.

Keywords

therapeutic alliance; session progress; gynecological cancer; one-within-many design; variance decomposition

Although a number of psychological interventions for individuals diagnosed with cancer have been shown to be efficacious, reasons why these treatments are effective have not been studied extensively. Identifying the therapeutic ingredients responsible for therapeutic change may improve treatment efficacy if effective ingredients can be enhanced and inactive and/or harmful ingredients of treatments can be excluded (Kazdin, 2007). This knowledge can also inform conceptual underpinnings of treatments and refine theory (Kazdin, 2007).

Among the factors that may influence therapy outcomes, non-specific therapy processes—that is, therapy ingredients that are not specific to a particular treatment that contribute to outcomes across therapeutic approaches—are widely thought to play an important role in the efficacy of psychological interventions. These ingredients have received little attention in the psycho-oncology literature (Anderson, Watson, & Davidson, 2008). One key therapy process influencing outcome is the working alliance, which includes the quality of the emotional bond, the level of collaboration in setting therapeutic goals, and the level of agreement on ways of achieving therapeutic goals between patient and therapist (Bordin, 1979). Depending on the meta-analysis, the amount of outcome variance attributed to alliance ranges from 2.5% (Horvath & Bedi, 2002) to 7% (Horvath & Symonds, 1991). The relationship between alliance and outcome is relatively consistent across treatment modalities, which further supports the contention that this is a non-specific therapy process. Although alliance is considered an important component of treatment success, less is known about the course of alliance over therapy. Some studies suggest that alliance grows over time (Bethea et al., 2008), while other studies have posited that alliance can be marked by ruptures that may be associated with better or worse outcomes, depending upon how therapists address the rupture (Safran & Muran, 1996). The trajectory of alliance has also differed depending on whether the therapist's or client's perspective is measured (Golden & Robbins, 1990). There is only moderate agreement between perspectives (Tryon, Blackwell, & Hammond, 2007).

Characteristics of both therapist and client influence the development and course of alliance. Therapist variables studied have included the level of professional experience, the types of interventions used, and therapists' qualities. Experience is the variable which has received the most empirical attention. Results have been mixed. Some studies suggest that greater experience is associated with higher client-rated alliance (Connors, et al., 2000), and some studies suggest that more experience is either not associated with alliance (Dunkle & Friedlander, 1996) or is associated with a less favorable client-rated alliance (Hersoug, Hoglend, Monsen, & Havik, 2001). Therapist variables that predict how they rate the therapeutic alliance have been less studied. More training and greater therapy skill has been associated with a more favorable therapist-rated alliance and experience has been associated with lower therapist-rated alliance (Hersoug et al., 2001). Client factors influencing alliance have been categorized as interpersonal variables (e.g., social support), intrapersonal factors (e.g., motivation), and diagnostic factors (e.g., symptom severity). There is evidence that higher levels of patient-rated social support are associated with greater patient-rated alliance (Garner et al., 2008). Intrapersonal factors associated with a less favorable client-rated alliance include greater symptom severity (Bethea, Acosta, & Haller, 2008).

A second non-specific factor that has been studied is the “micro-outcome” of treatment, which is typically defined as the impact of individual sessions on therapeutic progress (Orlinsky & Howard, 1986). The reason that this process is important is that improved session progress leads to reductions in distress (Watson, Schein, & McMullen, 2010). More importantly, perceived session progress predicts beneficial long-term, macro-outcomes such as reductions in distress after therapy termination (Manne et al., 2010; Stiles, 1980; Watson

& Greenberg, 1996). Thus, session outcome is an important short-term indicator of long term therapy success.

Although both clients and therapists make judgments about progress, little is known about the correspondence between therapist and client perceptions of progress or about client or therapist characteristics that predict progress. Therapist characteristics might influence outcome. These characteristics include more treatment experience, which has been both positively and negatively associated with better outcomes (Stein & Lambert, 1984) and therapist age, which has been inconsistently associated with outcome (Sexton & Whiston, 1991). In terms of client factors predicting therapy outcome, higher levels of pre-intervention distress have been shown to predict poorer outcomes (Hoberman, Lewinsohn, & Tilson, 1988). Given the important role that perceived session progress has in post-therapy outcome, it is important that the perspectives of both patient and therapist be better understood.

The One-with-Many Design

Research on therapeutic efficacy typically involves a design in which each therapist works with multiple patients. An important element of such research is that the outcomes of patients who see the same therapist may be related – not because the patients directly influence one another, but rather because they are all connected to the same therapist. Kenny, Kashy, and Cook (2006) have called this a One-with-Many (OWM) design where the therapist is the “one” and the patients are the “many”. The key idea is that data from patients who share the same therapist may reflect something about the therapist in general, as well as something about the patient and his or her unique relationship with the therapist. OWM analyses can evaluate whether some therapists are more successful in establishing alliance with their patients than other therapists and identify therapist-level predictors that may explain this success. These analyses can also estimate the extent to which alliance varies from patient to patient, and can identify patient-level predictors that may explain this variation.

The OWM design is a variance decomposition model that separates therapist-level from patient/dyad-level variance, and with multiple observations over time, these components can also be separated session-specific variation. In a reciprocal OWM design both the patient and the therapist report on an outcome (e.g., alliance), and the percentage of variance at the patient and therapist levels can be estimated for both perspectives. Therapist-level variance for therapist reports suggests that some therapists report relatively high alliance with all patients and other therapists do not; for patient reports this variance estimates consensus: Do all patients who see the same therapist report similar alliance? The patient/dyad-level variance for therapist reports estimates whether therapists perceive strong alliance with some patients, but weaker alliance with others, and the patient/dyad-level variance for patient reports estimates whether controlling for therapist-level effects, some patients report strong alliance but others report weak alliance.

The Present Study

The primary goal was to examine therapist and patient perspectives on therapeutic alliance and perceived session progress for women with gynecological cancers attending a seven-session therapeutic intervention study. The source of the data is a randomized clinical trial comparing supportive counseling (SC) with coping and communication skills (CCI) and Usual Care (UC) (Manne et al., 2007; 2008; 2010). Results from the original study indicated that both CCI and SC had a beneficial effect on depressive symptoms with significant effects noted at the six and nine month follow-ups (Manne et al., 2007). Results suggested that the effects of CCI were mediated by change in positive reappraisal, problem solving,

self-esteem, and emotional expression, and the effects of SC were partially mediated by positive reappraisal (Manne et al., 2008). Because we did not find differences between CCI and SC on depressive symptoms, in the next analysis, we combined treatment arms and evaluated the role of patient-rated non-specific factors (alliance, therapeutic realizations, and therapeutic openness) in patient-rated session progress and treatment outcomes rated after sessions, 2, 6, and 7 (Manne et al., 2010). Results indicated that therapeutic bond predicted openness, which, in turn, predicted more therapeutic realizations. Therapeutic realizations predicted greater session progress. Early alliance predicted later therapeutic realizations, and openness predicted later session progress. Greater session progress predicted lower post-session depressive symptoms, and depressive symptoms after session 6 predicted depressive symptoms 3 months post-treatment (Manne et al., 2010).

The present study continues our examination of non-specific therapy processes in psychotherapy with this population by examining therapist perspectives on alliance and session progress, by evaluating predictors of therapist and patient-rated alliance and session progress, and by parsing out therapist and patient effects. The present study had two aims. The first aim was to evaluate the degree to which alliance and therapy session outcomes represent therapist-level, patient/dyad-level, and time-specific effects. The second aim was to evaluate therapist and patient characteristics that predict working alliance and perceived session progress. The therapist characteristics we examined included therapist age and years of experience, and the patient characteristics we evaluated included pre-intervention levels of depressive symptoms, functional impairment, self-esteem, emotional expressivity, use of protective buffering, and cancer-specific distress. We hypothesized that patients with fewer personal resources when they started therapy would evidence greater improvements in working alliance and perceived session progress over the course of treatment. Data from the two study conditions were combined.¹

Method

Participants and Procedures

The sample consisted of women who participated in the two active intervention conditions of a randomized clinical trial evaluating the efficacy of a CCI versus SC and UC (Manne et al., 2007; 2008; 2010). The sample, CONSORT schema, and results are described in greater detail in Manne and colleagues (2007). In brief, participants were women undergoing active medical treatment at ten hospitals in the northeastern US for a primary gynecological cancer (ovarian, endometrial, cervical, vulvar, fallopian tube, or uterine cancer). Study inclusion criteria were: age 18 years or older; a Karnofsky Performance Status of 80 or above or an Eastern Cooperative Oncology Group (ECOG) (Zubrod et al., 1960) score of 0 or 1; lived within a two-hour commuting distance from the recruitment center; English speaking, and no hearing impairment. Participants from the larger study ($N = 353$) were assigned randomly to CCI, SC, or UC. Randomization was stratified by baseline Beck Depression Inventory (BDI) score (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

CCI and SC both consisted of six hour-long individual sessions and one telephone booster session. CCI content focused on enhancing coping, altering life priorities, and dealing with emotional reactions. The goal of SC was to enhance adaptation by encouraging emotional expression, supporting existing coping, and enhancing self-esteem (Novalis, Rojewicz, & Peele, 1993). The CCI and SC manuals are available from the study's first author (SLM).

¹In principle, it is possible to test whether the **One Within Many** (OWM) parameters differ across the two treatment conditions using a deviance test that compares a model in which the random effects differ across conditions with one in which they do not. However, given the small number of therapists in this study, the model that estimates separate parameters did not converge, and thus we were unable to conduct the test.

All participants received medical treatment as usual in their respective medical settings. Treatment fidelity was monitored and fidelity was excellent. Details are contained in Manne et al. (2007).

Of the 246 participants assigned to an intervention condition, 126 were assigned to CCI and 120 were assigned to SC. 203 of these participants (82.5%) attended Session 1. These 203 women comprised the sample for this study. 195 women attended Session 2 (79.3%), 179 women attended Session 3 (72.6%), 172 attended Session 4 (69.9%), 168 attended Session 5 (68.3%), and 166 women attended Session 6 (67.4%). When participants who dropped from therapy were compared with therapy completers, results indicated only one difference: Therapists rated working alliance with patients who ultimately dropped lower ($M = 184.0$) than alliance with patients who did not drop ($M = 199.6$; $t(190) = 2.8$, $p < .01$). More details regarding the study acceptance rate, comparisons between study refusers and participants, and study flow (CONSORT) are contained in Manne and colleagues (2007).

Post-session surveys were administered after each of the six in-person sessions. In addition, a survey was administered at pre-intervention (baseline). Participants were paid \$25 for the baseline survey and participants assigned to the intervention arms were paid \$25 for each session attended to cover travel and parking expenses. Eleven therapists conducted sessions.

Measures

Patient and Therapist Post-Session Measures

Therapeutic alliance: Alliance was assessed using the Working Alliance Inventory (WAI) (Horvath & Greenberg, 1989) which is a 36-item questionnaire. Respondents rate their level of agreement to statements using a 7-point Likert-like scale. In this study, the WAI was administered after the second and sixth sessions. Cronbach's alpha for the patient WAI total score was .93 after Session 2 and .94 after Session 6, and for the therapist WAI total score, alpha was .96 at both sessions.

Perceived session progress: Progress was assessed using 4 items evaluating the therapist's and patient's perception of progress made in the session (sample item, "How much progress do you feel you made in dealing with your problems in this session?" 1 = "a great deal of progress", 6 = "In some ways my problems seem to have gotten worse this session"). The session progress measure was given after each session. We reverse scored this measure so that higher scores indicate greater progress. Cronbach's alphas for patient ratings ranged from .71 to .83 and alphas for therapist ratings ranged from .69 to .82.

Patient Characteristics assessed Pre-Intervention

Self-reported physical symptoms: The 26-item functional status subscale of the Cancer Rehabilitation Evaluation System (Schag, Ganz, & Heinrich, 1991) (CARES) was used to assess physical symptoms (scale range, 0–104) (sample item "I have difficulty preparing meals"). Cronbach's alpha was .93.

Depressive symptoms: The Beck Depression Inventory (BDI)(Beck et al., 1961) is a 21-item scale which has been widely used (scale range, 0–63). Cronbach's alpha was .86.

Cancer specific distress: The Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979) is a 15-item measure focusing on intrusive and avoidant ideation associated with gynecological cancer. Using a 4-point Likert scale, participants rated how true each statement had been for them during the past week (scale range = 0–75). Cronbach's alpha was .91.

Self-esteem: The Rosenberg Self-Esteem Inventory was used (Rosenberg, 1965). This 10-item scale measures self-acceptance. Items are measured on a 4-point continuum from “strongly agree” to “strongly disagree.” Cronbach’s alpha was .89.

Emotional expressivity: Expression of positive emotions was measured by the positive expressivity subscale of the Emotional Expressiveness Questionnaire (King & Emmons, 1990). (sample item, “When I really like someone they know it.”). The scale had 7 items rated on a 5-point Likert scale (0= “never”, 4 = “always”) (range 0–64). Cronbach’s alpha was .76.

Protective Buffering: This 10-item scale was adapted from Coyne and Smith (1991) to measure the degree to which individuals hide concerns and negative feelings about cancer (sample item, “I try to avoid arguments with my family/friends since I’ve become ill”). Participants rated their responses since the cancer diagnosis on a scale ranging from 1 (never) to 5 (very often) with higher scores indicating a greater frequency. Cronbach’s alpha was .87.

Therapist Characteristics

Therapist age and experience: Self-reported age and number of years post-terminal degree were assessed. Therapist experience was computed by subtracting the year post-terminal degree was conferred from the year each patient began therapy. Thus, therapist experience varies somewhat within therapists (i.e., across a therapist’s patients) as well as between therapists. In contrast, therapist age was not computed relative to patient therapy date, and so it varies only between therapists. Finally, because therapist experience was highly skewed, we use the square-root of therapist experience in our analyses.

Results

Analysis

Marcus and colleagues (Marcus, Kashy, & Baldwin, 2009; Marcus, Kashy, Wintersteen, & Diamond, 2011) provide a detailed description of how a reciprocal OWM design based on a single wave of data can be estimated using multilevel modeling (MLM). The OWM design is hierarchically nested such that patients are nested within therapists. In a reciprocal OWM design outcomes for each patient are reported by both patients and therapists, and so there are several sources of nonindependence. Here we briefly discuss this design and its generalization to what we call the Longitudinal One-with-Many design (LOWM; a technical appendix detailing the analysis of the LOWM is available online).

When the research includes only a single assessment wave then the reciprocal OWM model includes two fixed effects (i.e., the means of the therapist and patient ratings), and four variances, two at the therapist level and two at the patient/dyad level. However, when therapists and patients report on their experiences at more than one time-point, both the fixed-effect and random-effect components of the model require modification. Although alternatives are possible, a growth-model approach is a natural way to extend the reciprocal OWM into an overtime context. In this case two additional fixed effects are included in the model to reflect change over time. Thus, in addition to the two intercepts, the longitudinal model includes a fixed-effect slope based on the therapists’ ratings and a fixed-effect slope based on the patients’ ratings. These slopes estimate, for example, whether therapists and patients report increases in alliance over time. To maintain the interpretability of the intercepts, we centered our Time variable, which has the advantage that the intercepts estimate the mean outcomes for therapist and patient ratings over time. In addition, we

coded our Time variable so that the slopes for Time would estimate predicted change in alliance or session progress over a one-week interval.

The over-time model has several advantages in terms of the random effects. First, the therapist-level effects are estimated with greater reliability as they involve aggregation both across patients and across time. Second, multiple observations allow the patient/dyad-level variance to be decomposed into stable and time-specific components. Finally, it allows examination of a time-specific correlation between patients and therapists. This correlation assesses whether sessions in which therapists perceive uniquely high alliance with a particular patient, are seen by those patients as uniquely high in alliance.

Results for the Basic LOWM

Fixed Effects: The fixed effects results for predicting working alliance and progress using the LOWM growth model approach are presented in the first columns of Table 1. Because the time variable was centered, the intercepts estimate the average working alliance (or progress), and the slopes estimate the change in these variables over time. The intercepts for alliance indicate that patients rated average alliance (averaging across time points) somewhat more positively than therapists, although the test of the mean difference was only marginally significant, $t(16) = 2.10, p = .052$. Because alliance was measured at two time points, the present results also provide insight into how alliance changes over time. Both therapists and patients reported increases in alliance, and averaging over therapists and patients, ratings of alliance at Session 6 were on average 7.63 points higher than those at Session 2. In terms of perceived session progress, patients tended to rate progress significantly more positively than therapists, $t(14) = 5.10, p < .001$. The slopes show that although both therapists and patients viewed outcomes as becoming more positive, this effect was significantly stronger for patients than for therapists, $t(172) = 5.49, p < .001$.

Random Effects: The LOWM variance partitioning results for alliance included estimates for therapist-level, patient/dyad-level, and time-specific components for both therapist and patient ratings (see Table 1). Thirty-four percent of the variance in therapist ratings was at the therapist-level, indicating that some therapists tended to report establishing relatively strong alliance with all of their patients, but others reported relatively weak alliance across their patients. An additional 44% of the variance in therapist ratings was stable variance at the patient/dyad level (i.e., it was stable across the two assessment waves), such that therapists reported establishing strong alliances with some patients, but weaker alliances with others. Finally, the residual variance in therapist ratings shows that about one fifth of the variance in these ratings was due to time-specific factors (including error).

The variance decomposition for patient ratings indicates some evidence of therapist-level variance. Patients showed consensus such that patients of some therapists all perceived strong alliance with the therapist whereas the patients of other therapists all perceived weaker alliance with their therapist. Although this variance component did not attain the traditional .05 level of significance, it accounted for 15% of the variance in patient ratings. In contrast, 59% of the variance in patient ratings was at the patient/dyad level, indicating that, averaging over time and controlling for therapist, some patients reported stronger alliance than did others. Finally, as with therapist ratings, there was also significant time-specific variance in patient ratings.

In addition to the random variances, the LOWM specifies correlations for each of the three components. The correlation between the therapist-level effects for therapist and patient ratings, $r = -.164$, $Wald Z = .48, p = .63$, shows little evidence that therapists who reported high alliance across patients and waves had patients who reported similarly high alliance on average. However, there was a significant correlation between therapist and patient ratings

at the patient/dyad level, $r = .461$, $Wald Z = 5.63$, $p < .001$, suggesting that if a therapist reported establishing a particularly strong alliance with a patient, that patient also tended to report a particularly strong alliance. Finally, there was a significant time-specific correlation between therapist and patient ratings, $r = .257$, $Wald Z = 3.43$, $p = .001$, such that when therapists reported an especially high alliance at a particular session with a particular patient, that patient reported an especially strong alliance.

Results for the variance partitioning of session progress show that 27% of the variance in therapist's average ratings of progress is at the therapist level, suggesting that averaging across patients and time, some therapists tended to see average session progress more positively than other therapists. Therapist ratings of session progress were also dependent on the particular patient, with 25% of the variance at the level of the patient/dyad. Session-specific or residual variation in perceived session progress ratings accounted for the remaining 47%.

For patient ratings of progress only 5.9% of the variance was at the therapist level. Thus, there was little evidence that all patients who saw the same therapist rated their progress in a similar way. However, in this case the patient/dyad variance was particularly high (63%) reflecting the fact that some patients tended to have consistently positive perceptions of progress whereas others had consistently negative perceptions. There was also a substantial time-specific component to patient ratings of progress, accounting for 31% of the variance.

The correlations between the variance components for therapist and patient ratings of progress showed little evidence that therapists who generally reported higher progress across patients and time had patients who reported consistently higher progress as well, $r = .236$, $Wald Z = .60$, $p = .55$. However, there was a relatively large and statistically significant correlation between therapist and patient ratings at the patient/dyad level, $r = .488$, $Wald Z = .659$, $p < .001$, showing that when therapists rated average progress with particular patients as positive, those patients tended to report similarly positive average progress. There was also evidence that therapists and patients agreed in their time-specific ratings of progress, with $r = .257$, $Wald Z = 7.06$, $p < .001$, and so sessions for which the therapist thought outcomes were particularly positive were also seen in a similar way by patients.

Finally, although not specifically part of the LOWM, because progress was assessed at six waves, we allowed for a random slope component for the effects of time at the patient/dyad level. This component is typically included in growth models (Singer & Willett, 2003) and assesses the degree to which there is variability in the rates of change for progress across patients. This variance was statistically significant for both therapist ($s^2 = .103$, $Wald Z = 2.88$, $p = .004$) and patient ratings ($s^2 = .071$, $Wald Z = 2.82$, $p = .005$). Moreover, there was a substantial correlation between these components, $r = .603$, $Wald Z = 2.94$, $p = .003$, suggesting that when therapists tended to report increases in progress over time for a particular patient, the patient also reported similar improvements.

Predicting Therapist and Patient Perceptions of Working Alliance and Perceived Session Progress

The LOWM analyses indicated substantial variance in therapist and patient ratings of alliance, and so the next set of questions we addressed was whether we could predict this variation as a function of therapist-and patient-level attributes. These analyses parallel a typical growth model analysis in which the intercepts and time slopes from the growth model serve as outcomes, however, the random effects structure for these models was based on the LOWM model we have described.² Because the basic LOWM model is complex, we took the approach of conducting a separate analysis for each therapist (Table 3) or patient (Tables 4 and 5) predictor variable. For example, we examine the effects of therapist age and therapist experience in separate models rather than

examining the unique effects of age over and above experience or the unique effects of experience over and above age. Correlations, means and standard deviations, and reliability for these predictor variables are in Table 2.

Therapist Predictors: Table 3 presents results for therapist experience and age. Therapist experience was a significant predictor of average reports of alliance (i.e., experience predicted the intercepts for alliance) from both therapist and patient perspectives. The positive coefficient for therapist ratings suggests that more experienced therapists reported more positive average alliances with their patients. In contrast, the negative coefficient for patient ratings suggests that patients who were working with more experienced therapists reported significantly *lower* average levels of alliance. However, the results for therapist experience predicting the slopes show that experience did not significantly predict changes in alliance over time from either therapists or patients.

The results predicting session progress as a function of the therapist's experience indicated a similar pattern to that found for alliance: Therapists with more experience tended to report higher progress on average, but patients working with more experienced therapists reported lower progress on average. Although the positive coefficient for therapist ratings did not attain statistical significance, a test comparing the coefficients for therapist and patient ratings was significant, $t(57) = 2.91$, $p = .005$. As was the case for alliance, therapist experience did not predict differences in progress slopes over time.

Finally, therapist age did not significantly predict intercepts or slopes for alliance, and its only significant effect for progress was a positive slope for therapist reports of progress. This coefficient suggests that older therapists tended to report greater increases in progress over time.³

Patient Predictors: Table 4 presents results for predicting average working alliance (i.e., intercepts) and changes in alliance over time (i.e., slopes) as a function of patient variables at intake. Patients' positive emotional expressivity was a significant predictor of both therapists' and patients' average ratings of alliance, such that therapists reported stronger average alliance with patients who reported that they had an easier time expressing positive emotions, and these patients also reported stronger alliance. In addition, patients who started therapy with higher self-esteem reported higher average alliance, but showed a marginally significant decrease in alliance over time. Patient self-esteem did not predict therapist ratings of alliance.

As is evident in Table 4, the remaining patient predictors showed significant associations only with patient reports of average alliance and changes in alliance. Patients who were higher in baseline depressive symptoms reported lower alliance on average (a non-significant trend) but they reported significant increases in alliance over time. Similar patterns emerged for patients who began treatment with greater functional impairment, for those who reported higher levels of protective buffering, and for those with higher cancer-related distress. Taken together, these results suggest that patients who struggled more at the beginning of treatment tended to perceive greater increases in alliance with their therapists over time.

²In these models we maintained the LOWM random effects structure, and our models also included the basic LOWM fixed effects components. It is important to keep the LOWM error structure for analyses examining predictors of alliance and session progress so that standard errors and degrees of freedom are adjusted appropriately for the complex non-independence of the data.

³Because therapist age and experience were strongly correlated, we ran analyses in which the effects of both of these variables were estimated simultaneously, and results did not differ from those presented in Table 3.

Table 5 presents the parallel results predicting perceived progress. As was true for alliance, both therapists and patients reported higher average progress for patients who were higher in positive emotion expressivity at baseline. In addition, therapists' ratings of progress tended to increase over time for patients higher in expressivity. The pattern of results for patient self-esteem predicting progress was also similar to that for alliance: Patient self-esteem did not predict therapist reports of progress, but it was a significant positive predictor of patient reports of average session progress such that patients higher in initial self-esteem reported more positive progress on average. However, the significant but negative coefficient for the slope suggests that patients higher in initial self-esteem tended to report somewhat less progress over time.

Consistent with findings for alliance, patients who began treatment in more difficult circumstances tended to have lower progress on average. For example, patients higher in depression had significantly less progress as reported by both therapists and patients. Likewise, both therapists and patients reported lower progress on average when the patients began treatment with greater physical symptoms and higher cancer-specific distress. Finally, although these factors did not predict change in therapist reports of progress over time, depression, protective buffering, and cancer specific distress predicted changes in patient reports. Patients who reported more distress and more engagement in buffering before beginning the intervention reported significantly greater positive change in progress over time.

Discussion

The goal of the study was to use a novel data analytic approach to better describe the degree of patient-therapist agreement about and predictors of therapeutic alliance and perceived progress among women with gynecological cancers enrolled in cognitive behavioral or supportive therapy. We found that patients rated alliance with their therapists and their progress in therapy higher than their therapists, and that therapeutic alliance and perceived session progress improved over time, particularly among patients who evidenced higher levels of distress and poorer physical functioning at the beginning of therapy.

The LOWM variance partitioning provided insight into factors that influence therapist and patient perceptions of alliance and progress. Variation in therapist ratings of both alliance and progress tended to be split relatively evenly between therapist-level, patient/dyad-level, and time-specific factors. Thus, to some extent therapists' evaluations of alliance and session progress were driven by the therapists themselves, with some therapists reporting positive alliance and progress across all patients, and others reporting less positive alliance and progress across all patients. However, therapists' evaluations also varied from patient to patient and from session to session. Thus, therapists reported that they established stronger alliances with some patients than with others and that session progress was more positive for some patients as well.

In contrast, patient ratings of alliance and progress were driven primarily by patient/dyad-level factors and time-specific factors. The significant patient/dyad variance for alliance suggests that establishing a strong working alliance depends largely on the patient and on the unique pairing between patient and therapist. Likewise, patient perceptions of progress tended to be such that some patients felt they made a lot of progress on average across the sessions, while others felt they did not. Notably, patients tended to show some therapist-level variance for alliance, which suggests that there was consensus among patients who saw the same therapist. Some therapists were viewed by all patients as forging a strong alliance, but others were not. This finding differed from Marcus and colleagues (2009; 2011) in that there were stronger therapist effects. It is possible that we were better able to identify these

effects because alliance was rated at two time points. However, even with six sessions being rated, we did not find that patients who saw the same therapist agreed about progress.

The correlations between the LOWM components for therapist and patient ratings showed that therapists and patients generally agreed in their evaluations of alliance and progress at the patient/dyad level on average, at specific time-points, and in trajectory over time. These correlations at the patient/dyad level estimate dyadic reciprocity – if a patient reported particularly strong alliance, the therapist did as well. Likewise, there was agreement between patients and therapists in terms of progress and increases in progress over the six sessions. However, there was no evidence that therapists who reported establishing strong alliance across all patients had patients who agreed. Indeed this correlation was actually negative.

In sum, our LOWM analyses demonstrated the highly complex nature of interdependence involved in therapeutic studies. This interdependence is an important finding in its own right, but it also has important implications for how future researchers analyze their own data. Methodologists have shown that when researchers ignore non-independence in their statistical analyses, standard errors and statistical significance tests of fixed effects (e.g., a test of whether intake depression predicts alliance) tend to be biased (e.g., Kenny & Judd, 1986). Thus, we hope that this study encourages researchers to use the OWM (or LOWM) random structure in their own therapeutic outcome research, even when the focal research questions do not concern the variance partitioning itself.

The second aim was to identify therapist and patient characteristics that predicted average alliance and perceived session progress, as well as changes in both outcomes over time. Although the literature has been inconsistent regarding the association between alliance and therapist experience (Beutler, Machado, & Neufeldt, 1994), our results indicating that therapists with more years of experience reported higher alliance have also been reported in some previous studies (e.g., Connors et al., 2000). However, greater years of experience resulted in *lower* quality alliance from the patient's perspective. Although some previous studies have suggested that therapist experience is associated with lower patient-rated alliance (Hersoug et al, 2009) or not related to alliance (Hersoug et al., 2001), this is the first study that has found contrasting associations between patient and therapist views of alliance when evaluated within the same sample/data set.

We also found that patients with more severe presenting problems (e.g., distress) and fewer intrapsychic resources (e.g., lower self-esteem) reported forming a weaker initial alliance. This finding is consistent with previous research suggesting that clients with more severe presenting problems establish poorer alliances (Hersoug, Monsen, Havik, & Hoglend, 2002). However, distressed patients reported significant increases in alliance over time. Thus, although alliances remained lower among distressed patients, they improved over the course of therapy. It is also interesting that, other than positive expressivity, patient variables were not significantly associated with therapist views on working alliance. It is possible that therapists were less influenced by patient characteristics they felt could be targeted and/or changed in treatment. For example, distress can be addressed in sessions whereas the ability to express positive emotions would not be viewed as a target of either the supportive or CCI intervention.

There is very little known about patient and therapist characteristics that predict patient or therapist perceptions of session progress. “Micro-processes” such as session progress have been shown to be predictors of post-therapy outcomes (e.g., Manne et al., 2010) and have been hypothesized as key contributors to long-term outcomes in the generic process model of psychotherapy (Orlinsky & Howard, 1986). Thus, the literature on patient characteristics predicting post-treatment outcomes can be used as a comparison. In the present study,

patients who began treatment with fewer intrapsychic resources reported lower average perceived progress in treatment but they felt they progressed more in treatment over its course. Previous reviews of the relatively large literature on this topic have suggested that there is inconsistency with regard to pre-intervention patient characteristics that predict favorable post-therapy outcomes (Garfield, 1994), and recent reviews have suggested that distressed patients begin and end treatment with lower levels of distress but improve to a similar degree as less distressed patients (Eskildsen, Hougaard, & Rosenberg, 2010). Several studies of psychological interventions for cancer survivors have been similarly inconsistent, with some studies suggesting that survivors who start the intervention with fewer personal resources such as less support (Helgeson, Cohen, Schulz, & Yasko, 2001) benefit more and other studies indicating that possessing psychological resources such as optimism (Antoni et al., 2001) also contribute to greater therapeutic benefit. Our findings indicate that patients who have more psychological and disease-related challenges rate their progress as lower than patients with more resources but they perceive more progress in their treatment over time. The findings were not quite as strong with regard to therapist perceptions of patient progress, but were similar.

There are a number of clinical implications. As has been found in previous studies, the therapeutic bond was largely relational (Marcus et al., 2009). Patients and therapists agreed about session progress and about improvements in progress over the six sessions. However, there was little evidence that therapists who reported establishing strong alliance across all of their patients had patients who agreed. Furthermore, more skilled therapists may not always establish a good therapeutic alliance or achieve significant progress with all of their patients and less skilled therapists may achieve strong alliance and significant progress with a patient. The match between patient and therapist is key. Future research should focus on factors predicting a good match and hopefully achieve greater treatment efficacy. To the degree that perceived session progress is an indicator of post-therapy outcomes in studies focusing on treatments for women diagnosed with gynecological cancers, our findings suggest that those women who begin treatment with more severe psychosocial and medical challenges may report less strong alliances and less progress compared with patients with fewer presenting problems, but they evidence greater gains over treatment. Therefore, patients with more significant problems can form bonds and achieve significant progress in therapy. Therapists rated alliance with patients who ultimately dropped out of sessions lower than alliance with patients who did not drop, suggesting that therapists may be able to predict and prevent therapy drop out by working to improve alliance.

Our study had several limitations. First, our sample was comprised primarily of Caucasian women and our therapists were primarily Caucasian and all were women. Second, although our drop out rate during therapy was relatively low (18.4%), session drop out may have had an effect on the results. Third, we had a relatively high rate of six month follow-up survey non-completion for reasons other than death (32%). Fourth, participants were younger and more likely to be married than refusers. These differences may have biased the results. Other limitations are tied to the OWM design and analysis. For instance, estimates of random effects require substantial amounts of data, and when we tried to derive separate estimates for the two conditions, the models were not estimable. On a related note, the results are limited by the relatively small number of therapists ($n = 11$) who participated. This small number of “upper-level units” means that our tests of therapist-level effects were under-powered. In addition, a limitation inherent in the OWM design is that each patient is paired with one therapist. As a result it is not possible to separate patient-level effects from dyad-specific effects. Only a design in which each patient is seen by multiple therapists would allow a clear partitioning of patient and dyadic effects. Such a design may not be in the best interests of the patient.

In terms of strengths, this study illustrates the complex interdependence between how therapists and their patients perceive alliance and therapeutic progress. Although there were differences in therapist and patient perceptions, by and large our results show considerable agreement on average, over time, and from session to session. This study also provides insight into how patient resources and challenges are reflected in the patient-therapist relationship. We hope that future researchers will improve upon this study by including more therapists and more therapist-level predictors so that we can develop a better understanding of therapist attributes that promote alliance and progress with their patients. Future research should also focus on determining whether these findings generalize to patients with other types of cancer and/or whether these findings generalize to other psychological interventions and to individuals with psychological problems (e.g., depression).

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Fixed and Random Effects from the Longitudinal One-with-Many Design

	Fixed Effect Estimates			Random Effect Estimates			
	Intercept	Time Slope		Therapist Level		Patient Level	
		b	se	Variance	%	Variance	%
Working Alliance							
Therapist Ratings	201.44	3.64**	.36	.13	264.71*	341.12**	44.2
Patient Ratings	212.93	3.98**	.36	.14	101.13 ⁺	387.70**	58.9
Session Progress							
Therapist Ratings	16.94	.31**	.04	.17	2.17**	2.00**	25.4
Patient Ratings	19.03	.55**	.04	.31	.47	4.99**	62.9

Note.

⁺ $p < .10$,

* $p < .05$,

** $p < .01$.

Means, Standard Deviations, and Correlations for Predictors of Working Alliance and **Perceived** Session Progress

Table 2

	1. BDI	2. PI	3. SE	4. PEE	5. PB	6. IES	7. T exp	8. T age
1. Depressive symptoms (BDI)	.86							
2. Physical Impairment (PI)	.57**	.93						
3. Self-Esteem	-.60**	.25**	.87					
4. Positive Emotion Expressivity	-.17*	-.03	.25**	.76				
5. Protective Buffering	.35**	.21**	-.29**	-.06	.87			
6. Cancer Specific Distress (IES)	.58**	.30**	-.39**	-.12	.54**	.91		
7. Sqrt Therapist Experience	.04	-.10	-.03	.03	-.09	.05	-	
8. Therapist Age	-.03	-.07	-.01	-.03	.00	.03	.62**	-
<i>Mean</i>	14.27	28.50	22.95	17.04	26.41	27.37	2.93	46.80
<i>SD</i>	8.28	18.43	4.98	4.13	8.23	16.71	1.29	10.80

Note. Values on the diagonal are Cronbach's alpha. BDI = Beck Depression Inventory; PI = Physical impairment; SE = Self Esteem; PEE = Positive Emotional Expressivity; PB = Protective buffering; IES = Impact of Events Scale; T = Therapist

Table 3

Predicting Intercepts and Slopes of Working Alliance and Perceived Session Progress with Therapist Age and the Square-root of Therapist Years of Experience

	Therapist			Patient		
	<i>b</i>	β	<i>t</i>	<i>b</i>	β	<i>t</i>
Working Alliance						
Intercepts	7.570	.353	2.51*	-6.470	-.302	3.37**
Slopes	-.209	-.010	.37	-.595	-.028	1.07
Therapist Age						
Intercepts	.354	.138	.99	-.173	-.068	.65
Slopes	-.033	-.013	.64	-.044	-.017	.54
Session Progress						
Intercepts	.333	.140	1.34	-.435	-.183	3.04**
Slopes	.036	.026	1.05	-.027	-.019	.96
Therapist Age						
Intercepts	.018	.062	.54	-.022	-.077	1.28
Slopes	.009	.056	2.28*	-.000	-.000	.01

Note.

⁺ $p < .10$,

* $p < .05$,

** $p < .01$.

The coefficients for intercepts are the regression coefficients for therapist experience (or therapist age) predicting average alliance or session outcome. The coefficients for slopes are the regression coefficients for therapist experience (or age) predicting change over time in alliance or session outcome ratings.

Table 4
Predicting Average Working Alliance (Intercepts) and the Change in Alliance across Two Waves (Slopes) with Patient Variables

	Therapist				Patient			
	<i>b</i>	β	<i>t</i>		<i>b</i>	β	<i>t</i>	
Positive Emotion Expressivity	Intercepts	.783	.117	2.05*	1.053	.157	2.63**	
	Slopes	.265	.039	1.54	.085	.013	.47	
Self-Esteem	Intercepts	-.133	-.024	.42	.899	.162	2.74**	
	Slopes	.094	.017	.64	-.272	-.049	1.84 ⁺	
Depression	Intercepts	.272	.081	1.40	-.331	-.099	1.63	
	Slopes	.028	.009	.33	.216	.065	2.48*	
Physical Symptoms	Intercepts	.022	.015	.25	-.118	-.078	1.28	
	Slopes	.037	.024	.93	.106	.071	2.66**	
Protective Buffering	Intercepts	-.039	-.012	.19	-.246	-.073	1.16	
	Slopes	.104	.031	1.17	.192	.057	2.14*	
Cancer Specific Distress	Intercepts	.116	.070	1.17	-.137	-.083	1.33	
	Slopes	.008	.005	.17	.082	.050	1.85 ⁺	

Note.

⁺ $p < .10$,

* $p < .05$,

** $p < .01$;

df for *t*-tests of intercepts and slopes varied between 159 and 178. The coefficients for intercepts are the regression coefficients for the patient-level variables predicting average alliance and the coefficients for slopes are the regression coefficients for the patient variables predicting change over time in alliance.

Predicting Average Perceived Session Progress (Intercepts) and the Linear Effects of Time on Perceived Session Progress (Slopes) with Patient Variables

Table 5

	Therapist				Patient			
	b	β	t		b	β	t	
Positive Emotional Expressivity	Intercepts	.101	.136	3.42**	.146	.196	3.51**	
	Slopes	.039	.089	3.84**	.011	.026	1.28	
Self-Esteem	Intercepts	.031	.050	1.23	.123	.199	3.61**	
	Slopes	.001	.002	.06	-.015	-.042	2.11*	
Depressive symptoms	Intercepts	-.031	-.084	2.03*	-.067	-.180	3.20**	
	Slopes	.005	.024	1.01	.013	.060	3.07**	
Physical Symptoms	Intercepts	-.022	-.131	3.21**	-.020	-.122	2.13*	
	Slopes	.001	.011	.47	.003	.026	1.28	
Protective Buffering	Intercepts	-.019	-.052	1.23	-.006	-.017	.29	
	Slopes	.002	.011	.47	.011	.050	2.48*	
Cancer Specific Distress	Intercepts	-.015	-.052	1.94 ⁺	-.029	-.160	2.77**	
	Slopes	.001	.007	.30	.007	.065	3.31**	

Note.

⁺ p < .10,

* p < .05,

** p < .01;

df for t-tests of intercepts and slopes varied between 159 and 178. The coefficients for intercepts are the regression coefficients for the patient-level variables predicting average session progress and the coefficients for slopes are the regression coefficients for the patient variables predicting change over time in session progress.