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Group Therapy Processes and Treatment Outcomes in Two Couple-focused Group Interventions for Breast Cancer Patients

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Abstract

Objective—There has been little attention paid to the role of therapeutic processes in group therapy outcomes for cancer patients participating in group. The goal was to evaluate the contribution of three group processes - group climate (conflict, engagement, avoidance) working alliance, and therapeutic realizations - to the outcomes of two couple-focused approaches to group treatment.

Methods—Three hundred and two women with early stage breast cancer and their partners were randomized to one of two conditions: an eight-session enhanced couple-focused group intervention (ECG) or a couples' support group (SG) participated. Couples completed measures of depressive symptoms and well-being before and six months after group. Group process measures were completed after sessions 4 and 8.

Results—SG participants (both patients and partners) perceived higher engagement and less avoidance than ECG participants. Conflict, working alliance, and therapeutic realizations did not differ. Group engagement, working alliance, and therapeutic realizations increased and group conflict decreased over the course of both treatments. Greater conflict was associated with more post-treatment anxiety and lower well-being, and engagement was associated with higher post-treatment well-being. Patients whose partners reported higher conflict reported greater post-treatment anxiety. Working alliance was associated with post-treatment anxiety for ECG patients and with well-being among participants whose partners reported higher working alliance.

Conclusion—Fostering a positive group environment bolsters treatment efficacy for women with early stage breast cancer and their partners attending couple-focused groups. Facilitating the leader-member alliance bolsters treatment efficacy. Improving engagement with one member of a couple impacts the other member.

¹For analyses in which group process variables were outcomes, participants had to have completed the group process measure administered after session 4. This limited the sample to 482 individuals from 241 couples. Table 1 is based on this sample. For analyses in which follow-up anxiety or well-being were outcomes, participants had to complete the follow-up measure, which limited the sample to 433 individuals who were members of 222 couples for anxiety and 434 individuals who were members of 222 couples for well-being.

Keywords

Group Processes; Couples' Groups; Breast cancer

Although previous research has demonstrated the efficacy of group therapy, identifying the underlying mechanisms driving change has proven more challenging than identifying change processes for individual therapy. This challenge is thought to be due to the fact that group members form relationships with other group members, and group members' evaluations of their experiences are influenced by the interactions and atmosphere that is created by them. Indeed, it has been proposed that the unique curative element of group therapy which distinguishes it from individual therapy is the therapeutic relationship formed with the group members and with the group as a whole [1]. Group climate is the most widely-studied group process and is comprised of three components [2, 3]. The first component is engagement, which is defined as a positive working atmosphere, a sense of constructive interpersonal investigation, and a sense of cohesiveness between members. Engagement has been most consistently associated with better outcomes [4, 5]. The second component is conflict, which is defined as the degree of hostility and mistrust between group members. Higher conflict has been associated with poorer outcomes [6], although several studies have suggested that the role of conflict depends on the way that members handle the conflict in group [7]. The third component is avoidance, which is the perception that members do not take responsibility for their own change processes [2, 3]. Avoidance has been less consistently associated with outcome [4, 8].

In addition to unique therapeutic ingredients of group therapy, other non-specific therapy processes may also contribute to the process of change. Working alliance is the most widely-studied common element of individual therapy. In the group therapy context, working alliance is commonly conceptualized as the affective bond between member and group therapist and the agreement between member and therapist on treatment tasks and goals [9]. Working alliance can take on additional meaning in a group setting, but the most common approach taken is to assess each member's alliance with the group leader [10]. Studies suggest that higher working alliance predicts more positive group therapy outcomes [11]. A second non-specific process is therapeutic realizations, which include insights connecting one's past with current events, the unburdening of one's concerns, and enhanced hopefulness [12, 13]. Therapeutic realizations differ from group climate because they reflect the benefits for the individual rather than the perception of group members' interactions. Therapeutic realizations have not been studied as a predictor of group therapy outcomes, but they predict better post-treatment adaptation in individual therapy [12].

The primary goal of the current study was to examine group climate, working alliance, and therapeutic realizations as experienced in a randomized clinical trial that randomized participants to one of two group treatments provided to patients coping with early stage breast cancer and their partners. The two group approaches consisted of an Enhanced Couple-Focused Group intervention (ECG) and a Couples' Support Group intervention (SG). Both treatments consisted of eight group sessions conducted weekly. ECG was a structured, skill-based intervention where constructive communication, identifying and

expressing support needs, stress management, and team-based problem solving were taught. SG was a supportive intervention where the sharing of one's personal experiences with cancer, expression of one's emotions, understanding one's emotional reactions, and support between group members were fostered. The results from the primary data analyses of this randomized clinical trial indicated that both treatments were effective in reducing distress, but ECG was more effective in reducing distress among non-distressed patients and SG was more effective in reducing distress among distressed patients [14]. This study is a secondary analysis of these data focusing on therapy process.

This study had three aims. The first aim was to examine whether there were differences between group treatments with regard to group climate, working alliance, and therapeutic realizations. We proposed that group climate and therapeutic realizations would be higher in SG than ECG, due to the emphasis on group relationships and understanding emotions in that approach. The second aim was to examine the association between group climate, working alliance, and therapeutic realizations in predicting pre-to post-treatment changes in psychological adaptation. We proposed that all three would predict improvements in psychological adaptation. The third aim was to examine whether there were differences in these associations between the two group treatments. We hypothesized that group climate would be more strongly associated with post-treatment outcomes among participants in the SG treatment as compared with ECG. We proposed this because SG's primary goal was to foster a positive group environment, and ECG was a skill-based treatment where a positive environment between group members was not specifically fostered.

The study advances the knowledge base for group therapy provided to cancer patients in three ways. First, most of the prior work has presented qualitative studies or investigator impressions which have suggested that group benefits include peer support [15, 16], reduced isolation [17, 18], expression in a safe environment [18, 19], and improved self-understanding [18]. One study asked breast cancer patients enrolled in a group therapy after they completed the treatment how involved they were in the group and how supported they felt, and found that this measure was associated with better adaptation [20]. We used established therapy processes measures and evaluated their association with treatment outcomes.

Second, we used a more dynamic approach to understanding therapy processes among couples who attend group together. That is, we assessed the impact of one partner's perception of group process and benefits of the group on their own and on their partner's outcomes, using the Actor-Partner Interdependence Model (APIM) [21] as a framework. Because couples share their lives outside of the group sessions, therapeutic benefits derived by one partner are likely to impact the outcomes of the other. By examining both actor (my perceptions on my outcomes) and partner (my perceptions on my partner's outcomes) effects, a more dynamic assessment of the role of group processes can be attained. Criticisms of the group process literature have indicated that using analytic approaches which examine the role of one group member's perceptions of the group and another member's outcomes is a better way to evaluate the dynamic nature of group effects.

Third, we evaluated differences in the association between group processes and outcomes between different group treatments. Although we proposed common group processes in this study, we proposed that group climate would play a stronger role in outcomes in the SG approach. There are no published studies comparing group processes between different types of group therapy for cancer patients, and thus our study represents an advance in group process research in psycho-oncology.

Methods

Participants

This study is a secondary analysis of data collected as part of a randomized clinical trial evaluating the efficacy of an Enhanced Couple-focused Group Intervention (ECG) and a Couples' Support Group intervention (SG) [14]. Procedures are described in greater detail in Manne and colleagues [14]. Participants in the Manne and colleagues [14] study were 302 women with early stage breast cancer and their significant others (two female spouses). Patient participants were approached from the outpatient clinics of oncologists practicing in three comprehensive cancer centers in the Northeastern United States or in several smaller local community hospital oncology practices. Criteria for study inclusion were as follows: a) patient had a primary diagnosis of Ductal surgery in the last twelve months, but could be in active treatment (e.g., radiation or chemotherapy); c) patient and spouse were 18 years of age or older; d) patient and spouse were able to give informed consent; e) patient and spouse were English-speaking, f) patient currently married or living with a significant other of either sex, and; g) couple lives within one hour commuting distance to the center from which they were recruited.

Procedures

Eligible patients were identified and approached either after an outpatient visit or by telephone contact or by mail. Patient and spouse were given a written informed consent document and the questionnaire to complete. Couples were randomly assigned to ECG or SG. Randomization was done after both partners' consents and the Time 1 surveys were completed. The assessment time points used for this study were the baseline and 6 month post-intervention surveys, when the psychosocial outcomes were assessed, as well as ratings of group processes and progress in group, which were completed after group sessions 4 and 8 (the last group session). The schema for measure administration is shown in Supplemental Figure 1. Couples were paid \$15 per person for completing the baseline survey, \$20 per person for completing the 6 month follow-up survey and \$15, \$20, \$25, \$30, \$35, \$40, \$45 and \$50 for attending Groups 1 to 8, respectively. The Institutional Review Board for each site approved this study.

The CONSORT diagram is contained in Manne et al. [14]. Of the 2900 eligible women approached for participation, 302 couples consented and completed the baseline survey (10.4%). The most common reason for refusal provided was that the couple was not interested (18.4%) or participation would "take too much time" (15.7%). Many (26.7%) did not provide a reason. Comparisons were made between patient participants and refusers with regard to available data (age, race/ethnicity, cancer stage, performance status). Results

indicated that patient participants were significantly younger than non-participants ($M_{\text{participants}} = 55.1$, $SD = 10.4$, $M_{\text{refusers}} = 57.2$, $SD = 20.6$, $t(2850) = 2.9$, $p < .01$) and patient participants had been diagnosed a significantly shorter period of time than non-participants ($M_{\text{participants}} = 4.8$, $SD = 2.5$, $M_{\text{refusers}} = 10$, $SD = 7.5$, $t(2850) = 12.0$, $p < .001$).

Attendance in group sessions was: 72.8% attended all sessions, 21% attended four to seven sessions, and 6.2% attended one to three sessions.

For purposes of this study, we focused only on couples who attended at least one group session. Thus, we excluded 45 couples who were randomized but did not attend any groups. A comparison between couples who did not attend any sessions and couples who attended at least one session on demographic, medical, and baseline outcome variables did not indicate significant differences. See Footnote 1 for more sample details.

Intervention models

ECG consisted of eight 90 minute weekly groups led by two therapists. The goals of Session 1 were to orient patient and partner participants, establish rapport with the group leaders, foster connections between group members, and facilitate expression of information and feelings about the cancer experience. Members discuss their experiences with one another and then engaged in a focused-breathing relaxation induction. Session 2 focused on constructive communication skills, speaker-listener role-taking, and how to give negative feedback were presented and couples practiced the skills separately. Focused-breathing relaxation was practiced. Session 3 focused on identifying and expressing support needs. A group discussion about how couples handle worries and feelings occurred, which was followed by a presentation on support needs. Couples practiced discussing their support needs with one another and then created a “Wish List” for positive acts for their spouse to do for them. This was followed by progressive muscle relaxation as a group. Session 4 focused on being a good support to one’s partner. Couples discussed changes experienced and expressed how their partner could help them make a positive change in their lives (e.g., exercise). Progressive muscle relaxation was practiced. Session 5 focused on stress management and sexual intimacy. Couples discussed their stress responses, viewed a video on sexuality and cancer, engaged in separate couples’ discussion about sexuality, and created an intimacy deck, which is a list of activities to increase intimacy. Guided imagery was done as a group. Session 6 focused on problem solving. Couples practiced the problem-solving model using a cancer-related problem. Session 7 focused on emotion-focused coping and included partner-assisted cognitive restructuring practice. The group chose a relaxation skill to practice. Session 8 focused on assisting couples in identifying priorities and preparing the couple for the post-treatment “survivorship” phase. Home assignments were given to couples after Sessions 1 to 7 (e.g., relaxation practice, granting the wish on one’s partner’s Wish List). The ECG manual is available from the study’s first author.

SG also involved eight 90-minute group sessions led by two therapists. The approach was person-centered and supportive in nature [22, 23]. The leaders encouraged participants to share their experiences with cancer, to express their emotions related to the experience, to voice problems they have in coping with the cancer, and to offer support to group members. Commonalities were drawn between members’ experiences. Each group had a topic for

discussion: learning more about each other, making sure your needs are met, challenges with health providers, coping with physical and sexual changes, coping with family and friends, dealing with employment and life tasks, and coping with the future, and survivorship. No formal or didactic information related to relationship communication or coping/stress management was provided. The SG manual is available from the study's first author.

Group leaders and supervision

Thirty-five interventionists served as leaders. The majority were master's level social workers or psychologists ($n = 25$) or doctoral level psychologists ($n = 8$). Ninety-one percent had prior group therapy experience and 90% had prior couples' therapy experience. Leaders underwent 6–8 hours of training in the manual-based ECG and equivalent training in SG with viewing of videotaped sessions and role play practices of groups. To facilitate treatment fidelity, the ECG manual was structured and contained in-session exercises and handouts for participants. The SG manual included readings on supportive group therapy (e.g., [24]) and rules regarding what was considered supportive (e.g., reflection, transparency, validation) and what was not considered supportive (e.g., teaching coping skills).

Telephone supervision was provided after each group session. A video-recording was rated by the supervisor using a fidelity checklist, and written comments were provided. The ECG fidelity checklist contained ratings of whether each topic was addressed and whether home assignments were reviewed. The SG fidelity checklist contained ratings of the degree to which each group topic was explored and the degree to which supportive techniques were used (e.g., maintaining cancer focus, validation, and creating a sense of being understood).

Group Process Measures (administered after session 4 and 8)

Group Climate—The Group Climate Questionnaire-short form (GCQ) [3] is a 12-item self-report measure of members' perceptions of the group atmosphere, and it has three subscales: Engagement, Avoidance, and Conflict. Patients and partners rate items on a 7-point Likert scale ranging from “not at all” to “extremely”. The Engagement scale has five items which describe the degree to which the group is characterized by disclosure, understanding, mutual caring, constructive confrontation, and collaborative problem-solving (e.g., “Group members felt what was happening was important and there was a sense of participation”). The GCQ Avoidance scale consists of five items that assess the extent that members avoid responsibility for their change processes (e.g., “The members were distant and withdrawn from each other”). The GCQ conflict scale consists of four items that assess interpersonal distance and mistrust (e.g., “There was friction and anger between the members”). The GCQ is the most commonly-used measure of group climate, and studies support its validity. The scale was given mid-point (after session 4) and at the end of treatment (after session 8). For patients, the Cronbach's alphas ranged from .34 (Avoidance, session 8) to .76 (Engagement, session 4). For spouses, the Cronbach's alphas ranged from .37 (Avoidance, session 4) to .75 (Engagement, session 4).

Therapeutic alliance—Alliance was assessed using the Working Alliance Inventory (WAI) [24] which is a 36-item questionnaire with three subscales: Bond, Task, and Goals. Respondents rate agreement using a 7-point Likert-like scale. For purposes of this study, the

three scales were summed into a single scale. For patients, Cronbach's alpha was .93 for Group 4 and .94 for Group 8. For partners, Cronbach's alpha was .94 for Group 4 and .95 for Group 8.

Therapeutic Realizations—The Therapeutic Realization scale of the Therapy Session Report [12] has eleven items and three subscales, Unburdening (3 items) (sample item, “A chance to let go and get things off my chest”), Insight (4 items) (sample item, “More ability to feel my feelings, to know what I really want”) and Encouragement (3 items)(sample item, “Confidence to try to do things differently”). This measure was given after groups 4 and 8, and patients and partners were asked to reflect on the group that just took place. For purposes of this study, the three scale scores were summed into a single score (the average correlation between subscales was .70). For patients, cronbach's alpha was .91 for sessions 4 and 8. For spouses, Cronbach's alpha was .93 for sessions 4 and 8.

Treatment Outcome Measures

Anxiety and well-being—At baseline (pre-intervention) and six months after session 8, patients and partners completed the Anxiety (9 items) and Well-being (10 items) subscales of the Mental Health Inventory-38 [25]. Patients and partners used a 6-point Likert scale to rate their feelings over the past month. Internal consistencies for the patient scales ranged from .92 (Anxiety, Baseline) to .95 (Well-being, Baseline), and internal consistencies for the spouse scales ranged from .91 (Anxiety, both time points) to .94 (Well-being, both time points).

Covariate Measures

Demographic measures—Patient and partner age, sex, race, and education were collected.

Medical variables—Data regarding current disease stage, date of diagnosis, and Eastern Cooperative Oncology Group performance status ratings (ECOG) [26] were obtained from the medical chart.

Data Analytic Approach

Multilevel modeling (MLM) with SPSS (Version 22) was used to examine the effects of condition (SG = -1, ECG = 1), time (session 4 = -1, session 8 = -1), role (patient = 1, spouse = -1), and their interactions on group process variables. All analyses included as covariates the person's age, education (coded some college degree or higher = 1, less than a college degree = -1), ethnicity (coded White-not Hispanic = 1, all others = -1), number of sessions attended, cancer stage, and time since diagnosis. In all analyses, continuous predictors were grand-mean centered and categorical predictors were effects coded. The random structure for these models included a random intercept for groups, which assessed the degree to which outcomes for individuals in the same group were similar, as well as a dyadic correlation between the two partners' residual variances, which assessed similarity in residual outcomes across partners after removing the effects of the covariates and predictors.

MLM was also used to estimate the parameters of the APIM in which either session 4 or session 8 group process variables were used to predict post-treatment anxiety and positive well-being. Models predicting post-treatment anxiety included baseline values for anxiety (likewise for well-being) and all covariates used in the over-time analyses. Models also included the person's role, treatment condition, the person's own value on the group process predictor (i.e., actor effect) and the person's partner's value on the group process predictors (i.e., partner effect), all two-way interactions (with the exception of actor by partner), and two three way interactions (role by condition by actor and role by condition by partner). The random structure for these models was the same as those in the over-time analyses.

Results

Differences between ECG and SG in Group Processes

Characteristics of the sample are shown in Table 1. The sample was primarily non-Hispanic white, and more than half had a college education or higher. Slightly more than half of the sample was diagnosed with Ductal Carcinoma in Situ or stage 1 breast cancer, and about half had undergone a mastectomy.

Differences in process variables across condition and over time

Table 2 presents the means and standard deviations of the group process variables at sessions 4 and 8 for patients and spouses in the two treatment conditions, and Table 3 presents results for multilevel analyses examining condition, time, and role effects for those variables.

Notably, all variables showed significant group variance suggesting that there were differences in group process variables from group to group. In addition, with the exception of avoidance, all of the dyadic correlations were significant indicating that if one member of the couple reported more positive process, the other member did as well.

As shown in Table 3, only avoidance and engagement showed differences as a function of condition such that for both patients and spouses avoidance was higher in ECG ($M = 8.00$) than SG ($M = 5.82$) and engagement was higher in SG ($M = 20.79$) than ECG ($M = 18.61$).² Engagement, conflict, working alliance, and therapeutic realizations changed from session 4 to session 8. Engagement, working alliance and therapeutic realizations increased over time (session 4 engagement $M = 18.87$ versus $M = 20.52$ at session 8; session 4 alliance $M = 207.50$ versus $M = 213.18$ at session 8; session 4 therapeutic realizations $M = 27.32$ versus $M = 31.85$ at session 8), and Conflict decreased (session 4 conflict $M = 2.10$ versus $M = 2.49$ at session 8). Finally, there were significant role differences for each of the process variables such that patients were significantly higher on engagement, alliance, and therapeutic realizations (patient engagement $M = 20.01$ versus spouse $M = 19.39$; patient working alliance $M = 215.32$ versus spouse $M = 205.36$; patient therapeutic realizations $M = 30.93$ versus spouse $M = 28.24$), but spouses were significantly higher on avoidance and conflict (patient avoidance $M = 6.56$ versus spouse $M = 7.26$; patient conflict $M = 2.13$ versus spouse $M = 2.46$). There were no two- or three-way interactions.

²The means presented in this section of the text are estimated marginal means controlling for the other covariates in the model.

Predicting follow-up anxiety

Table 4 reports the results for using session 4 and session 8 group process variables as predictors of follow-up anxiety.³ Because there were no significant effects for either session 4 or session 8 therapeutic realizations (for either anxiety or well-being), that variable is not reported in either Tables 4 or 5. In addition, the only significant effect for avoidance was a three way interaction between actor avoidance at session 8, role, and condition predicting anxiety. Simple slopes examining the effects of avoidance at session 8 for patients and spouses in SG and ECG separately showed that spouses in ECG who reported more avoidance at Session 8 also reported significantly higher anxiety at follow-up, $b = .379$, $se = .153$, $\beta = .206$, $p = .014$. No other coefficients were significant.

Although Session 4 engagement did not predict the six month follow-up anxiety score, results showed that the session 8 actor effect for engagement interacted significantly with role and with role and condition in predicting post-treatment anxiety. In this case, spouses in SG who reported higher engagement at session 8 reported significantly lower post-treatment anxiety, $b = -.551$, $se = .195$, $\beta = -.252$, $p = .005$. No other coefficients were significant. The partner effect for conflict at both sessions 4 and 8 interacted with role in predicting anxiety. Patients whose partners reported higher conflict at session 4 reported greater post-treatment anxiety, $b = .396$, $se = .168$, $\beta = .139$, $p = .019$, and patients whose partners reported higher conflict at Session 8 also reported greater post-treatment anxiety, $b = .395$, $se = .138$, $\beta = .153$, $p = .005$. However, this partner effect did not emerge for spouses. Table 3 also shows a significant actor effect for session 8 conflict such that individuals who reported higher conflict at session 8 reported higher anxiety at follow-up.

For working alliance, the actor effect results indicate that higher working alliance at session 4 was associated with lower post-treatment anxiety. However, the actor effect was qualified by a significant actor by role by condition interaction. Simple slopes analyses showed that the effect of perceiving higher Session 4 alliance on lower post-treatment anxiety was driven primarily by patients in ECG ($b = -.080$, $se = .025$, $\beta = -.324$, $p = .002$). The actor working alliance coefficients were not significant for patients in SG or for spouses in either condition. Table 4 indicates a similar actor by role by condition interaction for session 8 alliance: patients in ECG who reported higher session 8 alliance reported lower post-treatment anxiety ($b = -.052$, $se = .025$, $\beta = -.222$, $p = .042$). The other simple slopes were $b = .039$, $se = .028$, $\beta = .165$, $p = .164$ for patients in SG, $b = -.033$, $se = .021$, $\beta = -.140$, $p = .128$ for spouses in SG, and $b = .013$, $se = .017$, $\beta = .056$, $p = .457$ for spouses in ECG.

Predicting follow-up well-being

Table 5 presents the results for group process variables predicting six month follow-up well-being. As indicated in the table, engagement at both session 4 and session 8 showed significant actor effects such that individuals who reported higher engagement reported higher post-treatment well-being. There was also a significant partner by role interaction for session 4 engagement. Simple slopes for this interaction showed that patients whose partners

³A discussion of the effects of the covariates and the random components of these models can be found in the supplementary materials.

reported higher engagement at session 4 had lower post-treatment well-being $b = -.419$, $se = .212$, $\beta = -.125$, $p = .050$, but the same partner effect was not significant for spouses. For conflict, there was a significant partner by role interaction for the session 4 conflict score. In this case patients whose partners reported higher session 4 conflict reported marginally lower well-being, $b = -.491$, $se = .304$, $\beta = -.095$, $p = .108$, but spouses whose partners reported higher Session 4 conflict reported slightly higher well-being, $b = .370$, $se = .286$, $\beta = .071$, $p = .198$. Conflict at session 8 showed a significant actor by role interaction in which spouses who reported higher conflict at session 8 also reported lower well-being at the six month follow-up, $b = -.748$, $se = .224$, $\beta = -.159$, $p = .001$. For patients, the conflict coefficient was not significant.

Finally, there was a significant actor effect for working alliance at session 4 such that individuals who reported higher alliance showed significantly higher well-being at follow-up. In addition, Table 5 shows evidence of an interaction between partner treatment alliance at session 8 and treatment condition predicting post-treatment well-being. In this case, neither of the simple slopes for partner report of treatment alliance was significant, but they were similar in size and opposite in sign: SG $b = .044$, $se = .025$, $\beta = .103$, $p = .075$ and for ECG, $b = -.033$, $se = .025$, $\beta = -.078$, $p = .182$. This result indicates that, in SG, people whose partners reported higher treatment alliance tended to report higher post-treatment well-being, but a weak version of the opposite pattern emerged for ECG.

Discussion

With the proliferation of group therapy treatments for cancer patients, understanding the contribution of therapeutic processes to outcomes is an important goal. There has been scant empirical attention paid to the role of therapeutic processes in group therapy outcomes for this population. In the present study, we evaluated these processes in two efficacious couple-focused approaches to group treatment. There were five key findings. First, perceptions of group climate differed in hypothesized ways between the more structured ECG and the more explorative SG. SG participants (both patients and spouses) perceived higher engagement - more caring between group members, more self-exploration, higher levels of group participation, and higher levels of disclosure. SG participants (both patients and spouses) also perceived lower levels of group avoidance of discussing topics, less distancing, and less withdrawal from other members as compared with ECG. Levels of group conflict, working alliance, and therapeutic realizations did not differ between the two group approaches. The fact that working alliance did not differ between the two group approaches was expected, in that bonding with group leaders, fostering an understanding of group tasks, and clarifying goals for each session were an important component of both approaches. It is surprising that therapeutic realizations were not higher in SG, because a primary SG goal is to facilitate the unburdening of feelings and insight. One explanation is that ECG's in-session exercises and home assignments focused on improving couples' communication about cancer, improving relationship intimacy, and stress management. These exercises may have allowed couples to share concerns and understand their emotions with their partners. Thus, both approaches fostered insights and realizations, but in different ways.

Our second key finding regarded the patterns of change in group processes over sessions. Group engagement, working alliance, and therapeutic realizations increased and group conflict decreased over the course of both treatments. These findings are encouraging for our two brief couples' group therapy models. Prior research examining patterns of change in group processes for therapies delivered to non-cancer patient populations dealing with psychiatric issues have shown fluctuations in cohesion and conflict over the course of treatment [27]. One explanation for our finding is that our group approaches did not focus on resolving member's long-standing interpersonal problems or resolving group conflicts.

The third key finding is that group climate was associated with therapy outcomes, but the patterns were not consistent across all aspects of climate. Perceived group conflict showed the strongest and most consistent pattern of associations with outcomes: Patients who perceived greater group conflict at session 4 reported higher anxiety and spouses who perceived more conflict at session 8 reported higher anxiety and lower well-being. These findings are consistent with prior group therapy research suggesting the adverse effects of group conflict [6, 28, 29]. Our findings for group engagement were consistent with the large body of work in group therapy [4, 5, 30, 31, 32]. Higher group engagement mid-treatment was associated with higher post-treatment well-being for all participants, and perceived group engagement at the end of treatment was associated with less post-treatment anxiety among spouses participating in SG. Finally, there was little support for the role of avoidance, which was only associated with anxiety among spouses who perceived more group avoidance at session 8. The low internal consistency may have placed a ceiling on observed associations. As noted previously, the role of avoidance in group therapy outcomes has been relatively inconsistent in prior research. Thus, our results are not surprising.

The fourth key finding regards the role of working alliance, which was less strongly associated with outcomes than prior research evaluating this construct in individual therapy. Working alliance was only associated with post-treatment anxiety for ECG patients and with well-being among participants whose partners reported higher working alliance. It is interesting to note that working alliance was more strongly associated with better treatment outcomes in patients in ECG. A possible explanation is that agreement between patient and group leaders regarding the tasks and goals of treatment as well as a bond between patient and group leaders would be much more important for patients engaging in a skill-based treatment. ECG involved learning and practicing couples' communication and stress management skills, and couples practiced skills in session and home. Couples were coached in the use of skills by the leaders. The degree to which group leaders fostered working alliance may be more important in this skill-based treatment approach as compared with SG where the primary group work took place between members.

The fifth key finding regards the lack of association between therapeutic realizations and post-treatment outcomes. Although this finding should be replicated in other group therapy studies conducted with cancer patients, our findings suggest that a supportive group environment and, to a lesser degree, a solid alliance between group member and leader play a stronger role in group outcomes than helping individual members to unburden feelings, gain insight, and foster hopefulness.

What can we conclude about the role of therapeutic processes in couples' group therapy for breast cancer patients? The positive working atmosphere in group was higher in SG as compared with ECG. Given the primary goal of SG was to foster a positive working environment; these findings are consistent with our prediction. However, both group approaches fostered similar levels of member-leader alliance and internal processing (e.g., unburdening, insight, and hope). The mechanisms of change were similar for the group approaches in that group engagement, group conflict, and (to a lesser degree) working alliance predicted post-treatment outcomes for both treatment approaches. Only working alliance had different effects in that alliance was more strongly related to lower anxiety among participants in ECG than SG. Taken together, our findings suggest that therapy process mechanisms for these two approaches are common across the two group approaches, which is consistent with generic process models of therapy [13, 33]. The fact that patients endorsed more positive group processes (engagement, working alliance, and therapeutic realizations) than spouses, and spouses endorsed more negative group processes (avoidance and conflict) than patients suggests that the couples' group may have been a more positive experience for patients than their spouses. One explanation is that spouses' motivations for attending group may have been to help the patient rather than to foster their own adjustment. Future research might benefit from examining the reasons why spouses engaged less in group than patients.

A final conclusion regards the findings regarding partner effects. Reviews of the group therapy literature have suggested mutual influence of group members' perception of processes should be considered [34]. By utilizing the APIM, we were able to evaluate one aspect of mutual effects - the impact of one partner's perceptions of the group on the other partner's outcomes. Partner effects were illustrated, at least with regard to the impact of group engagement, group conflict, and working alliance. Prior studies have examined mutual influence with regard to the association between one group member's absence at one group session and other members' attendance in subsequent group sessions [35], the association between one member's interpersonal control on the other members' group participation [36], and the association between specific behaviors exhibited in one group on the same behavior by other members in a subsequent group [37]. Our study is the first to employ the APIM to examine partner effects of group processes. These findings hold promise and suggest that the APIM might be a fruitful approach for understanding dynamic effects in group therapy.

There were several limitations. The GCQ avoidance scale had low internal consistency. Low reliability of the avoidance scale has been previously reported [38]. Thus, the findings should be interpreted with caution. Second, we had a high rate of study refusal, and participants were significantly younger and diagnosed for a shorter period of time than study refusers. In addition, there was a relatively high rate of couples who dropped from the groups before they began. Although couples' attendance at seven or eight group sessions was acceptable (71–79%), it was not as high as anticipated. Although we used all data provided (e.g., we used data from ratings made during session 4 if the couple dropped after session 4), the attrition may have affected the study's results. Third, our sample was comprised of primarily Caucasian, relatively well-educated, and primarily heterosexual couples coping with early stage breast cancer. Group processes may have had a different

impact for minority, less educated, same-sex couples, male patients and their wives, or for couples coping with other types of cancer. Fourth, due to the focus on therapy processes, we did not evaluate other possible mechanisms of change that might have contributed to treatment outcomes, including relationship communication and individual coping strategies. Fifth, participants' behavior in group sessions such as their levels of emotional expression was not assessed. Prior studies of cancer support groups' therapeutic mechanisms have suggested emotional expression contributes to outcomes [39]. Finally, the more complex interactions we reported need to be replicated in other samples.

This study has several clinical implications. Fostering self-disclosure, understanding, mutual liking and caring, constructive confrontation, and collaborative, problem-solving efforts and reducing group conflict may prove beneficial for group therapy conducted with cancer patients. Facilitating a strong alliance between group leaders and members may also bolster treatment efficacy. Group leaders conducting couples' groups should be aware that the efforts to improve group engagement with one member of a couple may impact the other member of the couple, and thus sensitivity to the dyadic effects may bolster treatment efficacy. Because the spouses' level of engagement and conflict did impact patients' outcomes, group leaders of both supportive and more cognitive-behavioral couples' groups may facilitate better outcomes for patients if they can engage spouses in the group process. Overall, our findings suggest group processes contribute to treatment outcomes for group therapies provided to breast cancer patients and their significant others and should be evaluated.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Descriptive Information on the Sample

Variable	ECG (N= 120)		SG (N = 121)		Full Sample (N= 241)	
	Patient N (%)	Spouse N (%)	Patient N (%)	Spouse N (%)	Patient N (%)	Spouse N (%)
Age (Years)*	56.5 (10.6)	57.9 (11.3)	54.7 (9.6)	56.6 (11.0)	55.6 (10.1)	57.2 (11.1)
Sex						
Female	120 (100)	2 (1.5)	121 (100)	0 (0)	241 (100)	2 (0.8)
Male	0 (0)	118 (98.3)	0 (0)	121 (100)	0 (0)	239 (99.2)
Race						
Non-Hispanic white	100 (83.3)	100 (83.3)	100 (82.6)	94 (77.7)	200 (83.0)	194 (80.4)
Black	11 (9.2)	11 (9.2)	14 (11.6)	12 (9.9)	25 (10.4)	23 (9.5)
Asian	2 (1.7)	2 (1.7)	1 (0.8)	1 (0.8)	3 (1.2)	3 (1.2)
Hispanic	5 (4.2)	3 (2.5)	4 (3.3)	10 (8.3)	9 (3.7)	13 (1.2)
Hawaiian/PI	1 (0.8)	0 (0)	1 (0.8)	0 (0)	2 (0.1)	0 (6.2)
Other	1 (0.8)	2 (1.7)	1 (0.8)	1 (0.8)	2 (0.1)	3 (0)
Missing	0 (0)	2 (1.7)	0 (0)	3 (2.5)	0 (0)	5 (1.9)
Education (years)						
< college	46 (38.3)	31 (25.8)	47 (38.8)	46 (38.0)	93 (42.0)	109 (42.4)
college	74 (78.3)	87 (72.5)	72 (59.5)	75 (62.0)	146 (57.2)	146 (56.8)
Missing	0 (0)	2 (1.7)	2 (1.7)	0 (0)	2 (0.8)	2 (0.78)
Median Income	\$90,000	\$88,000	\$98,000	\$100,000	\$96,000	\$96,000
Relationship length (years)*	25.7 (15.4)	25.5 (16.1)	24.4 (12.7)	24.2 (12.9)	25.1 (14.7)	24.8 (14.7)
Employment						
Full time	44 (36.71)	69 (57.5)	57 (47.2)	76 (62.8)	101 (41.9)	145 (60.7)
Part time	14 (10.7)	7 (5.8)	13 (10.7)	6 (5.0)	27 (11.2)	13 (5.1)
Not working	62 (41.6)	43 (35.8)	50 (41.3)	36 (29.8)	112 (46.4)	79 (31.9)
Missing	0 (0)	1 (0.1)	1 (0.8)	3 (2.5)	1 (0.4)	4 (1.6)
Psychological care (yes)	58 (48.3)	24 (20)	59 (48.8)	12 (9.9)	117 (48.5)	38 (14.8)
ECOG						
0	110 (91.6)		109 (90.1)		219 (90.1)	

Variable	ECG (N= 120)		SG (N = 121)		Full Sample (N= 241)	
	Patient N (%)	Spouse N (%)	Patient N (%)	Spouse N (%)	Patient N (%)	Spouse N (%)
1	10 (7.6)		12 (9.9)		22 (9.1)	
Disease Stage						
DCIS	28 (23.3)		32 (26.4)		60 (24.9)	
1	56 (46.7)		47 (38.8)		103 (42.7)	
2	29 (24.2)		36 (29.7)		65 (27.0)	
3a	7 (5.8)		6 (5.0)		13 (5.4)	
Time since diagnosis (months)*	2.92 (2.0)		3.0 (2.2)		3.0 (2.1)	
Surgery						
Mastectomy	64 (53.3)		59 (48.8)		123 (51.3)	
BCS	56 (46.7)		62 (51.2)		118 (48.6)	
Treatment at T1						
None	54 (45.0)		57 (47.1)		111 (46.1)	
Chemotherapy	29 (24.2)		37 (30.6)		66 (27.4)	
Radiation	29 (24.2)		24 (19.8)		53 (22.0)	
Chemo and Radiation	3 (2.5)		2 (1.7)		5 (2.1)	
Missing	5 (4.2)		1 (0.8)		6 (2.5)	
Hospital site						
Bryn Mawr	0 (2.3)		5 (4.0)		5 (2.1)	
Christiana	66 (55.0)		67 (55.4)		133 (55.2)	
Rutgers CINJ	4 (3.3)		3 (2.5)		7 (2.9)	
Cooper	11 (9.1)		11 (9.1)		22 (9.1)	
FCCC	29 (24.1)		25 (20.6)		54 (22.1)	
Virtua	10 (8.5)		10 (8.3)		20 (8.3)	

Note. Enhanced Couple-Focused Group intervention Figures represent means and continuous variables (age, relationship length, time since diagnosis). Sample sizes are pre-intervention figures. BCS = breast-conserving surgery, CINJ = Cancer Institute of New Jersey, DCIS = Ductal Carcinoma in Situ, Dx = diagnosis, ECG= Enhanced Couple-Focused Group; ECOG = Eastern Cooperative Oncology Group, FCCC = Fox Chase Cancer Center, SG= Couples' Support Group; T1 = Pre-intervention

Table 2

Means and Standard Deviations for the Group Process Variables.

		SG				ECG			
		Spouse		Patient		Spouse		Patient	
		Session 4	Session 8	Session 4	Session 8	Session 4	Session 8	Session 4	Session 8
GCQ Avoidance	<i>M</i>	6.15	6.17	5.40	5.61	8.62	8.44	7.74	7.49
	<i>SD</i>	3.51	3.44	3.60	3.27	3.32	3.36	3.24	3.43
GCQ Engagement	<i>M</i>	19.83	20.89	20.22	21.90	17.44	19.18	17.89	19.93
	<i>SD</i>	2.94	2.47	2.90	2.03	3.60	3.35	3.86	3.22
GCQ Conflict	<i>M</i>	2.27	2.40	2.17	2.24	2.08	2.99	1.89	2.24
	<i>SD</i>	2.25	2.41	2.16	2.37	2.31	2.83	2.45	2.39
Working Alliance	<i>M</i>	205.58	211.01	212.14	217.97	201.31	204.63	209.97	218.18
	<i>SD</i>	26.02	26.83	25.51	28.24	30.50	31.45	22.52	21.91
Ther. Realizations	<i>M</i>	26.01	30.04	27.73	33.45	26.28	30.17	28.98	33.13
	<i>SD</i>	9.62	8.85	9.22	8.43	9.53	9.16	8.08	7.81

Note. GCQ = Group Climate Questionnaire; ECG = Enhanced Couple-Focused Group; SG = Couples' Support Group; The = Therapeutic.

Table 3

Session 4 Group Climate, Working Alliance, and Therapeutic Realizations predicting Post-treatment Anxiety

	GCQ Avoidance		GCQ Engagement		GCQ Conflict		Working Alliance		Therapeutic Realizations	
	β	B	β	b	β	b	β	b	β	b
Intercept	-	6.838	-	19.786	-	2.303	-	212.960	-	30.495
Condition	.304	1.091**	-.322	-1.090**	-.003	-.006	-.074	-2.010	.017	.154
Time	-.002	-.008	.243	.824**	.079	.191*	.103	2.841**	.246	2.266**
Role	-.097	-.350**	.092	.310**	-.068	-.164*	.182	4.981**	.146	1.347**
Time * Condition	-.021	-.075	.042	.142	.063	.153	-.003	-.111	-.025	-.229
Time * Role	-.003	-.010	.034	.115	-.035	-.084	.027	.729	.024	.219
Condition * Role	-.012	-.043	-.001	-.002	-.031	-.076	.018	.487	-.004	-.034
Time * Condition * Role	-.004	-.014	-.009	-.031	-.029	-.069	.016	.460	-.022	-.200
Age	.055	.019	-.021	-.007	.028	.006	.042	.109	-.012	-.011
# Sessions Attended	-.013	-.044	-.015	-.047	-.024	-.054	.055	1.351	.030	.255
Education	.042	.149	-.021	-.072	.064	.155	-.042	-1.131	-.051	-.470
Ethnicity	.022	.080	-.023	-.079	-.013	-.032	-.164	-4.424**	-.152	-1.395**
Cancer Stage	-.002	-.008	-.066	-.210*	-.060	-.136	-.022	-.562	-.095	-.832**
Time Since Diagnosis	-.013	-.019	.022	.030	-.037	-.037	.078	.852	.034	.128
Group Intraclass correlation	$\rho = .082^{**}$		$\rho = .182^{**}$		$\rho = .053^*$		$\rho = .147^{**}$		$\rho = .079^{**}$	
Dyadic correlation	$\rho = .040$		$\rho = .114^*$		$\rho = .106^*$		$\rho = .240^{**}$		$\rho = .192^{**}$	

Note. GCQ = Group Climate Questionnaire.

* $p < .05$,** $p < .01$.

Role is coded patient = 1, spouse = -1, condition is coded SG = -1, ECG = 1, education is coded college degree or more = 1, less than a college degree = -1, ethnicity is coded White-not Hispanic = 1, all others = -1.

Session 4 and Session 8 Group Climate and Working Alliance predicting Post-treatment Anxiety

Table 4

	GCQ Engagement Session 4		GCQ Engagement Session 8		GCQ Conflict Session 4		GCQ Conflict Session 8		Working Alliance Session 4		Working Alliance Session 8	
	B	b	β	b	β	b	β	b	β	b	β	b
Intercept	–	16.873	–	16.668	–	16.980	–	16.562	–	16.677	–	16.643
Role	–.031	–.200	–.034	–.216	–.022	–.144	–.022	–.147	.004	.027	–.027	–.172
Actor	–.039	–.072	–.030	–.066	–.032	–.091	.078	.202*	–.103	–.025*	–.035	–.008
Partner	.006	.012	.063	.137	.038	.108	.056	.144	.003	.001	–.028	–.007
Actor*Role	.083	.152	.102	.222*	–.046	–.130	–.068	–.176	–.031	–.008	.007	.002
Partner*Role	.031	.057	.009	.020	.101	.288*	.097	.251*	.045	.011	.044	.010
Condition	.008	.053	.032	.211	.008	.055	–.019	–.122	.028	.180	.040	.261
Condition*Role	–.014	–.092	–.029	–.196	–.035	–.230	–.042	–.276	–.029	–.190	–.037	–.242
Actor*Condition	.010	.018	.025	.055	.011	.031	.021	.056	–.067	–.017	–.048	–.011
Partner*Condition	–.039	–.072	–.051	–.112	–.000	–.001	.013	.035	–.007	–.002	.016	.004
Actor*Role*Cond.	–.050	–.091	–.095	–.208*	–.010	–.029	.021	.055	–.123	–.030**	–.146	–.034**
Partner*Role*Cond.	–.020	–.036	.003	.007	–.024	–.067	.042	.110	.047	.012	.034	.008
Initial Anxiety	.647	.563**	.655	.570**	.661	.575**	.674	.574**	.604	.526**	.645	.561**
Age	–.023	–.014	.005	.003	–.008	–.005	.006	.004	–.021	–.013	.008	.005
# Sessions Attended	–.021	–.125	.031	.184	–.019	–.116	.059	.355	.043	.261	.056	.337
Education	–.032	–.211	–.034	–.227	–.019	–.127	–.020	–.130	–.031	–.201	–.016	–.105
Ethnicity	.132	.862*	.121	.785*	.125	.816*	.128	.832**	.190	1.236**	.144	.936*
Cancer Stage	–.041	–.254	–.049	–.300	–.046	–.281	–.047	–.287	–.021	–.132	–.070	–.431
Time Since Diagnosis	.038	.100	.021	.057	.034	.090	.009	.023	.057	.150	.012	.032

Note. GCQ = Group Climate Questionnaire;

* $p < .05$,** $p < .01$.

Role is coded patient = 1, spouse = –1, condition is coded SG = –1, ECG = 1, education is coded college degree or more = 1, less than a college degree = –1, ethnicity is coded White-not Hispanic = 1, all others = –1.

Session 4 and Session 8 Group Climate and Working Alliance predicting Post-treatment Well-Being

Table 5

	GCQ Engagement Session 4		GCQ Engagement Session 8		GCQ Conflict Session 4		GCQ Conflict Session 8		Working Alliance Session 4		Working Alliance Session 8	
	β	b	β	b	β	b	β	b	β	b	β	b
Intercept	–	62.110	–	62.542	–	62.350	–	62.862	–	62.182	–	62.933
Role	.042	.497	.030	.350	.050	.592	.047	.551	.017	.198	.054	.636
Actor	.101	.339*	.090	.358*	.026	.137	–.047	–.221	.130	.058**	.063	.027
Partner	–.034	–.113	–.052	–.209	–.012	–.061	–.035	–.167	.008	.004	.013	.005
Actor*Role	–.010	–.033	–.077	–.307	.037	.190	.112	.528**	.001	.000	.013	.005
Partner*Role	–.092	–.306*	.012	.047	–.083	–.431*	–.066	–.311	–.058	–.026	–.084	–.036
Condition	.039	.456	.028	.322	.015	.173	.040	.471	.010	.116	.035	.409
Condition*Role	–.014	–.169	–.004	–.041	.004	.056	.001	.014	–.015	–.175	–.015	–.178
Actor*Condition	–.035	–.118	–.036	–.144	–.067	–.347	–.015	–.073	.043	.019	.016	.007
Partner*Condition	.007	.022	–.008	–.031	–.001	–.002	.009	.042	–.018	–.008	–.091	–.038*
Actor*Role*Cond.	–.039	–.130	.027	.107	.037	.191	–.032	–.150	.062	.028	.006	.003
Partner*Role*Cond.	.063	.210	–.012	–.046	.026	.133	.002	.009	.017	.008	.074	.032
Initial Anxiety	.657	.601**	.665	.608**	.692	.634**	.698	.639**	.637	.583**	.656	.600**
Age	.036	.040	.025	.028	.09	.010	.010	.012	.030	.034	.041	.047
# Sessions Attended	.041	.455	.005	.055	.055	.605	–.025	–.280	–.019	–.212	–.064	–.708
Education	.004	.048	–.003	–.035	–.016	–.185	–.014	–.167	.009	.103	–.005	–.061
Ethnicity	–.127	–1.505*	–.118	–1.402**	–.135	–1.607*	–.114	–1.358*	–.125	–1.486*	–.143	–1.695*
Cancer Stage	–.002	–.021	–.007	–.073	–.007	–.077	–.015	–.169	–.029	–.321	.011	.128
Time Since Diagnosis	.000	.002	.009	.046	.017	.081	.027	.132	–.002	–.008	.015	.072

Note. GCQ = Group Climate Questionnaire;

* $p < .05$,** $p < .01$.

Role is coded patient = 1, spouse = –1, condition is coded SG = –1, ECG = 1, education is coded college degree or more = 1, less than a college degree = –1, ethnicity is coded White-not Hispanic = 1, all others = –1.