

## **GROUP ALLIANCE AND COHESION AS PREDICTORS OF DRUG AND ALCOHOL ABUSE TREATMENT OUTCOMES**

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Although the alliance between therapist and client in individual therapy is generally considered a significant predictor of treatment success, little is known about how alliance in group therapy affects outcome. We assessed the relationship between group alliance, as measured by the Group Therapy Alliance Scale (GTAS), and group cohesion, as measured by the cohesion scale of the Group Atmosphere Scale (GAS-C) and therapy outcome. Clients were 49 men attending group therapy 3 times per week in a 21-day intensive, residential substance abuse treatment program. Outcome was determined at 30 days after discharge. Although GTAS and GAS-C scores were significantly correlated ( $r = .66$ ), only group alliance was predictive of client ratings of reduced psychological distress. Neither group alliance nor cohesion was significantly associated with decreased consequences of drug and alcohol use or depressive symptomology.

The past 20 years have seen a dramatic increase in research on the contribution of the alliance between therapist and client to individual psychotherapy outcome. Al-

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though definitions of alliance vary, it is generally conceptualized as the mutual collaboration between therapist and client to alleviate the client's problem. One of the principal findings of alliance research is that the development of a positive alliance early in therapy is consistently associated with psychotherapy outcome (Gaston, 1990; Horvath, 1994; Horvath & Luborsky, 1993). Meta-analytic studies suggest that the relationship between alliance and outcome is moderate but consistent across a range of theoretical approaches (Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000).

Much less is understood about the association between alliance and outcome in group therapy. Indeed, only a few studies (Bourgeois, Sabourin, & Wright 1990; Brown & O'Leary, 2000; Budman et al., 1989; Marziali, Munroe-Blum, & McCleary, 1997) have examined the relationship between alliance in group therapy and outcome. Findings from these studies are generally supportive of the predictive value of alliance in group therapy. Unfortunately, making definitive statements about the relation of alliance in group treatments to outcome is severely limited by a lack of conceptual clarity. For example, the four studies just cited used three different definitions of alliance and four different measurement approaches. Brown and O'Leary (2000) defined alliance in terms of the traditional individual therapy notion of client to therapist alliance as measured by the observer version of the Working Alliance Inventory (Horvath & Greenberg, 1989). Bourgeois et al. (1990) and Marziali et al. (1997) both defined group alliance as existing on three different relational levels within the group—member to therapist alliance, other members to therapist alliance, and group to therapist alliance—but used different versions of the Integrative Psychotherapy Alliance Scales (Pinsof & Catherall, 1986). Budman et al. (1989) conceptualized alliance in group as occurring only between group members and did not consider member to therapist alliance. This model of alliance was operationalized by a modified version of the Helping Alliance Question (HAQ; Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982).

These varying conceptualizations of and measurement approaches to alliance in group therapy reflect a greater problem in group research: the misapplication of individual treatment concepts to group therapy. As Kaul and Bednar (1986) noted, "Unless you assume no differences between the two, the primary conceptual ingredients that guide research cannot be borrowed from other disciplines and applied to the issues of small-group treatments with the expectation of a clean fit" (p. 673). Most clinicians and researchers agree that group therapy and individual therapy are two distinct treatment modalities with related, but different, mechanisms of change (Bednar & Kaul, 1994; Fuhriman & Burlingame, 1990; Hartman, 1979; Kivlighan, Coleman, & Anderson, 2000; Yalom, 1995). At the heart of these differences is that group therapy involves multiple clients and thus multiple relationships (member to therapist, member to member, therapist to other members, therapist to the group as a whole). These multiple relationships combine to create a therapeutic situation in which there are multiple therapeutic agents: the therapist(s), other members, and the group itself. It also raises the possibility that alliances with these different change agents are important factors in successful outcome. A 2000 study by Holmes and Kivlighan found that clients in group therapy placed greater importance on relationship-climate factors than did clients in individual therapy.

Given the complexity of the relationships that develop in group therapy, it seems necessary to modify the concept of alliance in group treatments to reflect this reality. One such adjustment was offered by Glatzer (1978), who defined alliance in group work as the "healthy, realistic collaboration between patient and therapist and between patient and patient" (p. 148). This perspective recognizes that alliance in group

therapy is more than simply the alliance between therapist and members but also includes alliances between and among group members.

Another approach is the systemic model of alliance proposed by Pinsof and Catherall (1986) and Pinsof (1988, 1994). They challenged the traditional individual therapy notion of alliance as strictly a therapist–client phenomenon and argued instead that alliance in individual, couple, and family therapy exists between and within several different client and therapist subsystems. These subsystems included (a) self-to-therapist, member to therapist alliance; (b) other-to-therapist, other members to therapist alliance; (c), group-to-therapist, group to therapist alliance; and (d) self-to-members, member to member alliance. To define the content of alliance, Pinsof and Catherall adapted Bordin's (1979) model of alliance to fit multiple interpersonal systems. This adaptation involved modifying the task component to include clients' feelings of comfort or anxiety while participating in the tasks of therapy and changing the bond component to focus on feelings of trust, respect, and caring and to include clients' ability to allow others to become important objects.

From this integrated systems perspective, alliance in a group therapy context can be conceptualized as the totality of alliances that form between the client and the therapist(s), between other members of the group and the therapist(s), between the group as a whole and the therapist, and between the client and other group members. Such a framework accounts for the complexity of relationships that influence change in group therapy. For example, clients in group are often more able to accept feedback or to benefit from interventions offered by other members than from the therapist. In such a case, the alliance with other members may be stronger than the alliance with the therapist. With this multidimensional definition of alliance in group therapy in mind, the term "group alliance" versus simply "alliance" should be used when referring to alliance among and between group members and therapist(s).

Yet another approach to understanding the nature of group alliance is to compare it with another group process variable: group cohesion. Although empirical support for the importance of cohesion as a group therapeutic factor seems to be increasing, it has a long history of conceptual confusion and measurement ambiguity (Bednar & Kaul, 1994; Crouch, Bloch, & Wanlass, 1994; Kivlighan et al., 2000). For example, definitions of cohesion range from attraction to the group (Frank, 1957), sense of support, trust, and belonging in the group (Yalom, 1995), commitment to the aims of the group (Piper, Marrache, Lacroix, Richardsen, & Jones, 1983), and acceptance within the group (Crouch et al., 1994). Fundamental to this lack of consensus is whether cohesion is best conceptualized as a group phenomenon, a characteristic of the group as a whole, or as an individual phenomenon, the individual member's perception of belonging or commitment to the group. These differing conceptual frameworks have prompted much debate and a variety of measurement approaches.

There seems to be a trend to define cohesion using elements of alliance theory, specifically the emphasis on the agreement and commitment to the tasks and goals of therapy (Crouch et al., 1994; Kivlighan et al., 2000). The origins of this conceptualization are somewhat unclear. Kivlighan et al. (2000) suggested that, in part, "this consensus has been stimulated by Yalom's (1995) formulation that group cohesiveness is the group therapy analogue of the working alliance in individual therapy" (p. 779). The original quote from Yalom (1995), however, does not refer to working alliance per se but instead states that "cohesiveness in group therapy is the analogue of *relationship* in individual therapy" (p. 47, italics added). Budman et al. (1987) were among the first to suggest a close relationship between alliance and cohesion.

In developing their Harvard Community Health Plan-Group Cohesion Scale (HCHP-GCS), Budman et al. (1987) operationalized cohesion in terms of Bordin's (1979) model of alliance (bonds, tasks, and goals). According to Budman et al. (1989), cohesion is "demonstrated by working together toward a common therapeutic goal, constructive engagement around common themes, and an open, trusting attitude which allows members to share personal material" (p. 341). Defined in such a way, cohesion and alliance are almost synonymous.

To our knowledge, only two studies have empirically examined the relationship between group alliance and cohesion and evaluated their contribution to group therapy outcome. In a study of 90 depressed and anxious outpatient clients in time-limited group treatment, Budman et al. (1989) found group alliance and cohesion, as measured by the HAQ and the HCHP-GCS, respectively, to be highly correlated ( $r = .95$ ) and approximately equally predictive of client-reported change in self-esteem and symptom distress ( $r_s = .62-.76$ ). They did not, however, evaluate the unique contribution resulting from group alliance or cohesion. In contrast, Marziali et al. (1997) reported a bivariate correlation of .67 between group alliance, as assessed by 30 items from the Group Therapy Alliance Scale (GTAS; Pinsof & Catherall, 1986), and cohesion, as measured by a subset of items from the cohesion scale of the Group Atmosphere Scale (GAS; Silbergeld, Koenig, Manderscheid, Meeker, & Hornung, 1975). Although both cohesion and group alliance were correlated with outcome, multiple regression analyses indicated that, after controlling for pretreatment symptomology and cohesion, group alliance accounted for additional variance (up to 44%) in the outcome measures (Beck Depression Inventory [BDI; Beck & Steer, 1993], Symptom Checklist-90 [SCL-90; Derogatis, 1977], and Social Adjustment Scale). Cohesion did not significantly contribute additional predictive variance when alliance was entered into the regression equations first. Thus, both studies suggest that group alliance and cohesion are related constructs and are associated with positive outcome, although only the Marziali et al. study found alliance uniquely predictive of outcome. Because these studies used different conceptualizations of group alliance and cohesion and different analytic methods, it is difficult to draw firm conclusions about the predictive utility of either construct.

In the current research, clear definitions of group alliance and cohesion are proposed and tied to theoretically consistent measurement tools. Group alliance is conceptualized using the systemic model developed by Pinsof and Catherall (1986) and Pinsof (1988, 1994). This approach defines group alliance as the active collaboration on therapeutic issues that occurs between members, between members and therapist(s), and between members and the group as a whole. The content of group alliance is based on a modified version of Bordin's (1979) model of alliance as consisting of positive emotion bonds, agreement on the goals of therapy, and agreement on the tasks necessary to accomplish those goals. Cohesion, alternatively, is conceptualized as the sense of close association within and emotional commitment to the group. From this perspective, cohesion is composed of members' perceptions of the group as an open and honest environment in which members encourage and support one another, spend time together, and feel a sense of group spirit or pride. Thus, in this study, both group alliance and cohesion are conceptualized as multidimensional constructs existing on several different interpersonal levels within the group, member to member, member to therapist(s), other members to therapist(s), and group to therapist(s). They both also address the emotional bonds or attachments between and among members and therapist(s). They are differentiated, however, in terms of specific content focus. A large component of group alliance is agreement on treatment goals and tasks and working together to overcome problems. Cohesion, alter-

natively, reflects a more general group unity, spontaneity of self-expression, emotional support, and commitment to one another and does not specifically address the mutual collaboration on therapy tasks and goals inherent in group alliance. In addition, the element of spontaneity or the feeling of being free and uninhibited enough to be open and honest is not conceptualized as a specific component of alliance. The bond component of group alliance may indirectly speak to this idea but does not do so explicitly.

The current study also expands the study of group alliance and cohesion into the area of substance abuse treatment. There is a growing body of literature on the association between individual therapy alliance and treatment outcome among substance abuse clients. The majority of these studies have found correlations between early alliance and substance abuse treatment outcomes (Barber et al., 1999; Carroll, Nich, & Rounsaville, 1997; Gerstley et al., 1989; Luborsky, McLellan, Woody, O'Brien, & Auerbach, 1985; Raytek, McCrady, Epstein, & Hirsch, 1999). However, these studies focused on the alliance between therapist and client in individual therapy. To our knowledge, no studies have assessed the influence of alliance in the context of group treatment with residential substance abuse clients. This is somewhat surprising given that group therapy is one of the most commonly used therapeutic modalities in substance abuse treatment (Flores & Mahon, 1993; Fram, 1990; Stinchfield, Owen, & Winters, 1994).

The purpose of this study was thus to investigate the construct validity of group alliance and cohesion through an exploration of their unique contribution to three measures of substance abuse treatment outcome: drug and alcohol use consequences, psychological distress, and depressive symptomology. On the basis of our definitions of group alliance and cohesion, we hypothesized that they would be positively, yet moderately, correlated. On the basis of previous studies of group alliance and cohesion, we also hypothesized that only group alliance would be uniquely associated with client change across all three outcome measures.

## Method

### *Participants*

Participants were 66 male clients admitted to the 21-day residential substance rehabilitation program at the Veterans Affairs North Texas Health Care System between February 18, 1998, and June 4, 1998. All clients entering the residential program ( $N = 74$ ) were solicited to participate in the study. Two clients refused to participate, and 1 was excluded because of dementia. Five female clients entered the study but were excluded from subsequent analysis to improve generalizability of results. Of the 66 participants who enrolled in the study, 59 completed the program, 3 dropped out because of psychiatric reasons (severe suicidal ideation), and 4 left because of relapse. One-month follow-up data were available for 49 clients (follow-up rate = 74%). Of these clients, 27 (55%) were African American, 20 (41%) were Caucasian, and 2 (4%) were Hispanic. The mean age was 45.41 years ( $SD = 8.49$  years), and mean number of grades completed in school was 12.45 years ( $SD = 1.63$  years). Regarding relationship status, 20 (41%) were married, 17 (35%) were divorced, 11 (22%) were single, and 1 (2%) did not indicate marital status. All participants met *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition; *DSM-IV*) diagnostic criteria (American Psychiatric Association, 1994) for substance dependence.

### **Treatment**

The residential substance abuse treatment program was based on an interdisciplinary, biopsychosocial model of substance dependence. Clients participated in a range of therapeutic interventions including cognitive-behavioral psychoeducational classes (life skills, relapse prevention, symptom management, medical aspects of alcohol and drug use, and dual diagnosis), 12-step meetings, occupational therapy, recreational therapy, kinesiotherapy, as well as group therapy.

Group therapy was a mandatory component of the treatment program and met for 1 hr three times a week. Groups were open; membership changed as clients were admitted and discharged from the program. During the 3-week program, clients had the opportunity to attend up to nine group sessions (mean number of group sessions attended was 7.9,  $SD = 1.3$ , range = 4–10). The group model used was a modified version of Yalom's (1995) interactional group psychotherapy. Therapeutic interventions primarily involved using here-and-now interactions between members to highlight patterns of maladaptive behavior and develop more adaptive interpersonal relationships but also included cognitive reframing, role-playing, and problem-solving.

Of the two groups, Group A ( $n = 31$ ) was led by two psychology fellows (1 man and 1 woman), and Group B ( $n = 18$ ) was led by a social work fellow and a registered nurse clinical specialist (both women). The average number of clients attending Group A and Group B was 10.2 ( $SD = 3.3$ ) and 8.8 ( $SD = 3.8$ ), respectively. Group leaders had a minimum of 2 years experience using Yalom's interactional group therapy approach and a mean of 5 years experience conducting group therapy. Before the beginning of the study, the group leaders met to standardize the format and structure of the groups. Leaders also met periodically throughout the study to compare the interventions used and maintain group format.

### **Baseline and Outcome Measures**

*BDI-II.* This instrument (Beck, Steer, & Brown, 1996) is an updated 21-item version of the BDI-IA (Beck & Steer, 1993) specifically designed to measure self reported symptoms of depression consistent with *DSM-IV* criteria. It is widely used and has established score validity and reliability. The internal consistency (coefficient alpha) for the total BDI-II scores in this study was .92 (baseline) and .93 (follow-up).

*Outcomes Questionnaire-45 (OQ-45; Lambert et al., 1997).* This is a 45-item self-report measure of symptom distress and general functioning designed specifically to track client progress in therapy along three dimensions suggested by Lambert (1983): subjective discomfort, interpersonal relationships, and social role performance. OQ-45 scores demonstrate good concurrent validity with other commonly used outcome measures such as the BDI (Beck & Steer, 1993) and the SCL-90-R (Derogatis, 1977). Confirmatory factor analysis failed to support the three-factor structure of the OQ-45; therefore, only the total score was used in the current analysis (Lambert et al., 1997). For our sample, coefficient alpha for the baseline and follow-up total OQ-45 score equaled .94 and .94, respectively.

*Inventory of Drug Use Consequences (InDUC).* The InDUC is a parallel version of the Drinkers Inventory of Consequences (DrInC; Miller, Tonigan, & Longabaugh, 1995) used to measure the severity of negative consequences experienced as a result of alcohol and drug use. The InDUC is composed of 50 items that reflect five types of

commonly experienced adverse consequences: physical, intrapersonal, interpersonal, social responsibility, and impulse control. Items are rated on a 4-point Likert scale ranging from 0 (*never*) to 3 (*daily or almost daily*) with higher scores reflecting more severe, adverse consequences. The rationale for using the InDUC is that consequences of alcohol and drug use are often unrelated to the frequency and quantity of use and thus should be assessed separately. Score reliability and validity of the DrInC, on which the InDUC was derived, have been found to be adequate (Anderson, Gogineni, Charuvastra, Longabaugh, & Stein, 2001; Miller et al., 1995). In the current study, InDUC scores also demonstrated good concurrent and divergent validity with other outcome measures (Table 1). In addition, coefficient alpha for this sample equaled .96 (baseline) and .98 (outcome), suggesting excellent internal consistency.

### Process Measures

*GTAS*. This is a 36-item, self-report measure of group therapy alliance. Based on the systemic model of alliance (Pinsof & Catherall, 1986; Pinsof, 1988, 1994), the GTAS was designed to assess a modified version of Bordin's (1979) model of alliance (bond, task, and goal) across four interpersonal dimensions: (a) individual member to therapist alliance, (b) members-as-a-group to therapist alliance, (c) others-within-the-group to therapist alliance, and (d) member to member alliance. Clients use a 7-point Likert scale (*completely disagree* [1] to *completely agree* [7]) to rate their working relationship with the therapist(s), other group members, and the group as a

**TABLE 1. Means and Standard Deviations for and Correlations Between Group Alliance, Cohesion, and Treatment Outcome**

Measures	<i>M</i> ± <i>SD</i>	Process	Baseline			Outcome		
		GAS-C	BDI-II	InDUC	OQ-45	BDI-II <sup>a</sup>	InDUC <sup>b</sup>	OQ-45
Process								
GTAS	179.00 ± 27.66	.66** ( <i>n</i> = 66)	-.05	-.11	-.24	-.20	-.28*	-.38**
GAS-C	27.07 ± 7.20	—	-.19	-.06	-.33*	-.13	-.12	-.28*
Baseline								
BDI-II	20.57 ± 11.65		—	.35*	.79**	.40	-.03	.33*
InDUC	72.09 ± 26.25			—	.45**	.10	.11	.07
OQ-45	79.70 ± 27.01				—	.34*	.09	.32*
Outcome								
BDI-II	11.00 ± 10.28					—		
BDI-II <sup>a</sup>	3.14 ± 1.48						.18	.68**
InDUC	21.79 ± 31.60						—	
InDUC <sup>b</sup>	0.78 ± 0.77							.21
OQ-45	57.48 ± 23.56							—

Note: *N* = 49 unless otherwise noted. GTAS = Group Therapeutic Alliance Scale; GAS-C = Group Atmosphere Scale Cohesion; BDI-II = Beck Depression Inventory-II; InDUC = Inventory of Drug Use Consequences; OQ-45 = Outcomes Questionnaire-45.

<sup>a</sup>Outcome BDI-II scores were transformed using a square root transformation.

<sup>b</sup>Outcome InDUC scores were transformed using a logarithm transformation.

\**p* < .05. \*\**p* < .01.

whole. Sample items include “All the other clients in the group are helping me,” “All the other members of this group are in agreement with the therapists about the way the therapy is being conducted,” and “The other clients and I are in agreement with each other about the goals of the therapy group.” Eighteen items are negatively worded and must be reverse scored. Item scores are summed to produce a total group alliance score; higher scores indicate stronger group alliance.

Like most measures of group alliance, few psychometric data exist for the GTAS. Initial evidence, however, does support the reliability and validity of GTAS scores. Marziali et al. (1997) reported internal consistency and split-half reliability coefficients for the GTAS of .88 and .82, respectively. The predictive validity of GTAS scores has been supported by the findings of Marziali et al. In addition, Bourgeois et al. (1990) found significant relationships between therapy outcome and the Couples Therapy Alliance Scale on which the GTAS is partly based. In the current study, all analyses use the composite GTAS. Coefficient alpha for the present sample equaled .95, suggesting excellent internal consistency and supporting the use of total GTAS scores.

*GAS (Silbergeld et al., 1975).* This is a measure of three dimensions of the psychosocial environment of small groups: cohesion/relationship, system maintenance, and conformity. It is composed of 120 true-false statements concerning behaviors, attitudes, and mood of group members. Half of the items are negatively worded and are reverse scored before analysis. The original cohesion scale was developed by factor analyzing scores provided by 149 clients in 17 different groups (Manderscheid, Koenig, & Silbergeld, 1978). Specifically, principal-component analysis with varimax rotation revealed three factors underlying the GAS. The first factor was interpreted as reflecting group cohesion (members' perceptions of affiliation, openness, support, and shared expectations within the group) and consisted of items from seven subscales: Spontaneity, Support, Affiliation, Involvement, Insight, Variety, and Autonomy. Item responses are summed to compute a total cohesion score; higher responses indicate stronger cohesion.

The few studies that have used the GAS provide initial support of score reliability and validity. Silbergeld et al. (1975) reported that GAS scores distinguished between short-term and long-term therapy groups and had good convergent and discriminate validity with the Hill Interaction Matrix (HIM; Hill, 1965). Subsequent use by Braaten (1989) found that GAS scale scores were associated with successful treatment outcomes. Because of the relative lack of psychometric data available on the cohesion scale of the GAS and the questionable nature of the factor analysis on which it was based, several analyses were conducted to explore score reliability and validity. The intercorrelations between the seven subscales that comprise the cohesion scale were examined. Only four of the original seven subscales (Affiliation, Support, Involvement, and Spontaneity) were significantly intercorrelated at .45 or above. Based on this result, these four subscales were used to compute total cohesion scores, and the three remaining subscales were dropped. Coefficient alpha for scores on this 40-item cohesion scale (GAS-C) was .87, suggesting good internal consistency. Examination of the content of these four scales revealed that items focus on members' sense of connectedness, mutual support, commitment to one another, and safety to be open and honest. Items include Spontaneity (“Group members say anything they want to the therapist”), Support (“The stronger members of this group help the less strong ones”), Affiliation (“Nearly everyone here has some social interactions before or after group meetings”), and Involvement (“Group members put a lot of energy into what they do around here”).



### ***Procedure***

On admission to the residential program, clients met with one of the investigators, who explained that the study concerned their experiences in group therapy and would involve completing several paper-and-pencil instruments on admission, after the fourth and the eighth sessions of group therapy, and 30 days after discharge. Consent forms were signed, and the baseline measures were administered by one of the investigators. Clients were then assigned to a group based on who their case manager was. This was done to ensure that the group therapist was not also a particular client's case manager. After the fourth and eighth session of group psychotherapy attended, clients completed the GAS and GTAS. Because of low response rates after the eighth session, only data from the fourth session were used. At discharge, participants were given a 30-day follow-up interview date. At the follow-up, participants were again administered the OQ-45, BDI-II, and InDUC. Clients received \$20 for their participation.

## **Results**

### ***Preliminary Analyses***

Independent-sample *t* tests were used to compare the baseline scores and process variables of the 59 clients who completed treatment and the 7 clients who did not. No statistically significant differences were found,  $t(64) = -.23$  to  $.54$ , all  $ps > .30$ . There were also no statistically significant differences on the baseline and process measures for clients who provided follow-up data ( $n = 49$ ) and those who did not ( $n = 10$ ). Because outcome variables often depart from normality as a result of ceiling–floor effects and skewness, score distributions were assessed. BDI-II and InDUC scores provided at 1-month follow-up were significantly positively skewed ( $zs = 3.29$  and  $3.68$ , respectively). These scores were thus transformed to improve the distributions. Square root transformation provided the best correction for BDI-II scores ( $z = 1.04$ ), and logarithm transformation produced the best improvement for InDUC scores ( $z = 1.10$ ). These transformed scores were used to compute residualized gain scores for the subsequent regression analyses. Before aggregating the data from Groups A and B, independent-sample *t* tests were conducted to compare the residualized gain scores of the three outcome variables of clients from the two groups. There were no statistically significant differences between Groups A and B on the BDI-II or InDUC, but there was a statistically significant difference on the OQ-45; greater change was reported by clients in Group B,  $t(47) = -2.18$ ,  $p < .05$ . This effect for group membership was further examined in subsequent regression analyses.

Table 1 presents the means and standard deviations for and correlations among group alliance, group cohesion, and the baseline and outcome variables. Examination of the means and standard deviations of the baseline and follow-up measures on Table 1 reveals that clients improved across all three measures of treatment outcome (lower scores represent less severe symptomology). A repeated measures multivariate analysis of variance (MANOVA) was conducted to examine client change from baseline to 1-month follow-up. A statistically significant difference was found,  $F(3,46) = 31.83$ ,  $p < .001$ ,  $\eta^2 = .68$ . Repeated measures *t* tests indicated that change was statistically significant for all three variables,  $t(48) = 5.61$ ,  $p < .001$ ,  $d = .82$ , for BDI-II;  $t(48) = 9.80$ ,  $p < .001$ ,  $d = 1.92$ , for InDUC; and  $t(48) = 5.24$ ,  $p < .001$ ,  $d = .82$ ,

for OQ-45. Both the MANOVA and *t* tests were performed using nontransformed BDI-II and InDUC outcome scores.

### **Primary Analyses**

To test the hypothesis that group alliance and cohesion would be positively associated, bivariate correlations were computed between GTAS and GAS-C scores. As seen in Table 1, these scores were significantly correlated ( $r = .66, p < .01$ ). This result supports the hypothesis that group alliance and cohesion are related constructs.

To determine the amount of variance in client change unique to group alliance and cohesion, two parallel series of hierarchical multiple regression analyses were conducted. In each series, separate equations were computed for each of the outcome measures (BDI-II, InDUC, and OQ-45). The criterion variables were the residualized gain scores for each of the three outcome measures. The predictor variables were GTAS and GAS-C scores. Group assignment (A or B) was added as a predictor variable in the regression equations for the OQ-45 to control for the differences as a result of group membership identified earlier. The first series of multiple regressions (Series 1) evaluated the unique outcome variance attributable to cohesion. In this series, GTAS was entered in Step 1 and GAS-C in Step 2 (except for the OQ-45, in which group assignment was entered in Step 1). The entry of GTAS and GAS-C was then reversed in Series 2, which assessed the unique contribution of group alliance to outcome. Results of the two series of multiple regressions are presented in Table 2.

The second hypothesis, that only group alliance would be uniquely associated with client change, was partially supported. As seen in Table 2, GTAS scores were significantly predictive of change in OQ-45 scores after controlling for group assignment (Step 2 of Series 1,  $\Delta R^2 = .14, p < .01$ ) and after controlling for both group assignment and cohesion (Step 3 of Series 2,  $\Delta R^2 = .09, p < .05$ ). These findings indicate that clients who had higher group alliances reported reduced psychological distress and improved general functioning regardless of their perceptions of cohesion in the group. There were no statistically significant associations, however, in Series 1 or Series 2 between GTAS and client change on the other two outcome variables. In addition, clients' ratings of cohesion were not predictive of treatment outcome. It should be noted that group assignment predicted change in OQ-45 scores with greater reduction in psychological distress reported by clients in Group B. This finding highlights the importance of considering group membership effects when aggregating data from more than one group.

Because GTAS scores were uniquely predictive of only one of the three outcome measures and were significantly correlated with GAS-C scores, two follow-up analyses were conducted to explore components of group alliance not associated with cohesion as well as elements of cohesion most distinct from group alliance. Bivariate correlations were computed to identify GTAS items least related to GAS-C total scores and GAS-C items least related to GTAS total scores. Ten GTAS items were found to share less than 10% common variance with GAS-C scores ( $r_s = .14-.32$ ). Content analysis of these items revealed that six items specifically focused on understanding, agreeing, and working on treatment goals (e.g., "Some of the other clients in the group and I do not understand each other's goals for this therapy" and "The other clients and I are in agreement with each other about the goals of the therapy group"). The remaining four items primarily addressed members' feelings of trust, acceptance, and caring toward the therapists (e.g., "Some of the other members of this group distrust the therapists" and "All the other members of this group feel ac-

**TABLE 2. Summary of Hierarchical Regression Analyses Predicting Treatment Outcome Using Group Alliance and Cohesion**

Step/variable	Series 1: Unique effects: cohesion						Step/variable	Series 2: Unique effects: group alliance					
	<i>R</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	$\beta$	<i>t</i>		<i>R</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	$\beta$	<i>t</i>
<b>OQ-45</b>													
Group (A or B)	.30	.09	.09	4.73*	.36	2.71**	Group (A or B)	.30	.09	.09	4.73*	.36	2.71**
GTAS	.48	.23	.14	8.12**	-.42	-2.26**	GAS-C	.38	.14	.05	2.72	.07	0.35
GAS-C	.48	.23	.00	0.12	.07	0.35	GTAS	.48	.23	.09	5.13*	-.42	-2.26*
<b>InDUC</b>													
GTAS	.27	.07	.07	3.68	-.38	-1.89	GAS-C	.11	.01	.01	0.61	.15	0.76
GAS-C	.29	.08	.01	0.58	.15	0.76	GTAS	.29	.08	.07	3.58	-.38	-1.89
<b>BDI-II</b>													
GTAS	.20	.04	.04	1.91	-.31	-1.54	GAS-C	.06	.00	.00	0.16	.16	0.80
GAS-C	.23	.05	.01	0.64	.16	0.80	GTAS	.23	.05	.05	2.37	-.31	-1.54

Note. *N* = 49. Group assignment (A or B) was dummy coded. GTAS = Group Therapeutic Alliance Scale; GAS-C = Group Atmosphere Scale-Cohesion; BDI-II = Beck Depression Inventory-II; InDUC = Inventory of Drug Use Consequences; OQ-45 = Outcomes Questionnaire-45.

\**p* < .05. \*\**p* < .01.

cepted by the therapists"). These results suggest that explicitly understanding and agreeing on treatment goals and bonding, specifically with the therapist, may be aspects of group alliance that are most distinct from group cohesion.

In terms of the correlations between GAS-C items and GTAS total scores, 19 items were found to share less than 10% common variance with GTAS scores ( $r_s = |.03| - |.31|$ ). An examination of the content of these items revealed that 10 items focused on being helpful to one another, spending time together, and making the effort to come to and participate in group (e.g., "Group members often do things together immediately before or after group meetings," "Group members rarely help each other," "Therapist sometimes does not show up for his appointment with the group"). The remaining nine items addressed members' perceptions of the group as an environment in which they can openly express their thoughts and emotions ("When group members disagree with each other, they keep it to themselves," "Group members say anything they want to the therapist," "Group members are encouraged to show their feelings"). Thus, a sense of togetherness and commitment to one another, as opposed to commitment to specific treatment goals, and an atmosphere of spontaneity of self-expression may be elements of cohesion that are most distinct from group alliance.

### Discussion

The findings of this study indicate that group alliance and cohesion are related constructs and that only client ratings of group alliance are uniquely associated with one of the three outcome measures examined, specifically subsequent improvement in self-reported psychological functioning. Group alliance does not, however, seem to be significantly predictive of change in alcohol and drug use consequences or depressive symptomology. Likewise, ratings of cohesion were not significantly correlated with client improvement on any of the outcome variables. These results provide partial replication of previous research (Marziali et al., 1997) on the unique contributions of group alliance and cohesion to treatment outcome. The findings are also somewhat consistent with past alliance-substance abuse studies. Similar to Barber et al. (1999) and Luborsky et al. (1985), group alliance was predictive of improvements in general psychological functioning; however, unlike other studies (e.g., Carroll et al., 1997; Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997), group alliance was not related to more specific drug- and alcohol-related outcomes.

This study also offers initial clarification of the conceptual relationship between group alliance and cohesion. The findings that group alliance and cohesion are significantly correlated and that both failed to predict client change on two of the three outcome measures indicate that they are indeed closely related, if not essentially the same construct as suggested by Budman et al. (1987, 1989). From a clinical perspective, this interpretation seems to make intuitive sense. For example, a sense of connectedness and commitment to one another (cohesion) usually occurs when members and therapists agree on and work together on therapeutic goals and tasks. Likewise, trust, respect, and caring within the group seem prerequisite conditions for being spontaneous and supportive of one another.

The results of the follow-up analyses may indicate, however, possible areas of difference between the two concepts. Specifically, six group alliance items concern-

ing agreement on therapy goals were relatively unrelated to cohesion ( $r_s = .18-.33$ ). This suggests that cohesion is a less specific concept, compared with group alliance, in terms of reflecting engagement in explicit therapeutic activities, such as negotiating goals. Theoretically, collaboration on agreed-on therapeutic goals and tasks are major components in alliance (Bordin, 1979), whereas commitment to one another, acceptance, and feeling a part of the group have been stressed in definitions of cohesion (Crouch et al., 1994; Yalom, 1995). Low correlations ( $r_s = .14-.26$ ) were also found between cohesion and group alliance items concerning feelings of trust, acceptance, and caring toward the therapists. Thus, member-to-therapist bonds may be less important to cohesion than member-to-member bonds. This seems somewhat reasonable given that in group therapy there are multiple clients and only one or two therapists. The larger number of relationships with other group members may contribute more to an overall sense of cohesion than one's relationship with the therapist.

In addition, 10 cohesion items focusing on members spending time together, being concerned about and helping one another, and not missing sessions were relatively uncorrelated with group alliance ( $r_s = |.06|-.31|$ ). These items seem to reflect more social aspects of group togetherness as opposed to treatment specific elements of togetherness, such as working together on therapeutic issues as emphasized in group alliance. Thus, the concept of cohesion may be viewed as containing an aspect of group togetherness not addressed in group alliance, specifically a sense of mutual affiliation and commitment to one another, versus commitment to treatment goals or therapeutic work. An example of this may be a group that maintains cohesion even during periods of relatively low therapeutic productivity. Low correlations ( $r_s = |.03|-.31|$ ) were also found between group alliance and cohesion items involving members' perceptions of the level of openness and honesty allowed in the group. This suggests that cohesion involves a sense of freedom of self-expression and trust within the group that is distinct from group alliance. This seems somewhat counterintuitive because one component of group alliance focuses on positive emotional bonds between and among members and therapists. The idea of spontaneity of self expression, however, seems to be broader in scope in that it addresses an overall atmosphere of genuineness and truthfulness, as reflected by members' willingness to disagree and take emotional risks. This is consistent with Yalom's (1995) caution that cohesion should not be confused with a sense of comfort and agreement but rather that the openness and honesty characteristic of cohesion is inherently anxiety provoking.

The failure to find more significant relationships between group alliance and cohesion and treatment outcomes as well as the small amounts of outcome variance accounted for by group alliance (9% for psychological distress, 7% for drug and alcohol consequences, and 5% for depressive symptomology) may be due to the fact that group therapy was a relatively small component of this particular residential treatment program. As mentioned, clients in this residential treatment program participated in a variety of treatment activities. For example, clients participated in group therapy three times per week versus attending psychoeducational relapse prevention classes two to three times per day. This is in contrast to previous studies (Barber et al., 1999; Carroll et al., 1997; Gerstley et al., 1989; Luborsky et al., 1985) that focused on alliance in the context of outpatient treatment in which individual therapy was the primary therapeutic modality. Given such a comprehensive treatment approach, it is reasonable that other more frequent interventions might have contrib-

uted more to outcome than group process variables. Another factor may be the use of the GTAS and the GAS-C. As noted, these instruments have not been widely used, and some questions remain concerning score reliability and validity. In this study group, alliance was measured with less error than cohesion (Cronbach's  $\alpha = .95$  and  $.87$ , respectively), thus limiting the possible magnitude of correlations involving the GAS-C. The use of different measures of group alliance and cohesion in future studies is necessary to further explicate not only their relation to one another but also their relative contribution to therapy outcome.

The finding that group alliance and cohesion differed in terms of their prediction of treatment outcomes may also be explained by the nature of the group treatment used in this study, which was relatively brief and open (patients joining and leaving the groups on an ongoing basis). With group membership "turning over" frequently, it is reasonable that clients' sense of spontaneity and connectedness with the group (cohesion) would be less important than their sense of working together on problems (group alliance). Consistently working to address client issues and developing new strategies for staying sober were the common threads throughout the group treatment. Another possible explanation for the lack of predictive power for cohesion is that all participants in this study were men. Perhaps bonding and a sense of affiliation and involvement with other members and the therapist(s) are less important for male clients beginning their recovery than for female clients. Group cohesion might play a more prominent role in therapy groups consisting of both men and women.

There are several limitations of this study. First, the follow-up period was only 1 month. The meaningfulness of treatment gains after 30 days can be questioned considering that in this study 45 of 49 clients (92%) reported being abstinent since discharge. Therefore, a 6- or 12-month follow-up would provide a better opportunity to evaluate the effects of group alliance and cohesion. Second, only fourth-session group alliance and cohesion scores were used in the analyses. Process researchers argue that group alliance and cohesion are not static phenomena but are rather dynamic. Using ratings from only one time point limits these concepts as fixed and does not allow for possible fluctuations in these variables that could be related to outcome. Third, this study is correlational in design. Although stronger group alliances measured during group therapy were significantly related to positive outcome after group assignment and cohesion were accounted for, it cannot be concluded that group alliance caused the outcomes. A suggestion for future research is to randomize clients into two group therapy conditions, perhaps one that worked actively to build alliance and cohesion and one that placed much less emphasis on process factors, such as a psychoeducational group, and then compare the relative impact of group alliance and cohesion on outcome.

Despite these limitations, however, this study provides modest support for the positive contribution of group alliance to group therapy outcome. This study also lays the groundwork for additional research on group alliance as a group psychotherapy variable. Specifically, it proposes that the concept of alliance between therapist and client be expanded to honor the multiple relationships inherent in group psychotherapy and highlights conceptual similarities and possible differences between group alliance and cohesion. Further research is necessary to more clearly determine the nature of group psychotherapy alliance as opposed to group cohesion, to refine the measurement of both group alliance and cohesion, and to evaluate their impact on group outcome.

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**Zusammenfassung**

Obwohl die Allianz zwischen Therapeut und Client in der Einzeltherapie im allgemeinen als signifikanter Prädiktor für den Behandlungserfolg angesehen wird, weiß man wenig darüber, wie die Allianz in der Gruppentherapie den Erfolg beeinflusst. Wir haben die Beziehung zwischen Gruppenallianz, gemessen mit der Gruppen-Therapie-Allianz-Skala (GTAS), Gruppenkohäsion, gemessen mit der Kohäsionsskala der Gruppen-Atmosphären-Skala (GAS-C) und dem Behandlungserfolg untersucht. Die Klienten waren 49 Männer, die dreimal in der Woche Gruppentherapie erhielten im Rahmen eines 21 Tage dauernden, intensiven stationären Drogenabhängigkeitsbehandlungsprogramms. Der Erfolg wurde 30 Tage nach der Entlassung eingeschätzt. Obwohl die GTAS und GAS-C signifikant miteinander korrelierten, sagte nur die Gruppenallianz eine Reduktion der selbst eingeschätzten psychologischen Belastung voraus. Weder die Gruppenallianz noch die Kohäsion zeigten eine signifikante Beziehung zur Abnahme von aus negativ erfahrenen Konsequenzen von Drogen- oder Alkoholkonsum oder depressiver Symptomatik.

**Résumé**

Alors que l'alliance entre thérapeute et client dans une thérapie individuelle est considérée, en général, comme un prédicteur significatif du succès d'un traitement, on en sait peu sur l'effet de l'alliance sur les résultats dans la thérapie de groupe. Nous avons examiné la relation entre l'alliance du groupe, mesurée par la Group Therapy Alliance Scale (GTAS), et la cohésion du groupe, mesurée par l'échelle de cohésion de la Group Atmosphere Scale (GAS-C), et le résultat. Les clients étaient 49 hommes participant à une thérapie de groupe 3 fois par semaine dans le cadre d'un programme de 21 jours de traitement résidentiel intense pour abus de substances. Le résultat était déterminé 30 jours après la sortie. Alors que les scores GTAS et GAS-C étaient corrélés de façon significative ( $r = .66$ ), seule l'alliance du groupe prédisait des cotations, par les clients, d'une détresse psychologique réduite. Ni l'alliance du groupe, ni la cohésion n'étaient associées, de façon significative, à des conséquences diminuées de l'usage de drogues et d'alcool ou de la symptomatique dépressive.

**Resumen**

Si bien la alianza entre terapeuta y cliente se considera generalmente predictora significativo del éxito del tratamiento en la terapia individual, poco se conoce acerca de cómo la alianza afecta los resultados en la terapia grupal. Evaluamos la relación entre la alianza grupal (según se mide con la Escala de Alianza en Terapia Grupal (GTAS) y la cohesión grupal (según la mide la escala de cohesión de la Escala de Atmósfera Grupal) (GAS-C) con el resultado de la terapia. Los clientes fueron cuarenta y nueve hombres que asistían a una terapia grupal tres veces semanales en un programa intensivo de veintiún días de tratamiento residencial por abuso de sustancias. Se determinó el resultado a los treinta días luego del alta. Si bien los valores del GTAS y el GAS-C correlacionaron significativamente ( $r = .66$ ), sólo la alianza grupal predijo el grado de reducción del estrés psicológico evaluado por los clientes. Ni la alianza ni la cohesión grupal se asociaron significativamente con una disminución en las consecuencias del uso de drogas y alcohol o con su sintomatología depresiva.

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