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Efficacy of client feedback in group psychotherapy with soldiers referred for substance abuse treatment

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Abstract

This study investigated whether routine monitoring of client progress, often called “client feedback,” via an abbreviated version of the Partners for Change Outcome Management System (PCOMS) resulted in improved outcomes for soldiers receiving group treatment at an Army Substance Abuse Outpatient Treatment Program (ASAP). Participants ($N = 263$) were active-duty male and female soldiers randomized into a group feedback condition ($n = 137$) or a group treatment-as-usual (TAU) condition ($n = 126$). Results indicated that clients in the feedback condition achieved significantly more improvement on the outcome rating scale ($d = 0.28$), higher rates of clinically significant change, higher percentage of successful ratings by both clinicians and commanders, and attended significantly more sessions compared to the TAU condition. Despite a reduced PCOMS protocol and a limited duration of intervention, preliminary results suggest that the benefits of client feedback appear to extend to group psychotherapy with clients in the military struggling with substance abuse.

Keywords: outcome research; group psychotherapy; client feedback; progress monitoring

Group psychotherapy is an effective treatment modality for a variety of psychological concerns including substance abuse and comparable to individual therapy (Burlingame, Strauss, & Joyce, 2013; Horne & Rosenthal, 1997). After a review of over 250 studies, Burlingame et al. (2013) concluded that there is “clear support for group treatment with good or excellent evidence for most disorders reviewed” (p. 664). Given the empirical support, comparable findings with individual treatment, and cost efficiency that a group format offers (Roberge, Marchand, Reinharz, & Savard, 2008; Taylor, Burlingame, Fuhriman, Johansen, & Dahl, 2001), group psychotherapy has emerged as a dominant treatment modality in the military healthcare system (Burnett-Zeigler et al., 2012).

Investigations of the efficacy of group treatment of military-based populations are largely positive. The majority evaluate treatments for specific psychological disorders, particularly post traumatic stress disorder

(PTSD) (Alvarez et al., 2011; Forbes, Lewis, Parslow, Hawthorne, & Creamer, 2008; Morland et al., 2010; Ray & Webster, 2010; Ready, Vega, Worley, & Bradley, 2012), other anxiety disorders (Arch et al., 2013), insomnia (Perlman, Todd, Earnheart, Gorman, & Shirley, 2008), dual diagnoses (Granholtm et al., 2011; Khoo, Dent, & Oei, 2011), and overall well-being (Perlman et al., 2010). Within group effect sizes (ESs) found in these studies, particularly for PTSD, range from approximately $d = 0.70$ (Khoo et al., 2011) to $d = 0.89$ (Ready et al., 2012). Recent initiatives to provide more evidence-based treatments in the Veterans Affairs Healthcare Systems (Burnett-Zeigler et al., 2012; Kracen, Mastnak, Loaiza, & Matthieu, 2013) have offered further support for the efficacy of group treatment. Although the above studies demonstrated efficacy for military populations, there are fewer studies that focus on active military service members.

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Despite the positive results of group therapy with military service members and veterans, clients who do not benefit, drop out, or deteriorate in treatment remain a major concern. Studies of drop outs in group psychotherapy suggest a rate of 33–50% (Baekeland & Lundwall, 1975; Wierzbicki & Pekarik, 1993). Specific to military-based group psychotherapy outcome studies, dropout rates have more widely ranged between 12% (Dunn et al., 2007) and 50% (Arch et al., 2013). Further, results in the general psychotherapy outcome literature suggest that as many as 10% of clients worsen in treatment (Lambert, 2010).

Compounding these problems, clinicians are on average poor predictors of which clients are at risk for premature termination or deterioration (Chapman et al., 2012; Hannan et al., 2005). Chapman et al. (2012) found that no group therapist who was blinded to client assessed progress on the Outcome Questionnaire-45 (OQ; Lambert et al., 1996) accurately predicted any of the 10 clients who ultimately deteriorated. Drop out and deterioration rates combined with therapists' apparent inability to predict negative outcomes suggest a need to formally track client progress in group treatment to identify clients at-risk.

Client feedback, or the continuous monitoring of progress in psychotherapy, provides a way to address these problems and there is a growing evidence base supporting its efficacy and effectiveness (Lambert & Shimokawa, 2011). Although several systems have emerged (for a review, see Castonguay, Rarkham, Lutz, & McAleavey, 2013; Lambert, 2010), only two have demonstrated treatment gains in randomized clinical trials (RCTs) and gained evidence-based practice designation by the Substance Abuse Mental Health Services Administration: The OQ System (Lambert et al., 1996) and the Partners for Change Outcomes Management System (PCOMS; Duncan, 2012, *in press*).

In a meta-analytic review of the OQ system, Shimokawa, Lambert, and Smart (2010) reanalyzed the combined data-set ($N = 6151$) from all six of the OQ feedback studies (Harmon et al., 2007; Hawkins, Lambert, Vermeersch, Slade, & Tuttle, 2004; Lambert et al., 2001, 2002; Slade, Lambert, Harmon, Smart, & Bailey, 2008; Whipple et al., 2003). When the odds of deterioration and clinically significant improvement were compared, all those in the feedback group (not just those projected to experience a negative treatment outcome, or not on track [NOT]) had less than half the odds of experiencing deterioration while having 2.6 times higher odds of attaining reliable improvement than the treatment-as-usual (TAU) group. The OQ feedback system has also been applied to substance abuse treatment. In a

nonrandomized study, Crits-Christoph et al. (2012) found a significant advantage of the feedback phase over a nonfeedback phase. In total, this research makes a strong case for routine measurement of outcome in everyday clinical practice (Lambert, 2010).

Only one study has evaluated the use of client feedback in group psychotherapy. Davies, Burlingame, Johnson, Gleave, and Barlow (2008) studied the effects of feedback using the OQ and the Group Climate Questionnaire-Short version (MacKenzie, 1983). When feedback on the group climate was given every session to clients ($N = 94$), co-leaders, and the group-as-a-whole at a university counseling center, monitoring group climate was not shown to enhance client outcome or level of engagement compared to a TAU group. Conclusions are limited from this study given high attrition rates, concurrent individual therapy, and that client outcome feedback was only monitored at pre-post. Given the positive findings with individual therapy, more research is warranted to determine whether routine outcome monitoring enhances client benefit and retention in group psychotherapy.

The other evidence-based feedback system is the one used in the current study, the PCOMS (Duncan, 2012, *in press*; Duncan & Sparks, 2010). Much of this system's appeal rests on the brevity of the measures and, therefore, its feasibility for everyday use in the demanding schedules of front-line clinicians. The outcome rating scale (ORS) and the session rating scale (SRS) are both four-item measures that track outcome and the therapeutic alliance, respectively. The primary function of PCOMS is to identify clients who are not responding to treatment so that the lack of progress can be addressed and a negative outcome prevented (Duncan, 2012). PCOMS was based on Lambert et al.'s (1996) continuous assessment model using the OQ, but there are differences beyond the measures. First, PCOMS is integrated into the ongoing psychotherapy process and includes a transparent discussion of feedback with the client (Duncan, 2012). Session by session interaction is focused by client feedback about the benefits or lack thereof of psychotherapy. Second, PCOMS assesses the therapeutic alliance every session and includes a discussion of any potential problems. Lambert's system includes alliance assessment only when there is a lack of progress.

Three RCTs have demonstrated the benefits of client feedback with PCOMS. Anker, Duncan, and Sparks (2009) randomized couples seeking couples therapy ($N = 410$) at an outpatient clinic in Norway to PCOMS or TAU; therapists served as their own controls. This study found that feedback couples

reached clinically significant change nearly four times more than nonfeedback couples, and over doubled the percentage of couples in which both individuals reached reliable and/or clinically significant change (50.5% vs. 22.6%). At 6-month follow-up, 47.6% of couples in the feedback condition reported reliable and/or significant change versus 18.8% in TAU ($ES = 0.50$ after treatment, 0.44 at follow-up).

Reese, Norsworthy, and Rowlands (2009) found significant treatment gains for feedback when compared to TAU. This study was two small trials in one. Study 1 occurred at a university counseling center ($N = 74$) and Study 2 at a graduate training clinic ($N = 74$). Clients in the PCOMS condition in both studies showed more change versus TAU clients (80% vs. 54% in Study 1, 67% vs. 41% in Study 2; ES s from 0.49 to 0.54). The third RCT, Reese, Toland, Slone, and Norsworthy (2010), replicated the Anker et al.'s study with couples and found nearly the same results. Using these three RCTs, a meta-analysis of PCOMS studies (Lambert & Shimokawa, 2011) found that those in feedback group had 3.5 higher odds of experiencing reliable change and less than half the odds of experiencing deterioration. Finally, a benchmarking study of 5168 clients receiving treatment in a public behavioral health setting that had implemented PCOMS found results comparable to those attained in RCTs of both the treatment of depression and feedback (Reese, Duncan, Bohanske, Owen, & Minami, 2014).

Although a protocol exists for using PCOMS in group therapy (Duncan & Sparks, 2010), the advantages of client feedback have not been evaluated in group psychotherapy, nor has any RCT of PCOMS been conducted specific to substance abuse. Given this, the current study used PCOMS, a method not tied to a single orientation or specific diagnosis, to examine the impact of feedback in group psychotherapy in an outpatient substance abuse setting. Conducted in a naturalistic military setting with soldiers, many of whom were returning veterans from Iraq and Afghanistan, the current study evaluated how client feedback influenced treatment outcome for soldiers in group psychotherapy for substance abuse problems. We hypothesized that soldiers whose therapists received client feedback would have significantly better outcomes than soldiers who received TAU on soldier, therapist, and commander evaluations. In addition, we predicted that soldiers whose therapists received feedback about their progress would experience clinically significant change at a higher rate than the TAU condition. We also hypothesized that clients in the feedback condition would attend more sessions and have lower rates of premature termination.

Method

Participants

There were initially 300 participants invited to participate in this study but 37 soldiers did not return after the initial intake appointment. Therefore, participants in the study were 263 soldiers enrolled in treatment at an Army Substance Abuse Outpatient Treatment Program (ASAP) between August 2007 and November 2008. Participants were typically referred to the ASAP program by their commanding officer after some type of alcohol or drug-related misconduct (e.g., positive urinalysis, DUI, domestic violence incident while intoxicated). The race/ethnicity of the sample closely paralleled that of the overall US Army and US populations with the majority identifying as Caucasian (57%), African-American and Hispanic nearly equivalent at approximately 16% each, with Asian American, Italian, Native American, Pacific Islander, and those who did not respond representing approximately 10% of the sample (U.S. Census Bureau, 2012). A majority of participants were male (88%) with a mean age of 27.13 ($SD = 5.35$). Participants were single/never married (43.3%), married (38.4%) or separated/divorced (18.3%). About 80% of the participants were junior enlisted soldiers with rank of E-4 or below and nearly 37% endorsed at least one combat deployment. Alcohol was the primary substance involved (67%), with cannabis (14%) and cocaine (12%) being the two next most prevalent substances seen in referrals to the ASAP program. A majority of study participants were attending treatment postdeployment (61.2%) and approximately 36.9% were on a predeployment status to Iraq or Afghanistan. Length of time to and from deployment was not monitored.

There were 10 therapists that participated, all of whom were Department of the Army civilian employees. One therapist led each of the 10 groups. No formal demographic data were collected on the therapists; however, they ranged in experience from newly licensed and certified in substance abuse treatment to seasoned practitioners with many years of clinical experience. Therapists were assigned to groups based on their availability and, therefore, not randomized. Therapists did not receive any specialized training on the use of PCOMS or providing client feedback (i.e., therapists were naive to client feedback as a way to improve treatment outcomes).

Measures

Outcome rating scale. Psychological functioning and distress was assessed using the ORS (Miller & Duncan, 2000), a self-report instrument designed

to measure client progress repeatedly throughout the course of therapy. Adapted from the OQ, the ORS assesses four dimensions: (i) Individual—personal or symptomatic distress or well-being. (ii) Interpersonal—relational distress or how well the client is getting along in intimate relationships. (iii) Social—the client's view of satisfaction with work/school and relationships outside of the home. (iv) Overall—general sense of well-being. The ORS translates these four dimensions into a visual analog format of four 10-cm lines, with instructions to place a mark on each line with low estimates to the left and high to the right. The four 10-cm lines add to a total score of 40. The score is the summation of the marks made by the client to the nearest millimeter on each of the four lines, measured by a centimeter ruler or template.

In addition to the ORS/SRS manual (Duncan, 2011; Miller & Duncan, 2004), four studies evaluating the reliability and validity of the ORS have been published (Bringhurst, Watson, Miller, & Duncan, 2006; Campbell & Hemsley, 2009; Duncan, Sparks, Miller, Bohanske, & Claud, 2006; Miller et al., 2003). Across studies, average Cronbach's alpha coefficients for ORS scores were .85 (clinical samples) and .95 (nonclinical samples; Gillaspay & Murphy, 2011). In the current sample, the coefficient alpha for the ORS is unavailable. Individual ORS subscales were not recorded in the database given that only total scores were used to monitor progress. As an indicator of treatment progress, ORS scores have been found to be sensitive to change for clinical samples yet stable over time for nonclinical samples (Bringhurst et al., 2006; Duncan et al., 2006; Miller, Duncan, Brown, Sparks, & Claud, 2003). The concurrent validity of ORS scores has been examined through correlations with established outcome measures. For example, the average bivariate correlation between the ORS and the OQ-45 across three studies (Bringhurst et al., 2006; Campbell & Hemsley, 2009; Miller et al., 2003) was .62 (range .53–.74), indicating moderately strong concurrent validity (Gillaspay & Murphy, 2011).

Using formulas developed by Jacobson and Truax (1991), clinical and normative data for the ORS were analyzed by Duncan (2011) and Miller and Duncan (2004) to provide cut-off scores for the reliable change index and clinically significant change. Using a sample of 34,790 participants, clients who changed in a positive or negative (deterioration) direction by at least 5 points were regarded as having made reliable change. The second criterion requires movement from a score typical of a clinical population to one typical of a nonclinical population. On the ORS, the cut-off at

which a person's score is more likely to come from a clinical than a nonclinical population is 25 (Miller et al., 2003).

A software program was used to collect data and provide the basis for feedback to the therapists in the feedback condition. The program uses algorithms derived from previous ORS research and normative samples to predict the expected treatment response (ETR) for individual clients entering therapy with the same intake score. ORS scores from subsequent sessions are then compared against the ETR, which allows clinicians to identify clients who are making progress as expected as well as those at risk for premature termination or a negative outcome.

Therapists were provided with a graph that used different colors to indicate one of four different stages of progress corresponding to the participant's ORS score compared to the ETR (see Figure 1). A legend accompanied the participant progress graph and included the following descriptive or interpretative statements:

- *Green square*: "The client is functioning in the normal range. Consider successful termination." This feedback message reported a client who was above the 75th percentile of the ETR as well as the clinical cut-off.
- *Blue square*: "The rate of change the client is making is in the adequate range. No change in the treatment plan is recommended." This feedback message reported a client who was making progress as expected.
- *Yellow square*: "The rate of change the client is making is less than adequate. Consider altering the treatment plan by intensifying treatment, shifting intervention strategies, and monitoring progress especially carefully. This client may end up with no significant benefit from therapy." This alert indicated that a client's score was above the 25th percentile of the ETR but below the expected trajectory of change.
- *Red square*: "The client is not making the expected level of progress. Chances are the client may drop out of treatment prematurely

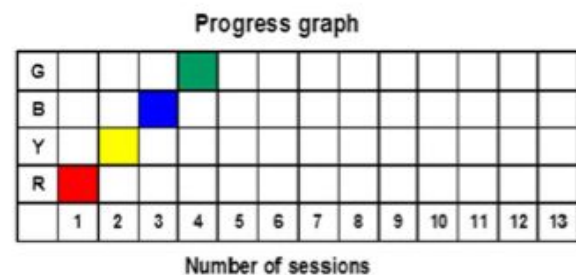


Figure 1. Outcome rating scale progress graph.

or have a negative treatment outcome. Steps should be taken to carefully review this case and decide upon a new course of action such as referral or a higher level of care. The treatment plan should be reviewed with the client. Consideration should also be given to staffing this case with the treatment team. The client's readiness for change may need to be re-assessed." This alert indicated that a client was below the 25th percentile and considered at-risk for dropping out of treatment or a negative outcome.

Patient progress report (U.S. Army, 2007).

Both therapist and commander outcome ratings were also obtained during a rehabilitation team meeting when the soldier completed his/her last session. Both rating forms were in-house constructed global evaluations of soldier behavior and conduct with the therapist endorsing "good," "fair," or "poor" and the commander endorsing either "satisfactory" or "unsatisfactory." The therapist ratings were unblinded to study condition while the commander ratings were blinded. Commander and therapist ratings focused on behavior and conduct both generally and specific to substance abuse. Consequently, these two independent observer ratings of substance use behaviors served as outcome measures to complement the self-reported ORS and were used in the analyses.

Procedure

All soldiers who were enrolled in group therapy between August 2007 and November 2008 were eligible for participation in this study. Soldiers seeking treatment at Ft. Hood's ASAP clinic, whether self-referred or mandated, completed a triage inventory followed by a clinical interview with one of six triage therapists. If the triage indicated that the soldier likely met criteria for substance abuse or dependence or was at a high risk for further substance-related problems, a biopsychosocial assessment entitled, "The Department of Substance Abuse Services Clinical Assessment Form (DSAS)" was completed to evaluate whether he or she met criteria for a substance abuse or dependence diagnosis. All of the soldiers in this study met criteria for either abuse or dependence.

Before assignment to a therapist, a research assistant met with each eligible soldier to explain the details of the study and obtain informed consent from those who chose to enroll. The full range of services could be obtained regardless of study participation. If a soldier agreed to participate in the study, he or she was randomly assigned to either the

feedback or TAU condition and assigned to one of 10 therapists based on schedule availability. To help control for therapist effects, each group was comprised of roughly half feedback and half TAU clients. Participants were told they were participating in a study to examine the effects of client feedback on therapy outcome. Study participants were not informed of their group assignment at any time during the course of the study.

Groups ($N = 10$) utilized in this study were considered rolling groups (soldiers could come and go as needed as opposed to a closed group with a fixed number of participants and sessions). Five sessions of group treatment were offered in the current investigation, which approximated the average number of attended group sessions at this center. If soldiers continued to exhibit concerns that warranted further intervention, they were required to re-enroll in treatment, and complete the intake process over before being assigned to another group. Post-treatment, then, in the current study is the last session attended or the fifth group meeting.

Although substance abuse was the primary topic, all participants regardless of condition received weekly treatment characterized as "open process groups." The intention was to meet individualized needs rather than to impose a particular topic or determine a clear "start" and "end" of the group; members were able to come and go as was clinically indicated (e.g., met goals for group) within the same group they were assigned. Hence, they had the same group therapist throughout the duration of the study. Therapists reported drawing upon a variety of theoretical orientations to address substance abuse including cognitive-behavioral, interpersonal process, psychodynamic, and solution-focused approaches. Each group session was scheduled for 1.5 h and was comprised of between 8 and 12 different combinations of group members each session.

Before each session, participants in each condition completed the computerized version of the ORS in a private room. Once participants placed their marks on the appropriate lines they would click the DONE button and proceed to the group therapy room. The program automatically scored the instrument. Participants did not see the results generated by computer program. Any results participants may have seen would have been revealed by their therapist if he or she chose to share the results.

At the conclusion of each group session, therapists were given progress graphs (see Figure 1) for participants in the feedback condition only. No attempts were made to manage the therapists' actions in relation to the feedback they received with one exception: Therapists were asked not to

disclose whether or not participants were in the feedback or TAU condition. The study did not include fidelity checks, treatment manuals, or monitoring of therapist behaviors. Further and contrary to PCOMS protocol, the group alliance measure, the group session rating scale (Duncan & Miller, 2007) was not included in this study as it was not developed at the time this study was implemented. Therefore, the PCOMS intervention was only comprised of the ORS and signal alarm system. Given this, the intervention in the current study may be considered minimal; however, it served the primary function to identify at-risk clients and is consistent with the design used by Lambert et al. (2001, 2002) in their beginning evaluations of client feedback prior to the addition of clinical support tools (Harmon et al., 2007; Slade et al., 2008).

Results

Preliminary Analyses

A preliminary analysis was conducted to evaluate if there were differences at intake (i.e., pretreatment score) for participants ($N = 263$) across treatment conditions. The feedback and TAU condition soldiers did not significantly differ on ORS intake scores, $t(261) = 1.61, p = .11$, suggesting initial level of distress was not different across treatment conditions. Such results provide evidence that randomization was successful. Likewise, no significant differences were noted across feedback and TAU condition participants with regard to gender ($\chi^2[1, N = 263] = .397, p = .57$), race/ethnicity ($\chi^2[7, N = 263] = 8.13, p = .32$), or marital status ($\chi^2[3, N = 263] = .62, p = .89$). There were also no significant differences in military rank ($\chi^2[9, N = 263] = 11.67, p = .23$), substances used ($\chi^2[7, N = 263] = 6.75, p = .46$), age, ($t[261] = 1.1, p = .27$), or deployment history ($\chi^2[2, N = 263] = 5.95, p = .051$).

Treatment Outcome

Multilevel modeling was initially planned given the nested structure of the data (participants nested within therapists). We originally estimated the amount of treatment outcome variance accounted for at the group level to determine if multilevel modeling was needed by computing an intraclass correlation coefficient (ICC). The ICC was less than 1% (.005), indicating therapists did not differ in outcome and suggesting that multilevel modeling was not necessary (Jak, Oort, & Dolan, 2013; Raudenbush & Bryk, 2002). We were not able to apply a method to estimate interdependence of the data at the group level (Tasca et al., 2010), because specific dates were not collected in the data-set to connect clients to a particular session. Therefore, we employed a univariate analysis of covariance (ANCOVA) to analyze pre-post differences in treatment outcome for each condition.

Table I provides a description of the average ORS scores at pretreatment (soldiers' intake scores approximately one week prior to group therapy beginning) and posttreatment (their final session attended or the end of the treatment at session five) by treatment condition. We used the last observation carried forward method (Xu, 2009) for soldiers who did not attend five sessions, as is often done in longitudinal psychotherapy outcome studies in naturalistic settings (see Shimokawa, Lambert, & Smart, 2010; Slade et al., 2008). Therefore, the soldiers' final session attended was considered their ORS posttreatment score.

Controlling for pretreatment functioning, an ANCOVA found a significant difference in post-ORS scores between treatment conditions, $F(1, 260) = 6.57, p = .011$,¹ indicating that the feedback condition demonstrated larger treatment gains than the TAU condition, a small-to-medium ES (Cohen, 1988) of $d = 0.28$ ($d = 0.36$ when initial functioning

Table I. Means and standard deviations for pre- and post-ORS scores across treatment conditions ($N = 263$).

	Feedback ($n = 137$)		TAU ($n = 126$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pretreatment ORS	22.42	10.01	20.43	9.56
Posttreatment ORS	28.28	9.46	24.57	10.30
Within group ES ^a	0.59		0.43	
Effect of feedback ^b	0.28			

Note. Effect sizes are in Cohen's *d*.

ORS, outcome rating scale; TAU, treatment-as-usual; *M*, mean; *SD*, standard deviation; ES, effect size.

^a $M_{\text{post}} - M_{\text{pre}} / SD_{\text{pre}}$.

^b $([M_{\text{post Feedback}} - M_{\text{post TAU}}] - M_{\text{initial functioning}}) / \sqrt{([n_{\text{TAU}} - 1]s_{\text{TAU Post-ORS}}^2 + [n_{\text{Feedback}} - 1]s_{\text{Feedback Post-ORS}}^2 / N - 2)}_{\text{Feedback Post-ORS}}$

is not controlled). To address dose–response effect concerns (i.e., improvement was due to attending more sessions), we compared treatment outcomes for soldiers who attended all five sessions in both treatment conditions. The feedback condition had significantly higher posttreatment scores, $F(1, 145) = 5.56, p = .02$, suggesting that the observed differences were not merely due to a dose–response.

Participants were divided into groups that were considered on-track (OT) and NOT, with client's being "at-risk" for negative treatment outcomes starting at session two. Therapists received a signal alerting them to clients in the feedback condition who were not improving (yellow square) or worsening (red square). Data analyses revealed clients considered to be NOT in the feedback condition did not significantly improve more than clients who were OT ($F [1, 104] = .18, p = .67$) when pretreatment scores were controlled. Therefore, it appeared that the improved outcomes in the feedback condition were not just only those at risk for negative treatment outcome.

An evaluation of treatment outcome with regards to reliable and clinically significant change outlined in the PCOMS administration manual (Duncan, 2011) revealed statistically significant differences for all clients, $\chi^2(1, N = 263) = 28.06, p < .001$. An inspection of Table II reveals that the feedback condition had nearly double the percentage of clients who achieved *clinically significant change* (gain of at least 5 points and completed treatment above the ORS cut-score of 25) and a significantly lower percentage of clients categorized as having *no change* (less than 5 points of change on the ORS at posttreatment). The differences for the categories of *reliable change* (an increase of 5 points on the ORS) and *deterioration* (decline of 5 points on the ORS) were not statistically significant. Furthermore, no significant differences in rates of clinically significant change were noted for clients NOT in the feedback condition ($\chi^2[3, N = 263] = .512, p = .92$). Again, it

Table II. Percentage of clinically significant change across the feedback and TAU conditions on the ORS.

	Feedback (<i>n</i> = 137)		TAU (<i>n</i> = 126)	
	<i>N</i>	%	<i>n</i>	%
Deterioration	20	14.60	15	11.90
No change	50	36.50	62	49.21
Reliable change	28	20.44	30	23.81
Clinically significant change	39	28.47	19	15.08

Note. ORS, outcome rating scale; TAU, treatment-as-usual.
 $\chi^2(1, N = 263) = 28.06, p < .001$.

Table III. Therapist and commander's ratings of participant treatment outcome ($N = 263$).

	Feedback (<i>n</i> = 137)	TAU (<i>n</i> = 126)
<i>Therapist's ratings</i>		
Good	59 (43%)	34 (27%)
Fair	57 (41%)	42 (34%)
Poor	22 (16%)	49 (39%)
<i>Commander's ratings</i>		
Satisfactory	113 (82%)	64 (51%)
Unsatisfactory	25 (18%)	61 (49%)

Note. TAU, treatment-as-usual.

was noted that PCOMS yielded more clinically significant change for all clients in the feedback condition, not just those NOT.

Commander and therapist perceptions of participant treatment progress were also used to assess the efficacy of client feedback at the end of treatment (i.e., when soldiers left treatment or after the fifth session). Table III provides results of therapist and commander outcome ratings. Both commanders, $\chi^2(1, N = 263) = 28.06, p < .001$, and therapists, $\chi^2(2, N = 263) = 18.66, p < .001$, rated soldiers in the feedback condition as showing significantly more improvement in treatment than those in the TAU condition.

Attendance and Premature Termination

Participants in the feedback condition attended an average of 4.16 ($SD = 1.36$) out of 5 possible treatment sessions, while soldiers in the TAU condition averaged 3.55 ($SD = 1.56$). This difference was significant, $t(261) = 3.40, p < .01$. As can be seen in Table IV, the overall percentage of clients who completed all five sessions in the feedback condition (67%) was higher than the TAU condition (44%) and also significant, $\chi^2(1, N = 263) = 12.86, p < .001$. Clients in the feedback condition who were NOT also attended more treatment sessions (feedback: $M = 4.44, SD = 9.43$); (TAU: $M = 4.02, SD = 1.16$) than those OT $t(103) = -2.03, p < 0.05$. When comparing attendance rates for specific sessions, the largest differences between participants occurred early in treatment after the 2nd session (TAU 69%; feedback: 85%; $\chi^2[1, N = 263] = 9.10, p < .01$). Finally, significantly fewer clients in the feedback condition prematurely terminated (defined as not returning to treatment and being below the clinical cut-off of 25 on the ORS) from treatment (feedback: $n = 48$; TAU: $n = 62$; $\chi^2[1, N = 263] = 5.41, p < .05$). No significant differences were found, however, between NOT clients in the feedback and TAU conditions who terminated prematurely ($\chi^2[1, N = 105] = .847, p = .51$).

Table IV. Comparison of total treatment sessions attended.

Session number	Feedback (<i>n</i> = 137)		TAU (<i>n</i> = 126)	
	<i>n</i>	Attendance rate (%)	<i>n</i>	Attendance rate
1	137	–	126	–
2	125	91	105	83
3	117	85	87	69
4	103	75	73	58
5	92	67	56	44

Note. TAU, treatment-as-usual.

Discussion

The present study investigated the effects of client feedback in group therapy versus TAU for 263 soldiers mandated to an Army Substance Abuse Program at a large military base after an alcohol-related incident or testing positive for illicit substances. The ORS, clinician, and commander evaluations of soldier behaviors (including substance use), rates of clinically significant change as well as retention rates were the outcome measures employed. Consistent with our hypotheses, the feedback condition emerged as significantly superior to TAU. Further, these effects were noted for all clients in the feedback condition, not just those at risk for negative treatment outcome. A small ES ($d = 0.28$) was found for the feedback condition on the ORS. The predicted score adjusted for severity of an average client in the feedback group was 1.7 points higher than an average client in the TAU group. The difference was, in effect, the difference required for reliable change (5.9 vs. 4.2). The average 5th session score for persons in the feedback condition was 28.3 and the average 5th session score for those in the TAU group was 24.6. The difference between the groups, in other words, constituted both a reliable change and transcended the clinical cut-off of 25. The small but significant effect of feedback seems particularly noteworthy, given the minimal nature and duration of the intervention in this study (e.g., therapists received outcome feedback for only five sessions using the ORS).

Larger feedback effects, however, were found on the other outcome measures. The feedback condition demonstrated superiority over TAU on rates of *clinically significant change* (a gain of at least 5 points and completed treatment above the ORS score of 25), nearly doubling the TAU rates. A significantly lower percentage of clients categorized as having *no change* (less than 5 points of change on the ORS at posttreatment) also emerged. The differences, however, for the categories of *reliable change* (an increase of 5 points on the ORS) and *deterioration* (decline of 5 points on the ORS) were not significant. In

addition, both unblinded therapist and blinded commander outcome ratings demonstrated an advantage to the feedback condition. Therapists rated 116 of 138 (84%) of the feedback group participants as showing “fair” or “good” treatment outcome compared to rating only 76 of 124 (61%) TAU group participants as having “fair” to “good” treatment outcomes. Because therapists were aware of participant assignment to feedback or TAU, bias may be a confounding factor. Commanders, blind to participant assignment, rated 113 of 138 (82%) of the participants in the feedback group as having “satisfactory” treatment outcome while only rating 64 of 125 (51%) control group participants as having a “satisfactory” treatment outcome.

Soldiers in the feedback condition also attended more sessions and were less likely to terminate prematurely. By the fifth therapy session, less than half (44%) of the participants in the nonfeedback condition had remained in treatment whereas approximately two-thirds (67%) of participants in the feedback condition remained. The discrepancy remained once the feedback intervention was implemented after the second session, as 69% of the nonfeedback group attended treatment versus 85% of the feedback participants. Moreover, clients in the feedback condition at risk for negative treatment outcome attended more sessions on average, which resembles results of feedback studies conducted by Lambert et al. (2001, 2002). While these findings are compelling, results should be interpreted with caution given a large discrepancy in attendance between conditions occurred before the feedback intervention began. Although it is uncertain as to why these differences were noted early on, potential contributing factors may include that randomization was not as successful as we believed or other group differences occurred that were not controlled for in this study. For example, perhaps more mandated clients attended group therapy in the feedback condition or differences in leaders were influential to clients’ attendance rates. Additional research should be done to clarify these findings.

The current study provided additional support to the growing research base (Castonguay et al., 2013; Duncan, 2012; Lambert, 2013; Reese et al., 2014) showing substantial improvements in treatment retention and outcome when therapists have access to systematic client feedback. Considering the OQ and PCOMS trials together, these studies collectively support the effectiveness of client feedback across various treatment sites and therapeutic models, and a growing number of client populations and treatment modalities.

A primary limitation of this study was failure to assess whether therapists differentially influenced

participant treatment outcome and retention. Consequently, it is not certain that the random assignment of participants to one of the 10 therapists involved in the study successfully controlled for therapist influence. Another limitation of the current study is the use of but one, brief outcome measure, the ORS. The ORS is by design brief and, therefore, feasible for routine clinical use. Its feasibility, however, is also a drawback. Although psychometrically acceptable, it does not yield the breadth or depth of information found in longer measures like the OQ.

Another drawback of the ORS for this particular study is that it did not directly assess substance use, which was a primary focus of group treatment in this study. We believe, however, that the therapist and commander ratings are an adequate proxy measure of substance use outcome in this study given the military culture repercussions for admitted substance use on a soldier self-report measure. In addition, given that the ORS is a self-report instrument and does include controls for response sets like social desirability, it is unknown whether participants provided an inaccurate assessment of their distress. Follow-up results, however, in the Anker et al. (2009) trial included client ratings of the ORS administered via mail six months posttreatment. The feedback effect was maintained, which partially suggests that social desirability is not at play. Including other measures of treatment outcomes, particularly commander ratings and premature termination rates, does allow more cautious confidence in the results of this study.

Another major limitation is that the only five sessions were measured. It is unknown whether the advantage of feedback would have maintained over a longer course of treatment. In addition, and also a significant limitation, no fidelity checks or treatment manuals were used, and it is also unknown to what extent the therapists used the feedback in any meaningful way, making it impossible to know how or why the feedback effect occurred.

In light of the many limitations, the current study provides only preliminary evidence that one group application of a client feedback intervention improved outcomes and retention in a substance abuse program with active military personnel. The findings suggest that limited feedback over a brief period of time provided to therapists by clients regarding treatment progress may improve outcomes and increase attendance when compared to clients whose therapists did not receive the feedback. Given that many if not most substance abuse treatment facilities use a group format to provide treatment, the current study's preliminary positive findings warrant further investigation.

Addressing group treatment in a military context and low retention rates, Kracen et al. (2013) and Burnett-Zeigler et al. (2012) called for more awareness of cultural barriers that prevent participation and suggested that services support client-centered care and early participation. Our study suggests that client feedback may provide a feasible method to individually tailor treatment protocols based on client preferences and cultural location while systematically improving retention via attention to outcome.

The time for client-based outcome feedback seems to have arrived (Lambert, 2010). For example, the American Psychological Association (APA) Presidential Task Force (hereafter Task Force) on Evidence-Based Practice in Psychology (EBPP) defined EBPP as "the integration of the best available research with clinical expertise in the context of patient (*sic*) characteristics, culture, and preferences" (American Psychological Association Presidential Task Force on Evidence-Based Practice, 2006, p. 273). Two parts of this definition draw attention to client feedback and to tailoring services to the individual client. First, the Task Force submitted:

Clinical expertise also entails the monitoring of patient progress ... If progress is not proceeding adequately, the psychologist alters or addresses problematic aspects of the treatment (e.g., problems in the therapeutic relationship or in the implementation of the goals of the treatment) as appropriate. (American Psychological Association Presidential Task Force on Evidence-Based Practice, 2006, pp. 276–277)

And second, the Task Force said:

The application of research evidence to a given patient always involves probabilistic inferences. Therefore, ongoing monitoring of patient progress and adjustment of treatment as needed are essential (American Psychological Association Presidential Task Force on Evidence-Based Practice, 2006, p. 280).

Further support comes from APA's Division 29 Task Force on Empirically Supported Relationships who advised practitioners "to routinely monitor patients' responses to the therapy relationship and ongoing treatment." (Ackerman et al., 2001, p. 496). In addition, the APA Commission on Accreditation (2011) states that students and interns: "Be provided with supervised experience in collecting quantitative outcome data on the psychological services they provide" (p. C-24). Finally, after their extensive review of the group treatment literature including empirically supported treatments

and American Group Psychotherapy Association practice guidelines, Burlingame et al. (2013) highlight the importance of practice-based assessment as a key component in the provision of group psychotherapy.

Client feedback, an evidence-based practice that seems to improve outcomes across a variety of settings and client populations, offers a way to provide empirically supported treatments and tailor treatments to the individual needs, preferences, and culture of clients—to provide evidence-based practice for one client at a time (Duncan, *in press*). It is our hope that this study encourages both continued research about the effects of feedback as well as further applications in group treatment contexts.

Note

¹ A two-level random intercept multilevel model was employed to verify univariate results. Results were nearly identical to the ANCOVA reported earlier.

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