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BRIEF REPORT

A Dismantling Study of the Partners for Change Outcome Management System

Cindy W. Mikeal, J. Arthur Gillaspy Jr., Michael T. Scoles, and John J. Murphy
University of Central Arkansas

The current study used a dismantling design to investigate the relative efficacy of components of the Partners for Change Outcome Management System (PCOMS; Duncan, 2012). Clients ($n = 94$) from a university counseling center were randomly assigned to 1 of 3 conditions: PCOMS Full, Outcome Rating Scale (ORS)-only, or Session Rating Scale (SRS)-only and nested within therapists ($n = 12$). Results from hierarchical linear modeling and a 2-way analysis of variance indicated no statistically significant differences in outcome or rate of change on the Behavior Symptom Checklist–18 (BSI-18; Derogatis, 2001) across all 3 conditions. These findings suggest that using either the ORS or SRS component of the PCOMS may yield equivalent outcomes to that of the full PCOMS. Additional dismantling studies with various populations and settings are needed to further clarify the relative influence of the ORS, SRS, and full PCOMS on client outcomes.

Public Significance Statement
This study suggests that clients given three different types of a client feedback intervention (feedback about progress, feedback about therapy relationship, and feedback about both progress and relationship) may experience similar therapy outcomes. These results highlight the importance of systematically and routinely asking for client feedback that honors the client's voice in therapy.

Keywords: client feedback, alliance, dismantling, mechanisms of change, PCOMS

Client feedback is defined as the process of using standardized measures to systematically monitor client perception of the treatment process and outcome from session to session (Lambert, 2010). Although outcome research indicates that psychotherapists in general provide effective services (Minami et al., 2008; Wampold & Imel, 2015), deterioration rates in psychotherapy across various complaints average around 20% in adult clinical populations (Lambert & Ogles, 2004; Swift & Greenberg, 2012). These concerns about dropout rates are compounded by indications that therapists have difficulty detecting clients at-risk for treatment failure (Hannan et al., 2005; Hatfield, McCullough, Frantz, & Krieger, 2010). Because client improvement is the ultimate goal of therapy, tracking client improvement or deterioration through the collection of ongoing client feedback allows therapists to better tailor treatment in ways that meet clients' needs.

Several client feedback systems have been developed to identify at-risk clients and track outcomes in psychotherapy (Castonguay, Barkham, Lutz, & McAleavey, 2013; Drapeau, 2012). Although these systems have been adopted for use in a variety of health care settings, there have been concerns about therapist noncompliance (Hanlon, 2005; Stiles, Barkham, Connell, & Mellor-Clark, 2008) and that some measures are too time consuming for routine in-session use (Duncan, 2014; Miller, Duncan, Brown, Sparks, & Claud, 2003). To address these practical considerations and to make routine use of feedback more feasible, Duncan and colleagues (Duncan, 2014; Duncan, Miller, & Sparks, 2004; Miller, Duncan, Sorrell, & Brown, 2005) developed the Partners for Change Outcome Management System (PCOMS).

The Partners for Change Outcome Management System

The PCOMS consists of using two ultrabrief measures, the Outcome Rating Scale (ORS; Miller et al., 2003) and the Session Rating Scale (SRS; Duncan et al., 2003) to monitor client percep-

Cindy W. Mikeal, J. Arthur Gillaspy Jr., Michael T. Scoles, and John J. Murphy, Department of Psychology and Counseling, University of Central Arkansas.

We thank the therapists and staff of the UCA Counseling Center for their participation in this study. This study suggests that clients given three different types of a client feedback intervention (feedback about progress, feedback about therapy relationship, and feedback about both progress and relationship) may experience similar therapy outcomes. These results highlight the importance of systematically and routinely asking for client feedback that honors the client's voice in therapy. A version of this article was presented as a poster presentation at the Southwest Psychological Association Conference in April 2016.

Correspondence concerning this article should be addressed to Cindy W. Mikeal, Department of Psychology and Counseling, University of Central Arkansas, 32 Fortson Road, Vilonia, AR. E-mail: cindymikeal@yahoo.com

tion of progress and therapeutic alliance, respectively. The ORS is administered at the beginning of the session; the SRS at the end of the session. Results of both measures are graphed, compared to expected change trajectories, and discussed in session with clients to adjust treatment as needed. Embedded in PCOMS is the value of seeking out and using the client's viewpoint to inform and enhance treatment outcomes (Duncan, 2012). Research supports the efficacy of the PCOMS to improve clinical outcomes with a range of clients across a variety of settings (Anker, Duncan, & Sparks, 2009; Lambert & Shimokawa, 2011; Reese, Norsworthy, & Rowlands, 2009; Reese, Toland, Slone, & Norsworthy, 2010; Reese et al., 2009; Slone, Reese, Matthews-Duvall, & Kodet, 2015; Schuman, Slone, Reese, & Duncan, 2014). PCOMS is one of two feedback systems designated as an evidence-based intervention by the Substance Abuse and Mental Health Services Administration (SAMHSA's National Registry of Evidence-Based Programs and Practices, 2014).

Although evidence supports the overall efficacy of PCOMS, little is understood about what elements of the PCOMS are essential to improved outcomes. The PCOMS is a system for monitoring client perceptions throughout treatment that involves feedback about progress (collected at the beginning of each session with the ORS) and about alliance (collected at the end of each session via the SRS). To date, research on PCOMS has used both ORS and SRS feedback. This brings up questions about the relative contributions of each component of the PCOMS. Are both of these components necessary for PCOMS to be efficacious? Would feedback about just outcome (ORS only) or just alliance (SRS only) be equally as powerful? Commenting on feedback systems in general, Wampold and Imel (2015) noted that "the efficacious ingredients of the package have not been investigated" (p. 459). Duncan and Reese (2015) also recognized the need to investigate the elements of feedback that are essential to improved outcomes.

Previous PCOMS studies offer contradictory evidence about the relative contributions of the ORS and SRS to overall client change. In a study that used only the ORS in the context of group therapy for substance abuse, Schuman et al. (2014) reported greater treatment gains for the ORS condition than treatment as usual (TAU). On the other hand, Miller et al. (2005) found that clients who received the full PCOMS (ORS and SRS) experienced greater change and were three times more likely to attend additional sessions (6% vs. 19%) than clients receiving only the ORS. Neither of these studies were designed to dismantle the PCOMS.

The current dismantling study was designed to clarify the relative efficacy and contributions of PCOMS components. Specifically, clients at a university counseling center were randomly assigned to one of three conditions within therapists: full PCOMS (FP), ORS-only (OO), or SRS-only (SO). In the full PCOMS condition, both the ORS (outcome feedback) and the SRS (alliance feedback) were used in session. In the other two conditions, either the ORS only or the SRS only was used in-session. A no-feedback or TAU condition was not used because of previous research demonstrating the efficacy of the PCOMS over TAU (Anker et al., 2009; Reese et al., 2009; Reese et al., 2010; Reese, Duncan, Bohanske, Owen, & Minami, 2014; Slone et al., 2015). In these studies, the no feedback group did not receive PCOMS in session, and therapists were allowed to provide treatment in accordance with their own theoretical orientations. To reduce the possibility of covariation between the dependent variable and independent variable (Norcross & Lambert, 2011), we used the Behavior Symptom Checklist–18 (BSI-18; Derogatis, 2001) to measure outcome rather than the ORS. There were two primary research questions: Do the OO and SO conditions yield statistically similar outcomes to the full PCOMS condition? Do statistically significant differences exist in how the OO and SO conditions impact the rate of change on the BSI-18 over time?

Method

Participants

Clients. A total of 151 clients were recruited from the counseling center at a midsize state university in the south central region of the United States. Twenty-seven clients did not return for treatment, and two others were never assigned to a therapist. Of the 122 that received therapy, 94 attended more than one session and were included in the study. The final sample ($N = 94$) included undergraduate students who were primarily female ($n = 60$) and White ($n = 63$; $n = 21$African-American; $n = 5$ Multi/Biracial; $n = 3$Asian; and $n = 2$ did not indicate ethnicity). Mean age was 20.39 ($SD = 5.29$) with a range from 18 to 42. Although diagnoses are not given at this university counseling center and data regarding client presenting problems were not collected, mean intake scores on the BSI-18 (Derogatis, 2001) were 63.89 ($SD = 7.70$) indicating the sample was slightly above the cut-off for the clinical range. The number of sessions attended ranged from 2–11 ($M = 4.53$, $SD = 2.23$). Mean number of sessions per condition was as follows: OO, $M = 4.06$ ($SD = 1.95$); SO, $M = 4.75$ ($SD = 2.27$); and PCOMS-full, $M = 4.89$ ($SD = 2.49$).

Therapists. Therapy was provided by 12 therapists (five licensed professional staff, six counseling psychology practicum students, and one predoctoral intern. The majority were female ($n = 7$) and White ($n = 8$; $n = 3$ African American and $n = 1$ other). The number of clients seen by therapists ranged from three to 20 ($M = 7.50$, $SD = 4.87$). Therapists used a variety of therapeutic approaches including cognitive–behavioral, person-centered, and family systems. Most therapists were familiar with PCOMS before this study. Professional staff participated in a previous PCOMS study (Reese et al., 2013); practicum students and the doctoral intern also received PCOMS training as part of their graduate coursework. Prior to the beginning of data collection all therapists received a minimum of 1.5 hours of formal instruction on PCOMS implementation based on recommendations by Gillaspy and Murphy (2011). All but two therapists also watched a 48-min webinar on PCOMS rationale and implementation from the Heart and Soul of Change website (www.heartandsoulofchange.com). In addition, Cindy W. Mikeal provided consultation to therapists throughout the study regarding implementation of PCOMS.

Measurements/Materials

BSI-18. The BSI-18 (Derogatis, 2001) is an 18-item assessment of general psychological distress. Responses are given on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*very much*). Scores can be calculated for a total Global Severity Index (GSI)

and three subscale scores (Somatization, Anxiety, and Depression) with higher scores indicating increased levels of distress. The GSI was used in this study based on previous research with college student clients (Meijer, de Vries, & van Bruggen, 2011). A cut-off score of $T > 63$ on the GSI indicates clinically significant distress (Derogatis, 2000). BSI-18 scores have demonstrated concurrent validity and sensitivity to changes in symptom severity (Derogatis & Savitz, 2000; Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). For the current sample, internal consistency estimates for GSI scores were .88 at intake and .88 at the final session.

ORS. The ORS (Miller et al., 2003) is a four-item visual analog measure of intrapersonal distress, close relationships, functioning in the work and social environments, and global sense of well-being. Scores range from 0 to 40 with a clinical cutoff score of 25 for people in distress or seeking help (Miller et al., 2005). Across seven studies, the mean reliability estimate for ORS scores was .85. Scores on the ORS also demonstrate moderate concurrent validity with the OQ-45 ($r = .59$) and asensitivity to detect change in clinical populations (Duncan & Reese, 2015; Gillaspy & Murphy, 2011). In the current study, the internal consistency estimate at intake was .71 and final session .88. It should be noted that the intake alpha is lower than found in other studies (Gillaspy & Murphy, 2011).

SRS. The SRS (Duncan et al., 2003) is a four-item visual analog scale measuring clients' perceptions of the therapeutic alliance. Scores on the SRS ranged from 0 to 40 with scores below 36 indicating potential alliance problems. In previous research, SRS scores demonstrated good reliability (mean Cronbach's alpha = .88) and moderate concurrent validity with the Helping Alliance Questionnaire (Luborsky et al., 1996), $r = .48$ and the Working Alliance Inventory–Short Revised (Hatcher & Gillaspy, 2006), $r = .57$ to .65 (Reese et al., 2013). For the current study, internal consistency estimates at intake were .91 and .96 at final session.

Procedure

All new clients seeking services at the counseling center were invited to participate in the study. Clients who consented were assigned to a therapist and then randomly assigned to one of three conditions prior to their first session: (a) OO—only the ORS was administered and discussed at the beginning of each session; (b) SO—only the SRS was administered and discussed at the end of each session; and (c) PCOMS-Full (PF)—both the ORS and SRS were administered and discussed in each session. In the SO and OO conditions, the measures were administered, scored, and discussed per standard PCOMS protocol. All measures were administered in hard copy, paper-pencil format. Random assignment was done in blocks by therapist, so each therapist had clients in all three conditions. The BSI-18 was completed in the waiting room prior to each session. Therapists did not have access to BSI-18 data. To monitor therapist fidelity, a self-report checklist was completed by each therapist after of every session. On this checklist, therapists indicated whether they had implemented the measures per the study protocol. Rate of compliance administration, scoring, graphing, and discussing each measure across all conditions was 81%.

Data Analysis Plan

Client scores on the BSI-18 served as the dependent variable, and there were three levels of the independent variable: PCOMS-full, OO, and SO. Both research questions were analyzed using a hierarchical linear model (HLM) to account for individual growth trajectories over time and for the interrelatedness of the data. Data were examined using a three-level HLM model with the BSI-18 scores for the first through the fifth session at Level 1, individuals at Level 2, and therapists at Level 3 for. Sessions were limited to five due to attrition and for improved model fit. Multilevel model analysis was conducted using HLM version 7.01 (Raudenbush, Bryk, Cheong, & Congdon, 2010).

Results

The BSI-18 was evaluated for normality for time points, conditions, and therapists using recommendation from George and Mallery (2010). Criteria were not met for skewness and kurtosis; therefore, no data transformations were conducted. While the data as a whole did not meet criteria for skew, one participant's scores on the BSI-18 were considered outlying at several time points. Thus, this participant was removed from further analysis. Table 1 presents the descriptive statistics for the BSI-18, ORS, and SRS of the three treatment conditions (OO, SO, PF) for the intake and final session. The overall mean score at intake for the BSI-18 was 63.89 ($SD = 7.70$), which is slightly above the clinical cut-off ($T > 63$). For the ORS the overall mean score was 22.25 ($SD = 6.85$), which is in the clinical range ($T < 25$) and consistent with previous studies with clinical samples (Anker et al., 2009; Reese et al., 2009, 2010). Scores on the SRS across all sessions were relatively high, a common finding in other PCOMS studies (Reese et al., 2009, 2013). The percentage that provided SRS ratings less than 37 (26%) was comparable to the normative sample used to derive the clinical cut score (about 24%; Miller & Duncan, 2004). The data was analyzed using a two-way ANOVA with BSI-18 scores at intake as the dependent variable and conditions and

Table 1
Means (Standard Deviations) for Clients' BSI-18, ORS, and SRS Scores for Intake and Final

	ORS-only		SRS-only		PCOMS-full	
Measure	IN ($n = 35$)	Final ($n = 35$)	IN ($n = 32$)	Final ($n = 31$)	IN ($n = 28$)	Final ($n = 27$)
BSI-18	62.94 (7.60)	53.40 (9.67)	65.78 (7.12)	58.45 (9.73)	62.63 (8.55)	53.74 (10.90)
ORS	22.09 (6.30)	27.75 (7.43)	—	—	20.22 (7.48)	30.95 (7.08)
SRS	—	—	37.96 (2.16)	39.12 (1.56)	37.17 (2.36)	38.83 (1.38)

Note. IN = intake; BSI-18 = Brief Symptom Inventory-18; ORS = Outcome Rating Scale; SRS = Session Rating Scale; PCOMS = Partners for Change Outcome Management System.

therapists as predictors. These results showed no significant difference in scores on the BSI-18 at the first session due to condition, $F(2, 50) = 1.638$, $p = .205$; therapist, $F(11, 50) = 0.718$, $p = .716$, or Condition × Therapist interaction, $F(18, 50) = 0.842$, $p = .645$.

Both research question (Do the OO and SO conditions yield statistically similar outcomes to the full PCOMS condition? and Do statistically significant differences exist in how the OO and SO conditions impact rate of change on BSI-18 over time?) were analyzed using HLM. The OO and SO conditions were compared to the reference group, PF, at the fifth session. Results indicated that there were no statistically significant difference in BSI-18 scores across the three conditions at the fifth session. The coefficient associated with the OO condition was $b = -0.507$, $p = .822$, which means that on average participants in the OO condition had a score of 0.507 points lower on the BSI-18 than those in the PF at session five. The coefficient associated with the SO condition was $b = -1.888$, $p = .328$ meaning that on average participants in the SO condition had a score 1.888 points lower than those in the PF at the fifth session.

In addition, no significant differences were found between the OO and SO groups when compared to the PF condition in rate of change of the BSI-18 across time. The coefficient associated with the OO condition was $b = -0.171$, $p = .883$, which means that on average participants in the OO condition changed 0.171 points more per session than participants in the PF condition. The coefficient associated with the SO condition was $b = 0.341$, $p = .727$ meaning that on average participants in the SO condition changed 0.341 points less per session than those in the PF condition.

Because of the possibility of insufficient power to find statistically significant differences using HLM (Woltman, Feldstain, MacKay, & Rocchi, 2012), comparisons between conditions were also examined using a two-way ANOVA with condition and therapists as independent variables. A power analysis for two-way ANOVA indicated that a sample size of 90 (30 per condition) was sufficient to find differences between the mean if they existed ($1 - \beta = .859$). There were no statistically significant main effects for conditions, $F(2, 60) = .774$, $p = .466$, $\eta^2 = 0.016$, or therapists, $F(11, 60) = 1.026$, $p = .436$, $\eta^2 = 0.116$; and there was no significant Condition × Therapist interaction effect, $F(19, 60) = 1.330$, $p = .200$, $\eta^2 = 0.260$. These would be described as small, medium-large, and large effects (Vacha-Haase & Thompson, 2004).

Considering the effects found in the current study, to detect a large effect (eta-squared of .14, Cohen's f = .44) the recommended total sample size would be 58, 101, and 133 for condition, therapist, and the interaction, respectively. To detect a medium-sized effect (eta-squared of .06, Cohen's f = .26), with power = .80, the recommended total sample sizes would be 147, 260, and 340; and to detect a small effect (eta-squared of .01, Cohen's f = .10) with power = .80, the corresponding sample sizes would be 967, 1,691, and 2,192. These sample sizes are based on G*Power calculations (Faul, Erdfelder, Lang, & Buchner, 2007).

Discussion

This study examined the relative efficacy of the feedback components of the PCOMS (OO, SO, and Full PCOMS) to improve outcome as measured by the BSI-18. This is the first dismantling study of the PCOMS. There were two main findings. First, there were no statistically significant differences (and relatively small effect sizes) in client outcomes on the BSI-18 between the three feedback conditions. Second, there were also no statistically significant differences between the conditions for the rates of change on the BSI-18. Overall, these findings suggest that using either the ORS or SRS component of the PCOMS may yield equivalent outcomes to that of the full PCOMS.

Halstead, Youn, and Armijo (2013) proposed that there are two types of client feedback systems, normative and communicative. Normative systems, such as the Outcome Questionnaire (OQ; Lambert, 2015), use client feedback to differentiate clients who are making expected progress, making no progress, or deteriorating. Such feedback is then used by the therapist to make adjustments to treatment as needed. Communicative systems use client feedback as a way of creating collaboration with clients. For these systems, feedback measures primarily serve as tools to prompt discussions about how therapy is going from the client's perspective.

Duncan and Reese (2013) argued that feedback systems exist on a continuum and that the PCOMS is both normative and communicative. For example, the PCOMS uses algorithms based on normative data to compare client progress to expected trajectories of change (normative function) and uses the ORS and SRS to foster collaboration about what works best for the client (communicative function). The fact that the ORS and SRS privilege clients' participation in their own care and are fully integrated—administered, scored, graphed, and discussed—into every therapeutic encounter reinforce the communicative value of PCOMS. These considerations, in conjunction with this study's findings that clients improved equally regardless of the specific type of feedback used, suggest that the PCOMS may function more on the communicative end of the normative-communicative continuum.

This conceptualization is consistent with how the PCOMS was implemented in this study. Specifically, the PCOMS was administered using the paper-and-pencil forms. Scores were graphed on a form that included the clinical cut-offs but did not provide data to therapists about expected trajectories of change. Therapists did not have access to this normative aspect of PCOMS. Thus, the ORS and SRS may have served a more communicative role, prompting exploration of client views and enhancing collaboration, rather than as normative references about progress. Future research is needed to compare the use of the online PCOMS protocol (betteroutcomesnow.com), which automatically displays normative trajectories, with the use of the traditional paper and pencil protocol.

Three additional factors should be considered when evaluating the current findings. The symptomatology of clients in this university counseling center sample was not particularly severe. At intake, only 48.4% of participants scored in the clinical range ($T > 63$) on the BSI-18. Although this is consistent with severity ratings for university counseling centers in general (Snell, Mallinckrodt, Hill, & Lambert, 2001), it may be that differences between the feedback conditions would be more apparent with clients who enter counseling with higher levels of distress. In addition, the BSI-18 is an assessment of global psychological distress. It may be that the PCOMS in part or in whole helps therapists to acknowledge and validate the distress of their clients rather than focusing solely on alleviating symptoms. Thus, the relatively small range of symptom severity and the nature of the outcome measure may

limit the generalizability of this study. Future research with clients with a wider range of distress and with different types of outcome measures may clarify the generalizability of these results. Finally, therapists provided PCOMS interventions to a variable number of participants. This difference was a result of therapist availability, employment status (e.g., full or part time, practicum student or staff). It is not clear whether these differences made it difficult to detect significant results; however, one purpose of HLM analyses is to better account for these types of differences.

Limitations and Future Research

Several limitations of this study should be noted. First, like most PCOMS studies to date, client outcome was not assessed beyond the formal end of treatment. It is possible that differences between feedback conditions may be more evident at 3- or 6-month follow-up. Research that monitors client outcome after treatment will advance our understanding of the longer term effects of various types of client feedback using the PCOMS.

Second, although self-reported compliance rates for PCOMS implementation was 81%, this study did not include direct observations of how therapists implemented the PCOMS components. It is evident from therapist self-report that they administered, scored, and graphed the ORS or SRS in session. However, it is unclear how discussions about client change and therapeutic alliance were handled. Given the potential importance of discussing and responding to client feedback, future studies could include the periodic use of video or direct observations to further assess the integrity of PCOMS implementation. The use of Better Outcomes Now (https://betteroutcomesnow.com/#/), the computerized program for PCOMS implementation, may also improve intervention integrity.

Despite these limitations, the findings of this study have important implications for PCOMS research and practice. In the current study, clients in the OO, SO, and full PCOMS conditions experienced equivalent clinical outcomes and rates of change. These results initially suggest that PCOMS-related client change may result as much or more from the clinician's explicit request for and accommodation of client feedback than to the specific type of feedback requested (outcome, alliance, or both). Greater understanding about how PCOMS and other feedback systems improve outcomes will become increasingly important as client feedback becomes a more prevalent and routine part of behavioral and mental health care. Given the limitations of the current study and the fact that it is the first dismantling study of the PCOMS, additional dismantling research is needed in different settings and with a variety of client populations. Future studies should also compare the PCOMS with other systems that focus primarily on normative aspects of client feedback.

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