Evaluating the Effectiveness of a Continuous Client Feedback System for Parolees Referred to Treatment: Benchmarking Treatment Outcomes

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EVALUATING THE EFFECTIVENESS OF A CONTINUOUS CLIENT FEEDBACK SYSTEM FOR PAROLEES REFERRED TO TREATMENT: BENCHMARKING TREATMENT OUTCOMES

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DISSERTATION
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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the College of Education at the University of Kentucky

By
Alyssa B. Grossl

Lexington, Kentucky

Director: Dr. Robert Jeffrey Reese, Professor of Counseling Psychology

Lexington, Kentucky

2016

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EVALUATING THE EFFECTIVENESS OF A CONTINUOUS CLIENT FEEDBACK SYSTEM FOR PAROLEES REFERRED TO TREATMENT: BENCHMARKING TREATMENT OUTCOMES

Objective: The purpose of the present study was to evaluate the effectiveness of a group substance abuse program that incorporated continuous client feedback into treatment for parolees who had been referred to attend by the criminal justice system.

Method: The pre-post treatment outcomes, as measured by the Outcome Rating Scale (ORS; Miller & Duncan, 2000), of 1,112 diverse parolees participating in treatment from October 2014 to January 2015 were analyzed. The most up-to-date benchmarking methodology was utilized to compare treatment outcomes observed in the naturalistic setting with those observed in rigorous randomized controlled trials evaluating the Partners for Change Outcome Management System (Duncan, 2012, 2014; Duncan & Sparks, 2010). Two sets of benchmarks were constructed for comparison purposes: one each for the feedback and treatment as usual conditions for two studies of PCOMS in a group setting and one each for the feedback and treatment as usual conditions for all six PCOMS studies.

Results: Compared to the feedback condition benchmarks, the average treatment effect size estimate of psychotherapy for the present sample ($d = 0.59$) was not found to be clinically equivalent to the average effect size estimate from the two PCOMS group studies or to the effect size estimate constructed from all six PCOMS studies. In regards to treatment as usual, the effect size estimate from the present sample was found to be clinically superior to treatment as usual from all six PCOMS studies, including the two group randomized controlled trials.

Conclusions: Despite the documented success in treatment outcomes regarding the use of continuous client feedback with voluntary clients, results suggest more modest effects with individuals referred to treatment. Although not found to be equivalent with the feedback conditions from randomized controlled trials, the use of client feedback with the present sample resulted in outcomes superior to those of treatment as usual in the six PCOMS studies. Particular characteristics of offender populations that can impact psychotherapy, and potentially treatment outcomes, are discussed.
KEYWORDS: Benchmarking, Client Feedback, Offenders, Group Psychotherapy, Referred Treatment

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April 21, 2016
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EVALUATING THE EFFECTIVENESS OF A CONTINUOUS CLIENT FEEDBACK SYSTEM FOR PAROLEES REFERRED TO TREATMENT: BENCHMARKING TREATMENT OUTCOMES

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I always assumed writing out this particular section of my dissertation would be one of the easiest parts of the project. However, as I sit here, I am finding it to be one of the most difficult components as there are no words to appropriately describe the amount of gratitude and appreciation I have for the individuals who have helped to make this project possible. The following dissertation, while an individual work, would not have come to fruition without the help, encouragement, and guidance of many individuals. The following words, while an attempt to express my thankfulness, do not adequately convey my overwhelming appreciation for those who have helped me along this path.

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Chapter One: Introduction and Review of Selected Literature

Due to the high prevalence rates of substance use among offenders, they are often mandated or referred to attend substance abuse treatment. Group therapy is the most frequently used format for both voluntary and involuntary substance abuse treatment (Blume, 1985). However, studies evaluating the effectiveness of group therapy with offenders (Morgan & Flora, 2002) and substance abuse treatment for offenders (Anglin, Prendergast, & Farabee, 1998; Howard & McCaughrin, 1996; Klag, O’Callaghan, & Creed, 2005; Young, 2002) have yielded mixed results.

Two salient characteristics of psychotherapy with offenders coerced to attend therapy that can potentially undermine treatment are resistance to therapy and lack of motivation. Client feedback, a process in which the client’s perception of therapy progress is routinely assessed, has been proposed as a way to improve treatment outcome. Client feedback allows the therapist to be responsive to clients who are not responding to treatment and provides a platform for collaboration (Duncan, 2012). Systems for tracking client progress have been found to improve treatment outcomes for both individuals (Lambert et al., 2001; Lambert et al., 2002; Miller, Duncan, Brown, Sorrell, & Chalk, 2006; Reese, Norsworthy, & Rowlands, 2009; Whipple et al., 2003) and couples (Anker, Duncan, & Sparks, 2009; Reese, Toland, Slone, & Norsworthy, 2010). Evidence of the effectiveness of client feedback in group settings is emerging, and a thorough search of the literature failed to find any studies that have evaluated the use of a client feedback system with offenders referred to attend group treatment. Such a study
appears warranted given the positive results of research on continuous client feedback conducted with voluntary clients.

**Prevalence of Substance Abuse Among Offenders**

Imprisonment, probation, and parole are the most common forms of punishment and rehabilitation for individuals who are found to directly violate the established laws of society. The most recent data presented by the Bureau of Justice Statistics (Glaze & Kaeble, 2014) reported that at the end of 2013, nearly 7 million individuals were under correctional supervision in the United States. Although this number has declined slightly since previous years, approximately one out of every 35 adults, or 2.9% of the total population, is either incarcerated, on probation, or on parole. A closer examination reveals that 1 in every 51 adults in the United States was supervised in the community on either parole or probation, and 1 in every 110 adults was incarcerated in either a prison or jail (Glaze & Kaeble, 2014). Lifetime substance use and substance use in the month prior to conviction are common characteristics of individuals under correctional supervision.

A national survey of adults on probation (Mumola & Bonczar, 1995) reported that nearly 70% disclosed some previous drug use in their lifetime, and approximately 32% reported drug use in the month prior to the offense that resulted in probation. A 2002 survey of men and women in local jails found that 68% of inmates were found to be dependent upon or abusing alcohol and/or drugs, and 55% of convicted inmates reported having used drugs in the month prior to their offense (Karberg & James, 2005). By 2004, state prisoner reports of prior drug use were 83%, whereas 79% of federal prisoners reported prior substance use (Mumola & Karberg, 2006). The 2013 National Survey on
Drug Use and Health (Substance Abuse and Mental Health Services Administration, 2014) reported 27.4% of adults on parole or other supervised release from prison at some time during the past year and 31.4% of adults on probation at some time during the past year were currently using illicit drugs. Due to the prevalence of individuals under the influence of a substance at the time of the offense and the prevalence of lifetime substance use among offenders, corrections often incorporates substance abuse treatment into the inmate, probationer, or parolee’s rehabilitation plan.

Based on the point in the legal process where the individual is pressured to enter into substance abuse treatment, coercion from the criminal justice system can take several forms (Klag et al., 2005). Though no longer heavily relied upon, civil commitment is considered to be the most coercive form for the individual is required to attend treatment in a secure facility for an extended period of time (Farabee & Leukefeld, 2001). More commonly, an individual may be coerced into treatment in exchange for a deferred, reduced, or lifted sentence. Individuals may also be required to complete treatment as a condition of probation or parole (Rotgers, 1992). Despite the prevalence of substance use among offenders and the frequent use of coercive treatment, studies examining the effectiveness of such treatment have generated inconsistent results.

**Effectiveness of Substance Abuse Treatment for Offenders**

Despite the abundance of research on coerced substance abuse treatment for offenders, results regarding the effectiveness of such treatment have been mixed (Anglin et al., 1998; Howard & McCaughrin, 1996; Klag et al., 2005; Young, 2002). Researchers maintain inconsistencies in study findings can be partly attributed to conceptual and
methodological problems including a lack of consistent terminology, the failure of early research to differentiate between the various treatment settings in which coercion can be applied, the lack of consideration of individual difference factors that can potentially impact outcomes, failure to consider the interaction of coercion and motivation, and a failure to differentiate between various levels of coercion (Anglin et al., 1998; Young, 2002).

In regards to inconsistent terminology within the existing literature on work with involuntary clients, definitions used when describing this particular population can vary greatly from one article to the next. For example, the terms “criminal justice referred,” “mandated,” “coerced,” “compulsory,” and “involuntary” are often used interchangeably and with differing definitions from one article to the next (Anglin et al., 1998). Unfortunately, no universal criteria are available within the field to explicitly differentiate this particular group of clients from those who seek services voluntarily.

Regardless of inconsistencies in the findings, coerced treatment for substance abuse is often a common component of rehabilitation plans for individuals under correctional supervision. Many researchers have found that such therapy can be an effective means of treatment with outcomes similar to or even better than voluntary substance abuse treatment (Anglin et al., 1998; Brecht, Anglin, & Dylan, 2005; Kelly, Finney, & Moos, 2005; Staton-Tindall et al., 2009).

Anglin, Prendergast, and Farabee (1998) reviewed 11 studies published from 1976 to 1996 that examined the effectiveness of various levels of coercion (i.e., legal pressure) for substance abuse treatment for drug-abusing offenders. Four of the studies
found no differences in outcomes between individuals who entered into treatment under some level of legal pressure and those who entered voluntarily or under minimal levels of coercion (Anglin, Brecht, & Maddahian, 1989; Brecht & Anglin, 1993; McLellan & Druley, 1977; Simpson & Friend, 1988). Five of the 11 studies reported finding greater outcomes (e.g., completion rates, attendance, retention, criminality, and/or substance use) for individuals who entered into treatment under some level of legal coercion when compared to those who entered into treatment voluntarily (Collins & Allison, 1983; Rosenberg & Liftik, 1976; Salmon & Salmon, 1983; Schnoll, Goldstein, Antes, & Rinella, 1980; Siddall & Conway, 1988). For example, Collins and Allison’s (1983) study of 2,276 individuals in outpatient and residential treatment programs found that clients who were legally referred for treatment remained in therapy longer than did those who did not experience legal pressure. Only two of the 11 studies reported finding worse outcomes (e.g., compliance or retention) for those who entered into treatment under some level of legal coercion when compared to those who entered voluntarily (Harford, Ungerer, & Kinsella, 1976; Howard & McCaughrin, 1996). It is important to note that the only statistically significant difference found by Harford et al. (1976) was that treatment retention was poorer for older methadone clients and adolescents admitted to treatment while on probation. No other statistically significant differences in retention or completion rates (i.e., graduation of program) were found for any of the four measures of legal pressure (being on probation, being on parole, awaiting trial, or a composite of three previous groups). Howard & McCaughrin (1996) found that treatment organizations with 75% or greater court-mandated clients reported a statistically greater rate of clients failing
to follow the treatment plan. However, no statistically significant differences were found for the completion of treatment goals between organizations with 75% or greater mandated clients and organizations with 25% or fewer mandated clients. Results of Anglin et al.’s (1998) review provide support for the claim that individuals who experience legal pressure to enter substance abuse treatment generally experience outcomes similar to or better than those of individuals who entered into treatment voluntarily.

Four other studies (Brecht et al., 2005; Burke & Gregoire, 2007; Kelly et al., 2005; Staton-Tindall et al., 2009) also found coerced treatment for substance abuse to be effective. A study conducted by Brecht et al. (2005) found no statistically significant differences on methamphetamine use outcome measures between those who felt pressured to attend treatment from either the criminal justice system or child protective services and those who did not perceive pressure. Staton-Tindall et al.’s (2009) study examined substance use treatment outcomes for 700 offenders from Kentucky’s corrections-based substance abuse modified therapeutic community treatment programs using a pre-post design. Results revealed that a significantly smaller percentage of participants reported any illicit substance use at follow-up than at baseline (43.9% versus 94.1%, respectively; $p < .001$). Kelly, Finney, and Moos (2005) sought to examine differences between the characteristics, treatment processes, and one- and five-year outcomes for substance use disorder patients involved with the criminal justice system and mandated to treatment (JSI-M), involved with the justice system and not mandated to treatment (JSI), and not involved with the justice system (No-JSI). Overall, there were
significant improvements during the course of treatment in coping, self-efficacy, and step group involvement. At one-year follow-up, participants in the JSI-M group were significantly more likely to be abstinent (as measured by self-report and drug testing for a subset of participants; \( p < .001 \)), in remission (\( p < .001 \)), and to not have encountered any substance-related rearrests (\( p = .04 \)) than members of both the JSI and No-JSI groups. Burke and Gregoire (2007) also conducted a self-report study examining the relationship between treatment coercion and post-treatment substance use and substance use severity for men enrolled in outpatient programs throughout Ohio. Results revealed clients coerced into treatment had lower substance use severity scores at 6-month follow-up than did those participants who entered treatment voluntarily, controlling for pretreatment substance use severity. Participants who were legally coerced into treatment also reported less substance use at follow-up than did those who entered without legal pressure.

Several noteworthy limitations are present in the aforementioned studies. Participants were overall predominantly white males and assessment of motivation for treatment was not included in two of the studies (Brecht et al., 2005; Staton-Tindall et al., 2009). Staton-Tindall et al.’s (2009) study also did not include a comparison group or an assessment of perceived coercion for treatment. With the exception of the study by Kelly et al. (2005), all studies utilized only self-report measures of substance use. Despite the limitations of the aforementioned studies, coerced substance abuse treatment for offenders appears to produce treatment outcomes that are at least comparable to, if not greater than, those of individuals who enter into treatment voluntarily.
**Group therapy for substance abuse.** Group counseling is the most frequently used treatment intervention for substance use disorders (Barlow, Burlingame, & Fuhriman, 2000; Blume, 1985) in order to allow group participants to develop supportive interpersonal relationships with others who have faced similar experiences, cultivate socializing techniques, and learn to identify problematic behavior patterns and appropriate coping strategies (Weiss, Jaffee, de Meni, & Cogley, 2004; Yalom, 2005). Group therapy also provides a cost effective way to maximize therapeutic services. Therapists are able to provide treatment to multiple clients in relatively the same amount of time as an individual session.

Weiss, Jaffee, de Meni, and Cogley (2004) synthesized the research on group treatment for substance use disorders, identifying three studies (Graham, Annis, Brett, & Venesoen, 1996, Marques & Formigoni, 2001, & Schmitz et al., 1997) that directly examined the effectiveness of group therapy compared to individual therapy. In each of the three studies, no significant differences were found in treatment outcomes based on the format of therapy. One study found that individuals in the group therapy condition reported fewer days of cocaine use during treatment than did those participating in individual therapy (Schmitz et al., 1997). Weiss et al. concluded that virtually identical treatments for substance use disorders delivered in either an individual or group therapy format generated no statistically significant differences on outcome measures. For example, Schmitz et al.’s (1997) study of 32 cocaine-dependent participants assigned to either a group-based or individually-based relapse prevention program found no statistically significant differences between drug tests based on format of treatment nor
any significant difference on cocaine use outcome measures. Individuals in the group-format reported significantly fewer cocaine-related problems and significantly fewer days of cocaine use during treatment than did participants who received individual therapy. The authors concluded that relapse prevention treatment for cocaine abuse was effective regardless of format.

**Group therapy for offenders.** Studies have started to evaluate the effectiveness of group therapy formats for offender populations, yet results thus far have been inconsistent (Morgan & Flora, 2002). A national survey of group therapy in state correctional facilities reported an average of 20% of male inmates of responding therapists received some type of group treatment. Of male inmates receiving group therapy services, an average of 54% were referred by staff or mandated to attend (Morgan, Winterowd, & Ferrell, 1999). Morgan and Flora (2002) identified 26 studies meeting inclusion criteria for a meta-analysis of existing research examining the effects of group psychotherapy with incarcerated offenders. Positive treatment effects were found for group therapy compared to control conditions for the variables of institutional adjustment ($g = 0.43$), anger ($g = 0.45$), anxiety ($g = 0.94$), depression ($g = 0.57$), interpersonal functioning ($g = 0.36$), locus of control ($g = 0.79$), and self-esteem ($g = 0.31$). Whether an inmate was mandated to attend treatment or attended on a voluntary basis was a non-significant predictor of effect size. For studies in which clients volunteered for treatment, the weighted mean effect size was $d = 0.68$ ($SE = 0.14$) and for studies in which clients were mandated to attend, the weighted mean effect size was $d = 0.60$ ($SE = 0.22$). The authors concluded that group psychotherapy treatment with
offenders resulted in improvements of all outcomes assessed when compared to offenders in control conditions (Morgan & Flora, 2002).

Despite the prevalence of research examining the effectiveness of coerced substance abuse treatment for individuals under correctional supervision, a thorough review of the literature failed to find any studies that examine the effect of a continuous client feedback system on therapeutic outcomes with such a sample. Since previous research has found the use of continuous client feedback to be an effective means for improving psychotherapy outcomes for voluntary clients, an examination of the effectiveness of monitoring coerced clients’ response to treatment and the therapeutic relationship appears warranted. Such practice would also align with Garvin’s (1997) third principle of group work with involuntary clients which encourages leaders to involve the client in group-related decision making as much as possible. Prior to further exploration of this particular gap in the literature, use of client feedback with voluntary clients and the unique characteristics of therapy with coerced individuals will be reviewed.

**Client Feedback**

Continuous outcome assessment, or client feedback, entails the use of a psychotherapy outcome measure during each session of treatment, as opposed to the usual pre-post therapy format (Lambert, 2001). In an era of accountability, the use of client feedback to track progress and outcomes is consistently becoming a more common practice in the field of psychotherapy and is considered to be a strategy for quality improvement (Lambert, 2010). The client, clinician, parent, peer, or caregiver can
complete the outcome measures, which can be either diagnosis-specific or more general assessments of global functioning.

Despite the fact that psychotherapy is a highly effective means of treating clients (Lambert, 2013), outcome studies also suggest that approximately 5-10% of clients deteriorate in therapy (Lambert & Ogles, 2004; Lambert & Shimokawa, 2011) and clinicians are generally unsuccessful at predicting treatment failure (Breslin, Sobell, Buchan, & Cunningham, 1997; Chapman et al., 2012; Hannan et al., 2005; Yalom & Lieberman, 1971). Additionally, clinicians generally overestimate the success of their clients in the progression towards and attainment of treatment goals (Walfish, McAlister, O’Donnell, & Lambert, 2012). Thus, the use of client feedback has become an effective means of gathering information from the client on her or his perception of treatment success or failure. By providing a real-time comparison to an expected treatment response, clinicians can more accurately gauge client progress (Duncan & Reese, 2015). With the monitoring of client perceptions on a regular basis, the opportunity is made available to engage in open communication with the client regarding progress and to better understand the client’s views of treatment. The use of such feedback measures alerts therapists to client deterioration and signals when change is not occurring as predicted, offering the opportunity to address the client’s concerns in a practical and appropriate manner. Recognizing, acknowledging, and discussing the client’s perceptions of treatment can potentially reduce instances of treatment failure (Reese et al., 2009). The use of continuous client feedback has a well-established and increasing evidence base for improving treatment outcomes with adults in individual, couple, and
group therapy when compared to treatment-as-usual (Anker et al., 2009; Reese et al., 2009; Reese et al., 2010; Schuman, Slone, Reese, & Duncan, 2015; Shimokawa, Lambert, & Smart, 2010; Slone, Reese, Mathews-Duvall, & Kodet, 2015).

A positive alliance during therapy is found to be one of the best predictors of successful outcomes, and the client’s perception of the therapeutic relationship is found to be the most consistent predictor of client improvement (Bachelor, 1991; Gurman, 1977; Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). Second only to the client’s own strengths and resources (e.g., social support, motivation to change), the therapeutic alliance is considered to be the most consistent predictor of client outcome (Duncan, Miller, Wampold, & Hubble, 2010; Horvath & Symonds, 1991; Lambert, 1992; Lambert & Ogles, 2004; Martin et al., 2000; Wampold, 2001). The therapeutic alliance is a partnership between the therapist and the client that is made up of three interrelated elements, including the client’s sense of connection with the therapist, the client and therapist’s agreement on the goals of treatment, and agreement between the client and therapist on the tasks of treatment (Bordin, 1979). Thus, the frequent monitoring of the client’s perception of the alliance and treatment outcome via the use of a continuous client feedback system would appear to be a beneficial and informative practice.

**Continuous assessment in therapy.** Two commonly used continuous client feedback systems, the Outcome Questionnaire System (OQ System; Lambert, Hansen, & Harmon, 2010) and the Partners for Change Outcome Management System (PCOMS; Duncan, 2012, 2014; Duncan & Sparks, 2010), are described below. Although there are currently several formal feedback systems in the field (see Castonguay, Barkham, Lutz,
& McAleavey, 2013), only the OQ System and PCOMS have been evaluated via randomized clinical trial (RCT) design in the United States. Both feedback systems are a-theoretical (i.e., common factors) and assess global functioning, as opposed to diagnosis-specific concerns (Duncan, 2012).

Due to the significant improvements demonstrated in clinical settings, both feedback systems have been included on the Substance Abuse and Mental Health Services Administration’s (SAMHSA) National Registry of Evidence-Based Programs and Practices (SAMHSA, 2012). Both feedback systems are also congruent with the definition of evidence-based practice in psychology established by the Presidential Task Force on Evidence Based Practice of the American Psychological Association (APA): “[T]he integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA Presidential Task Force on Evidence-Based Practice, 2006, p. 274). Further information on each system is provided and reviewed below.

**Outcome Questionnaire System (OQ System).** Lambert and colleagues (1996) were among the first in the field to develop and implement a formal system for obtaining client feedback. The OQ System, which is composed of the Outcome Questionnaire-45 (OQ-45; Lambert et al., 2013), was developed to monitor client status and progress during the course of therapy on domains including personal distress, difficulties in interpersonal relationships, and problems related to one’s social roles. The OQ-45, which is a 45-item measure of global distress that takes approximately 5-7 minutes to complete, is generally administered to the client at the commencement of each therapy session.
Scores can range from 0 to 180 with lower scores signifying less distress. The cutoff score for the OQ-45 demarcating dysfunction/normal functioning is 63/64. The OQ System also includes a signal alarm system that uses statistical algorithms to monitor progress and alert therapists to instances when clients are not-on-track (NOT; i.e., at risk for negative outcome or premature termination of therapy). If a client is identified as being NOT, the Assessment for Signal Clients (ASC), a 40-item self-report measure aimed at assessing the type and severity of problems that may be impacting treatment progress, can be implemented. The items correspond to subscales regarding the therapeutic alliance, client motivation and readiness for change, diagnostic formulation, life events, need for medication referral, and social support. Subscales are associated with corresponding recommendations for adjusting treatment to resolve identified problems. The ASC is presented within the framework of the clinical support tools (CST), which provide the therapist with a decision tree and possible interventions to aid in problem solving and responsiveness to the client (Lambert, 2015).

Evidence for the efficacy of the OQ System is based on nine RCT studies, all of which demonstrated significant treatment gains for clients identified as being NOT who were in a feedback (FB) condition compared to those receiving treatment as usual (TAU; Crits-Christoph et al., 2012; Harmon et al., 2007; Hawkins, Lambert, Vermeersch, Slade, & Tuttle, 2004; Lambert et al., 2001; Lambert et al., 2002; Probst et al., 2013; Slade, Lambert, Harmon, Smart, & Bailey, 2008; Simon et al., 2013; Whipple et al., 2003). Shimokawa, Lambert, & Smart’s (2010) meta/mega-analysis evaluating the effects of the OQ System was conducted with six of the earliest RCT studies, each of which examined
the effects of providing feedback about each client’s \((N = 6,151)\) improvement via the use of progress graphs and a signal alarm system for NOT cases. When the odds of deterioration and obtaining clinically significant improvement were compared, individuals in the FB condition had 2.6 times higher odds of experiencing reliable improvement (i.e., an improvement of at least 14 points) and less than half the odds of experiencing deterioration compared to individuals receiving TAU. Estimated weighted mean effect sizes were computed (Hedge’s \(g\)), with negative values indicating lower levels of distress. The intent-to-treat (ITT) analyses comparing mean post-test OQ-45 total scores for those receiving feedback with those receiving TAU for individuals identified as NOT resulted in the following aggregated between-group effect sizes: \(g = -0.28\) \((p < .01)\) when feedback was only provided to the therapist, \(g = -0.36\) \((p < .001)\) when feedback was provided to both the therapist and the client, and \(g = -0.44\) \((p < .001)\) when feedback was provided to the therapist along with CST. Additionally, the overall percentages of clinically significant improvement for clients identified as NOT were: 30.9% when feedback was provided to the therapist only, 38.7% when feedback was made available to both the client and the therapist, and 37.6% when feedback was provided to the therapist and accompanied by CST.

Using the meta-analysis conducted by Shimokawa et al. (2010), Lambert and Shimokawa (2011) further examined the efficacy of the OQ System by examining only those clients who completed treatment (as opposed to the ITT sample). When NOT clients in the FB condition were compared to clients in the TAU condition, the meta-analysis found a combined weighted random effect size for post-treatment OQ-45 score
difference of \( r = 0.25 \) \( (g = 0.53; p < .001) \). The meta-analysis also found the average client at-risk for treatment failure (i.e., NOT) whose clinician received feedback was better off than approximately 70% of NOT clients whose therapist did not receive feedback. At termination, 9% of clients in the FB conditions deteriorated during treatment, as opposed to 20% in the TAU condition. Additionally, at termination 38% of those identified as being NOT in the FB condition obtained clinically significant change (i.e., reliable change that includes moving from the clinical range to the nonclinical range), while only 22% from the TAU condition clinically significantly improved.

Despite the documented success of the OQ System in helping to improve clinical outcomes for clients who are identified as being NOT, therapists have noted that the amount of time needed to administer and score the OQ-45 has resulted in them not using it frequently in the therapy setting. In addition, both clients and therapists have voiced concerns that many of the items on the measure are not relevant or pertinent to the reasons the client was attending therapy (Duncan, Miller, & Sparks, 2004). In an attempt to remedy the concerns voiced by clients and therapists alike, a briefer, more feasible outcome system was developed.

**Partners for Change Outcome Management System (PCOMS).** Duncan, Miller, and Sparks (2004) maintain that to obtain the valuable information from the client regarding her or his perception of treatment progress and the therapeutic alliance on a regular basis requires fervent attention to the client’s goals, as well as the flexibility of the therapist to alter treatment based on ongoing assessments of the client’s perception of whether or not treatment is advancing in an expected and positive direction. This
particular insight, coupled with a desire to address the concerns of the OQ System, helped to facilitate the development of a client-directed outcome-informed (CDOI) approach to treatment in which it is the client, not a specific model or intervention, that guides the therapy process. The Partners for Change Outcome Management System (PCOMS; Duncan, 2012, 2014; Duncan & Sparks, 2010) is a continuous client feedback system that helps to meet the goals of a CDOI approach to therapy. PCOMS was developed to help reduce client dropout and deterioration in therapy, as well as improve client outcomes. PCOMS is composed of the Outcome Rating Scale (ORS; Miller & Duncan, 2000) which measures the client’s well-being and the Session Rating Scale (SRS; Miller, Duncan, & Johnson, 2002) which measures the client’s perception of the therapeutic relationship.

According to Sparks, Duncan, and Miller (2008), the undeniable link between the client’s positive ratings of therapist provided variables (i.e., warmth, professionalism, fit with the views and expectations of the client) and improved psychotherapy outcomes makes a strong case for a focus on fitting the therapy process to the client’s perceptions of a positive relationship. Knowing the client’s perception of the treatment process and the therapeutic relationship is a key component in improved psychotherapy outcomes, routinely collecting and reviewing information from the client regarding both is warranted. PCOMS aims to privilege the voice of the client during therapy and enables the client to share her or his views of treatment progress with the therapist.

Despite having much briefer measures of client outcome and therapeutic alliance than the OQ System, PCOMS has also demonstrated its efficacy in clinical settings for individuals (Reese et al., 2009), couples (Anker et al., 2009; Reese et al., 2010), and
groups (Schuman et al., 2015; Slone et al., 2015). Reese, Norsworthy, and Rowlands (2009) conducted RCTs in two sites to replicate the findings of Miller et al. (2006). The sample for study one was 74 clients, the majority of whom identified as White and female, who attended individual therapy at a university counseling center. The sample for study two was also 74 clients, the majority of whom also identified as White and female, who attended individual therapy at a graduate training clinic for a marriage and family therapy master’s program. In the first study, participants were assigned to either a FB or TAU condition using a randomized block design to help control for therapist effects. For study one only, clients in the FB condition completed the ORS at the start of each session and the SRS at the conclusion of each session. Participants in the TAU condition completed the ORS only at the beginning and end of treatment, not at each session. Protocol for study two differed in two primary ways: (1) participants in the TAU condition completed the ORS at the start of each session of treatment (as opposed to only at the first and last session), and (2) therapists, rather than clients, were randomly assigned to the FB or TAU condition so as not to trouble beginning marriage and family therapy practicum students with the task of alternating between two therapy protocols.

Results of the studies indicated that clients in the FB condition reported greater improvement than did those in the TAU condition. Individuals in both treatment conditions showed statistically significant improvement on pre and post measures of the ORS. In both studies the FB condition showed roughly twice as much improvement as the TAU condition (study one: 12.69 points vs. 6.82 points; study two: 10.83 vs. 4.69 points). Reese et al. (2009) found medium to large effect sizes according to Cohen’s
(1988) standards for the FB condition (study one: $d = 0.54$; study two: $d = 0.49$). Additionally, analyses of data from study two revealed that clients in the FB condition were estimated to achieve reliable change (at least a 5 point improvement on the ORS) in fewer sessions than those in the TAU condition. Clients in the FB condition also demonstrated statistically significant higher rates of reliable change than did clients in the TAU condition (study one: 80% versus 54.2%; study two: 66.67% versus 41.4%). This finding indicates that all clients in the FB condition, not just those clients identified as being NOT for reliable change, benefited significantly from therapy with PCOMS when compared to controls (Reese et al., 2009).

Two RCT studies (Anker et al., 2009; Reese et al., 2010) have also demonstrated PCOMS’ efficacy in improving outcomes for couples’ therapy. Anker, Duncan, and Sparks (2009) evaluated treatment outcomes of 205 couples assigned to either a FB or TAU condition. The effect size for the difference between the FB condition and TAU condition was $d = 0.50$. Over twice as much improvement was noted on the ORS for couples in the FB condition when compared with those in the TAU condition (8.27 vs. 3.11 points). Additionally, nearly four times as many couples in the FB condition obtained clinically significant change (reliable change that includes moving from the clinical range to the non-clinical range); effects were maintained at 6-month follow-up with in the FB condition significantly more likely to be together. The aforementioned findings were replicated by Reese, Toland, Slone, and Norsworthy’s (2010) study of 46 couples assigned to either a FB or TAU condition. The standardized mean effect size between treatment conditions was $d = 0.48$. Participants in the FB condition
demonstrated over twice as much improvement on the ORS (8.58 vs. 3.64 points). As with the previous study, nearly four times as many couples in the FB condition achieved clinically significant change compared with those receiving TAU. Additionally, clients utilizing PCOMS during therapy improved at a faster rate.

Lambert and Shimokawa’s (2011) meta-analysis examined the overall efficacy of PCOMS by reviewing three RCT studies (Reese et al., 2009; Anker et al., 2009). The analysis produced a combined weighted random effect size of $r = 0.23$ ($p < .001$) for post-treatment scores of clients in the FB condition compared to clients receiving TAU. Results were comparable to research on the OQ System in which the combined effect size for the earliest six studies was $r = 0.25$ ($p < .001$). Furthermore, when the odds of obtaining reliable improvement over the odds of not achieving reliable improvement were compared across conditions, individuals in the FB group had 3.5 times higher odds of experiencing reliable change and less than half the odds of experiencing deterioration (Lambert & Shimokawa, 2011).

**Continuous assessment in group therapy.** Evidence for the efficacy of continuous client feedback within group psychotherapy settings is emerging. Though feedback systems are theoretically posited to be effective in a group setting (Dies & Dies, 1993), results are decidedly mixed (Davies, Burlingame, Johnson, Gleave, & Barlow, 2008; Schuman et al., 2015). Research examining the use of a client feedback system in such a setting is reviewed below.

Davies, Burlingame, Johnson, Gleave, and Barlow (2008) examined the effect of client feedback on group process and outcome with group therapy clients at a university
counseling center. Participants \((N = 94)\) made up 16 psychotherapy groups that were randomly assigned to either a FB or TAU condition. Participants completed the Curative Climate Instrument (CCI; Fuhriman, Drescher, Hanson, & Henrie, 1986) and the Group Climate Questionnaire - Short version (GCQ-S; MacKenzie, 1981) at the end of each group session. Participants in the FB condition (both leaders and group members) were provided with a tally of the responses to the GCQ-S, which provides information on members’ sense of engagement, avoidance, and conflict. The OQ-45 (Lambert et al., 1996), which served as the outcome measure, was completed at the start and conclusion of treatment. Analyses found no significant difference in outcome or engagement between the two conditions. The authors speculated that even though the group members received general information regarding the group climate, the lack of specific information about themselves or others in the group provided only limited opportunity to gain interpersonal insight and information (Davies et al., 2008).

The efficacy of PCOMS for group therapy has also been evaluated. In the group format, the ORS is administered to all clients at the start of each session and the Group Session Rating Scale (GSRS; Duncan & Miller, 2007) to all clients toward the conclusion of each session. As with the individual format, scores for each measure are totaled and charted to track progress.

A 2015 study by Schuman, Slone, Reese, and Duncan evaluated the efficacy of a modified version of PCOMS with soldiers referred for group substance abuse treatment. Participants, who were primarily referred for treatment in the program by their commanding officer following some type of alcohol or drug-related problematic behavior,
were randomly assigned to either a group FB condition \((n = 137)\) or a group TAU condition \((n = 126)\). Participants completed a computerized version of the ORS prior to each process group session. The GSRS was not utilized in this study as it had not yet been developed at the time of data collection. Therapist and commander outcome ratings were also obtained during a rehabilitation team meeting after completion of the soldier’s last therapy session. Controlling for pretreatment functioning, an ANCOVA found a significant difference in post-ORS scores between treatment conditions \((p = .011)\), indicating that the FB condition demonstrated larger treatment gains than the TAU condition. A small-to-medium effect size \((d = 0.28)\) was found for feedback. Further, effects were found for all clients in the FB condition, not just those noted to be NOT or at risk for negative treatment outcomes. Additionally, individuals in the FB condition also attended more therapy sessions and were less likely to terminate prematurely compared with those in the TAU condition.

Slone, Reese, Mathews-Duvall, and Kodet (2015) utilized a randomized cluster design (in which groups as a whole were randomly assigned to a treatment condition) to evaluate the efficacy of PCOMS in a group psychotherapy format. Group therapy participants \((N = 84)\) were assigned to either a FB condition \((n = 43)\) or a TAU condition \((n = 41)\) at a university counseling center. Participants attended an interpersonal process therapy group for social anxiety and interpersonal concerns. Those in the FB condition completed the ORS at the start of every session and the GSRS at the conclusion of each session. Participants in the TAU condition completed the ORS at the start of every session, but leaders were not provided access to members’ progress and leaders were
instructed not to prompt any discussion of the measures. As in the aforementioned study evaluating PCOMS in a group setting, statistically significant pre-post treatment gains were found for feedback when compared to TAU; however, the magnitude of change for the Slone et al. study was slightly larger than that observed in the Schuman et al. (2015) study ($d = 0.41$ vs. $d = 0.28$). The authors posited the differences might partially be attributable to use of the GSRS and length of group intervention. Participants in the Slone et al. (2015) study attended an average of 10 weekly 1.5-hour sessions compared with an average of 3.86 sessions of the same length for the Schuman et al. (2015) study. Although the results yielded a medium group effect size (Cohen, 1988), the effects of feedback in group settings appear to be more modest than from RCTs using PCOMS for individuals ($d = 0.49$ and $d = 0.54$; Reese et al., 2009) and couples therapy ($d = .50$ and $d = .54$; Anker et al., 2009; Reese et al., 2010). Results indicated more clients in the FB condition than in the TAU condition obtained reliable change (32.6% vs. 17.1%) and clinically significant change (41.9% vs. 29.3%) on the ORS. Clients in the FB condition also attended a higher number of sessions compared to those in the TAU condition (10.4 vs. 9.6). No statistically significant differences were found between treatment conditions on premature termination rates.

Various research studies have demonstrated that the use of continuous client feedback has proven effective in the reduction of premature termination and improved treatment outcomes. Significant findings such as the ones described above have resulted in the APA’s Task Force for Evidence-Based Practice in Psychology (2006) recommendation that practice include the monitoring of treatment outcomes.
Despite the documented success of client feedback systems in improving treatment outcome, a thorough search of the client feedback literature failed to identify any studies that address the use of a continuous feedback system with offenders who have been referred or coerced to attend therapy. The improved outcomes resulting from the use of a continuous client feedback system with voluntary clients, as well as the unique characteristics of work with individuals coerced to treatment, warrants an examination of the effectiveness of feedback with involuntary clients.

**Characteristics of Coerced Psychotherapy**

Two particularly salient characteristics of psychotherapeutic work with involuntary clients include the referred individual’s potential resistance to treatment and motivation for therapy. As will be reviewed below, both can undermine treatment.

**Client resistance.** The majority of authors in the field agree that involuntary clients generally enter into therapy with a greater degree of resistance than clients who seek services voluntarily (Rooney, 2009; Slonim-Nevo, 1996; Snyder & Anderson, 2009; Storch & Lane, 1989). Resistance, which is considered by Norcross (2010) to be a reaction that is characterized by high defensiveness and responding in an oppositional manner to external demands, is a potential response for any individual who is forced or coerced into a situation. Resistance, which is a barrier to the process of eliciting change in clients, is postulated to be more likely to occur when an individual perceives a loss of freedom of choice (Moyers & Rollnick, 2002). Thus, resistance frequently manifests in work with non-voluntary and legally mandated clients who potentially perceive their
freedom of choice regarding the use of treatment to have been violated. The involuntary
and resistant client is described by Storch and Lane (1989):

At the time when the mandated client appears at the Center, he is generally very
upset and agitated. He has likely just had some sort of difficulty which has
brought him to the attention of some agency of society – court, probation or
parole office, the police, child protection, school, and so forth. Generally the
agency has taken a look as the situation and has decided that “treatment” would
be an effective part of the intervention. On the basis of this decision the person is
sent to an agency, center, or clinic of one sort or another. He comes grudgingly,
angry at the authority that “remanded” him to the Center, and hardened and
reinforced in his anger and defiance. Like the apocryphal child who, as low man
in the family hierarchy kicks the dog, the mandated patient feels put upon and
aggrieved, and lashes out at the available target (p. 30).

Resistance is often considered to be a typical and fundamental response, as
opposed to an indicator of pathology, for any individual who is coerced into
psychotherapy treatment and who is consequently experiencing a perceived loss of
freedom, independence, and choice (Moyers & Rollnick, 2002; Rooney, 2009; Snyder &
Anderson, 2009; Storch & Lane, 1989). Due to the normative nature of the concept,
Rooney (2009) considers resistance to instead be a label applied by practitioners to
clients who do not behave or act to the clinician’s satisfaction. Moyers and Rollnick
(2002) echo this belief by considering resistance to be a product of the interaction
between the client’s attitudes and reaction to treatment and the clinician’s attitudes and
reactions to those of the client. Thus, resistance potentially becomes a therapist variable as well as a client variable in involuntary treatment (Moyers & Rollnick, 2002).

Several authors consider resistance to be such a normative reaction to an oppressive environment that they have renamed the term reactance in order to better capture the role the context of treatment plays in the client’s noncompliance (Beutler, Harwood, Michelson, Song, & Holman, 2011; Brehm & Brehm, 1981; Robinson & Davis-Kennington, 2002). Brehm and Brehm (1981) theorized reactance inevitably results as a means by which to counteract one’s perceived loss of autonomy and choice.

**Client motivation.** Another important client factor in involuntary psychotherapy is the client’s level of motivation, defined broadly as that which moves the client to act (Ryan, Lynch, Vansteenkiste, & Deci, 2011). Researchers in the field not only consider involuntary clients to have higher levels of resistance or reactance than voluntary clients, but also to have lower levels of motivation and initial readiness for change (Rooney, 2009; Slonim-Nevo, 1996; Snyder & Anderson, 2009; Storch & Lane, 1989). Motivation is considered to be a primary factor relevant to issues of dropout, treatment compliance, and maintenance of change in therapy (Drieschner, Lammers, & van der Staak, 2004; Overholser, 2005; Ryan & Deci, 2008). One particular model of motivation that has specific applicability to psychotherapy is the transtheoretical model, which posits behavior change occurs over time as the individual progresses through a series of stages of change (Prochaska & DiClemente, 1986; Prochaska, DiClemente, & Norcross, 1992). The “stages of change were formulated as a fundamental part of a transtheoretical therapy
model which has been developed as an integrative model of change for the fragmented field of psychotherapy” (McConnaughy, Prochaska, & Velicer, 1983, p. 368).

**Transtheoretical model of motivation to change.** The transtheoretical model of motivational readiness to change views the construct of motivation as existing along a continuum or in a spiral pattern, rather than as a dichotomy (Prochaska & DiClemente, 1986; Prochaska et al., 1992). The concept of readiness to change generally indicates a willingness of the client to adopt a particular behavior and has been conceptualized as a combination of the clients’ perceptions of the importance of the problem and the clients’ confidence in their ability to change (Miller & Rollnick, 2002; Rollnick, Mason, & Butler, 1999). Five stages of motivational readiness exist and include: (1) precontemplation (the client does not acknowledge a problem exists or is under-aware that a problem exists, and thus has no desire to change), (2) contemplation (the client is aware a problem exists and is seriously contemplating changing, but has not yet taken action), (3) preparation (the client is seriously considering changing in the next month and has perhaps taken small preparatory steps), (4) action (the client modifies her or his behavior, experiences, and/or environment), and (5) maintenance (the client works to prevent relapse). Each stage of the model specifies motivational demands “by segmenting the change process into specific tasks to be accomplished and goals to be achieved, if movement toward successfully sustained change is to occur” (DiClemente, Schlundt, & Gemmell, 2004, p. 104). Although individuals progress through the five stages at various rates, the tasks and goals of each stage of change are invariant. The stages of change (representing when people change), processes of change (representing
how people change), decisional balance, and levels of attribution (to what the client attributes the problems) are the primary components of psychotherapy and behavior change (Brogan, Prochaska, & Prochaska, 1999; Prochaska & DiClemente, 1982, 1984, 1992).

*Stages of change as predictor of treatment outcome.* Research has demonstrated that the stages of change and processes of change can reliably predict treatment outcomes in psychotherapy for a variety of presenting problems (Polaschek, Anstiss, & Wilson, 2010), as well as predict treatment attendance (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992) and treatment termination (Brogan et al., 1999). Pretreatment motivation has also been found to predict the client’s engagement and retention in treatment (Joe, Simpson, & Broome, 1998). A study conducted by Brogan et al. (1999) revealed that static client demographic characteristics (e.g. gender, age) were not significant predictors of termination or continuation of therapy, but the transtheoretical stages of change, processes of change (i.e., activities used by individuals to alter problem behaviors; Prochaska, Velicer, DiClemente, & Fava, 1988), and decision-making variables (i.e., factors that influence one’s opinions of entering into therapy) were able to reliably predict one’s therapy status. Results indicate 75%, 69.2%, and 52.2% of clients in each category were correctly classified as premature terminators, appropriate terminators, or continuers of therapy, respectively. Individuals who terminated therapy prematurely exhibited high precontemplation scores and low scores on the other stages of change. Individuals in the appropriate termination group demonstrated high scores on the action scale, while participants in the continuation group exhibited high scores on the
contemplation and maintenance scales with lower scores on the precontemplation and action scales. When the appropriate termination and therapy continuer groups were combined, results indicated 97.2% of participants were correctly classified in the composite group and 83.3% were correctly classified as premature terminators (Brogan et al., 1999).

Norcross, Krebs, and Prochaska’s (2011) meta-analysis of 39 studies revealed an effect size $d = 0.46$ for the ability of the client’s pretreatment stage of change to predict treatment outcome. The medium effect revealed by the meta-analysis indicated that the amount of client progress during treatment tends to be a function of the client’s readiness to change. The authors further analyzed the effect sizes of the stages of change based on specific diagnostic categories: eating disorders, mood disorders, and addictions. For the 14 studies predicting addiction outcomes using pretreatment readiness to change, the mean effect size was $d = 0.37$ (95% CI = 0.23-0.52, $p < .001$).

Motivation for change models and coerced clients. Research has only recently started to examine the application and utility of readiness for change models for coerced and incarcerated client samples (Hiller et al., 2009). Results of initial studies have suggested, “treatment motivation also may be a predictor of retention, engagement, and outcomes from corrections-based treatment” (Hiller et al., 2009, p. 30). Broome, Knight, Knight, Hiller, and Simpson’s (1997) study of 250 individuals on probation who were mandated by courts to a substance abuse treatment facility found that individuals’ recognition of drug related problems, as measured by client self-report and counselor ratings, was positively associated with therapeutic relationships during treatment. Good
therapeutic relationships were negatively associated with rearrest (Broom, Knight, Knight, Hiller, & Simpson, 1997). Research conducted by Hiller, Knight, Leukefeld, and Simpson (2002) with probationers mandated to residential substance abuse treatment found that clients’ desire for help and readiness for treatment were positively associated with indicators of therapeutic engagement, including higher levels of personal involvement and higher ratings of personal progress. Other research has found a significant direct relationship between client pretreatment motivation, voluntary entry into aftercare services following release from prison, and reductions in reoffending and drug use (De Leon, Melnick, Thomas, Kressel, & Wexler, 2000).

Clients falling into the precontemplation stage of the transtheoretical model of motivational readiness to change are most likely to be clients who were sent for therapy because of external pressure (i.e., force from others) (Prochaska et al., 1992). Thus, based on the previously provided descriptions of involuntary clients, most would theoretically fall into the category of precontemplation. DiClemente and Hughes (1990) have found precontemplators to be less motivated to change than are clients in the action and maintenance stages and precontemplators have also been found to be less likely to develop a strong therapeutic alliance during the course of treatment (Connors et al., 2000). Larke (1985) claims that successful work with involuntary clients is predicated on the ability of the therapist to not give up on the relationship with the client due to her or his resistance or lack of motivation. Snyder and Anderson (2009) theorize a lack of motivation is potentially a normal and expected reaction for precontemplators forced into treatment who experience a double bind when acknowledging a problem exists.
McConaughy, Prochaska, and Velicer’s (1983) initial work on the stages of change in psychotherapy produced seven major and two minor client profiles, including the Reluctance cluster. Individuals falling into this particular category generated close to average scores on Pre-Contemplation and Contemplation, with Maintenance scores falling below average and Action scores falling “extremely below average” (p.373). The authors concluded that individuals categorized in this minor cluster are unwilling to take action on the problem, although there may be some acknowledgement that a problem does, in fact, exist. Individuals in the Reluctance profile do not exhibit any commitment to change. Individuals comprising the Reluctance category were speculated to have entered into treatment because of family, employer, or legal pressures rather than for internal motivation to change. The authors hypothesized that such clients would be more likely to prematurely terminate therapy or, if they do continue, would be resistant during the treatment process.

Larke (1985) maintains motivation for treatment does exist in the involuntary client, but perhaps in a manner that is different and more vague from the motivation in the client who voluntarily seeks treatment. It is recommended that the therapist ask for what is the involuntary client motivated as opposed to whether or not the involuntary client is motivated. For example, when working with a client who was ordered to counseling for driving while intoxicated, the client’s motivation may be to simply get her or his driver’s license back after it was revoked. Though this goal or form of motivation is likely not ideal in the eyes of the clinician and the referring agency who would undoubtedly prefer more meaningful behavior change (i.e., no longer driving while
intoxicated), the client’s goal nonetheless serves as a source of motivation. Wampold et al.’s (1997) meta-analysis of outcome studies attributes 87% of improvement during therapy to client variables, which include motivation and readiness to change.

**Statement of the Problem**

Because of the strong empirical support for the use of client feedback with voluntary individuals and the unique characteristics and circumstances that underlie coerced treatment with offenders, it appears the use of a formal system for monitoring outcome and alliance would be imperative. However, as previously mentioned, a thorough search of the client feedback literature failed to find studies that have assessed the effectiveness of using a continuous client feedback system, specifically PCOMS, with a sample of offenders who have been referred to attend treatment. The aforementioned study conducted by Schuman et al. (2015) found a small-to-medium effect size ($d = 0.28$) for feedback when a modified version of PCOMS was utilized for soldiers referred to group substance abuse treatment. Based on the positive results shown with voluntary clients and the results of the Schuman et al. (2015) study with referred soldiers, it appears a study examining the effects of feedback for referred offenders would be warranted. It is hypothesized that the use of a continuous feedback system with clients referred to treatment by the criminal justice system would help to privilege their voices and provide them with a sense of power and self-determination in an environment in which they otherwise potentially experience feelings of coercion and a perceived loss of autonomy. When involuntary clients experience resistance and decreased motivation for treatment, the use of a feedback system in which their views and perceptions are prioritized could
potentially result in increased motivation and readiness for change, as well as better therapeutic outcomes. Client feedback offers the possibility of improving referred clients’ treatment motivation and readiness for change through the continuous monitoring of outcome and alliance. It is hypothesized that such a process would improve client engagement in therapy, and consequently motivation for treatment and therapeutic outcomes.

Based on the importance of the client’s perceptions of treatment outcome, it is strongly recommended that research in the field focus on the effectiveness of continuous client feedback measures with this particular population of clients. It is believed that by providing ongoing and direct feedback to the therapist, the client will experience increased treatment gains and lower rates of dropout or deterioration.

A unique opportunity exists within the Georgia State Board of Pardons and Paroles to address this particular gap in the literature. Because the Parolee Substance Use Recovery Program currently employs a continuous outcome assessment system (PCOMS) and collects data from group members during each session (via the ORS and GSRS), this study offers the possibility to add to the forensic psychological literature by evaluating the effectiveness of a substance abuse treatment program for offenders referred to attend.

**Purpose of the current study and research questions.** The purpose of the present study was to evaluate the effectiveness of an outpatient substance abuse treatment program for parolees that utilizes a continuous client feedback system as a quality improvement strategy. The current study implemented benchmarking methodology to
evaluate the effectiveness of services provided to parolees who have been referred to attend outpatient substance abuse treatment at a Georgia State Board of Pardons and Paroles counseling program that implements PCOMS.

Utilizing the most up-to-date benchmarking methodology (Minami, Serlin, Wampold, Kircher, & Brown, 2008), the present study seeks to examine the following research question: in comparison to efficacy trial benchmarks, is group psychotherapy utilizing continuous client feedback (i.e., PCOMS) effective among parolees who have been referred to attend treatment? Following guidelines presented in previous benchmarking studies (e.g., Minami, Wampold, Serlin, Kircher, & Brown, 2007), results from clinical trials will be used to construct treatment group and control group benchmarks (i.e., separate aggregated effect size estimates for clients receiving treatment or in a TAU condition, respectively). The effectiveness of group treatment provided to parolees will be evaluated by comparing the observed pre-post effect size estimate against the established efficacy benchmarks. It is hypothesized that the treatment provided to parolees in the corrections-based setting will be equivalent to treatment efficacy observed in clinical trials and superior to TAU.
Chapter Two: Method

The present study is an evaluation of the effectiveness of a group substance abuse program that incorporates continuous client feedback into treatment for parolees who have been referred to attend by the Georgia State Board of Pardons and Paroles. In this chapter, the current sample will be detailed and the procedures and treatment outcome measure will be reviewed. Benchmarking methodology, as well as the construction of the specific benchmarks, will then be described. Next, a detailed description of the data analyses, including the calculation of effect sizes and benchmarking procedures will be provided. Lastly, each hypothesis will be specified.

Design

The current naturalistic study utilized a benchmarking design to evaluate the effectiveness of a corrections-based program utilizing a continuous client feedback system with parolees who have been referred for substance abuse treatment. Benchmarking allows for the direct statistical comparison of pre-post outcome data obtained from non-controlled, naturalistic settings with rigorous and reliable outcome standards observed in single clinical trials or meta-analyses of clinical trials (Minami et al., 2007; Minami, Serlin, et al., 2008; Weersing & Weisz, 2002). Effectiveness of a particular treatment is established by assessing whether the benefits to clients in a natural setting approach the benefits obtained by clients in clinical research. Benchmarking methodology allows for this evaluation without altering any aspects of the treatment delivered in the clinical setting (Minami, Wampold, et al., 2008). The magnitude of change observed in clinical trials (efficacy studies) is used as a benchmark against which
the magnitude of change observed in the naturalistic setting is judged (Wade, Treat, & Stuart, 1998).

Benchmarking methodology from Weersing and Weisz (2002) and Minami, Serlin, Wampold, Kircher, and Brown (2008) was used to guide the present study. Methodology was advanced in several ways by the work of Weersing and Weisz (2002). The treatment being offered in the naturalistic setting was not altered during evaluation, which allowed for the results to be generalized to TAU in the same setting. The authors also utilized a benchmark effect size derived from the meta-analysis of multiple studies, as opposed to only a single or a few studies, in order to provide a more comprehensive and thorough comparison. A wait-list/control benchmark was also established in order to compare treatment to the natural history or remission of symptoms over time. Lastly, the authors evaluated whether the effect size from the naturalistic setting fell within the two-tailed 95% confidence interval of the clinical trial based benchmark effect size. This provided for a more rigorous comparison than previous methodology that simply subjectively compared the two values. A further advancement by Minami, Serlin, et al. (2008) included the use of the “good-enough principle” (Serlin & Lapsey, 1985, 1993), which establishes a relevant margin between the effect size from the naturalistic setting and the established benchmark. This statistical criterion for equivalence prevents one from obtaining statistical significance with clinically trivial differences. The aforementioned advances in methodology have allowed for the analysis of other data sets, including the one utilized for the present study.
Effect size (ES) estimates were calculated for the present sample of referred offenders and then compared against benchmarks (i.e., TAU and ITT) constructed from clinical trials examining the efficacy of continuous client feedback. Effectiveness studies are conducted in naturalistic settings with effects for pre-post change typically being based on all clients in treatment, as opposed to only those who completed treatment. Thus, the conditions are more comparable to ITT ESs from efficacy research, which include all participants who were initially randomized into conditions and not just those who completed the treatment protocol (i.e., treatment completers). Additionally, because naturalistic settings rarely offer the opportunity for comparisons to a no-treatment control group, due to practical and ethical reasons, the use of a treatment as usual group benchmark will allow for effectiveness testing with a comparison group (Minami et al., 2007).

**Procedures**

The Institutional Review Board (IRB) at the University of Kentucky approved the present study through an expedited review process on June 24, 2015. The Georgia State Board of Pardons and Paroles (GSBPP), which contracts with Spectrum Health Systems (SHS), a private, not-for-profit organization that provides mental health and substance abuse services, provided pre-existing treatment outcome data. Through their partnership, the GSBPP and SHS provide weekly outpatient group psychotherapy for individuals across the state of Georgia who have been referred by the criminal justice system to substance abuse treatment (risk-based referral from the individual’s parole officer). Individuals who are referred to treatment attend an initial 90-minute intake group session
referred to as Motivation Assessment and Planning (MAP). During the initial session, group members assess personal risk and need factors, as well as set goals and tasks for the remaining sessions. Following completion of the initial session, the individual is placed in a Recovery Action and Progress (RAP) group that meets weekly for 60 minutes. RAP groups, which include a maximum of 10 participants, are based upon the “what works (i.e., evidence-based practices)” literature for offender rehabilitation. Groups are cognitive-behavioral in design and consist of motivational assessment and planning. Sessions focus on discussing and processing one’s progress, goals, resources, and barriers. In order to successfully complete the Parolee Substance Use Recovery Program, participants must attend at least six consecutive RAP group sessions and obtain at least two consecutive negative drug screens. SHS included PCOMS in the treatment of all parolees involved in this study.

Treatment providers utilized PCOMS comprehensively across the state, administering the ORS at the commencement of each session and the GSRS at the conclusion of each session. Group leaders were trained in administration of the measures via a 6-8 hour in-person training and follow-up PCOMS webinars. In regards to continuous quality improvement strategies, clinicians received written feedback from a clinical supervisor who observed a group session. Observations were conducted in order to help ensure fidelity to PCOMS protocol, as well as to address any concerns or questions regarding group administration or use of the feedback system. Feedback occurred quarterly to annually, depending on the clinicians’ experience and competence
(as deemed by the supervisor). Clinicians ($N = 55$) were predominantly female (81.8%). No additional information was provided regarding clinicians’ demographics.

**Participants**

For the present study, SHS and the GSBPP granted permission for data analysis of parolees who attended substance abuse treatment across the state of Georgia between October 2014 and January 2015. The initial dataset included 3,250 cases, to which the following deletions were made: (a) 944 cases in which only one session was attended, thus not allowing for the calculation of a pre-post change score, (b) 577 cases in which the individuals started treatment too late during the time period to complete the requirements, (c) 607 cases in which the individuals started treatment prior to the time period for which data was provided, thus an initial (pretest) score was not available, and (d) ten cases in which the individuals were discharged from the program by the parole officer (due to a transfer or the completion of the parole term). In order to be included in the analysis, the individual had to attend at least two sessions, with the first being the MAP intake session, in order to calculate a pre-post change score. Of the 607 cases in which treatment was started prior to the time period for which data were provided, 269 cases included a REC 1 score, but not a MAP score. Please see the Preliminary Analyses section of the Results chapter for a comparison regarding ORS scores for those with a MAP score at pretest and those with a REC 1 score at pretest. Consistent with guidelines utilized by Reese, Duncan, Bohanske, Owen, and Minami (2014), if clients re-entered treatment, only the first observation was included in analyses. As some benchmarking studies only utilized clients in analyses who had an initial intake score in the clinical
range (e.g., Minami et al., 2009; Stiles, Barkham, Connell, & Mellor-Clark, 2008), the present study included clients whose functioning at intake (i.e., the MAP session) was in the non-clinical range. This was consistent with methodology utilized by Reese et al. (2014) and allowed for the data set to be more representative of individuals referred for treatment in the Parolee Substance Use Recovery Program.

After the aforementioned deletions were made, the final dataset contained 1,112 individuals. Please see Table 1 for complete sociodemographic information of the present sample. The majority of individuals in the final dataset were African American (49.6%), male (82.9%), employed (54.1%), unmarried (65.9%), and ranged in age from 18 to 68 years ($M = 35.42, SD = 10.22$). Additionally, in regards to education, the majority of participants had at least completed high school or obtained a GED (45.0%). Of those who had not yet completed high school or obtained a GED, 84.80% ($n = 385$) had completed at least the ninth grade. Parolees were conditionally released from incarceration to serve the remainder of the sentence in the community. Of those individuals included in the final dataset, 34.9% had been incarcerated for a drug related offense (i.e., drug possession, possession with intent to distribute, drug trafficking, sale/distribution of a controlled substance), making it the most common offense category.

All individuals included in the present study participated in the Parolee Substance Use Recovery Program between October 2014 and January 2015. Of those who participated in treatment, 48.9% ($n = 544$) successfully completed the program (i.e., attended at least six consecutive group therapy sessions and obtained at least two consecutive negative drug screens). Individuals who had to restart the program due to a positive drug screen ($n$
= 155), primarily tested positive for marijuana (69.03%), with cocaine (16.13%) and methamphetamine (14.84%) being the next two most common substances identified; 23.23% tested positive for more than one substance.
Table 1

*Client Demographic Information*

<table>
<thead>
<tr>
<th></th>
<th>Full sample ((N = 1,112))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (M (SD, \text{Range}))</td>
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</tr>
<tr>
<td>Sex</td>
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</tr>
<tr>
<td>Male (n %()</td>
<td>922 (82.9)</td>
</tr>
<tr>
<td>Female (n %()</td>
<td>99 (8.9)</td>
</tr>
<tr>
<td>Sex Unknown (n %()</td>
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</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>African American (n %()</td>
<td>551 (49.6)</td>
</tr>
<tr>
<td>Euro-American (n %()</td>
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<tr>
<td>Latino(a)/Hispanic (n %()</td>
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</tr>
<tr>
<td>Other Ethnicity (n %()</td>
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<td>Unknown Race/Ethnicity (n %()</td>
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</tr>
<tr>
<td>Employment Status</td>
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</tr>
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</tr>
<tr>
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<tr>
<td>Marital Status</td>
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<tr>
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<tr>
<td>Widowed (n %()</td>
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<tr>
<td>Marital Status Unknown (n %()</td>
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Education (Highest Level Completed)
### Table 1 Continued

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<td>High School/GED n (%)</td>
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<td>(35.9)</td>
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<td>Completed Technical Degree n (%)</td>
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<td>Some College n (%)</td>
<td>83</td>
<td>(7.5)</td>
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<tr>
<td>Bachelor’s Degree n (%)</td>
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<td>(0.4)</td>
</tr>
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<td>Education Unknown n (%)</td>
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<td>(14.2)</td>
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</table>

#### Major Offense

<table>
<thead>
<tr>
<th>Offense</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Related Offenses</td>
<td>389</td>
<td>(35.0)</td>
</tr>
<tr>
<td>Violent Offenses (not previously included)</td>
<td>168</td>
<td>(15.1)</td>
</tr>
<tr>
<td>Burglary Offenses</td>
<td>143</td>
<td>(12.9)</td>
</tr>
<tr>
<td>Theft Offenses</td>
<td>106</td>
<td>(9.5)</td>
</tr>
<tr>
<td>Weapons Offenses</td>
<td>62</td>
<td>(5.6)</td>
</tr>
<tr>
<td>Robbery Offenses</td>
<td>55</td>
<td>(4.9)</td>
</tr>
<tr>
<td>Interference/Obstruction/Fleeing Offenses</td>
<td>45</td>
<td>(4.0)</td>
</tr>
<tr>
<td>Fraud/Forgery/Financial Offenses</td>
<td>37</td>
<td>(3.3)</td>
</tr>
<tr>
<td>Other Offenses</td>
<td>12</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Unknown Offense</td>
<td>95</td>
<td>(8.6)</td>
</tr>
</tbody>
</table>
Measure

**Outcome Rating Scale (ORS).** The ORS (Miller & Duncan, 2000; see Appendix A) is an ultra-brief self-report outcome measure that is to be administered to the client at the beginning of each session in order to assess client progress throughout the course of therapy. The client is asked to place a hash mark on each of four different ten-centimeter visual analog lines to indicate her or his level of well-being or distress over the past week on each domain. Marks to the left of the visual analog line indicate more distress or less well-being on the particular domain, while marks to the right of the visual analog line indicate less distress or more well-being on the domain. Three of the domains of client functioning, which were derived from the OQ-45 (Lambert et al., 1996), include “Individually” (the client’s view of her or his personal well-being or symptomatic distress), “Interpersonally” (relational distress or the client’s satisfaction with close relationships), and “Socially” (the client’s view of work/school and relationships outside of the home). An “Overall” (general sense of well-being) scale was also included on the ORS. The recorded distance for each of the four domains is then measured to the nearest millimeter, totaled, and charted on a graph (see Appendix B). Total scores can range from 0 to 40. Once the score has been totaled and recorded, the clinician can then discuss the marks, as well as any changes in scores, with the client. The measure is available in paper-and-pencil or electronic format, as well as in multiple languages.

In order to attribute increases in ORS scores over time to therapy, the difference between any two measurements must exceed the reliable change index (RCI; Jacobson & Truax, 1991). The RCI is a statistical formula that calculates the amount of change.
needed for results not to be attributable to chance or to the expected normal maturation of the client. An analysis of over 400,000 administrations of the ORS determined the RCI to be 6 points (Duncan, 2014). Utilizing a clinical sample \((n = 435)\) and a nonclinical community sample \((n = 86)\), the clinical cutoff for the ORS was determined to be 25 (Miller, Duncan, Brown, Sparks, & Claud, 2003). Any score falling below the cutoff of 25 is indicative that the client has responded to the items in a manner that is similar to other individuals seeking therapy (Miller & Duncan, 2004). Thus, in order to achieve clinically significant change, a client must begin treatment with an ORS score of less than 25, improve by a minimum of six points, and complete treatment with an ORS score equal to or greater than 25.

Empirical evidence for the reliability and validity of scores generated by the ORS has been provided in four psychometric studies (Bringhurst, Watson, Miller, & Duncan, 2006; Campbell & Hemsley, 2009; Duncan, Sparks, Miller, Bohanske, & Claud, 2006; Miller et al., 2003), in addition to the PCOMS manual (Duncan, 2011; Miller & Duncan, 2004). Across studies, Cronbach’s alpha \((\alpha)\) coefficients for ORS scores averaged .85 for clinical samples and .95 for non-clinical samples (Gillaspy & Murphy, 2011). Three studies (Bringhurst et al., 2006; Campbell & Hemsley, 2009; Miller et al., 2003) have evaluated the concurrent validity of the ORS by comparing scores to the OQ-45 (Lambert et al., 1996), a more established outcome assessment. The average bivariate correlation between the scores was .62 (range .53 to .75), indicating moderately strong concurrent validity (Gillaspy & Murphy, 2011). Additionally, ORS scores have been found to be
sensitive to change for individuals in clinical samples, yet stable over time for those in nonclinical samples (Bringhurst et al., 2006; Duncan et al., 2006; Miller et al., 2003).

Feasibility in clinical practice is also an important factor to examine when considering the utility of a measure. The ORS was developed to address several concerns with the OQ-45, including the length of time required to administer and score the measure (Duncan, Miller, & Sparks, 2004). Miller, Duncan, Brown, Sparks, and Claud (2003) evaluated the feasibility of the ORS by comparing clinicians’ compliance rates for utilization of the ORS and the OQ-45 across two sites. After a period of 12 months, the compliance rate for the OQ-45 was 25%, while that for the ORS was 89%.

For the present study, a modified scoring procedure was utilized for the ORS. Treatment providers were trained and instructed to measure each visual analog line of the scale to the nearest centimeter, as opposed to millimeter, which resulted in a whole number score. The PCOMS trainer implemented this procedure for simplicity during scoring and recording of the measures. One additional study has utilized a modified administration and scoring of the measure (Miller et al., 2006). The authors evaluated the use of PCOMS with a large sample (N = 6,424) of diverse clients who received treatment via a telephonic-based employee assistance program (EAP). The ORS was administered orally, as opposed to the typical paper/pencil or electronic formats, due to the nature of the services being provided (i.e., telephonically). Clients were asked to orally provide a rating from one to ten for each subscale of the ORS. Client outcomes were compared between a FB condition and a benchmark TAU condition. Results revealed that effect sizes for individual therapy doubled from the baseline period to the final evaluation
period, increasing from $d = 0.37$ to $d = 0.79$ when PCOMS with a signal alarm system was implemented. While information regarding the reliability of ORS scores for this sample was not provided, an independent analysis of a sample of $n = 15,778$ from the EAP produced a Cronbach’s alpha ($\alpha$) coefficient of .79. Additionally, test-retest reliability at the second administration of the ORS with a sample of $n = 1,710$ was .53.

**Benchmarking Methodology**

According to Minami, Serlin, et al. (2008), benchmarking allows for effectiveness to be established by comparing whether the benefits obtained by clients in clinical practice approach the benefits obtained by clients in controlled research studies. As practice-based observational research does not generally allow for the comparison of treatment groups to a control group, benchmarking techniques were developed to compare routinely monitored outcomes from clinical settings with reliable outcome standards observed in clinical trials. The most up-to-date benchmarking methodology, which is increasingly being employed in effectiveness studies, was utilized in the present study (see Minami et al., 2009; Minami, Wampold, et al., 2008; Minami et al., 2007; Reese, Duncan, Bohanske, Owen, & Minami, 2014 for examples).

According to Minami, Serlin, et al. (2008), the three steps required in the benchmarking methodology are as follows: (a) construct the pre-post treatment benchmarks (i.e., ESs) from clinical trials, including benchmarks for wait-list controls or TAU groups and for those who started but did not complete treatment (i.e., intent-to-treat), (b) estimate the effectiveness of the sample being evaluated using pre-post effect
sizes, and (c) statistically compare the ES estimates from the current sample (i.e., parolees referred to treatment) with those benchmarks established from the clinical trials.

Advancing on the existing benchmarking methodology, Minami, Serlin, et al. (2008) included use of the “good-enough principle” (Serlin & Lapsley, 1985, 1993), which allows for statistical testing with a range-null hypothesis, as opposed to a point-null hypothesis, in order to prevent rejection due to a large N (i.e., Type I error). Because increases in sample size can lead to increases in statistical power, using a point-null hypothesis test could potentially result in any difference from 0 being found statistically significant (Serlin & Lapsley, 1985, 1993). Thus, in order to appropriately and more rigorously interpret comparisons, critical values will need to be calculated to statistically determine whether the treatment ES estimate obtained from the naturalistic setting is comparable to the efficacy benchmarks or greater than the waitlist control/TAU benchmarks (Minami et al., 2007). Borrowing from previous benchmarking studies in which a large sample was analyzed (Minami et al., 2009; Minami, Wampold, et al., 2008; Reese et al., 2014), an a priori margin of difference of 10% was utilized. Any differences between the naturalistic setting’s ESs and the respective benchmarks that are within 10% of the benchmarks (90-110%) would be considered statistically trivial (i.e., fail to reject the null hypothesis) using a Type I error rate of $\alpha = .05$.

As opposed to a traditional point-null hypothesis (e.g., $H_0: \delta_{SURP} = \delta_{ITT}$, where $\delta_{SURP}$ is the true ES of the Parolee Substance Use Recovery Program (SURP) and $\delta_{ITT}$ represents the true treatment efficacy benchmark from the intent-to-treat (ITT) samples of the clinical trials), a range-null hypothesis ($H_0: \delta_{SURP} \leq \delta_{ITT} - 10\%$) is used, which
follows a non-central \( t \)-distribution (Serlin & Lapsley, 1985; 1993). Critical values were calculated in order to statistically compare the ESs of the current Substance Use Recovery Program sample to the computed clinical trial benchmark ESs. For example, a critical value is calculated for the lower bound of the 90-110% range of the clinical trial benchmark ES at \( d_{\text{ITT}} - 10\% \). Thus, the null hypothesis should not be rejected if the difference is within 10%, while also maintaining an overall Type I error rate of \( \alpha = .05 \). Specifically, if the Substance Use Recovery Program ES falls at or above 90% of the benchmark from clinical trials (i.e., benchmark minus 10%), the ES from the present sample can be considered clinically equivalent to the clinical trial benchmark. For comparison against the TAU benchmarks, if the Substance Use Recovery Program ES falls within 110% of the TAU benchmarks (i.e., benchmark plus 10%), the Substance Use Recovery Program ES will be considered clinically equivalent to TAU. In order to claim the ES estimate was superior to TAU, the ES will need to exceed 110% of the TAU benchmark, while also maintaining an overall Type I error rate of \( \alpha = .05 \).

**Construction of benchmarks.** Pre-post benchmarks have been constructed from as little as one RCT (e.g., Lee, Horvath, & Hunsley, 2013), two RCTs (e.g., Merrill, Tolbert, & Wade, 2003; Wade et al., 1998), three RCTs (e.g., Curtis, Ronan, Heiblum, and Crellin, 2009; Reese et al., 2014), or several RCTs (e.g., Weersing & Weisz, 2002). Once selected for use in constructing the benchmark, clinical trials are combined using standard meta-analytic procedures (e.g., Becker, 1988; Hedges and Olkin, 1985). Two sets of benchmarks were constructed for the present study: (a) benchmarks from two RCTs utilizing PCOMS in a group setting and (b) benchmarks from all six PCOMS
RCTs (studies examining individuals, couples, and groups). Each set of benchmarks includes an efficacy benchmark from the pre-post treatment outcomes of RCT FB treatment groups, as well as a comparison benchmark from the pre-post scores of the RCT TAU condition.

One primary consideration in the selection of clinical trials for inclusion in constructing the benchmarks is the use of studies that employ comparable or equivalent outcome measures. When selecting specific outcomes to aggregate among multiple measures used in the studies, one must consider the matching of reactivity and specificity both among and between the clinical trials. Because clinical trials may favor the use of certain outcome measures that are not necessarily feasible to implement in naturalistic settings, it becomes important to match the outcomes used for constructing the benchmark and for assessing treatment effectiveness on these two criteria. Reactivity primarily pertains to and is determined by who reported the outcomes; this may be a clinician, the client, or an independent rater. Outcomes measured by the client will have low reactivity, while those measured by an observer will have higher reactivity. Specificity refers to the extent to which an outcome measure assesses symptoms specific to a particular diagnosis as opposed to global functioning. Diagnosis-specific measures are high in specificity, while measures of more broad symptoms of global distress are low in specificity (Minami et al., 2007). The ORS, which is a self-report measure of overall functioning and was the outcome measure utilized by the Parolee Substance Use Recovery Program, is considered low in reactivity and low in specificity (LR-LS). Constructing the feedback benchmarks from RCT studies that employed the ORS as the
outcome measure and that utilized similar client feedback processes allowed for a more
direct comparison between the clinical trial data and the naturalistic setting data. Thus,
the use of PCOMS RCT studies helped to negate the concerns that can arise when
measures are not matched on reactivity and specificity.

Client feedback benchmarks. As there are at present no existing studies on the
use of continuous client feedback with offenders referred to treatment, the benchmarks
constructed for client feedback were derived from the best effort of equivalence. Given
this particular gap in the literature, client feedback benchmarks were constructed from the
existing RCTs utilizing PCOMS (Anker et al., 2009; Reese et al., 2009; Reese et al.,
2010; Schuman et al., 2015; Slone et al., 2015), as they permitted a direct comparison to
the outcome measure utilized in the present sample. As some of the aforementioned
studies were conducted with individuals (Reese et al., 2009) and couples (Anker et al,
2009; Reese et al., 2010), two separate sets of benchmarks were constructed for client
feedback. The first set of benchmarks contained only those studies using PCOMS in a
group setting (Schuman et al., 2015; Slone et al., 2015), while the second set of
benchmarks was constructed from all six existing RCT PCOMS studies. Each set of
benchmarks contained one for the FB conditions and one for the TAU conditions. Please
see Table 2 and Table 3 for the reported means and standard deviations of the studies that
were utilized in the construction of the PCOMS FB benchmarks and PCOMS TAU
benchmarks, respectively.
Table 2

*Studies Utilized for Construction of PCOMS FB Benchmarks*

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<thead>
<tr>
<th>Study</th>
<th>Type</th>
<th>N</th>
<th>Pretest M</th>
<th>SD</th>
<th>Post-test M</th>
<th>SD</th>
<th>d</th>
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<tbody>
<tr>
<td>Anker et al. (2009)</td>
<td>Couple</td>
<td>206</td>
<td>18.08</td>
<td>7.85</td>
<td>26.35</td>
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<td>45</td>
<td>18.68</td>
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<td>54</td>
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<td>Schuman et al. (2015)*</td>
<td>Group</td>
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<td>10.01</td>
<td>28.28</td>
<td>9.46</td>
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<tr>
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<td>Group</td>
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<td>23.47</td>
<td>7.86</td>
<td>30.87</td>
<td>6.49</td>
<td>0.43</td>
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</tbody>
</table>

*Notes. FB = feedback; N = sample size; d = [1 - (3/4n - 5)] [Mpost - Mpre/SDpre]; M = Mean; SD = Standard Deviation; ORS = Outcome Rating Scale; * = study utilized for construction of PCOMS group setting benchmark.*
<table>
<thead>
<tr>
<th>Study</th>
<th>Type</th>
<th>N</th>
<th>Pretest $M$</th>
<th>Pretest $SD$</th>
<th>Post-test $M$</th>
<th>Post-test $SD$</th>
<th>$d$</th>
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<tbody>
<tr>
<td>Anker et al. (2009)</td>
<td>Couple</td>
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<td>18.58</td>
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<td>Individual</td>
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<td>29</td>
<td>19.64</td>
<td>6.46</td>
<td>24.33</td>
<td>7.51</td>
<td>0.70</td>
</tr>
<tr>
<td>Reese et al. (2010)</td>
<td>Couple</td>
<td>38</td>
<td>24.03</td>
<td>9.47</td>
<td>27.67</td>
<td>9.53</td>
<td>0.37</td>
</tr>
<tr>
<td>Schuman et al. (2015)*</td>
<td>Group</td>
<td>126</td>
<td>20.43</td>
<td>9.56</td>
<td>24.57</td>
<td>10.30</td>
<td>0.43</td>
</tr>
<tr>
<td>Slone et al. (2015)*</td>
<td>Group</td>
<td>41</td>
<td>22.02</td>
<td>7.06</td>
<td>27.26</td>
<td>6.85</td>
<td>0.73</td>
</tr>
</tbody>
</table>

**Notes.** TAU = treatment as usual; $N$ = sample size; $d = [1 - (3/4n - 5)] [M_{post} - M_{pre}/SD_{pre}]$; $M$ = Mean; $SD$ = Standard Deviation; ORS = Outcome Rating Scale; * = study utilized for construction of PCOMS group setting benchmark.
**Offender treatment benchmarks.** A systematic search of the literature was conducted utilizing the Academic Search Complete, MEDLINE, Psychology and Behavioral Sciences Collection, PsycINFO, and Sociological Collection databases. Keywords utilized in the search included *group psychotherapy, group therapy, group counseling, inmate, offender, prison, prisoner, parole, parolee, substance use, substance use disorder,* and *substance abuse.* Results were limited to scholarly/peer-reviewed articles published since 2000. The aforementioned search parameters resulted in 84 distinct articles. Studies were excluded if they did not use a RCT design, did not employ a comparable outcome measure (LR-LS) assessing global functioning, did not focus on outpatient group substance abuse treatment for adults, and did not provide means and standard deviations for the entire (i.e., ITT) sample in order to calculate ESs. Additionally, studies were excluded if they focused on adolescents or female offenders only, as the present sample was primarily composed of adult males, or if they focused on a specific type of offense (e.g., sex offenses, domestic violence offenses). The systematic search of the extant clinical trial literature did not result in any RCT studies that met criteria for inclusion in construction of the offender substance abuse treatment benchmark.

The literature search did result in one meta-analytic synthesis of research on the effect of incarceration-based drug treatment on recidivism (Mitchell, Wilson, & MacKenzie, 2007). The reference list of this article was examined for any additional studies that could potentially meet inclusion criteria; no studies were found. One additional meta-analysis was found that examined the effects of CBT therapy for
substance abuse (Magill & Ray, 2008). This analysis was examined for possible inclusion; however, outcomes utilized were related to substance use reduction (e.g., days abstinent, rate abstinent, days used), not general well-being. Additionally, Taxman’s (2011) chapter from Leukefeld, Gullotta, and Gregrich’s (2011) text on evidence-based substance abuse treatment in criminal justice settings was examined for potential studies for inclusion that focus on parole samples. Of the studies noted in the overview of existing literature for parolee substance abuse treatment, only one (Burke, Arkowitz, & Menchola, 2003) noted outcomes other than substance use, crime reduction, treatment utilization, or treatment retention. As such, Burke, Arkowitz, and Menchola’s (2003) meta-analysis was examined for possible inclusion as a comparison benchmark. However, the study only included clinical trials of therapy delivered in an individual, as opposed to group, format.

Based on the paucity of research meeting the aforementioned inclusion criteria, the literature search was modified to include general group therapy for offenders, as opposed to specifically substance abuse group treatment. A systematic search of the literature was conducted using the aforementioned databases and the following keywords: group counseling, group therapy, group psychotherapy, offender, parole, inmate, prisoner, well-being, outcome, and efficacy. The aforementioned search parameters resulted in 142 distinct articles. Similar exclusion criteria were employed, with the exception of a focus on substance abuse treatment. The systematic literature search again resulted in zero RCT studies for use in construction of the offender treatment benchmark. However, the search did result in two systematic reviews of group treatment for
offenders; these articles were examined for studies meeting inclusion criteria. The reviews conducted by Morgan and Flora (2002) and Duncan, Nicol, Ager, and Dalgleish (2006) were examined, as were the reference lists from the articles. The reviews did not include only RCT studies; the RCT studies that were included in the analyses were examined for possible use in construction of a benchmark. However, no comparable RCT studies were found.

**Client feedback benchmark effect size calculations.** After the selection of RCT studies for inclusion, the following client feedback benchmarks were calculated: (a) FB ITT samples from two PCOMS group studies, (b) TAU from two PCOMS group studies, (c) FB ITT from all six PCOMS studies, and (d) TAU from all six PCOMS studies. Following the guidelines of Minami, Serlin, et al. (2008), for each clinical trial \( i \), the unbiased pre-post Cohen’s \( d \) ES estimate was calculated using the formula

\[
d_i = \left(1 - \frac{3}{4n_i - 5}\right) \frac{M_{i,\text{post}} - M_{i,\text{pre}}}{SD_{i,\text{pre}}}
\]

where \( n_i \) is the sample size, \( M_{i,\text{post}} \) is the post-treatment mean of the measure, \( M_{i,\text{pre}} \) is the pretreatment mean of the measure, and \( SD_{i,\text{pre}} \) is the pretreatment standard deviation.

Following the calculation of individual ES estimates \( d_i \) for each study, they were aggregated across clinical trials to produce a single ES value that served as the benchmark. ES estimates were aggregated using the meta-analytic formula and guidelines specified in Minami, Serlin, et al. (2008). Specifically, the variance of each RCT \( d_i \) is estimated by the formula

\[
\hat{\sigma}^2_{d_i} = \frac{2(1-r_i)}{n_i} + \frac{d_i^2}{2n_i}
\]
where \( n_i \) is the sample size, \( d_i \) is the ES estimate, and \( r_i \) is the estimated correlation between the pretreatment and post-treatment scores of the outcome measure (Becker, 1988).

After the ESs \( d_i \) are calculated for each study, they are aggregated into a single value which will serve as the benchmark ES using the formula

\[
d_B = \frac{\sum_i \frac{d_i}{\sigma_d(i)}}{\sum_i \frac{1}{\sigma_d(i)}},
\]

where the value of \( d_B \) is considered fixed. Four feedback benchmarks were constructed: Aggregated treatment ES were calculated for the FB \( (d_{FBgrp} = 0.65) \) and TAU \( (d_{TAUgrp} = 0.50) \) samples from the two PCOMS group RCTs and for the FB \( (d_{FBall} = 0.91) \) and TAU \( (d_{TAUall} = 0.48) \) samples from all six PCOMS RCTs. Please see Table 4 for the client feedback effect size comparisons.
Table 4

*Effect Size Comparisons for Client Feedback Studies*

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>d</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Study</td>
<td>1,112</td>
<td>0.59</td>
<td>[0.52, 0.66]</td>
</tr>
<tr>
<td>PCOMS group studies</td>
<td>180</td>
<td>0.65</td>
<td>[0.46, 0.84]</td>
</tr>
<tr>
<td>All PCOMS studies</td>
<td>535</td>
<td>0.92</td>
<td>[0.80, 1.04]</td>
</tr>
</tbody>
</table>

*Notes. Six total studies were evaluated for comparison; two evaluated group treatment. PCOMS = Partners for Change Outcome Management System; N = sample size; d = [1 - (3/4n - 5)] [(Mpost - Mpre)/SDpre]; M = Mean; CI = confidence interval.*
Critical value calculation. Because increases in sample size can lead to increases in statistical power, using a point-null hypothesis test could potentially result in any difference from zero being found statistically significant (Serlin & Lapsley, 1985, 1993). Thus, in order to appropriately interpret comparisons using a range-null hypothesis while maintaining an overall Type I error rate of \( \alpha = .05 \), critical values were calculated. Following Minami, Serlin, et al. (2008), the benchmarking hypotheses rely on a 95\(^{th}\) percentile test statistic (e.g., \( t_{(FB)} \nu,\lambda:95 \) and \( t_{(TAU)} \nu,\lambda:95 \)), which follows a non-central \( t \) distribution with \( \nu = N – 1 \) degrees of freedom and a noncentrality parameter \( \lambda = \sqrt{N(d_{FB} – 10\%)} \) or \( \lambda = \sqrt{N(d_{TAU} + 10\%)} \). The critical values for the feedback-related benchmarks were determined by a normal approximation of the distribution and resulted in \( (d_{cv(FBgrp)} = 0.64) \) and \( (d_{cv(TAUgrp)} = 0.60) \) for only the PCOMS group studies and \( (d_{cv(FBall)} = 0.89) \) and \( (d_{cv(TAUall)} = 0.58) \) for all PCOMS studies. In other words, the critical values for the FB condition ESs are based on the lower bound of the 10 percent range of clinical equivalence, while the critical values for the TAU condition ES are based on the upper bound of the 10 percent range of clinical equivalence.

Data Analysis

Means, standard deviations, and ESs were calculated for the full sample by study sample characteristics, including sex and ethnicity (see Table 5).

Effect size calculation. The pre-post ES (Cohen’s \( d \)) was calculated for the full sample using baseline (i.e., MAP score), endpoint (last observation), and standard deviation from client ORS scores. Consistent with the ES calculation for clinical trials that was previously noted, the formula...
was used to calculate the unbiased ES estimates for the full Substance Use Recovery Program sample, where \( n \) is the sample size, \( M \) is the mean of the measure, and \( SD \) is the standard deviation. The calculation of the ES for the naturalistic setting sample allowed for comparison to the published efficacy studies in the benchmark ESs. The variance of the current sample was also estimated and reported using

\[
\hat{\sigma}_d^2 \approx \frac{2(1-r_i)}{n_i} + \frac{d_i^2}{2n_i}
\]

where \( r_i \) is the estimated correlation between the pre- and post-treatment scores of the outcome measure (Becker, 1988). The Pearson product-moment correlation coefficient for the present sample was calculated (\( r = 0.278 \)). As noted in Minami, Serlin, et al. (2008), the value utilized in the aggregation of effect sizes would also be utilized in the calculation of the variance of the current sample.

**Benchmarking analyses.** Lastly, benchmarking analyses were conducted. As previously mentioned, range-null hypotheses were utilized to compare the ES from the present sample (i.e., the Parolee Substance Use Recovery sample) to the selected clinical trial benchmarks. Range-null hypotheses were utilized, as the use of point-null would have likely led to the false rejection of the hypotheses due to large sample sizes (i.e., Type I error). As increases in sample size can lead to increases in statistical power, the use of a point-null hypothesis could potentially result in any difference from zero being found statistically significant (Serlin & Lapsley, 1985, 1993). Thus, range-null hypotheses with an *a priori* 10% margin of difference were utilized to more rigorously
compare the Substance Use Recovery Program sample with the established benchmarks. The range-null hypothesis follows a non-central \( t \) statistic (Serlin & Lapsley, 1985, 1993) and a normal distribution in approximated. Critical values associated with each benchmark, which represented the 95th percentile value of the non-central \( t \)-distribution, were calculated and employed (see detailed description above) in order to compare ESs. Clinical significance testing using the 10% margin of difference that surrounds the efficacy trial benchmarks and statistical testing that maintained an overall Type I error rate of \( \alpha = .05 \) allowed for appropriate evaluation and comparison of the effectiveness of the Substance Abuse Recovery Program with established clinical trials.

**Benchmarking against client feedback conditions.** In order for the Substance Use Recovery Program sample ES to be considered clinically equivalent to the ITT feedback efficacy benchmark for the PCOMS group studies \( d_{CV(FBgrp)} \), the present sample ES needs to exceed the critical value

\[
d_{CV(FBgrp)} = \frac{t_{v,\lambda;95}}{\sqrt{N}},
\]

where \( t_{v,\lambda;95} \) is the 95\(^{th} \) percentile value of the non-central \( t \) distribution and \( \lambda = \sqrt{N}(d_{CV(FBgrp)} - 10\%) \) is the noncentrality parameter. Similarly, in order for the Substance Use Recovery Program sample ES to be considered clinically equivalent to ITT feedback efficacy benchmark for all PCOMS studies \( d_{CV(FBall)} \), the present sample ES needs to exceed the critical value

\[
d_{CV(FBall)} = \frac{t_{v,\lambda;95}}{\sqrt{N}},
\]
where \( t_{v,\lambda;95} \) is the 95\(^{th}\) percentile value of the non-central \( t \) distribution and 
\[
\lambda = \sqrt{N(d_{CV(FB\text{all})} - 10\%)} 
\]
is the noncentrality parameter.

**Benchmarking against treatment-as-usual conditions.** Significance testing for comparison of the Substance Use Recovery Program ESs to the TAU conditions efficacy trial ESs is similar to the procedures outlined above; however, in regards to the non-centrality parameter, -10\% in the formula is replaced with +10\%. As such, the Substance Use Recovery Program sample ES estimate is considered statistically and clinically equivalent to a TAU condition in client feedback efficacy trials if it does not statistically significantly exceed the TAU benchmark at the 10 percent critical value. Comparisons were made to the TAU conditions from only the group PCOMS studies and the TAU conditions from all PCOMS studies.

**Research Hypotheses**

There are four primary hypotheses for the present study. For the first two, it was hypothesized that the treatment outcomes for the Substance Use Recovery Program would be (a) clinically equivalent to efficacy outcomes observed in the feedback treatment conditions of the group only PCOMS studies and (b) clinically equivalent to the efficacy outcomes observed in the feedback treatment conditions of all PCOMS studies. For the second two, it was hypothesized that the treatment outcomes for the current sample would be (a) clinically superior to the efficacy outcome observed in the TAU conditions of the group only PCOMS studies and (b) clinically superior to the efficacy outcomes observed in the TAU conditions of all PCOMS studies.
**Hypothesis one.** Utilizing range-null hypothesis testing guidelines from Serlin and Lapsley (1985, 1993) that were illustrated in Minami, Serlin, et al. (2008), when \(\delta_{\text{SURP}}\) is the true population ES estimate of the Substance Use Recovery Program (SURP) full sample (in Cohen’s \(d\)), \(\delta_{\text{FBgrp}}\) is the true population client feedback efficacy benchmark from the PCOMS group studies (in Cohen’s \(d\)), and 10% is the maximum difference allowed to claim clinical equivalence, the range null and alternative hypotheses are:

\[
H_0 : \ delta_{\text{SURP}} \leq \delta_{\text{FBgrp}} - 10\%
\]

\[
H_1 : \ delta_{\text{SURP}} > \delta_{\text{FBgrp}} - 10\%.
\]

**Hypothesis two.** Similar to hypothesis one, utilizing the guidelines for range-null hypothesis testing that were outlined by Serlin and Lapsley (1985, 1993) and illustrated by Minami, Serlin, et al. (2008), when \(\delta_{\text{SURP}}\) is the true population ES of the present full sample (in Cohen’s \(d\)), \(\delta_{\text{FBall}}\) is the true population client feedback efficacy benchmark from all PCOMS studies (in Cohen’s \(d\)), and 10% is the maximum difference allowed to claim clinical equivalence, the range-null and alternative hypotheses are:

\[
H_0 : \ delta_{\text{SURP}} \leq \delta_{\text{FBall}} - 10\%
\]

\[
H_1 : \ delta_{\text{SURP}} > \delta_{\text{FBall}} - 10\%.
\]

**Hypothesis three.** The Substance Use Recovery Program ES estimate will be considered statistically and clinically superior to the TAU conditions in group client feedback efficacy trials if it statistically significantly exceed the TAU benchmark at the 10 percent critical value (i.e., exceeds the TAU comparison benchmark by 110%). When \(\delta_{\text{SURP}}\) is the true population ES estimate (in Cohen’s \(d\)) of the Substance Use Recovery
Program sample, $\delta_{TAUgrp}$ is the true population ES estimate (in Cohen’s $d$) of the TAU efficacy benchmark from the PCOMS group studies, and 10% is the maximum difference allowed to claim equivalence, the range-null and alternative hypotheses are:

$$H_0 : \delta_{SURP} \leq \delta_{TAUgrp} + 10\%$$

$$H_1 : \delta_{SURP} > \delta_{TAUgrp} + 10\%.$$ 

**Hypothesis four.** Similar to hypothesis three, if the Substance Use Recovery Program ES estimate exceeds the TAU comparison benchmark from all PCOMS studies by 110%, it will be deemed clinically superior to the established TAU benchmark. Thus, when $\delta_{SURP}$ is the true population ES estimate (in Cohen’s $d$) of the Substance Use Recovery Program sample, $\delta_{TAUall}$ is the true population ES estimate (in Cohen’s $d$) of the TAU efficacy benchmark from all PCOMS studies, and 10% is the maximum difference allowed to claim equivalence, the range-null and alternative hypotheses are:

$$H_0 : \delta_{SURP} \leq \delta_{TAUall} + 10\%$$

$$H_1 : \delta_{SURP} > \delta_{TAUall} + 10\%.$$
Chapter Three: Results

Preliminary Analyses

The original data set (N = 3,250) contained 269 cases in which an initial Motivation Assessment and Planning (MAP) score was not provided, but a Recovery Action and Progress (RAP) session one score was recorded. An independent samples \( t \)-test was conducted to determine whether a statistically significant difference existed between the ORS pretest score for those individuals with a MAP score at pretest (\( n = 1,112 \)) and those individuals with a RAP session one score at pretest (\( n = 269 \)). Type of pretest score was the independent variable and initial ORS score was the dependent variable. Results indicate a statistically significant difference in mean ORS pretest scores for those with a RAP session one score at pretest (\( M = 33.02, SD = 6.67 \)) as compared to those with a MAP score at pretest (\( M = 31.26, SD = 6.68 \)), \( t(1379) = 3.89, p < .001, d = 0.26 \). Similar results were obtained when the ORS pre-post change score was used as the dependent variable and type of pre-test score was used as the independent variable.

Results of the independent samples \( t \)-test revealed a statistically significant difference in mean ORS change (pre-post) scores for those with a RAP session one score at pretest (\( M = 1.23, SD = 6.93 \)) and those with a MAP score at pretest (\( M = 3.93, SD = 7.34 \)), \( t(1379) = -5.46, d = 0.37 \). As such, individuals without a MAP score but with a RAP session one pretest score were excluded from analyses.

Average session numbers were calculated for the remaining sample. The average number of sessions for the full Substance Use Recovery Program sample (\( n = 1,112 \)) was
5.39, \( SD = 2.00 \). Please see Table 5 for therapy outcomes by client demographic characteristics.
Table 5

*Therapy Outcomes by Client Demographics*

<table>
<thead>
<tr>
<th></th>
<th>Sample Size</th>
<th>ORS Pre M (SD)</th>
<th>ORS Post M (SD)</th>
<th>Within Group d (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>99</td>
<td>31.58 (7.07)</td>
<td>35.72 (5.17)</td>
<td>0.58 [0.35, 0.81]</td>
</tr>
<tr>
<td>Male</td>
<td>922</td>
<td>31.22 (6.66)</td>
<td>35.21 (5.30)</td>
<td>0.60 [0.52, 0.68]</td>
</tr>
<tr>
<td>African American</td>
<td>551</td>
<td>30.38 (7.18)</td>
<td>34.68 (5.58)</td>
<td>0.60 [0.49, 0.71]</td>
</tr>
<tr>
<td>Latino(a)/Hispanic</td>
<td>12</td>
<td>32.92 (6.69)</td>
<td>36.58 (3.12)</td>
<td>0.51 [-0.16, 1.18]</td>
</tr>
<tr>
<td>Euro-American</td>
<td>452</td>
<td>32.20 (5.89)</td>
<td>35.94 (4.85)</td>
<td>0.63 [0.51, 0.75]</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>6</td>
<td>36.17 (6.21)</td>
<td>33.67 (7.55)</td>
<td>0.34 [-0.02, 0.88]</td>
</tr>
</tbody>
</table>

*Notes. N = 1,021; sex and ethnicity were not provided for 91 clients. d = [1 - (3/4n - 5)] [Mpost - Mpre/SDpre]. ORS = Outcome Rating Scale; CI = confidence interval.*
A multiple linear regression analysis was conducted in order to examine the predictive ability of demographic variables (i.e., age, sex, race/ethnicity, education level, employment, and marital status) and overall offense type on ORS pre-post change scores. Prior to analysis, all categorical variables with more than two values were dummy coded. The full model had an $R^2 = .020$, $F(23, 997) = .90$, $p = .61$. None of the selected variables statistically significantly predicted ORS pre-post change score. Please see Table 6 for the correlations of each demographic variable with ORS pre-post change score and the regression weights. Structure coefficients, or the correlations of the particular variable with the predicted score in the model, are also displayed in Table 6.
Table 6

*Correlations and Results from Multiple Regression Model*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation with ORS Change</th>
<th>$\beta$</th>
<th>$r_{st}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.013</td>
<td>-.043</td>
<td>-.09</td>
</tr>
<tr>
<td>Sex$^a$</td>
<td>.006</td>
<td>.002</td>
<td>.04</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euro-American</td>
<td>-.021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>.051</td>
<td>.055</td>
<td>.31</td>
</tr>
<tr>
<td>Latino(a)/Hispanic</td>
<td>-.004</td>
<td>-.004</td>
<td>-.04</td>
</tr>
<tr>
<td>Other</td>
<td>-.065*</td>
<td>-.059</td>
<td>-.49</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School/GED</td>
<td>.052</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some Grade School</td>
<td>-.010</td>
<td>-.039</td>
<td>-.15</td>
</tr>
<tr>
<td>Some Technical Education</td>
<td>.017</td>
<td>.010</td>
<td>.12</td>
</tr>
<tr>
<td>Completed Technical Education</td>
<td>-.011</td>
<td>-.020</td>
<td>-.08</td>
</tr>
<tr>
<td>Some College</td>
<td>-.034</td>
<td>-.045</td>
<td>-.27</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>.004</td>
<td>-.001</td>
<td>.03</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>.045</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmarried</td>
<td>-.019</td>
<td>-.083</td>
<td>-.28</td>
</tr>
<tr>
<td>Separated</td>
<td>-.015</td>
<td>-.037</td>
<td>-.13</td>
</tr>
<tr>
<td>Divorced</td>
<td>.015</td>
<td>-.015</td>
<td>.08</td>
</tr>
<tr>
<td>Widowed</td>
<td>.030</td>
<td>.027</td>
<td>.21</td>
</tr>
<tr>
<td>Employment$^b$</td>
<td>-.023</td>
<td>-.018</td>
<td>-.16</td>
</tr>
<tr>
<td>Major Offense</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug Related Offenses</td>
<td>.006</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Reference Category

$^b$ Reference Category
Table 6 Continued

<table>
<thead>
<tr>
<th>Offense Category</th>
<th>ORS</th>
<th>r_{st}</th>
<th>ORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent Offenses (not previously included)</td>
<td>.025</td>
<td>.018</td>
<td>.15</td>
</tr>
<tr>
<td>Burglary Offenses</td>
<td>.011</td>
<td>.015</td>
<td>.05</td>
</tr>
<tr>
<td>Theft Offenses</td>
<td>-.009</td>
<td>-.011</td>
<td>-.10</td>
</tr>
<tr>
<td>Weapons Offenses</td>
<td>-.039</td>
<td>-.047</td>
<td>-.32</td>
</tr>
<tr>
<td>Robbery Offenses</td>
<td>-.015</td>
<td>-.025</td>
<td>-.13</td>
</tr>
<tr>
<td>Interference/Obstruction/Fleeing Offenses</td>
<td>.030</td>
<td>.023</td>
<td>.20</td>
</tr>
<tr>
<td>Fraud/Forgery/Financial Offenses</td>
<td>.001</td>
<td>-.002</td>
<td>-.01</td>
</tr>
<tr>
<td>Other Offenses</td>
<td>.033</td>
<td>.036</td>
<td>.24</td>
</tr>
</tbody>
</table>

Notes. ORS = Outcome Rating Scale. $r_{st}$ = structure coefficient.

\( a \) 0 = male, 1 = female. \( b \) 0 = not employed, 1 = employed.

* \( p < .05 \)
Results of Client Feedback Benchmark Hypotheses

The following results are based on the full Parolee Substance Use Recovery Program sample. The mean pretreatment and post-treatment ORS scores for the full sample ($N = 1,112$) were $M_{\text{pre}} = 31.26$ ($SD = 6.68$) and $M_{\text{post}} = 35.18$ ($SD = 5.42$), respectively, producing an observed standardized pre-post mean change of $d_{\text{SURP}} = 0.59$ (see Table 7) with a variance of .001. As previously reported, all analyses utilized critical values with a Type I error rate of $\alpha = 0.05$. 
Table 7

Critical Value Comparisons for Client Feedback Benchmarks

<table>
<thead>
<tr>
<th>SURP d</th>
<th>Feedback Benchmark (group PCOMS)</th>
<th>TAU Benchmark (group PCOMS)</th>
<th>Feedback Benchmark (all PCOMS)</th>
<th>TAU Benchmark (all PCOMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.59</td>
<td>$d_{cv}$</td>
<td>$p$</td>
<td>$d_{cv}$</td>
<td>$p$</td>
</tr>
<tr>
<td></td>
<td>0.64</td>
<td>.441</td>
<td>0.60</td>
<td>.110</td>
</tr>
<tr>
<td></td>
<td>0.89</td>
<td>.999</td>
<td>0.58</td>
<td>.028</td>
</tr>
</tbody>
</table>

Notes. SURP = Substance Use Recovery Program; PCOMS = Partners for Change Outcome Management System; TAU = treatment as usual; $d = [1 - (3/4n - 5)] [M_{post} - M_{pre}/SD_{pre}]; d_{cv} = critical effect size value required to attain statistical significance.
**Hypothesis one.** The first specified hypothesis was that the ES estimate for the full Substance Use Recovery Program sample \((d_{SURP} = 0.59; N = 1,112)\) would be statistically and clinically equivalent to efficacy outcomes observed in the FB treatment conditions of the group only PCOMS studies. Compared against the group only PCOMS FB benchmark \((d_{FBgrp} = 0.65)\) with a 10% *a priori* margin \((d_{FBgrp}[90\%] = 0.59)\) and a critical value \(d_{CV(FBgrp)} = 0.64\), the observed Substance Use Recovery Program effect size estimate was not considered clinically equivalent \((t = 19.67, df = 1,111, \lambda = 19.51, p = .44)\) to the FB treatment outcomes from the two group only PCOMS studies. The estimated effect of the Substance Use Recovery Program sample did not exceed the magnitude of effect deemed necessary in order to claim at least clinical and statistical equivalence with the FB treatment outcomes from the two group PCOMS RCTs.

**Hypothesis two.** The second hypothesis was that the ES estimate for the full Substance Use Recovery Program sample \((d_{SURP} = 0.59; N = 1,112)\) would be statistically and clinically equivalent to efficacy outcomes observed in the FB treatment conditions of all PCOMS studies. Compared against the constructed benchmark for the FB conditions of all PCOMS studies \((d_{FBall} = 0.92)\) with a 10% *a priori* margin \((d_{FBgrp}[90\%] = 0.83)\) and a critical value \(d_{CV(FBgrp)} = 0.89\), the observed Substance Use Recovery Program effect size estimate was not considered clinically equivalent \((t = 19.67, df = 1,111, \lambda = 27.61, p = .999)\) to the established benchmark. In other words, the estimated effect of the Substance Use Recovery Program sample did not exceed the established critical value \((d_{CV(FBgrp)} = 0.88)\) necessary in order to claim at least clinical and statistical equivalence with the FB treatment outcomes from all PCOMS RCTs.
**Hypothesis three.** The third hypothesis posited the ES estimate for the full Substance Use Recovery Program sample ($d_{SURP} = 0.59; N = 1,112$) would be clinically and statistically superior to the constructed TAU benchmark from the two PCOMS group clinical trials. Compared against the TAU benchmark from the PCOMS group studies ($d_{TAUgrp} = 0.50$), given a 10% *a priori* margin of difference ($d_{TAUgrp[110\%]} = 0.55$) and a critical value $d_{CV(TAUgrp)} = 0.60$, the observed Substance Use Recovery Program ES estimate was not considered clinically superior ($t = 19.67$, $df = 1,111$, $\lambda = 18.34$, $p = .110$). In other words, the estimated effect of the Substance Use Recovery Program sample did not exceed the established magnitude of effect necessary in order to claim clinical superiority to TAU from the two PCOMS group studies.

**Hypothesis four.** The fourth hypothesis specified that the ES estimate for the full Substance Use Recovery Program sample ($d_{SURP} = 0.59; N = 1,112$) would be clinically superior to the TAU benchmark constructed from all of the PCOMS RCTs. Compared against the TAU benchmark ($d_{TAUall} = 0.48$), given a 10% *a priori* margin of difference ($d_{TAUgrp[110\%]} = 0.53$) and a critical value $d_{CV(TAUgrp)} = 0.58$, the observed Substance Use Recovery Program ES estimate was statistically significant ($t = 19.67$, $df = 1,111$, $\lambda = 17.61$, $p < .001$), suggesting that treatment provided via the Substance Use Recovery Program was clinically superior to the TAU group outcomes from all PCOMS RCTs.

**Supplemental Analyses**

Several supplemental analyses were conducted in order to gain a better understanding of the effectiveness of the Parolee Substance Use Recovery Program. The results of the secondary analyses are discussed below.
Clinical significance. As was previously reviewed, the ORS was determined to have a reliable change index (RCI) of six points or more and a clinical cutoff score of 25 for adults aged 18 years and over (Duncan, 2014). Thus, by combining the RCI and the clinical cutoff score, one is able to examine the rates of reliable and clinically significant change. An individual is considered to have obtained reliable change if the pre-post ORS change score was at least six points. Furthermore, an individual is considered to have achieved clinically significant change if the initial ORS score below was below 25, there was a pre-post ORS change score of at least six points, and the post ORS score was at least 25. Examining the rates of reliable and clinically significant change is another means by which to examine and understand clinical effectiveness. For the full Substance Use Recovery Program sample, the rate of reliable change was 37.77% \( (n = 420) \) and the rate of clinically significant change was 11.60% \( (n = 129) \). Additionally, 6.92% \( (n = 77) \) of the full sample reliably deteriorated during treatment, meaning there was a decrease of at least six points from the baseline measure. Of those who experienced deterioration, 22.08% \( (n = 17) \) attended only two treatment sessions.

Clinical cutoff analysis. A supplemental analysis was conducted to examine the effectiveness of treatment for individuals \( (n = 170) \) who had an initial ORS score below the clinical cutoff of 25. According to Miller and Duncan (2004), individuals with a score that falls below this cutoff have responded to the items in a manner that is similar to other individuals seeking therapy. The mean pretreatment and post-treatment ORS scores for the clinical cutoff sample were \( M_{\text{pre}} = 19.44 \ (SD = 4.49) \) and \( M_{\text{post}} = 31.98 \ (SD = 6.95) \), respectively, producing an observed standardized pre-post mean change of \( d_{\text{cutoff}}= \)
2.79 with a variance of .033. All analyses utilized critical values with a Type I error rate of $\alpha = 0.05$. Table 8 presents a comparison of the ES critical value for the clinical cutoff sample with the ES critical values observed in PCOMS studies.
Table 8

Critical Value Comparisons for Clinical Cutoff Sample

<table>
<thead>
<tr>
<th>SURP d</th>
<th>Feedback Benchmark (group PCOMS)</th>
<th>Feedback Benchmark (all PCOMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.79</td>
<td>0.73 &lt; .001</td>
<td>0.98 &lt; .001</td>
</tr>
</tbody>
</table>

Notes. SURP = Substance Use Recovery Program; PCOMS = Partners for Change Outcome Management System; $d = [1 - (3/4n - 5)] (M_{post} - M_{pre}/SD_{pre}); d_{cv} = critical effect size value required to attain statistical significance.
When the ES for individuals falling below the clinical cutoff \(d_{\text{cutoff}} = 2.79\) was compared against the group only PCOMS FB benchmark \(d_{\text{FBgrp}} = 0.65\) with a 10% a priori margin \(d_{\text{FBgrp}[90\%]} = 0.59\) and a critical value \(d_{\text{CV(FBgrp)}} = 0.73\), the observed Substance Use Recovery Program ES estimate for those who began treatment below the clinical cutoff was considered clinically equivalent \((t = 36.38, df = 169, \lambda = 7.63, p < .001)\) to the FB treatment outcomes from the two group only PCOMS studies. The estimated effect of the Substance Use Recovery Program sample exceeded the magnitude of effect deemed necessary in order to claim at least clinical and statistical equivalence with the FB treatment outcomes from the two group PCOMS RCTs.

Similar results were obtained when the ES for individuals falling below the clinical cutoff at the start of therapy was compared to the FB benchmark from all PCOMS studies \(d_{\text{FBall}} = 0.92\). With a 10% a priori margin \(d_{\text{FBgrp}[90\%]} = 0.83\) and a critical value \(d_{\text{CV(FBgrp)}} = 0.98\), the observed Substance Use Recovery Program effect size estimate was considered clinically equivalent \((t = 36.38, df = 169, \lambda = 10.80, p < .001)\) to the established benchmark. In other words, the estimated effect of the Substance Use Recovery Program clinical cutoff sample exceeded the established critical value \(d_{\text{CV(FBgrp)}} = 0.98\) necessary in order to claim at least clinical and statistical equivalence with the FB treatment outcomes from all PCOMS RCTs.

**Analysis of treatment completers.** A similar supplemental analysis was conducted for those individuals \(n = 544\) who successfully completed the Substance Use Recovery Program treatment by attending at least six consecutive therapy sessions and obtaining at least two negative drug screens. The mean pretreatment and post-treatment
ORS scores for the treatment completer sample were $M_{\text{pre}} = 31.71$ ($SD = 6.54$) and $M_{\text{post}} = 36.84$ ($SD = 4.07$), respectively, producing an observed standardized pre-post mean change of $d_{\text{completer}} = 0.78$ with a variance of .003. All analyses utilized critical values with a Type I error rate of $\alpha = 0.05$. Please see Table 9 for a comparison of the ES critical value for the sample of those who successfully completed treatment with the ES critical values observed in PCOMS studies.
Table 9

Critical Value Comparisons for Completer Sample

<table>
<thead>
<tr>
<th>SURP $d$</th>
<th>Feedback Benchmark (group PCOMS)</th>
<th>Feedback Benchmark (all PCOMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$d_{cv}$</td>
<td>$p$</td>
</tr>
<tr>
<td>0.78</td>
<td>0.66</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Notes. SURP = Substance Use Recovery Program; PCOMS = Partners for Change Outcome Management System; $d = [1 - (3/4n - 5)] [M_{post} - M_{pre}/SD_{pre}]$; $d_{cv}$ = critical effect size value required to attain statistical significance.
When the ES for individuals who successfully completed treatment \( (d_{\text{completer}} = 0.78) \) was compared against the group only PCOMS FB benchmark \( (d_{\text{FBgrp}} = 0.65) \) with a

10% \textit{a priori} margin \( (d_{\text{FBgrp[90\%]}} = 0.59) \) and a critical value \( d_{\text{CV(FBgrp)}} = 0.66 \), the

observed Substance Use Recovery Program ES estimate for those who completed
treatment was considered clinically equivalent \( (t = 18.19, df = 543, \lambda = 13.64, p = 0.02) \)
to the FB treatment outcomes from the two group only PCOMS studies. The estimated
effect of the Substance Use Recovery Program sample exceeded the magnitude of effect

deemed necessary in order to claim at least clinical and statistical equivalence with the
FB treatment outcomes from the two group PCOMS RCTs.

An analysis was also conducted to compare the ES from those who successfully
completed treatment to the FB benchmark from all PCOMS studies \( (d_{\text{FBall}} = 0.92) \). With

a 10% \textit{a priori} margin \( (d_{\text{FBgrp[90\%]}} = 0.83) \) and a critical value \( d_{\text{CV(FBgrp)}} = 0.91 \), the

observed Substance Use Recovery Program effect size estimate was not considered
clinically equivalent \( (t = 18.19, df = 543, \lambda = 19.31, p = 0.84) \) to the established
benchmark. In other words, the estimated effect of the Substance Use Recovery Program
completer sample did not exceed the established critical value \( (d_{\text{CV(FBgrp)}} = 0.91) \)
necessary in order to claim at least clinical and statistical equivalence with the FB
treatment outcomes from all PCOMS RCTs.

\textbf{Substance use outcomes.} In regards to substance use outcomes, 48.92\% \( (n = 544) \) of the present sample successfully completed treatment, which included obtaining at
least two negative drug screens. However, 13.94\% \( (n = 155) \) of the full sample had to
restart the Parolee Substance Use Recovery Program due to obtaining a positive drug
screen. A meta-analysis of comparison group studies examining the effectiveness of substance abuse treatment conducted by Prendergast, Podus, Chang, and Urada (2002) was utilized to compare substance use outcomes. The meta-analysis was conducted on 78 treatment-comparison group studies conducted between 1965 and 1996 that examined either treatment programs or techniques for substance abuse. In order to be included in the analysis, studies had to include at least one crime or substance use outcome variable. Crime use was primarily measured via self-report; however, criminal records were less frequently available. Substance use was measured via self-report, drug testing, or a combination of both. Nearly 80% of the studies included in the analysis utilized an active comparison group (i.e., routine treatment, placebo treatment, or alternative treatment) while the remainder utilized a passive comparison group (i.e., no treatment, minimal treatment, or delayed/wait-list).

Authors of the meta-analysis utilized the binomial ES display (BESD) as developed by Rosenthal and Rubin (1979, 1982) to transform the observed treatment ES regarding substance use into a percentage. The BESD is defined as the percentage of study participants in the treatment and comparison groups who achieve a common success criterion; this is arbitrarily defined as the median of the scores of the combined groups. It is noted that the overall median should be regarded as a hypothetical representation of success rates as criteria for success of treatment is often not available or easily defined. Results of the BESD indicated a 57% success rate for treatment groups and a 42% success rate for comparison groups in regards to drug use outcomes. Descriptively, the rate of successful completion for the present sample (which includes
obtaining two negative drug screens) was higher than the drug use outcome for comparison groups, but lower than that observed in the treatment groups. Please see Figure 1 for a comparison of the substance use success rates for the present sample and the Prendergast et al. (2002) meta-analysis.
Figure 1. Comparison of substance use success rates. SURP = Substance Use Recovery Program.
Chapter Four: Discussion

At present, studies examining the effectiveness of group therapy for offenders have yielded mixed and inconsistent results (Morgan & Flora, 2002). Additionally, evidence for the efficacy of continuous client feedback within group psychotherapy settings is emerging. Furthermore, a thorough search of the literature failed to find any studies that have evaluated the use of a continuous client feedback system with offenders referred to attend group treatment. The present study, to the best of my knowledge, presents the first benchmarking analysis of treatment outcomes for offenders referred to treatment who utilized a continuous client feedback system as a quality improvement strategy. The benchmarking analyses confirmed one of the four hypotheses. Results revealed the magnitude of change observed in the Substance Use Recovery Program sample was not clinically equivalent to the FB benchmark constructed from the two PCOMS group RCTs (Hypothesis 1) or to the FB benchmark constructed from all six PCOMS RCTs (Hypothesis 2). Additionally, the ES estimate for the Substance Use Recovery Program sample was not determined to be clinically superior to the TAU benchmark constructed from only the two PCOMS group studies (Hypothesis 3). However, it was determined that the magnitude of change in treatment outcomes observed in the Substance Use Recovery Program sample was clinically superior to the TAU benchmark constructed from all six PCOMS RCT studies, which included the two PCOMS group studies (Hypothesis 4).

Additionally, preliminary analyses were conducted on the client demographic variables of sex category and race/ethnicity. Treatment outcomes as measured by the
pre-post change score were not found to statistically significantly differ based on the
aforementioned demographic variables. However, it should be noted that sex and
race/ethnicity data was missing for 8.2% of the present sample.

**Effectiveness of Client Feedback with Offenders Referred to Treatment**

Results of the present study examining the effectiveness of continuous
client feedback for offenders referred to treatment were not clinically equivalent to the
benchmarks constructed from the FB conditions of RCT studies. The use of client
feedback with this particular sample did not produce treatment outcomes similar to those
observed in rigorous RCTs. This was similar to the results obtained in Reese et al.’s
(2014) benchmarking study in which the total sample ES estimate was found to be not
comparable to the RCTs of PCOMS alone; ES estimates were, however, comparable to
RCTS of the OQ System and PCOMS combined. While the observed ES estimate for the
present full sample was not found to be equivalent to RCTs of PCOMS, it is worth noting
that the confidence interval for the ES of the full Substance Use Recovery Program
sample overlapped with the confidence interval for the ES of the FB condition of the
group PCOMS studies.

One factor to note in regards to the benchmarking methodology is the use of an *a
priori* margin of difference of 10%. This particular margin was selected for use in the
present study based on previous research utilizing benchmarking methodology. While
the use of a margin of 10% provides a rigorous standard for statistically comparing the
ES from the naturalistic setting sample with constructed benchmarks from RCTs, it is
noted that 10% may be objectionable as criteria for establishing comparability to FB
conditions and superiority to TAU conditions. It, perhaps, provides an unfair criterion for comparison. Minami, Wampold, et al. (2008) note that such a criticism “cannot be refuted unless the field reaches a consensus on an effect size that would constitute comparability (similar to the adoption of $\alpha = 0.05$ as the criterion for Type I error rate) (p. 122).”

Several particular characteristics of the offender population are worthy of noting when considering the results regarding client feedback. It is important to acknowledge that the mean ORS pretest score ($M = 31.26$) for the full sample was well above the clinical cutoff score for the measure; a factor that is common for mandated clients, according to Miller, Mee-Lee, Plum, and Hubble (2005). In contrast, for each of the six PCOMS studies utilized for the construction of the benchmarks, the mean ORS pretest score for the full sample fell below the clinical cutoff of 25. In fact, the mean ORS pretest score for the present sample was larger than the average of the mean ORS posttest scores from the FB conditions of all PCOMS RCT studies ($M = 29.70$). When examining only those individuals who started treatment with a pre-test ORS score below the clinical cutoff (less than 25), the resulting effects were found to be clinically equivalent to the benchmarks constructed from the FB conditions of the two PCOMS group studies and the FB conditions from all six PCOMS studies. This should be interpreted with some degree of caution as the benchmarks utilized for comparison to the clinical cutoff sample were constructed from the complete samples of the RCTs (not just those with a pretest score below cutoff, as such information was not available).
There are several possible explanations for the elevated pretest score of the present sample when compared to other PCOMS studies. Because participants in the present study were referred to treatment and did not necessarily seek it voluntarily, it is plausible that they did not perceive a problem or distress to exist. In other words, it is possible that they would fall into the precontemplation stage of the transtheoretical model of motivational readiness. This particular stage is characterized by a lack of awareness, or an under-awareness, that a problem exists. As reviewed previously, clients falling into the precontemplation stage of the transtheoretical model of motivational readiness to change are most likely to be clients who entered into therapy because of some external pressure (i.e., force from others); in this case, the criminal justice system (Prochaska et al., 1992). Snyder and Anderson (2009) theorize a lack of motivation is potentially a normal and expected reaction for precontemplators forced into treatment who experience a double bind when acknowledging a problem exists. This provides one possible explanation for the high mean intake score for the present sample. However, this is only speculative as data regarding motivation and stages of change were not provided for the present sample.

When considering the large mean ORS pretest score, it is also important to consider the possibility that participants received mental health treatment while incarcerated. According to a special report by the Bureau of Justice Statistics regarding mental health treatment in state prisons (Beck & Maruschak, 2001), one in eight state prisoners received some form of counseling services or mental health treatment at midyear of 2000. Additionally, nearly 10% of state prisoners were prescribed
psychotropic medication, including antidepressants, stimulants, sedatives, tranquilizers, or other anti-psychotic drugs. As previously noted, Morgan, Winterowd, and Ferrell’s (1999) national survey of group therapy in state correctional facilities reported an average of 20% of male inmates of responding therapists received some type of group treatment while incarcerated. It is possible that high pretest ORS were partially attributable to previous psychotherapy services. Again, this is only speculative as no information was made available regarding previous mental health treatment.

Another factor to consider when interpreting the results of the present study is the potential double bind that exists for individuals referred to treatment when it comes to acknowledging a problem. Clients referred to treatment may potentially experience a desire to minimize distress for fear of how acknowledging a problem may impact their standing with the referral source. For example, a client may fear repercussions from the criminal justice system for admitting to struggles with substance use. Thus, it is possible that the client minimizes and underreports problems in order to be viewed by the referral source as doing well. Parolees in the present study may have been experiencing psychological distress, but were hesitant to indicate such on the ORS for fear of how such an admission would be interpreted or how it would potentially impact their standing on parole. Participants may have experienced a fear that any indication of distress would have been reported to the referral source and resulted in undesired consequences.

According to Mee-Lee, McLellan, and Miller (2010), it is common for mandated clients to complete the measures in a manner that indicates little personal, interpersonal, and social distress. Thus, it has been recommended that individuals mandated to treatment
complete the outcome measure from the perspective of the referral source (Duncan et al., 2004). However, this particular method of administration was not utilized with the present sample. It is important to consider the notion that having the client complete the outcome measures from the viewpoint of the referral source could potentially silence the client’s own voice, which PCOMS aims to privilege during treatment.

Also of note, the treatment provided in the present study was found to be clinically superior to the TAU conditions of all six PCOMS RCTs, which includes the two group PCOMS studies. This finding suggests that the use of PCOMS with offenders who have been referred to attend substance abuse treatment can lead to outcomes that are superior to TAU. This finding is particularly noteworthy given that the data from the present study was gathered from a naturalistic setting and represents “real-world” treatment with offenders. The use of a continuous client feedback system privileges the client’s voice and enables her or him to provide the clinician with information regarding personal well-being and views of treatment progress. It is speculated that the use of a client-directed, outcome informed therapy approach provides the referred client with a sense of power and self-determination in an environment in which they otherwise may experience coercion and a perceived loss of autonomy. The use of a continuous feedback system may help to address the increased levels of resistance and decreased levels of motivation and readiness to change that are characteristic of psychotherapy with coerced clients.

Results of the supplemental analyses are also noteworthy. The rate of reliable change for the present sample (37.77%) was descriptively larger than the rates observed
in the two PCOMS group RCT studies (20.44% for Schuman et al., 2015 and 32.60% for Slone et al., 2015). However, the rate of clinically significant change for the present sample (11.60%) was descriptively smaller than those observed in the PCOMS group RCTs (28.47% for Schuman et al., 2015 and 41.90% for Slone et al., 2015). Since the mean pretest score for the present sample was well above the clinical cutoff, the opportunity to obtain clinically significant change (which includes moving from below the clinical cutoff to above it) was not available. The rate of deterioration for the present sample was descriptively larger than that from the Slone et al. study (4.7%), but descriptively smaller than that observed in the Schuman et al. study (14.60%).

Individuals from the Substance Use Recovery Program who successfully completed treatment (i.e., attended at least six consecutive sessions and obtained two consecutive negative drug tests) obtained outcomes that were clinically equivalent to those observed in the FB conditions of the group PCOMS RCTs. Results were not found to be clinically equivalent to those observed in the FB conditions of all PCOMS RCTs. It is important to acknowledge that the two studies utilized to construct the benchmarks were based on ITT samples, not completer samples. Information needed to construct benchmarks on completer samples for Schuman et al. (2015) and Slone et al. (2015) was not available. As such, caution should be utilized when interpreting and generalizing the results. This concern can be tempered somewhat by noting the similarity in the number of sessions attended by those in the completer sample from the present study (M = 7.06) and the average number of sessions attended by participants in the FB conditions of the two PCOMS group studies (M = 7.28).
In regards to substance use, the rate of success from the present study was descriptively lower than that observed in the treatment groups of a meta-analysis examining the effectiveness of substance abuse treatment (Prendergast, Podus, Chang, & Urada, 2002). However, it was descriptively larger than that observed in the comparison group from the aforementioned meta-analysis. This finding suggests group substance abuse treatment that utilizes continuous client feedback can result in substance abuse outcomes superior to control groups. Results of the supplemental analyses are notable given the characteristics that can impact therapeutic work with such a population. As clients who experience coercion to attend therapy generally have lower levels of motivation for treatment and higher levels of resistance than those who voluntarily seek treatment, the findings from the supplemental analyses regarding treatment completers, substance use rates, and clinical significance are noteworthy.

**Study Limitations**

Several limitations are noteworthy and need consideration when interpreting the results of the present study. First, the use of a single, brief outcome measure (i.e., the ORS) to assess pre-post change limits conclusions. Although four psychometric studies have provided empirical evidence for the reliability and validity of scores generated by the ORS, it does not provide the amount of information that a longer outcome measure would (e.g., the OQ-45). However, the brief nature of the ORS makes it more feasible for routine use in clinical settings.

Treatment fidelity also poses a limitation to the current study. Attempts were made to address this via the implementation of PCOMS trainings, follow-up webinars,
and supervision and feedback on the use of the measures. However, this direct feedback regarding the implementation of the outcome system occurred only quarterly to annually for clinicians. As such, it is possible that the outcome management system was not utilized as intended. A potential sporadic use and discussion of the measures, as opposed to during every session, may have led to a weakening of the intervention. No information was available regarding clinicians’ reports of treatment fidelity.

Relatedly, another limitation of the present study is the modified implementation of the outcome measure (i.e., the ORS). While the measure is designed for each visual analog line to be scored to the nearest millimeter, nearly all scores for the present study were provided in whole numbers. Clinicians were instructed to round to the nearest centimeter, which resulted in whole number scores. Treatment providers were instructed by the PCOMS trainer to utilize this method to add to the feasibility and simplicity of scoring and recording. As previously mentioned, a modified administration method was used in the Miller, Duncan, Brown, Sorrell, & Chalk (2006) study in which PCOMS was administered over the telephone. Results should be interpreted with some caution as psychometrics regarding modified administrations have not been examined.

In regards to the benchmarking methodology, several limitations are of note. While the outcome measures utilized were identical, and thus matched on reactivity and specificity, the samples being compared were not identical. With the exception of the sample from Schuman et al. (2015) that included individuals who were primarily referred for substance abuse treatment, the samples from the studies utilized to construct the benchmarks primarily sought treatment on a voluntary basis. As no studies examining
the efficacy of PCOMS with offenders exist in the literature, a best effort of equivalence was utilized.

Additionally, no RCT studies examining the effectiveness of cognitive-behavioral therapy (CBT) based substance abuse treatment for offenders were found that used a comparable outcome measure. RCTs that were examined for inclusion focused primarily on drug use or diagnosis specific outcomes, as opposed to global assessments of well-being. Snyder and Anderson (2009) noted several methodological shortcomings within the literature on mandated substance abuse, including differences in outcomes measure, differences in comparison groups, and inconsistencies in what constitutes mandated therapy, that hindered the comparison of RCTs with the present study. Other research syntheses regarding both group substance abuse treatment and general group treatment for offenders were examined for possible inclusion in construction of a benchmark. However, comparable studies were not found due to a lack of RCT design, differences in population and focus of the groups, and lack of use of similar outcome measures. Thus, only feedback benchmarks were used for comparison in the present study.

**Implications and Future Recommendations**

The present study, which is the first to examine the use of PCOMS with a sample of offenders, expands our understanding of the use of a continuous client feedback system with individuals referred to treatment. Despite the documented success in treatment outcomes regarding the use of continuous client feedback with voluntary clients, results of the present study suggest differences in effectiveness with individuals referred to treatment. Although ES estimates from the present sample were not found to
be equivalent to those observed in the FB conditions of RCTs utilizing PCOMS, treatment provided was found to be clinically superior to the TAU ES estimate from all six PCOMS studies, including two conducted with groups. This finding suggests the use of a continuous client feedback system with such a sample can be effective, but requires further understanding of the nuances regarding referred treatment with offenders. Particular characteristics of offender populations, including decreased motivation for treatment and increased resistance to change when compared to individuals who voluntarily seek services, may have influenced the observed outcomes. Findings of the present study provide evidence for the continued exploration of the effectiveness of continuous client feedback with offenders referred to treatment.

One noteworthy finding from the current study is the high mean pretest score from the present sample, particularly when compared to the mean intake scores from the six PCOMS RCTs. This appears to support previous reports that clients referred to treatment will complete the measures in a manner that indicates low levels of distress (Mee-Lee et al., 2010). Findings suggest that the use of client feedback with such a population poses certain concerns that could benefit from being addressed in future research. For example, future studies could examine the implementation of the feedback system when offenders are asked to complete the measures from the viewpoint of the referral source.

As was previously mentioned, no current RCT study exists to examine the efficacy of a client feedback system with offenders who have been referred to treatment. Based on the unique characteristics of such a sample, and the findings from the present
study, such an examination appears warranted. Implementing measures of client
readiness to change, as well as an assessment of perceived coercion to treatment, would
also help to add to the understanding of treatment outcomes with this particular
population. Relationships between perceived coercion, motivation for treatment, client
resistance, and treatment outcomes could be examined in order to better understand the
impact of continuous client feedback on known characteristics of psychotherapy with
coerced clients.

Additionally, given the findings of the present study, it is recommended research
continue to examine the effects of continuous client feedback utilizing benchmarking
methodology. As benchmarking allows for a comparison of the effectiveness of real-
world, naturalistic treatments with gold standards of care observed in rigorous RCTs, it is
recommended that the present study be replicated with other referred samples. The
present study provides methodological guidance for the continued evaluation of the
effectiveness of psychotherapy in real-world settings. As the present sample was
composed primarily of males, research examining the effects of client feedback with
female offenders referred to treatment would help to increase understanding of the unique
characteristics of such a population. Research could also examine the effectiveness of
continuous client feedback systems with juvenile offenders and offenders referred to
therapy for specific concerns (e.g., sex offender treatment, anger management, domestic
violence, etc.). As the present study focused on group treatment, it would also be
informative for future research to examine the use of continuous client feedback with
offenders in individual settings.
Conclusions

The present study helps to expand our understanding of the effectiveness of continuous client feedback, particularly with individuals who have been referred to treatment. Though results were not found to be clinically equivalent to those observed in the FB conditions from RCTs, they were found to be clinically superior to treatment as usual for all PCOMS studies. Several known characteristics of coerced psychotherapy, including client resistance and motivation for treatment, may have impacted the observed treatment outcomes from the current study. Results indicate a difference in effectiveness for the use of continuous client feedback with individuals referred to treatment, as opposed to those who voluntarily seek services. Further research is needed to better understand the use of a feedback system with such a sample. However, findings from the present study suggest that it may be beneficial in producing outcomes superior to treatment as usual.

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Appendix A

Outcome Rating Scale (ORS)

Outcome Rating Scale (ORS)

Name _____________________ Age (Yrs): ___
ID# _________________________ Sex: M / F
Session # ___ Date: _________________

Looking back over the last week, including today, help us understand how you have been doing in the following areas of your life, where marks to the left represent low levels and marks to the right indicate high levels.

Individually:
(Personal well-being)

| I---------------------------------------------------------------I |

Interpersonally:
(Family, close relationships)

| I---------------------------------------------------------------I |

Socially:
(Work, School, Friendships)

| I---------------------------------------------------------------I |

Overall:
(General sense of well-being)

| I---------------------------------------------------------------I |

Institute for the Study of Therapeutic Change

_______________________________________
www.talkingcure.com

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Appendix B

PCOMS Graph

<table>
<thead>
<tr>
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Curriculum Vitae

ALYSSA BAILEY GROSSL

EDUCATION:

2010-2011  Education Specialist in Counseling Psychology
            University of Kentucky; Lexington, KY

2008-2010  Master of Science in Counseling Psychology
            University of Kentucky; Lexington, KY

2004-2008  Bachelor of Arts in Psychology (Magna Cum Laude)
            Georgetown College; Georgetown, KY

SUPERVISED CLINICAL AND SUPERVISION EXPERIENCE

Pre-Doctoral Internship:
            Federal Medical Center, Lexington (July 2014-July 2015)
            Site Supervisors: Adu Boateng, PhD, Training Director; Ashley Burgett, PhD; Megan
            Schuster, PhD

Practicum/Group:
            Federal Medical Center, Lexington (September 2013-July 2014)
            Site Supervisors: Megan Schuster, PhD and Adu Boateng, PhD
            Program Supervisors: Pam Remer, PhD, Danelle Stevens-Watkins, PhD, and Daniel
            Walinsky, PhD

            University of Kentucky Counseling Psychology Program (Summer 2013; Fall 2009)
            Supervisor: Rory Remer, PhD

            Georgetown College Counseling Center (August 2012-May 2013)
            Site Supervisor: Lloyd Clark, PhD
            Program Supervisor: Keisha Love, PhD

            University of Kentucky Counseling Center (January 2011-May 2012)
            Site Supervisors: Di Sobel, PhD; Tina Bryant, PhD; Aesha Tyler, PsyD; Susan
            Matthews, PhD
            Program Supervisor: Jeff Reese, PhD

            Gatton Diversity Group Co-Leader (August 2010-December 2010)
            Supervisors: Randa Remer, PhD and Pamela Remer, PhD

            Family Counseling Service (September 2009-April 2010)
Site Supervisor: LaDonna K. Tyler, LCSW
Program Supervisor: Pam Remer, PhD and Janelle McNeal, PhD

*Lexington Center for Women, Children, and Families (2007-2008)*
Domestic Violence Counseling and Crisis Management
Supervisor: Sara Hicks, MSW, Licensed Marriage and Family Therapist
Program Supervisor: Regan Lookadoo, PhD

**Supervision of Students:**

*Federal Medical Center, Lexington* (February 2015-July 2015)
Supervisor: Megan Schuster, PsyD

*University of Kentucky Counseling Psychology Program* (Fall 2013)
Facilitator for Master’s Students Leading Therapy Group
Supervisor: Rory Remer, PhD

*University of Kentucky Counseling Psychology Program* (Spring 2014; Spring 2013; Spring 2012)
Supervisor of Master’s Students
Supervisor: Jeff Reese, PhD

**RESEARCH:**

**Publications (Peer-Reviewed):**


**Conference Presentations:**


**Research Assistantship:**

*Center for Drug Abuse Research Translation, Project 4* (January 2009-July 2011)
Supervisors: Rick Zimmerman, PhD and Pam Cupp, PhD

**Research in Progress:**

Cupp, P., Zimmerman, R., Donohew, R. L., Harris, M., Grossl, A. B., & Gray, C. *Relationship of individual differences and level of threat and framing of messages to ratings of condom PSAs and impact of PSAs on attitudes.*


**TEACHING EXPERIENCE:**

*Behavioral Sciences Department* (Summer 2012; Summer 2013-Summer 2014)
University of Kentucky; Lexington, KY
Supervisors: John Wilson, PhD and Raven Piercey, PhD

*Academic Enhancement at The Study* (August 2011-May 2013)
University of Kentucky; Lexington, KY
Supervisor: Ali Cicerchi
AWARDS AND HONORS:

Recipient of Time Off Award at Federal Medical Center, Lexington

Recipient of Arvie and Ellen Turner Thacker Research Fund grant for dissertation.

Recipient of a travel award for poster (The Influence of Client Feedback on Supervisee Alliance and Supervisee Satisfaction in Supervision) presented at the social hour sponsored by CCPTP, SAG, and the sections of Division 17 at the APA convention in Orlando, Florida, in August 2012. The travel award was on behalf of the Section on Supervision and Training of Division 17.

PROFESSIONAL MEMBERSHIPS/GROUPS:

American Psychological Association Graduate Student Affiliate
American Psychological Association, Division 17 (Society for Counseling Psychology)
American Psychological Association, Division 35 (Society for the Psychology of Women)
American Psychological Association of Graduate Students

COMMITTEES/TRAININGS:

Student Advisory Committee for Program Accreditation Review (February 2011-November 2011)
Served as a member of a student committee aimed at preparing for the American Psychological Association’s program accreditation visit. Assisted Director of Training in review of program goals and outcomes.

Ally Development Workshop (Leader) (August 2011, August 2012)
Helped plan and facilitate a six-hour diversity training workshop sponsored by the Department of Counseling Psychology. Focus of the workshop was on increasing awareness and appreciation of oppressed groups, as well as becoming an ally for said groups.

Ally Development Workshop (Participant) (August 2010)
Attended a six-hour diversity training workshop sponsored by the Department of Counseling Psychology during which focus was placed on increasing awareness and appreciation of oppressed groups.