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School-based counseling using systematic feedback: A cohort study evaluating outcomes and predictors of change

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Abstract

The outcomes of school-based counseling incorporating the Partners for Change Outcome Monitoring System (PCOMS) were evaluated using a cohort design, with multilevel modeling to identify predictors of change. Participants were 288 7–11 year olds experiencing social, emotional or behavioral difficulties. The intervention was associated with significant reductions in psychological distress, with a pre-post effect size (*d*) of 1.49 on the primary outcome measure and 88.7% clinical improvement. Greater improvements were found for disabled children, older children, and where CBT methods were used. The findings provide support for the use of systematic feedback in therapy with children.

Keywords: client feedback; school counseling; child psychotherapy; therapeutic outcomes; eclectic psychotherapy; PCOMS

The occurrence of mental health difficulties amongst children is a common phenomenon and it is estimated that one-fifth of children living in Europe suffer from developmental, emotional or behavioral problems, with one in eight having a mental disorder (World Health Organization, 2004). Studies also suggest that the incidence of mental health problems in childhood is rising in many Western countries (Collishaw, 2009; Maughan, Iervolino, & Collishaw, 2005).

Randomized controlled trials indicate that a range of psychotherapeutic interventions can be effective for specific psychological disorders in children and young people, including anxiety, depression, conduct disorders and somatic problems (Carr, 2000, 2009; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002). However, only a minority of children are referred on to specialist mental health services (Department of Health, 2006; Ford, Hamilton, Goodman, & Meltzer, 2005; Merikangas, He, Brody, & Fisher, 2010). Pressure on both children's social services and child and adolescent mental health services, together with the growing recognition of the importance of early intervention (Allen, 2011a, 2011b; Karoly, Kilburn, & Cannon, 2005; Walter et al., 2011), has led policy makers to explore how best to improve mental and emotional wellbeing amongst children outside clinical settings. Increasingly, schools are seen as integral to providing a more accessible and non-stigmatizing environment in which to promote positive mental well-being and support children experiencing a wide range of emotional, psychological and behavioral difficulties (Department of Education Northern Ireland, 2009; Welsh Assembly Government, 2008). Baskin et al.'s (2010) meta-analysis of 132 counseling interventions in American schools, primarily cognitive-behavioral interventions, found consistent evidence of positive benefits (Cohen's d = 0.45).

The Partners for Change Outcome Monitoring System (PCOMS)

The principal aim of the present study was to conduct the first evaluation of school-based counseling that incorporated systematic client feedback, as detailed by Murphy and Duncan (2010). The development of systems for monitoring client perceptions of progress and the alliance to inform therapeutic work and enhance outcomes has evolved rapidly since the pioneering work of Lambert in the 1990s (see Lambert, 2007, 2010). The feedback system used in this study, the PCOMS (Miller, Duncan, Sorrell, & Brown, 2005), involves the

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systematic collection of real-time client feedback using instruments designed for their feasibility in real-world practice settings. In relation to adult psychotherapy, the PCOMS consists of two brief instruments: the Outcomes Rating Scale (ORS; Miller & Duncan, 2000) and the Session Rating Scale (SRS; Miller, Duncan, & Johnson, 2002). In the child psychotherapy field, this has been translated into the development of two brief session-bysession measures: the child's view of treatment outcomes (the Child Outcome Rating Scale, CORS) and the child's view of the therapeutic alliance (the Child Session Rating Scale, CSRS) (Duncan, Miller, & Sparks, 2003, 2006) (see Appendix 1). The CORS is a self-rated measure of global psychological distress which assesses treatment progress and outcomes, and which is reviewed by therapist and client at the commencement of each session. The CSRS alliance measure is completed and scored at the end of each session. The child indicates their view of the developing relationship by rating their sense of "fit" with the therapist and their satisfaction with the work. If this is below a cutoff point of 36 out of 40, an exploration is conducted with the child of how things might be improved (Murphy, Gillaspy, & Duncan, in preparation). These outcome-informed conversations are intended both to alert therapists and clients when progress is not on track, and also to serve as catalysts for client engagement and the therapeutic alliance (Duncan & Sparks, 2010; Murphy & Duncan, 2010), with counselors adopting and adjusting their therapeutic methods accordingly to strive to maximize clienttherapist fit and client benefit.

To date, evidence suggests that the systematic collection and integration of client feedback improves outcome across client populations, professional discipline, and model used. In a meta-analysis of five trials comparing use of a routine feedback protocol with treatment as usual (TAU) for adults receiving individual psychotherapy, there were significant gains for feedback groups over TAU, especially for clients identified as at risk of premature dropout or negative outcomes (Lambert, 2010). In reviews of studies using the PCOMS, clients using brief outcome measures at each session were 3.5 times more likely to experience reliable change and had half the odds of deterioration compared with those in TAU (Duncan, 2010, 2011; Lambert & Shimokawa, 2011; Murphy & Duncan, 2010). Currently, three randomized, controlled trials indicate improved outcomes using this system (Anker, Duncan, & Sparks, 2009; Reese, Norsworthy, & Rowlands, 2009; Reese, Toland, Slone, & Norsworthy, 2010). Based on the overall strength of current evidence, Lambert and Shimokawa (2011,

p. 72) recommended that "clinicians seriously consider making formal methods of collecting client feedback a routine part of their daily practice."

A large randomized clinical trial involving two school-based cohorts is under way in the United States evaluating the effectiveness of using the PCOMS in school mental health services (Murphy et al., in preparation). In Northern Ireland, the children's charity Barnardo's has adopted the PCOMS within its counseling work for children in the primary school sector (typical age range 4–11). Preliminary evaluations indicate that this intervention has a notable impact on the individual children who access it, with significant reduction in behavior problems and a significant increase in treatment progress (McLaughlin, 2010).

Predictors of Outcomes in Youth Counseling and Psychotherapy

The secondary aim of this study was to identify particular moderators and mediators of child treatment outcomes, as these are still largely unknown (Jensen, Weersing, Hoagwood, & Goldman, 2005; Kazdin & Whitley, 2006; Weisz, 2004). Current research suggests that differential efficacy between bona fide youth treatment approaches, when accounting for allegiance effects, is tentative or non-existent (Miller, Wampold, & Varhely, 2008; Spielmans, Pasek, & McFall, 2007). This suggests that non-specific, common factors (e.g., client factors, the therapeutic alliance and general treatment strategies) may be the key predictors of change (Kelley, Bickman, & Norwood, 2010). Caregiver and family functioning have been implicated in youth treatment outcomes (Fields, Handelsman, Karver, & Bickman, 2004), as have parent and child motivation to participate and actual participation (Karver, Handlesman, Fields, & Bickman, 2006). In addition, a metaanalysis of relationship variables in youth and family therapy examined 49 studies and found counselor interpersonal and direct influence skills played an important role in the outcome of youth psychotherapy (Karver et al., 2006), with a weighted mean correlation between therapeutic alliance and outcomes across 29 studies of 0.19 (Shirk & Karver, 2011).

Method

Design

The study adopted a naturalistic cohort design, comparing baseline (pre-counseling) and endpoint (post-counseling) levels of psychological distress for a group of children, all of whom received school-based counseling using systematic feedback through

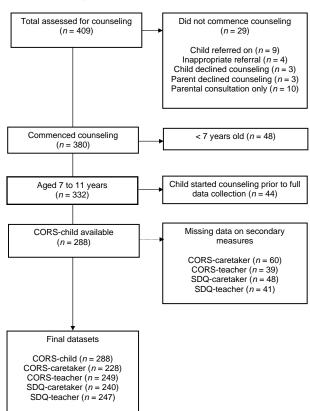


Figure 1. Participant flow diagram.

the PCOMS. Such cohort designs (e.g., Andrews, Twigg, Minami, & Johnson, 2011; Hanley, Sefi, & Lennie, 2011; Stiles, Barkham, Mellor-Clark, & Connell, 2008; Stiles, Barkham, Twigg, Mellor-Clark, & Cooper, 2006) are limited by a lack of a control data. However, they have the advantage of being derived from "real world" settings, and allow for the maximum accumulation of data. Hence, they are considered an important complement to RCT evidence, with the potential to inform clinical guidelines, "indicating the generalizability of evidence-based treatments to actual populations and acting as a 'quality assurance' mechanism" (Cooper, 2011, p. 6).

Participants

Data for this analysis came from 288 children, aged 7–11 years old, who had been referred to counseling by teachers or caretakers (i.e., parents or carers) for social, emotional or behavioral difficulties. The counseling was conducted in 28 primary schools in Northern Ireland between 2008 and 2011. All schools were state schools (i.e., non-fee-paying), covering each of the five education sectors in Northern Ireland. All but one of the schools were in an urban area of high multiple disadvantage.

In total, 409 children were assessed for counseling at these 28 schools over the 3-year period (see Figure 1),

with 12 of these children attending counseling for a second time. Of these, 29 did not commence counseling, and a further 48 were excluded from the analysis as they were less than 7 years old. This was the minimum age that we set for participants, to ensure that the self-report measure (CORS-child), which has been validated down to 6 years old, would be fully comprehended. In addition, 44 children were excluded from the analysis as they had started counseling prior to the implementation of the full data collection protocol.

Complete CORS-child data were available, therefore, on 288 children (Table I). In addition, caretaker-completed CORS forms – at both baseline and endpoint – were available for 228 of these children (79.17%), teacher-completed CORS forms for 249 (86.46%), caretaker-completed Strengths and Difficulties Questionnaires (SDQ, typically parent or

Table I. Participant characteristics at baseline

| | | n (%) |
|---------------------------------|-----------------|-------------|
| Academic year | 2008-2010 | 190 (65.97) |
| | 2010-2011 | 98 (34.03) |
| Gender | Male | 183 (63.54) |
| | Female | 104 (36.11) |
| Age | 7 | 15 (5.21) |
| | 8 | 40 (13.89) |
| | 9 | 68 (23.61) |
| | 10 | 66 (22.92) |
| | 11 | 99 (38.19) |
| Ethnicity | White | 286 (99.31) |
| | BME | 1 (0.35) |
| | BME and white | 1 (0.35) |
| Disability ^b | Yes | 26 (29.53) |
| - | No | 72 (73.45) |
| Presenting issue ^{bc} | Family | 71 (72.45) |
| _ | School | 23 (23.47) |
| | Peers | 12 (12.24) |
| | Personal | 69 (70.41) |
| Total Difficulties ^d | | |
| Caretaker-rated | Abnormal | 168 (58.3) |
| | Borderline | 36 (12.5) |
| | Normal | 69 (24.0) |
| | Missing data | 15 (5.2) |
| Teacher-rated | Abnormal | 108 (37.5) |
| | Borderline | 44 (15.3) |
| | Normal | 108 (37.5) |
| | Missing data | 24 (8.3) |
| Methods usedbc | CBT | 47 (47.96) |
| | Narrative | 8 (8.16) |
| | Person-centered | 35 (35.71) |
| | Play therapy | 47 (47.96) |
| | Strengths-based | 38 (38.77) |
| | Other | 8 (8.16) |

Note. ^aData missing on one participant. ^bData available for 2010–2011 cohort only. ^cTotal percentage > 100% as children may have presented with more than one issue, or received more than one form of intervention. ^dSDQ Total Difficulties score: caretaker-/parent-rated: abnormal = 17–40, borderline = 14–16, normal = 0–13; teacher-rated: abnormal = 16–40, borderline = 12–15, normal = 0–11.

another carer) for 240 (83.33%), and teacher-completed SDQ forms for 247 (85.76%).

Approximately two-thirds of the children were male and a third female, with a mean age of 9.65 (SD=1.24). Over 99% of the children were of white ethnic origin. Where details of disability status, as indicated by parents at assessment, were recorded (2010-2011 cohort, n=98), around one-third of children were described as having a physical or psychological disability, for instance Autistic Spectrum Disorder, behaviorally based disabilities, communication impairment or a learning disability.

At baseline, SDQ-caretaker scores indicated that 70.8% of children were presenting with abnormal or borderline levels of total difficulties, with data missing on 5.2% of children. Teachers' ratings suggested lower levels of distress within the sample, with 52.8% of children scored as experiencing either abnormal or borderline levels of total difficulties, and data missing on 8.3% of the children. These scorings indicated levels of psychological difficulties that were substantially above a normal community sample, where 10% of children would be expected to score in the borderline range and a further 10% in the abnormal range (SDQ, 2009). In addition, the mean caretaker-rated SDQ Total Difficulties scores at baseline, 16.78 (SD = 7.48) for females and 19.34 (SD = 6.72) for males, were at a comparable level to scores for children presenting at Child and Adolescent Mental Health Services (CAMHS) in the UK (CAMHS Outcome Research Consortium, 2012): 17.90 (SD = 8.00) and 20.56 (SD = 6.92), respectively.

The most prevalent types of presenting problems, where recorded by the counselor, were "family" and "personal," with approximately 70% of children presenting with difficulties in these areas. Data on clinical diagnosis were not collected. With respect to use of psychopharmacological medication, an analysis of data from a random sample of 30 records indicated that none of the children was receiving drug treatment for psychological or psychiatric conditions.

The mean number of sessions attended was 12.01 (median = 10, mode = 6) and ranged from three to 43 sessions. The distribution had a significant positive skew (1.53, SE = 0.14) and significant kurtosis (2.91, SE = 0.29).

The median number of identified therapeutic methods incorporated into the intervention delivered to the children was two, with a mean of 1.87 methods per child. Approximately half of the children received CBT methods as part of their counseling, with half also receiving therapeutic play methods. Strengths-based and person-centered methods were delivered to approximately one-third

of the children, with approximately 10% also receiving either narrative-based methods or other methods.

Measures

CORS. The Child Outcome Rating Scale was developed as a brief, self-report measure of psychological distress for children as part of the PCOMS (Appendix 1). The CORS is similar in format to the adult Outcome Rating Scale (ORS) (Miller & Duncan, 2000) but contains childfriendly language and graphics to aid the child's understanding. The ORS was developed as a brief alternative to the Outcome Questionnaire 45.2 (OQ) (Lambert et al., 1996), which sought to make the routine collection of client feedback feasible for front-line-clinicians. The specific items on the ORS were adapted from the three areas of client functioning assessed by the OQ—specifically, individual, relational, and social domains. Changes in these three areas are widely considered to be valid indicators of successful treatment outcome (Hill & Lambert, 2004). These three areas of client functioning were translated into a visual analog format, with instructions to place a mark on the corresponding 10 cm line, with low estimates to the left and high to the right. Research has demonstrated the reliability and validity of brief visual analog scales (e.g., Zalon, 1999). In addition to their brevity and ease of administration, such scales frequently enjoy face validity with clients that may be missing from longer, more technical measures.

The CORS is similar in format to the ORS but translates the three domains into "Me," "Family," and "School," and uses smiley and "frowny" faces at each end of a 10 cm line. Caretakers and teachers can also provide feedback on the CORS for children 12 years and under. CORS reliability and validity has been studied for ages 6–12 years (Duncan, Sparks, Miller, Bohanske, & Claud, 2006). Based on 1,961 children, the CORS-child displayed strong evidence of reliability, with a Cronbach's coefficient alpha estimate of .84. The high coefficient of reliability for such a brief measure suggests that the CORS taps the factor that most, if not all, outcome measures tap: global psychological distress. The CORS-child was significantly related to the well-researched but much longer Youth Outcome Questionnaire YOQ (Burlingame et al., 2001) in all cells of the matrix demonstrating moderate concurrent validity. A Pearson product moment correlation yielded a coefficient between the CORS-caretaker and YOQ-caretaker scores of .61, providing evidence of the concurrent validity of the CORS.

SDQ. The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioral screening instrument for children and young people in the 3-16 age range (Goodman, 2001) that can also be used to evaluate the outcomes of specific interventions. It has been recommended for use as part of a minimum dataset for child and adolescent mental health services (CAMHS) in the UK Department of Children Schools and Families and Department of Health's Review of Outcome Measures for children (Wolpert et al., 2008). It exists in several different versions, with caretaker- and teacher-completed (but not self-completed) versions for children under 12 years of age. The measures consist of 25 items grouped into five scales: emotional symptoms (e.g., "Many fears, easily scared"), conduct problems (e.g., "Often lies or cheats"), hyperactivity (e.g., "Constantly fidgeting or squirming"), peer problems (e.g., "Rather solitary, tends to play alone"), and prosocial (e.g., "Kind to younger children"). Parent and teacher respondents are asked to score each of the items on a three-point scale—Not true, Somewhat true, and Certainly true-in terms of how the child has behaved over the past 6 months (baseline), or 1 month (endpoint). The Total Difficulties score, the principal measure of distress, is calculated by adding the scores for the first four, difficulties-related, scales (i.e., emotional symptoms, conduct problems, hyperactivity and peer problems). Total Difficulties scores have been shown to have good concurrent validity with other measures of child psychological distress (e.g., Goodman, 1997). Reliability of the measure is generally satisfactory, with a mean inter-item consistency of .73, mean retest stability after 4 to 6 months of .62 (Goodman, 2001) and acceptable levels of parent-teacher inter-rater reliability on the Total Difficulties score (r = .62) (Goodman, 1997).

Individual-level predictors. Gender, age and ethnicity were recorded for all pupils by the counselor at baseline assessment. For the 98 children in the 2010-2011 cohort, the counselors also recorded, at baseline, whether or not the child had a disability. Counselors in this cohort also recorded whether the child was presenting with one or more of the following problems: family problems (e.g., family separation, domestic abuse, parental mental health difficulties), school problems (e.g., academic anxiety, transition to/from new school), peer problems (e.g., friendship problems, bullying) and personal problems (e.g., general anxiety, bereavement, trauma). Finally, at endpoint, counselors for the 2010-2011 cohort recorded the predominant therapeutic method, or methods, that they had used as part of the school-based counseling intervention: CBT,

narrative, person-centered, therapeutic play, strengths-based, solution-focused, and/or other.

Procedures

As a naturalistic study, procedures for referring and accepting children into the school-based counseling service were standard for services of this type in the UK. Direct referrals were made to the service by school staff or caretakers, where children were perceived as experiencing social, emotional or behavioral difficulties as a result of a range of personal, family, school or peer-related problems. Children could also initiate a referral request but caretaker consent and involvement was required to fully activate a referral. All referrals were coordinated by a nominated *link teacher* in the school who liaised with the counselor.

The initial assessment meeting was with the counselor and the child's caretaker(s), with the baseline CORS-caretaker and SDQ-caretaker measures completed at its outset. The meeting explored the child's problems, the impact of these problems, the child's strengths and potential barriers to change. Clear goals for counseling, if considered appropriate, were agreed. A meeting was then held with the child's class teacher to discuss these problems further, with baseline CORS-teacher and SDQteacher measures taken. Subsequently, the counselor met with the child for one or two assessment meetings, with the child invited to complete a baseline CORS-child. The assessment process concluded with an overview and work-plan meeting, held primarily with the caretakers, in which the counselor made a recommendation regarding the suitability of counseling and this was discussed. If counseling was agreed as a way forward, a contract was agreed with all parties, with regular reviews established at a minimum of 6-weekly intervals.

Children completed a CORS-child form at the beginning of each session and this was scored onto a graph in the child's presence. A discussion of the measure then followed which could include comparison with outcomes from previous weeks. Care was taken at the first and subsequent sessions to connect scores to clients' described lived experience and reason for counseling. In this way, client scores were responded to at each session based on a shared understanding of their meaning and served as relevant discussion points for changes in treatment method. These outcome-informed conversations formed the basis for the child and counselor to plan both the session content and the nature of the intervention(s) that may be employed. Caretakers and teachers completed the CORS and SDQ forms at each review meeting.

When it was agreed that counseling should be terminated, a formal evaluation and closure procedure was held in which caretakers and teachers completed endpoint SDQ and CORS measures, and children completed a final CORS-child. In cases where the ending of the counseling was unplanned, the last completed measures by children, caretakers and teachers were carried forward as endpoint measures.

Data were collected as part of a standard audit procedure for the school-based counseling, and ethical approval for the analysis of the anonymized data was given by the Chair of the University of Strathclyde's University Ethics Committee on the 12 October 2011. The research protocols were also subject to an internal ethical review by Barnardo's Northern Ireland.

Counselors. Eleven counselors delivered the intervention across the 28 schools, with one counselor allocated per school. All practitioners had qualified at diploma level as professional counselors, with at least 2 years' core training, primarily in integrative or cognitive-behavioral therapy. Following qualification, all counselors had additional certificate-level training in therapeutic play skills, along with certificate, diploma and/or master's level training in cognitive-behavioral methods, trauma work, and a range of other therapeutic practices with children and young people. This was supplemented by brief, in-house training on play, creative, narrative, and trauma-based practices, as well as using a Social Stories Model in work with children on the autistic spectrum.

The counselors were managed, and clinically supervised, by a psychotherapist (the second author) who was trained in using the PCOMS, and who had over 20 years' experience in therapeutic work with children, young people and families.

Intervention. All counselors were asked to practice school-based counseling incorporating systematic feedback via the PCOMS, as detailed by Murphy and Duncan (2010), and received additional inhouse training on use of the PCOMS. Consistent with the use of such feedback measures, the school counselors were invited to practice in a technically eclectic, pluralistic (Cooper & McLeod, 2011) manner, drawing on their specific training and background knowledge to tailor their therapeutic methods to the client's particular feedback, goals and preferences. Through using the PCOMS, the counselors invited their clients to reflect on their progress (CORS) and their satisfaction with the therapeutic work and relationship (SRS), and adopted and adjusted their therapeutic methods

accordingly to maximize the likelihood of client benefit.

Analysis

Preliminary analysis. Distribution of all outcome measures was assessed for normality, and a correlational matrix for all variables was inspected.

Outcomes. Mean scores and standard deviations at baseline and endpoint on each of the measures were calculated, and the effect size of the intervention was identified using Cohen's *d*. This was calculated by dividing the difference between baseline and endpoint CORS scores by the baseline standard deviation (Stiles et al., 2006).

To explore clinical change on the CORS—the proportion of clients moving from clinical levels of distress to nonclinical levels—we used the clinical cut-off point of 31 or less for the child-rated version, and 27 or less for the caretaker- and teacher-rated versions (Duncan, 2011). For the SDQ measures, we looked at how many children had moved from the abnormal or borderline ranges at baseline to the normal range at endpoint, and vice versa. Clinical cut-off points were 14 or greater for the caretaker-completed measure, and 12 or greater for the teacher-completed measure (SDQ, 2009).

Predictors of outcomes. As the data was nested with individual clients located within specific schools and with specific counselors, a multilevel regression approach was used. This analytical method takes into account the potential non-independence of nested data, and adjusts the statistical procedures accordingly.

The principal dependent variable for this analysis was change from baseline to endpoint on the primary outcome measure, the CORS-child. Only data from the 98 pupils in the 2010–2011 cohort were used, where all demographic and therapy variables had been recorded.

Procedures for this analysis followed guidelines proposed by Hox (2010; Hox & Maas, 2005) and Singer and Willet (2003), and were conducted using the software program MLwiN (version 2.23) with the default iterative generalized least-squares (IGLS) method of estimation, with all linear variables grand mean centered (see, also, Cooper 2012). First, an unconditional means model was established. This, allows for a calculation of the between-school variance against the within-school, individual-level variance. As a second model, baseline CORS-child scores were entered, to account for different degrees of change in children with different levels of initial distress. Next, each of the individual-level variables

was entered, separately, as a fixed effect, and their contribution to model fit was assessed in three ways: first, through examining their parameter values against the standard error for this value (the single parameter test; Singer & Willett, 2003); second, through inspecting the proportion of reduction in individual level error variance (i.e., how much of the variance in individual outcomes this factor accounted for); and, third, through the likelihood ratio statistics test. This compares the deviance statistic (an indicator of model fit) between a model and a more specified version of that model, based on a chisquared distribution where degrees of freedom are equal to the difference in the number of parameters between the models (Hox, 2010). An individual-level composite model was then established, incorporating all variables that had, independently, contributed to a significant increase in model fit using the likelihood ratio statistics test (p < .1). The contribution of each individual variable to this new model was then explored with individual variables removed and reintroduced and those variables that made a significant contribution to model fit retained. Interaction effects between each of the remaining variables were then explored to assess whether they contributed to model fit.

To identify whether assumptions of normality and linearity had been met, graphs of level-1 and level-2 residuals by rank, and by fixed part predictions, were examined—both after an initial model had been established, and for the final model (Hox, 2010). Estimates of the proportion of variance explained by the various models (pseudo- R^2 statistics) were conducted by squaring the correlation between the actual values of the dependent variable and the values that were predicted by the model $\left(R_{y,\hat{y}}^2\right)$.

Similar analytical procedures were then conducted using all secondary outcomes as dependent variables. For reasons of space, we present only the summary results from these analyses.

Results

Preliminary Analysis

At baseline, all measures were normally distributed. However, at endpoint, there was a very strong negative skew (*ceiling effect*) on the CORS measures (CORS-child skewness = -2.85 [SE = .14]; CORS-caretaker skewness = -1.19 [SE = .15]; CORS-teacher skewness = -.88 [SE = .15]), and a positive skew (*floor effect*) on the SDQ measures (SDQ-caretaker skewness = .68 [SE = .16]; SDQ-teacher skewness = .70 [SE = .15]).

Pearson and point-biserial correlations between all individual and school-level variables, using a

Bonferroni-adjusted significance level (α) of .00018 for 276 correlations, were calculated. Inter-rater reliability (i.e., between caretakers' and teachers' ratings) for the CORS was not significant at baseline (.22) but significant at endpoint (.37); with significant correlations of .30 and .47 for the SDQ, respectively. Inter-measure reliabilities between the CORS and SDQ were all significant: -.49 for caretakers at baseline and -.60 at endpoint, with correlations of -.58 and -.69 for teachers respectively. At baseline and endpoint, children's ratings of their distress, using the CORS-child, showed significant correlations with caretakers' CORS ratings (.29 and .27), but not with teachers' CORS ratings (.08 and .16). Where play therapy methods were used with a child, the therapist was significantly less likely to incorporate CBT, narrative and person-centered methods into their counseling practice. All other correlations were non-significant.

Outcomes

At baseline, the mean score on the primary outcome measure, the CORS-child, was 25.56 (SD = 8.32). At endpoint, this had increased to 37.92 (SD = 4.26). This was a significant reduction in psychological distress of 12.36 points on the 40 point measure (t = [287] = -24.32, p < .001), with a pre- to post-intervention effect size (d) of 1.49 (95% CI = 1.29–1.69) (see Table II).

All secondary measures indicated significant reductions in psychological distress from baseline to endpoint (p < .001), with pre- to post-intervention effect sizes of 1.40 for the CORS-caretaker (95% CI = 1.18–1.62), 1.05 for the CORS-teacher (95% CI = .85–1.25), .99 for the SDQ-caretaker (95% CI = .79–1.19), and .55 for the SDQ-teacher (95% CI = .37–.73). The mean unweighted effect size across all measures was 1.10.

Based on the primary outcome measure, the CORS-child, 188 of the 212 (88.7%) children who were in the clinical range at baseline showed clinical improvement (i.e., moving into the nonclinical range at endpoint; see Table III). Concomitantly, three of the 76 children (3.9%) who were in the nonclinical range at baseline evidenced clinical deterioration (i.e., moving into the clinical range by end of counseling). Across the secondary outcome measures, percentage of children in the clinical range at baseline showing clinical improvement ranged from 77.6% on the caretaker-completed CORS to 44.3% on the teacher-completed SDQ; and rates of clinical deterioration ranged from 3.5% on the teacher-completed CORS to 10.2% on the teachercompleted SDQ.

Table II. Change from baseline to endpoint

| | | Base | Baseline | | Endpoint | | |
|--------------------|-----|-------|----------|-------|----------|------|-------------|
| Measure | n | Mean | SD | Mean | SD | d | 95% CI |
| CORS - child | 288 | 25.56 | 8.32 | 37.92 | 4.26 | 1.49 | 1.29-1.69 |
| CORS - caretaker | 228 | 21.62 | 7.76 | 32.51 | 5.96 | 1.40 | 1.18 - 1.62 |
| CORS - teacher | 249 | 21.03 | 8.15 | 29.57 | 6.47 | 1.05 | 0.85 - 1.25 |
| SDQ-TD - caretaker | 240 | 18.64 | 6.96 | 11.75 | 6.81 | 0.99 | 0.79 - 1.19 |
| SDQ-TD - teacher | 247 | 13.66 | 6.94 | 9.87 | 6.48 | 0.55 | 0.37 - 0.73 |

Note. CORS = Child Outcome Rating Scale; SDQ-TD = Strengths and Difficulties Questionnaire - Total Difficulties; *d* = raw change/premean SD, positive value indicates greater well-being at endpoint.

Predictors of Outcomes

Based on the variance components in the unconditional means model (Model A, Table IV), the proportion of total variance accounted for at the school level was 28.1%. In addition, the variance in raw change scores across schools was significantly different from 0 (z=2.03, p=.02), indicating that there were differences in outcomes across schools/counselors. Plots of level-1 and level-2 residuals by rank indicate a relatively normal distribution, with no extreme outliers.

In a second model (Model B), baseline CORSchild scores were entered as a fixed term. As expected, this significantly reduced the deviance in the model (-2LL ratio = 146.22, p < .001), with a single parameter test (z = 18.4, p < .001) indicating that children who were experiencing higher levels of well-being at baseline showed lower levels of improvement to endpoint. This model accounted for 85.3% of the variance in the dependent measure. A comparison of variance components also indicated that the introduction of baseline scores accounted for 75.1% of the variance at level 1 (child) and 88.6% of the variance at level 2 (school). Remaining variance across schools was now only marginal (z = 1.36, p = .086), with a plot of school-level residuals against rank indicating that one school had levels of improvement that were significantly below the overall mean.

When additional variables were entered, individually, to Model B, the following all made significant individual contributions to model fit: gender (-2LL ratio = 3.67, p = .055, accounting for 2.4%of individual level error), age (-2LL ratio = 6.38,p = .011, accounting for 6.6% of individual level error), presence of disability (-2LL ratio = 7.74, p = .005, accounting for 12.2% of individual level error), total number of sessions (-2LL ratio = 4.51, p = .033, accounting for 5.5% of individual level error), use of CBT methods (-2LL ratio = 6.47, p = .011, accounting for 6.9% of individual level error), and use of person-centered methods (-2LLratio = 3.39, p = .066, accounting for 1.2% of individual level error). Here, greater improvements were found in clients who were male, older, identified as having a disability, receiving more sessions in total, and receiving CBT methods and/ or person-centered methods as part of their counseling. Exploration of the combined effect of these variables indicated that gender and the use of person-centered methods could be dropped from the model without a significant loss to model fit. In addition, tests of interactions between the remaining variables indicated a significant interaction between total number of sessions and use of CBT methods (-2LL ratio = 4.58, p = .032, accounting for 4.5%of individual level error), with the use of CBT methods showing less enhanced benefit as the number of sessions increased. Figure 2 illustrates this interac-

Table III. Clinical change from baseline to endpoint

| | Clinical improvement | | | Clinical deterioration | | |
|----------------|----------------------|----------|-------|------------------------|----------|--------|
| | Base-clin | End-nonc | %impr | Base-nonc | End-clin | %deter |
| CORS-child | 212 | 188 | 88.7 | 76 | 3 | 3.9 |
| CORS-caretaker | 170 | 132 | 77.6 | 58 | 5 | 8.6 |
| CORS-teacher | 192 | 115 | 59.9 | 57 | 2 | 3.5 |
| SDQ-caretaker | 183 | 104 | 56.8 | 57 | 4 | 7.0 |
| SDQ-teacher | 149 | 66 | 44.3 | 98 | 10 | 10.2 |

Note. Base-clin = number of children within clinical range at baseline; End-nonc = number of these children within nonclinical range at endpoint; %impr = percentage of children in clinical range at baseline moving to nonclinical range at endpoint. Base-nonc = number of children within nonclinical range at baseline; End-clin = number of these children within clinical range at endpoint; %deter = percentage of children in nonclinical range at baseline moving to clinical range at endpoint.

Table IV. Multilevel models with CORS-child change score as dependent variable

| | | Model A | Model B | Model C |
|-----------------------|----------------------|---------------|--------------|-------------|
| Fixed effects | | | | |
| Initial status | Intercept | 13.62 (1.31) | 14.29 (.53) | 14.22 (.53) |
| | Baseline | , , | 92(.05) | 90(.04) |
| | Age | | | .47 (.28) |
| | Disability | | | 2.61 (.89) |
| | Total sessions | | | .14 (.06) |
| | CBT | | | 2.00 (.74) |
| | Total sessions * CBT | | | 25(.12) |
| Variance component | S | | | ` ' |
| Level 1 | Across child | 57.40 (9.36) | 14.29 (2.31) | 9.86 (1.61) |
| Level 2 | Across school | 22.40 (11.94) | 2.55 (1.87) | 3.67 (1.90) |
| Pseudo R ² | | ` , | .85 | .90 |
| Deviance | | 697.35 | 551.13 | 523.00 |

Note. Model A = Unconditional means model (UMM); Model B = UMM + baseline scores; Model C = UMM + baseline + Age + Disability + Total sessions + Use of CBT methods + Total sessions \star use of CBT.

tion, showing that, where CBT methods were incorporated into the counseling, change scores were fairly consistent across number of sessions; but, where they were not incorporated into the work, children who had fewer than 10 sessions tended to change less than those who had more sessions—as well as less than those who had 10 or fewer sessions incorporating CBT methods.

The final model is presented as Model C in Table IV, accounting for 90.4% of the total variance in

CORS-child change scores, and 82.8% of the variance at the individual child level. Although this proportion is very high, it is mainly due to the contribution of the baseline CORS-child scores, which may be associated with the ceiling effect at endpoint whereby children with greater wellbeing at baseline had less "room" to improve. After this factor is taken into account, additional variables accounted for a more modest 5.1% of variance in CORS-child change scores.

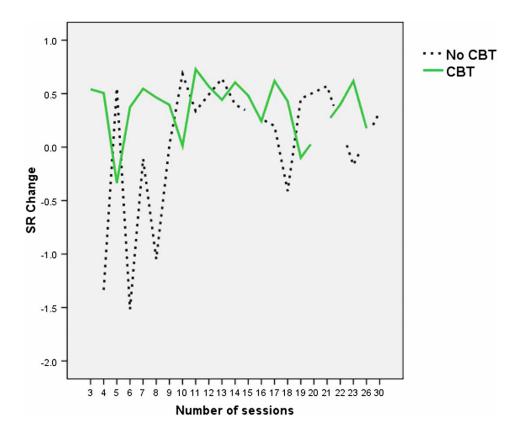


Figure 2. CORS-child change scores by number of sessions for counseling with and without CBT. SR Change = standardized residual of change scores against baseline CORS-child scores. Higher scores indicate more change.

The final model can be summarized as follows: greater change on the CORS-child from baseline to endpoint was associated with lower baseline CORS-child scores, older age, the presence of a disability and more sessions. In addition, children who received CBT methods as part of their intervention improved more, though this effect diminished as children had more sessions. Inspection of residuals for this final model at level 1 and level 2 (slope and intercept) indicated that they approximated a normal distribution, with no extreme outliers and no evidence of a linear relationship to fixed part prediction values.

Multilevel regression modeling using change on the CORS-caretaker scores as the dependent variable (n = 86) found that just the absence of personal problems added significantly to model fit (-2LL)ratio = 3.12, p = .077). Using the CORS-teacher (n = 98), a final model indicated that the presence of a disability (-2LL ratio = 4.88, p = .027) and greater age (-2LL ratio = 2.62, p = .010) were associated with greater reductions in distress. For the SDQ-caretaker (n = 85), a final model indicated that presenting with family issues (-2LL ratio =3.87, p = .049) and the absence of narrative methods (-2LL ratio = 5.20, p = .022) were associated with greater reductions in distress; and, for the SDQteacher (n = 94), the absence of play therapy methods was associated with greater change (-2LL)ratio = 3.11, p = .078). On all secondary outcomes, reductions in psychological distress did not vary significantly across schools.

Discussion

The results of this study indicate that school-based counseling incorporating systematic feedback via the PCOMS is associated with large reductions in psychological distress for children who experience social, emotional and behavioral difficulties. The size of the effect, ranging from an ES (d) of 0.55 to 1.49, compares well with other ESs for child psychotherapy interventions, as well as for counseling and psychotherapy interventions in the adult field (e.g., Stiles et al., 2006). More specifically, the ES for the SDQ Total Difficulties scores in the present study can be compared against those from primaryschool-based counseling in the UK in which the PCOMS is not incorporated into the therapeutic work (Lee, Tiley, & White, 2009; White, Forster, Naag, & Atkinson, 2011). This indicates an approximately two-fold advantage in effect on the caretakercompleted SDQ when the PCOMS is used (.99 against .47 and .58), and a small advantage in effect on the teacher-completed SDQ (.55 against .39 and .44).

In terms of predictors of outcomes, three findings were of particular interest. First, on the primary outcome and one secondary outcome, children rated their improvement as significantly greater when CBT methods were used, and particularly when the work was short-term. That this was against the authors' allegiances (see, for instance, Cooper, 2004) adds to the credibility of this finding. One possible explanation for this is that, as a more directive and focused approach, CBT may have made greater use of limited time periods; though it may also have been that CBT was more frequently used with anxious or angry children, who may have been more likely to improve during short-term work. Second, children identified as having a disability reported greater gains, and this was replicated by teachers' ratings on the CORS. There is no clear explanation for why this might be the case; indeed, from the adult psychotherapy research literature (Cooper, 2008), it may be expected that clients with chronic problems would experience lower levels of benefit from therapy. Third, older children rated themselves as improving more than younger children, as did their teachers. Again, there is no clear explanation of this finding but it is deserving of further investigation.

The principal limitation of this study is that the school-based counseling using systematic feedback was not directly compared against a similar intervention without systematic feedback. This was not considered feasible in the present "real world" setting, where all counselors had been trained in the use of the PCOMS and were being encouraged to consistently incorporate this into their work. However, this means that it is not possible to establish from these results, alone, that the use of systematic feedback via the PCOMS contributed to positive gains in mental health. In addition, without a non-therapy control, it is not possible to establish how much of the change was due to the intervention, per se, as opposed to non-intervention effects such as spontaneous remission, regression to the mean, or the effectiveness of concurrent treatments. Nevertheless, the very large effect size of 1.49 for the primary outcome, and 1.10 across all measures, is substantially greater than that found in control groups of children in RCTs of other psychological interventions, such as CBT for depression (Kowalenko et al., 2005; Lewinsohn, Clarke, Hops, & Andrews, 1990), where reductions in psychological distress are either minimal or non-existent. In addition, the ES of .99 on the caretaker-rated SDQ-TD can be compared against Time 1 (assessment) to Time 2 (approximately 6 months postassessment) ESs (Cohen's d) of .38 and .42 on the same measure for 3,106 boys (6-11 years old) and 1,569 girls (6–11 years old), respectively, from the UK's CAMHS Outcome Research Consortium (CORC) dataset (CAMHS Outcome Research Consortium, 2012; see also Wolpert et al., 2012). These are children who have been presented to mental health services in England and Scotland, predominantly for emotional (48%), conduct (20.9%), and hyperkinetic disorders (18.8%), and received primarily clinical psychology (43.1%), medical (26.9%) or nursing (17.6%) interventions. Not all children in this dataset had undertaken or completed an intervention by Time 2, and this may represent a different population to the present sample (though with similar levels of initial difficulties), but the comparative levels of effect indicate, again, that the present feedback-informed intervention is bringing about substantially greater improvements than would be seen in untreated controls, and possibly also as against alternative interventions.

A third limitation of the present study is the small to moderate levels of inter-rater reliability on the measures, ranging from correlations of .08 to .47 across child, teacher and caretaker SDQ and CORS ratings. This is lower than in benchmark studies with these measures (Duncan, Sparks, et al., 2006; Goodman, 1997), and suggests that, in the present study, each of these groups had relatively distinctive views of the children's levels of psychological distress.

In terms of further limitations, a lack of data on clinical diagnoses makes it difficult to interpret the relevance of these findings to established clinical populations. The regression analyses must also be treated with caution because of the skewing of the primary and secondary data at endpoint, and because of the large number of tests conducted. The study is limited in the number of predictor variables that were considered, and particularly the lack of level-2 (school/counselor) variables. The confounding of school and counselor effects also means that the meaning of variance at level-2 cannot be satisfactorily interpreted. Improvements on the child-CORS may have been artificially enhanced through the demand characteristics of children completing them in front of a therapist, as well as through practice effects; and there is also the possibility that allegiance effects (Luborsky et al., 1999) may have inadvertently enhanced outcomes, with three of the four authors closely aligned to a feedback-informed, pluralistic approach. The findings are also limited due to a lack of participants from ethnic minority backgrounds and the absence of follow-up data.

In conclusion, this study suggests that a schoolbased counseling intervention incorporating systematic feedback may make a significant contribution to the alleviation of psychological distress in children who are experiencing social, emotional or behavioral difficulties, with large pre- to postintervention effects demonstrated across a range of outcome measures, particularly where CBT methods were used and with children who were older and identified as disabled. Although further research is needed to compare these improvements against those found in controls, the magnitude of change suggests that the use of systematic feedback in therapeutic work with children is promising and warrants on-going investigation.

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Appendix 1

Child Outcome Rating Scale (CORS)

| NameAge (Yrs): | | |
|--|--------|-----------|
| Sex: M/F | | |
| Session # Date: | | |
| Who is filling out this form? Please check one: | Child(| Caretaker |
| If caretaker, what is your relationship to this child? | | |
| | | |
| | | |

How are you doing? How are things going in your life? Please make a mark on the scale to let us know. The closer to the smiley face, the better things are. The closer to the frowny face, things are not so good. If you are a caretaker filling out this form, please fill out according to how you think the child is doing.

| | Me (How am I doing?) | |
|---------|---------------------------------------|-----|
| <u></u> | Family (How are things in my family?) | • |
| | School (How am I doing at school?) | • |
| • | Everything (How is everything going?) | • |
| | The Heart and Soul of Change Project | ••• |
| | www.heartandsoulofchange.com | |

Child Session Rating Scale (CSRS)

| Name | | Age (Yrs): |
|-----------|---------|------------|
| Sex: M/F | | |
| Session # | _ Date: | |
| | | |

How was our time together today? Please put a mark on the lines below to let us know how you feel.

| Eric did not always listen to me. | I | Eric | | |
|---|------------|--------------------------------------|---|--|
| | <u></u> | | | listened to me. |
| eally that important | I | How Important | I | What we did and talked about were important to me. |
| to me. | Ö | | | important to me. |
| I did not like what we did today. | I | What We Did | I | I liked what we did |
| | <u>(*)</u> | | | today. |
| I wish we could do something different. | т | Overall | T | I hope we do the |
| | | | • | same kind of things next time. |
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