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A randomized controlled trial of training in Motivational Interviewing for child protection

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ABSTRACT

There has been interest in developing more evidence-based approaches to child and family social work in the UK in recent years. This study examines the impact of a skills development package of training and supervision in Motivational Interviewing (MI) on the skills of social workers and the engagement of parents through a randomized controlled trial.

All workers in one local authority were randomly assigned to receive the package (n = 28) or control (n = 33). Families were then randomized to trained (n = 67) or untrained (n = 98) workers. Family meetings with the worker shortly after allocation were evaluated for MI skill. Research interviews gathered data including the Working Alliance Inventory (WAI). Follow-up interviews 20 weeks later repeated the WAI, and other outcome measures including Goal Attainment Scaling (GAS) and rating of family life.

Between group analysis found statistically significant difference in MI skills, though these was not substantial (2.49 in control, 2.91 MI trained, p = .049). There was no statistically significant difference between groups in any other outcome measures.

The package of training and supervision did not create sufficient increase in MI skills to influence engagement or outcomes. Implications for understanding the relationship between skills, engagement and organizational change are discussed.

1. Introduction

In recent years child and family social work services in the UK have experienced considerable change. There is a broad-based consensus that procedural and bureaucratic approaches to reforming services have been largely unsuccessful, and indeed that in many respects they have been counter-productive (Broadhurst et al., 2009; Featherstone, White, Morris, & White, 2014; Munro, 2010; Parton, 2014). Workers have been identified as spending little time with families and the ways in which they work has received sustained critique, with a tendency toward an authoritarian approach often identified (Featherstone, Morris, & White, 2013; Forrester et al., 2013; Munro, 2010). In this context, a major review by Munro for the English government recommended that social workers should be freed from unhelpful procedural or managerial approaches (Munro, 2010). Instead they should focus on delivering effective services with improved professional responses. For example, the report recommends that local authorities should:

"Review and redesign the ways in which child and family social work is delivered, drawing on evidence of effectiveness of helping methods where appropriate and supporting practice that can implement evidence based ways of working with children and families." (Munro, 2010, p.13).

The report goes on to highlight that:

"Skills in forming relationships are fundamental to obtaining the information that helps social workers understand what problems a family has and to engaging the child and family and working *with* them to promote change." (Munro, 2010, p.88).

Yet, while few would disagree with Munro's point, there is relatively little evidence about the skills required to engage families and children, and still less on how such skills can be improved.

This paper attempts to address this gap by reporting the findings of a randomized controlled trial (RCT) that examined the impact of a skills development package in Motivational Interviewing (MI) on the quality of direct practice, level of parental engagement, and outcomes for

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families allocated a child and family social worker.

This introductory section outlines the context for the study, which was carried out in the United Kingdom (UK), including the choice of MI as a communication approach.

1.1. Policy context

In the United Kingdom, like many Anglophone countries, social workers take a lead role in the area of child protection (Lonne, Parton, Thomson, & Harries, 2008). In England, social workers undertake this role within local authorities – the lowest level of democratic government – organized within "Children's Services" and under legislation that provides duties and powers to investigate and prevent "significant harm" as well as to provide services for "children in need". They therefore deal with referrals of concerns for children, assess risk and provide services both to support families and to prevent children experiencing "significant harm" (see Department for Education, 2013). This role combines "care" and "control" elements, as well as mingling risk assessment, helping families and liaising with other agencies and resources. Social workers work with behaviour change issues constantly, including with parents who have drug or alcohol problems, are experiencing or committing violence, are neglecting or abusing their child, or are experiencing a range of other challenges.

Recently there has been considerable focus on developing and delivering new models of practice. Popular approaches have included Signs of Safety (Turnell & Edwards, 1999), systemic practice (Forrester et al., 2013; Goodman, Trowler, & Munro, 2011) and restorative practice (Pennell, 2006). Motivational Interviewing (MI) has formed an underlying communication style in several recent attempts to reform services, including Intensive Family Support Teams across Wales (Welsh Government, 2014) and major whole-system changes in some English authorities (see Forrester et al., 2017; Luckock et al., 2017).

This study is a pragmatic trial exploring outcomes following a package of training and supervision in Motivational Interviewing. As such, it is hoped that it contributes to our understanding of the use of MI in child protection, but also in relation to skills development in child and family social work more generally. The primary focus for the article is on the impact of training and supervision on the skills of workers and their engagement of parents.

1.2. Why MI?

MI is a client-centered and directive counselling approach. It was developed in the field of alcohol treatment, but has been adapted and used with a wide range of behaviour change issues, including drug problems, diet, exercise, smoking and many others (Allen, Anton, Babor, Carbonari, Carroll, Connors, … Zweben, A. 1997; Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010). Perhaps of particular relevance is that it has been used with indications of success with non-voluntary clients, for instance in probation and prison settings (Anstiss, Polaschek, & Wilson, 2011; Harper & Hardy, 2000).

The foundational skills of MI are similar to those of classic non-directive listening (Miller & Rollnick, 2012). For instance, empathy and reflective statements are core skills, as are open questions, positive affirmations and summary statements to guide the conversation. However, MI is directive in that it conceptualizes a central challenge for behaviour change as being ambivalence in clients (Miller & Rollnick, 2012). MI therefore attempts to help people explore and resolve their ambivalence by managing conversations to allow people to consider their fundamental values and compare them with their current behaviour (Forrester, Westlake, & Glynn, 2012).

The evidence base for MI is extensive. There are many studies where MI-informed interventions are as effective as longer and more intense ways of working (Allen et al., 1997; Project MATCH Research Group, 1998). There are also many studies that found MI to produce significantly better outcomes for people, though overall effects sizes are often small (Lundahl et al., 2010). MI appears to be particularly effective in engaging people who may be resistant to help, and there is therefore now considerable interest in combining MI with other ways of helping people (such as Cognitive Behavioral Therapy (CBT)) (Hettema, Steele, & Miller, 2005). In such formulations, MI is seen as allowing workers to attend to engaging people and building motivation for change, while CBT or other interventions provide a focus for active helping, once people feel engaged in the helping relationship (Arkowitz, Miller, & Rollnick, 2015).

There are strong theoretical grounds for believing MI might be effective in child protection work. The focus of MI in understanding working with resistance and in engaging people often considered hard to engage suggests MI may be useful in child protection work (Forrester et al., 2012; Forrester, McCambridge, Waissbein, Emlyn-Jones, & Rollnick, 2008a). In the field of child protection there are a number of evaluations of specialist services – particularly for families where parents misuse drugs or alcohol – that have found services that incorporate MI have a positive impact on families. Galvani and Forrester carried out an evidence mapping exercise for the Scottish Government to identify what contribution social work could make to working with drug and alcohol problems (Galvani & Forrester, 2011). They found that use of MI was a common feature of the published interventions with evidence of effectiveness. Furthermore, the limited studies of MI skills in child and family social work tend to find that it is linked to better engagement of individuals (Forrester et al., 2012). There is therefore a promising evidence base to suggest that MI skills may be helpful in child protection work. In particular, they seem likely to be helpful in engaging parents. However less is known about how workers might be supported to work in MI consistent ways.

1.3. How to increase skills in MI?

The literature on how people become skilled in MI is complex. Miller and colleagues found that a 2-day workshop in MI has little impact on the skills of practitioners. For instance, a small study with probation officers found that the workshop had no impact on skills, though it did increase self-reported skill in MI (Miller & Mount, 2001). A similar finding was found in relation to training child protection social workers. A two-day workshop in MI for child and family social workers was very well received but after the workshop few of the workers demonstrated skill in MI (Forrester et al., 2008a). The authors hypothesized that this was in part because social work was in general less empathic than they had envisaged prior to the study and partly because more support was needed to transfer skills from training into practice.

What, then, is required to create meaningful change in the skills of workers? There is an emerging literature on this topic. For instance, a recent trial found social work students provided with live supervision demonstrated higher skills than those receiving solely online self-study learning (Pecukonis et al., 2016). Research by Miller and others has suggested that introductory workshops can increase people's motivation to try out specific skills, but that the key to creating genuine changes in practice skill is feedback and coaching to support people in trying out MI in practice (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). Thus, Miller et al. (2004) carried out an RCT comparing workshop alone, with workshop plus follow-up coaching of different sorts. They found that follow-up coaching and feedback produced significantly greater change in actual practice and skills measured in simulated interviews. The focus of the current study is on how we can help workers to develop skills and change their practice. It therefore builds on this body of work and examines a combination of workshop training and follow-up consultations (as outlined below).

The logic model informing the study is outlined in Fig. 1. It is hypothesized that the training will increase skills in practice. The primary hypothesis is that this will increase parental engagement. In addition, a secondary hypothesis is that trained workers will demonstrate

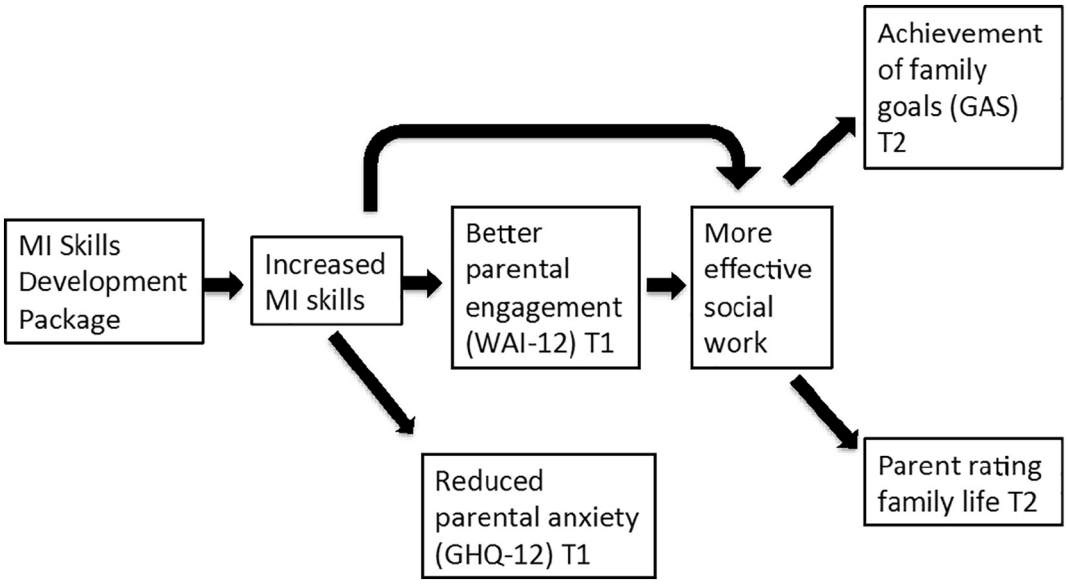

Fig. 1. Logic model for the study (indicating hypothesized causal relationships).

increased MI skills. Finally it seems possible that the combination of MI skills and improved parental engagement might contribute to better social work with families, and that as a result parents would report higher achievement of self-identified goals and better family life at the 20 week follow-up for those trained in MI. Increased empathic listening might also be linked directly to reduced parental anxiety and stress. A between group analyses is carried out on these outcome measures, however a lack of evidence on potential effect sizes prior to this study means these are exploratory analyses. (See Fig. 2.)

2. Methods

2.1. Trial design

The study is a pragmatic trial of the impact of a combination of training and supervision in Motivational Interviewing (MI) for social workers delivering statutory assessment and intervention for children and families in England. It involved a between-group comparison of social worker skills, parental engagement, and selected family outcomes for families allocated a worker who had received the MI package compared to those not receiving it. No changes were made to methods after trial commencement.

2.2. Participants

The study was carried out in a single London local authority (LA) in 2012–13. The LA had six Child in Need (CIN) teams, each covering a geographic area. Forty-eight social workers and 12 line managers took part in the study. During the study period all families allocated a social worker were randomized, however pre-agreed exclusion criteria meant that 256 families entered the study. The biggest single reason for exclusion was families receiving 2 or fewer visits. The flow of families participating is set out in Fig. 1, while basic demographic and service data is presented in Table 1. Observations and interviews with families were usually carried out in the family's home, with a small number taking place in the social work office.

2.2.1. The intervention: MI training and skills development

The intervention is a professional development package in MI (MI PDP) developed in consultation with Miller and Rollnick (creators of MI) and was piloted in two previous studies (Forrester, McCambridge, Waissbein, Emlyn-Jones, & Rollnick, 2008b; Forrester et al., 2013). The MI PDP involved:

- A 2-day training workshop on MI with examples tailored to family support and child protection;
- an additional day of training on using MI in complex child protection interviews;
- thereafter participants received 8 weekly sessions focussed on putting skills into practice and reflecting on and receiving feedback about practice. These alternated between small sessions with supervisory groups and individual consultations using a combination of recordings of practice and reflective discussion about casework undertaken;
- a single day workshop around dealing with challenging issues in the use of MI in child protection work at the end of the 8 weeks (co-facilitated by the first author and Stephen Rollnick);
- thereafter randomization and data collection started. Continued application of MI and skills development was supported through monthly meetings with small groups.

The extent of the PDP was shaped in part by pragmatic considerations: it was the most substantial level of input that the local authority were happy to release staff for. It therefore provides a test of a comparatively extensive skills development program in the real world of UK child protection. Workers and their line managers undertook the PDP together, with the expectation that this would help supervisors to support workers in using MI skills.

2.3. Outcomes and measures

The study used primarily information from research interviews with parents at T1 and T2, with in addition recorded direct observations of practice to evaluate MI skill at T1.

2.3.1. Observations of direct practice: MI skill and other key skills

The home visit (T1, time 1 data collection) typically was the second or third visit with the social worker following case allocation. Families were asked for permission to make an audio recording of the visit, and these recordings of direct practice were coded for MI skill. For recorded interviews, the Motivational Interviewing Treatment Integrity (MITI; Moyers, Martin, Manuel, Miller, & Ernst, 2010) manual (version 3.1) was used to measure levels of MI skill. This was supplemented by additional elements of social work skill developed for this study and

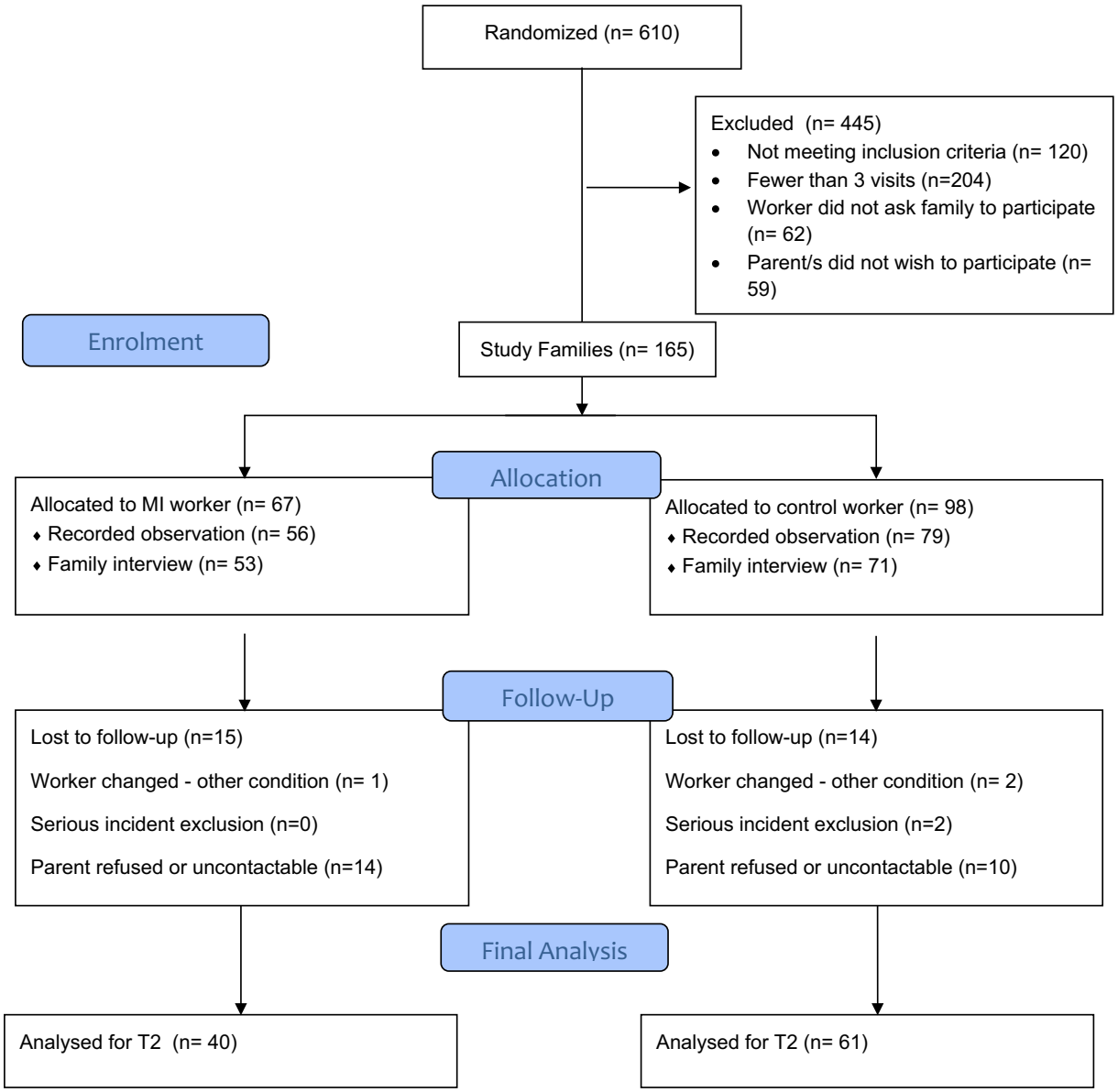

Fig. 2. CONSORT flow diagram for cases and family interview data.

aimed at capturing the appropriate use of authority. A full account of the development of these measures and tests for their reliability is provided in Author et al., 2016. Results indicated high levels of reliability between multiple raters coding the recordings for MI Skill scores and other skill dimensions.

These result in five point ranges, from 1 (low) to 5 (high) for the

Table 1
Family data at T1 – family interview (n = 124).

Variable	Total sample	MI group	Non-MI group	Test
Relationship of career to child, n(%)				$\chi^2 = 3.16$
Mother	107 (86.3%)	45 (84.9%)	62 (87.3%)	
Father	12 (9.7%)	6 (11.3%)	6 (8.5%)	
Other	5 (4.0%)	2 (3.8%)	3 (4.2%)	
Number of adults in home, $M(SD)$	1.98 (1.17)	1.75 (1.05)	1.73 (0.92)	$t = 0.25$
Number of children in home, $M(SD)$	2.01 (1.16)	1.92 (1.10)	2.01 (1.21)	$t = 0.90$
Previous involvement in child services, n(%)	238 (49.7%)	93 (49.5%)	145 (49.8%)	$\chi^2 = 0.006$
Number of weeks had social worker, $M(SD)$	5.57 (5.09)	5.20 (2.67)	5.83 (6.28)	$t = 0.68$
Number of times seen social worker, $M(SD)$	3.23 (1.71)	3.19 (1.81)	3.25 (1.64)	$t = 0.21$
GHQ-12, above cutoff of 4, n(%)	53 (43.1%)	20 (38.5%)	33 (46.5%)	$\chi^2 = 0.79$
GHQ-12 Total score, $M(SD)$	13.25 (7.36)	12.71 (6.88)	13.65 (7.72)	$t = 0.70$
Life Scale score, three months prior to T1 (reported at T1), $M(SD)$	5.08 (2.60)	5.19 (2.57)	5.00 (2.64)	$t = 0.40$
Life Scale score, at T1, $M(SD)$	6.15 (2.11)	6.04 (2.02)	6.24 (2.18)	$t = 0.53$

$_{*}p < .05$.

following dimensions of worker skills:

i. Collaboration (MITI)
ii. Autonomy (autonomy of parent is recognised and increased) (MITI)
iii. Evocation (enhancement of intrinsic motivation) (MITI)
iv. Empathy (MITI)
v. Purposefulness
vi. Clarity about concerns
vii. Focus on Child

Collaboration, autonomy and evocation are averaged to provide an overall score for MI skill (Moyers et al., 2010). This measures the second hypothesis for the study.

Family interview questionnaire. The family interview questionnaires at T1 were completed shortly after the observation with the family. The T2 family interview questionnaire repeated most of the measures from T1, with additional qualitative information about the experience of services and what had helped create change for their family.

Basic demographic information. Demographic information was collected on the family including family household composition, age of family members, and race/ethnicity.

Working Alliance Inventory. The Working Alliance Inventory–Short Form (WAI-S) (Horvath & Greenberg, 1989) was chosen to measure parental engagement due to ease of administration and widespread use in counselling focused studies (Hanson, Curry, & Bandalos, 2002). Engagement as measured by the WAI has been found to have a small but consistent relationship with outcomes, with an effect size of c. 0.2 (Horvath & Greenberg, 1989). The WAI conceptualizes engagement as having three components, namely "Bond" (quality of relationship), "Goals" (degree of agreement about aims of work) and "Tasks" (extent to which parent is carrying out tasks to achieve goals) (Horvath & Greenberg, 1989). These three subscales together provide a strong description of important elements involved in engaging parents in the work of child and family services. In this study the primary measure is the WAI-S total score as completed by the parent; however, this was supplemented by versions of the WAI completed by both the researcher observing practice and the social worker. The factor, construct, and criterion-related validity were examined for each version of the WAI-S in this sample (Killian, Forrester, Westlake, & Antonopoulou, 2015). The Cronbach's?? scores across each version of WAI-S each demonstrated good to excellent reliability for the subscale scores (?? = 0.794 to 0.948) and for the total scores (?? = 0.941 to 0.969).

Goal Attainment Scale. The Goal Attainment Scale (GAS) has parents identify most pressing issue for their family and specific and measureable ratings for change (+3 to −3) by T2. This approach allows a broad-based, reliable and valid identification of family-specific issues and goals by parents (King, McDougall, Palisano, Gritzan, & Tucker, 2000; Palisano, Haley, & Brown, 1992).

General Health Questionnaire. The General Health Questionnaire (GHQ; Goldberg, 1992; Goldberg et al., 1997) is a measure of heightened risk of common psychiatric illnesses such as anxiety and depression and minor psychological distress. The shorter version of the GHQ contains 12 items each with four response options (coded 0–3) with higher scores indicating increased levels of mental distress. Response options are semantically anchored as "Better than usual", "Same as usual", "Worse than usual" and, "Much worse than usual" or some variation. The GHQ-12 has been validated in numerous populations and clinical settings. For the current study, a total score was calculated as well as a clinical threshold of 3/4 based on the GHQ-12 scoring (Goldberg et al., 1997; Goldberg, Oldehinkel, and Ormel, 1998). Based on an item scoring of 0-0-1-1 where more severe answers were coded as 1, a score of 4 being a clinically elevated threshold for psychiatric illness. The total score would have a possible range of 0–36 based on the usual GHQ-12 item scoring of 0-1-2-3. The internal consistency reliability for the GHQ-12 was good with Cronbach?? = 0.886.

Life Rating Scale. Parents and caregivers were asked to rate their family life on 11-point Likert style (Life Rating Scale) at T1 and T2. Ratings were on a scale of 0–10 with higher scores indicating "your family life is really good and 0 is how you feel when life is at its worst." At the first visit with the family after allocation, parents were asked to rate their lives at the time of the interview and three months prior. Later at the second family interview 20 weeks after allocation, parents were asked to rate their lives at the time of the second interview.

2.3.2. Randomization

In developing the study design the LA raised concerns that once workers were trained in MI they would be more likely to be allocated difficult cases. To address this the study used an unusual "double randomization" procedure. Workers were randomized to receive the PDP and then families were also randomized to either intervention or comparison groups. Each social work team consisted of one team manager and two deputy team managers (DTMs), each of whom supervised four workers (the DTM plus the 4 workers they supervise are henceforth called the "group"). A referral team screened all referrals and those requiring input from a social worker were passed to the CIN teams for allocation.

Within each team one group were randomized to receive the MI package (MI group) while the control group received the package after the end of the study (Non-MI group). Following completion of the MI PDP, all families allocated a worker were randomized to either an MI or Non-MI worker over the next 7 months (December 2012–June 2013), excluding two weeks at Christmas and at Easter (when staff absence made randomization impossible). Proportionate block randomization enabled variation of proportions between teams to allow for attrition of workers while ensuring that allocation was unpredictable. Randomization was carried out by the research team independently of the LA. Allocation was concealed behind sealed and opaque sheets. Furthermore the allocation team implementing the allocation had no knowledge or interest in group membership within the CIN teams.

Study protocol involved teams temporarily exiting the study (randomization and all data collection) when staff numbers and case loads meant that randomization was not possible. This was a decision agreed with senior managers in the authority. This particularly affected one team, where randomization was suspended for 13 weeks.

Following randomization families were excluded for the following pre-specified conditions:

1. Families or children intended for allocation to particular specialist workers in teams. This included workers for the hospital, prison, young people who were considered homeless/without a carer. As there was just one of each randomization was not possible. Furthermore these individuals carried out very different functions to most workers. Ideally we would not have randomized families for these workers, however the busy initial assessment team did not make the decision about allocation to a specialist within a CIN team. This was made by the CIN Team Manager depending on case characteristics. As allocation had to happen prior to entering CIN teams we therefore randomized and then excluded (see Limitations discussion).
2. Families that had two or fewer visits – because it was believed that MI skills would be unlikely to have a significant impact. This meant that most families that were randomized were excluded from the study.
3. Management over-rule. This primarily happened where a group on a team could not take an additional case due to worker attrition from the service. This often presaged a suspension of the team from randomization. Management over-rule was also allowed where a family had been previously allocated to a worker.

Other reasons for families not entering the study included workers not asking families, parents not wishing to participate or researchers being unable to contact families at follow-up. Three families were

Table 2
Differences between MI groups and worker skills (multi-level models).

MI skills	Evocation		Collaboration		Autonomy		Empathy		MI spirit		Purposefulness		Clarity of concerns		Child focus	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Total N	87		107		107		108		87		107		107		107	
Intercept	−0.19	0.15	−0.24	0.14	−0.05	0.14	−0.31	0.14	−0.17	0.15	−0.15	0.13	−0.16	0.14	−0.09	0.14
MI group (MI)	0.57*	0.25	0.57**	0.23	0.12	0.22	0.73***	0.23	0.49*	0.25	0.34	0.21	0.33	0.22	0.19	0.23
Variance components																
Between worker variation level 2-Worker	0.31*	0.15	0.30*	0.13	0.15	0.12	0.33*	0.13	0.26	0.14	0.07	0.10	0.15	0.12	0.18	0.12
Within worker variation level 1-Family	0.57***	0.12	0.57***	0.10	0.83***	0.14	0.52***	0.09	0.63***	0.13	0.90***	0.15	0.80***	0.14	0.80***	0.14
Cohen's *d*	0.244		0.240		0.053		0.305		0.201		0.157		0.145		0.080	

* $p < .05$.
** $p < .01$.
*** $p < .001$.

excluded from follow-up because they had been reallocated to a worker in the other condition and two were excluded because a serious incident had occurred.

Families were blind to the MI focus of the study and to group membership of the worker (i.e. MI or Non-MI control group). Workers were not and researchers were not blind, though those coding observations for worker skill were blind to group membership.

2.3.3. Statistical methods

Information was entered onto SPSS (v21). All analyses were done with outcome values compared between groups using mixed-effects three-level regression models to adjust for social work team as a stratification variable and to allow for clustering by social worker. When stratification at the level of team was negligible, a simpler two-level model was used that analyzed variation between families allowing for clustering of allocation to workers. For continuous outcomes, we fitted a linear-regression model and present results as correlation coefficient and standardized error, identifying those which were significant at $p < .05$. For all variables data is presented for whole group and for control and experimental conditions. Other statistical tests included bivariate ANOVA, *t*-tests, and chi-square analyses depending on the variables' level of measurement.

2.3.4. Ethical review

The study was reviewed and approved by the Ethics Committee of Bedfordshire University, UK.

3. Results

3.1. Participant flow

The CONSORT diagram sets out the recruitment and attrition for the study. A high number of families were randomized (610) but 324 were excluded for pre-agreed criteria. Of the 286 eligible families, 62 (22%) were not asked to participate by their social worker and a further 59 (21%) did not wish to participate. A between group analysis was carried out comparing information from the local authority computerized records for families in these two groups and for all other families lost to analysis at T2. This compared number of children, proportion that were child protection and ethnicity (white vs other). There were no significant differences.

Families allocated to a worker and interviewed at T1 ($n = 124$; Table 1) had seen their worker on average 3.23 times before completing the family interview questionnaire (SD = 1.71) and been assigned a worker for an average 5.57 weeks (SD = 5.09). The family member completing the questionnaire and interview was most often the mother of the child (86.3%). The average household had two adults and two children in the home. At the time of the interview, respondents reported significant overall stress (mean GHQ-12 score = 13.25, SD = 7.36) with 43.1% of respondents reporting elevated stress levels (i.e., GHQ-12 score over 4). On the Life Scaling measure, families reported themselves an average of 6.15 (SD = 2.11) at the time of the interview (on a scale of 1–10) but lower when recalling three months prior to case allocation (M = 5.08, SD = 2.60).

3.2. Results of randomization

Random assignment of workers. Due to one worker missing the training and one leaving prior to the study starting, the MI group consisted of 22 workers and 6 DTMs ($n = 28$). The control group included a worker who joined the local authority between the start of training and data collection (27 workers and 6 supervisors; $n = 33$). During data collection, all new staff entered the control condition. The final control group was therefore 38 professionals. Statistical tests found no significant between group differences on descriptive variables for worker demographics, education or prior training in MI at either T1 or T2.

Random assignment of families. Table 1 provides comparative data on family composition and some key measures for families in the study sample at T1, including extent and nature of social work involvement. There were no between group differences suggesting randomization had been successful and the various possible exclusion or non-participation decisions had not affected this.

3.3. Did the MI training package make a difference to the skills used in practice?

Table 2 presents the results from the mixed-effects multilevel modeling analysis of the between group differences in skills following training. There was a statistically significant change in key MI skills observed during home visits for the MI trained group. The training made a significant difference to practice MITI scores. This was primarily through increased collaboration (?? = 0.57, SE = 0.23, $p = .013$, Cohen's $d = 0.240$) and evocation (?? = 0.57, SE = 0.25, $p = .023$, Cohen's $d = 0.244$) in the MI group. There was little impact on the recognition and support for autonomy of parents (?? = 0.12, SE = 0.22, $p = .415$). Overall, there was however a statistically significant increase in MI skills (?? = 0.49, SE = 0.25, $p = .049$, Cohen's $d = 0.201$), though the absolute shift was modest (from 2.49 in control group to 2.91 for those MI trained). Interestingly, the biggest single impact was on empathy (?? = 0.73, SE = 0.23, $p = .002$, Cohen's $d = 0.305$) (a variable not included in the MI score but considered important for MI nonetheless).

Second, there was no reduction in the variables associated with authority, namely purposefulness (?? = 0.34, SE = 0.21, $p = .105$), focus on child (?? = 0.19, SE = 0.23, $p = .409$), or ability to raise

Table 3
Engagement outcome by group.

Variable	Total Sample		MI Group		Non-MI Group	
	T1	T2	T1	T2	T1	T2
Working alliance inventory – family (n = 124 at T1, n = 101 at T2)						
WAI Goal subscale score, *M*(*SD*)	21.31 (6.29)	19.59 (7.14)	21.92 (5.68)	19.03 (7.14)	20.89 (6.71)	19.97 (7.17)
WAI Task subscale score, *M*(*SD*)	19.18 (6.46)	18.27 (7.00)	19.63 (5.90)	18.05 (6.79)	18.85 (6.86)	18.41 (7.19)
WAI Bond subscale score, *M*(*SD*)	20.64 (6.76)	19.04 (7.52)	20.71 (6.59)	19.00 (7.44)	20.59 (6.94)	19.07 (7.64)
WAI Total scale score, *M*(*SD*)	61.68 (17.87)	56.97 (20.54)	62.96 (16.55)	56.14 (20.70)	60.77 (18.81)	57.52 (20.60)

concerns (?? = 0.33, SE = 0.22, p = .134).

The third finding was that the variation between individual interviews was greater than that between workers. Between worker variance components (level 1 with families) were all statistically significant (p < .001) for the MITI skill scores, while within-worker variance components (level 2 with workers) for evocation, collaboration, and empathy were the only ones significant (p < .05) at this level (Table 3). This suggests that the level of skills workers demonstrate varies considerably across different observations, for instance in relation to the family worked with, the context of the conversation or due to variability in the worker's performance.

Fig. 3 presents the level of MI skill (on a 1–5 rating) for the two groups. It can be seen that there was good MI practice in the untrained group and a high level of non-MI consistent practice in the trained group.

Table 4
Family and parent outcomes (n = 101) at T2.

Variable	Total sample	MI group	Non-MI group	Test
GHQ-12, above cutoff of 4, *n*(%)	22 (22.0%)*	7 (17.5%)	15 (25.0%)	χ^2 = 0.79
GHQ-12 Total score, *M* (*SD*)	9.88 (6.49)**	9.40 (5.98)	10.20 (6.83)	t = 0.60
Life Scale score, at T2, *M* (*SD*)	6.78 (2.07)***	6.50 (2.09)	6.96 (2.05)	t = 1.09
Goal Attainment Scale score, *M*(*SD*)	0.85 (1.29)	0.85 (1.31)	0.85 (1.29)	t = 0.01

* p < .05.
** p < .01.
*** p < .001.

3.3.1. Did the MI training package lead to better family engagement?

Table 4 presents the descriptive statistics for family and parent outcomes (n = 101). Table 5 presents the mixed-effects multilevel modeling analysis for between-group differences for family engagement scores over the WAI at both T1 and T2. There were no statistically significant differences between the groups on the WAI (total score or sub-scales) (Cohen's d ranging from 0.004 to 0.097). Table 6 presents the same analysis for the Life Scaling measure scores at T1 and T2, and GAS scores at T2. Between-group differences were not found for these measures (Cohen's d ranging from 0.020 to 0.067).

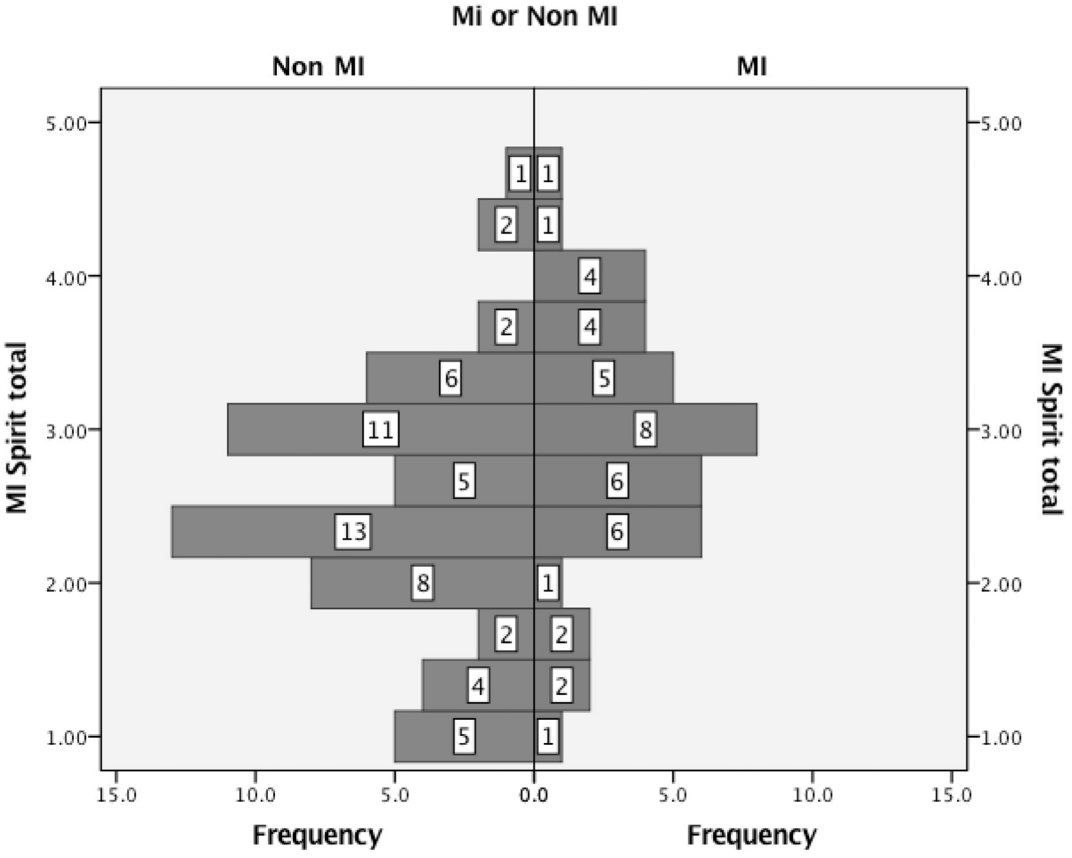

Fig. 3. MI skills scores for MI trained and untrained workers.

Table 5
Differences on WAI scores between MI groups (multi-level models).

	WAI goal score		WAI task score		WAI bond score		WAI total score	
Model	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Family-reported WAI scores								
N	122		123		121		120	
Intercept	−0.07	0.13	−0.08	0.12	−0.01	0.12	−0.06	0.12
MI group (MI)	0.19	0.20	0.14	0.19	0.03	0.19	0.13	0.19
Random								
Between worker variation level 2-worker	0.10	0.10	0.07	0.09	0.07	0.09	0.07	0.09
Within worker variation level 1-family	0.85***	0.13	0.89***	0.14	0.89***	0.14	0.87***	0.14
Cohen's *d*	0.086		0.066		0.014		0.062	
Cohen's *d*	0.004		0.018		0.029		0.013	

*$p < .05$.
**$p < .01$.
*** $p < .001$.

Table 6
Differences on outcome scores at T2 between MI groups (multi-level models).

MI skills	WAI total score at time 2		Life scale score at time 1		Life scale score at time 2		GAS score at time 2	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Total N	93		124		99		96	
Intercept	0.04	0.15	0.02	0.12	0.05	0.13	−0.01	0.15
MI group (MI)	−0.09	0.23	−0.10	0.18	−0.14	0.21	0.05	0.25
Variance components								
between worker variation level 2-worker	0.16	0.14	0.00	0.00	0.00	0.00	0.28	0.15
within worker variation level 1-family	0.82***	0.16	1.00***	0.13	0.99***	0.14	0.71***	0.14
Cohen's *d*	0.041		0.050		0.067		0.020	

*$p < .05$.
**$p < .01$.
*** $p < .001$.

4. Discussion

4.1. Limitations of the study

The findings indicate that randomization was carried out successfully both in relation to workers and families. Nonetheless, there are two primary sources of bias. The first is that the families who did not participate in the study may have been different to those who did. Equally, the families that were allocated but who did not wish to take part, and the 10% of families who social workers did not ask to take part, may be different from the sample in ways that cannot be predicted. While we analyzed some variables (number of children, ethnicity and whether child protection) and found no between group differences it is not possible to rule out variability on factors we did not have data for.

A second limitation may be due to worker attrition. Social workers from both conditions left the study, but all social workers joining the local authority necessarily joined the comparison group. This may have caused bias, though the analyses reported above exploring the differences between the two groups of workers at the start and end of the study could not find any prima facie differences. This source of bias seems unlikely to have affected the main findings.

A decision was made to randomize with an exclusion criteria for families receiving fewer than 3 visits. There were strong practical reasons for this, namely that one would not expect much impact of communication skill on families who see little of their social worker. It was impossible to randomize at a later point. Nonetheless this precludes an "intention to treat" analysis, and it is possible that MI training might affect either the number of visits or the decision to close cases. For instance, MI trained workers might engage parents and this could lead to more or fewer visits. In fact the overwhelming reason for case closure was risks being considered too low for further work, with lack of engagement rarely leading to case closure. We could not find any between group differences on service level data to indicate an impact of MI training on early case closure but cannot exclude this as a possibility.

Finally, the study was undertaken in a single local authority, and care needs to be taken when considering the generalizability of findings for other authorities or other countries.

4.2. Review of key findings

The study found that a 12-week program of skills development in MI, with follow-up sessions over 6 months, had no statistically significant impact on engagement of parents or other child and family welfare outcomes. This was despite the training indicating a statistically significant improvement in skills demonstrated in practice. Here we try to understand this finding, and then explore implications for policy, practice and research.

First, it is helpful to explore the nature of the change in skills that was identified. This is illustrated in Fig. 3, which shows the distribution of MI skill for the trained and the non-trained workers. For ease of interpretation it is generally thought that 3.5 and above represents "threshold" MI skill and 4 and over indicates that MI is being used (Moyers et al., 2010). Put simply, one can see that those trained have higher levels of skill overall, but it is equally apparent that there are many workers demonstrating low levels of skill post-training, that there are several who are comparatively skilled without training and most obviously that even post-training few of the workers are actually demonstrating skills in MI. The shift is statistically significant (in that it is unlikely to be due to chance) but that may not mean it is sufficient to be clinically significant (that is, the level of difference may not be sufficient to create meaningful or identifiable change).

Two areas seem important in understanding this finding. The first is more foundational, namely what is the relationship between worker skills and outcomes? The second is exploring why the training had only a limited impact on skills.

There does not appear to be a strong evidence base for the relationship between worker skills and outcomes for parents or children in child and family social work. An assumption underlying this study was that there was such a relationship. It is therefore concerning that an increase in skills, albeit a modest one, did not appear to have any impact on engagement nor client defined achievement of goals.

There are multiple possible explanations for the failure to identify such a relationship. One is that social workers have less impact on families than we might imagine. Meeting a social worker is only a small part of a family's experiences. It needs to be considered in the context of structural, interpersonal and psychological issues that may swamp the impact of skilled compared to less skilled social work. Furthermore, direct practice skills are only one element of "good practice". Assessment skills, work with other agencies and numerous other elements may also be important. In addition, it is possible that workers who had been trained in MI may have used the opportunity to demonstrate higher levels of skill which they would not use in non-observed interviews. If this is true observer effects might lead the study to have an exaggerated sense of the skill difference between groups; if this is true then the issue is not the lack of a relationship between skills and outcomes, but rather solely that the MI PDP package had no impact. Finally, it is possible that MI skills have no impact on parental engagement or the other measures used in this study. Such a finding would be unexpected – across many disciplines empathic listening is associated with better working alliances – but it is possible, perhaps in the context of risk and authority MI skills make no difference. In fact we did not find this. In this sample there were statistically significant relationships between MI skills and parental engagement and other outcomes (Forrester, Westlake, Killian, Thomas, Waits and Whittaker, under considerations). It appears the shift in skills was insufficient to influence engagement or outcomes.

There were also features of the families worked with that may have influenced the lack of relationship between increased MI skill and outcomes. Two of these stand out. First, many of the families actually saw their social worker very little in the 20 weeks after the T1 interview. This limited contact means worker skill was unlikely to have much impact. Second, a related consideration is that for many – perhaps most – families there was a pattern of concerns either not being substantiated or disappearing fairly swiftly. These results are consistent with a body of primarily qualitative research from the 1980s and 1990s in the UK that identified social workers in child protection contexts spent a lot of time "filtering out" referrals, a process which involved assessment of risk combined with providing little help (Bullock, Little, Millham, & Mount, 1995; Cleaver & Freeman, 1995; Gibbons, Bell, & Conroy, 1995). It was often very upsetting for families (Cleaver & Freeman, 1995). It therefore seems possible that many of the families worked with had relatively minor problems, or problems that resolved themselves with little or no need for social work help. This resulted in limited social work involvement and little or no relationship between skills and outcomes for these families. For the current study, the key challenge is that social worker skills may only have an impact on outcomes in a minority of families. Our study included all families, and therefore the sample may not be large enough or focused enough on high risk families to identify the impact of improved skills on outcomes – assuming that this is where worker skills make a difference.

Whatever the relationship between skills and outcomes in child and family social work, the overall impact of the skills development package on the practice of workers – while statistically significant – was rather limited. For instance, few workers demonstrated skill in MI. Why might this be?

Two interrelated explanations seem plausible. The first is that MI – or at least MI as taught within the 12-week package – may not be a particularly good "fit" for child and family social work practice. For the current study MI was taught as a series of principles and skills for effectively engaging people and working with them around behaviour change. This may have had two important limitations. First, it did not take account of risk assessment, seeing the communication skills involved in child protection as a discrete element of the work. Yet assessing and managing risk is probably the "core business" of child and family social work. Introducing an approach to helping people that did not explicitly incorporate risk assessment and management may have contributed to MI being marginalized in the everyday work of social workers. Second, many of the meetings between workers and parents were not in any obvious way about change. We are currently analyzing the interviews of direct practice, but it is already obvious that it was frequent for social work meetings to be procedural, or to appear to be defined by the need to gather pre-specified types of information. Thus, for example, quite a lot of meetings between social workers and families are talking about upcoming meetings, explaining the consequences of previous meetings, or in other ways seemed to be meeting the needs of the system, which defined the nature of the work, rather than working with families to create change (at least in any obvious way). Put bluntly, MI was introduced as a way of helping parents and families, and often it did not really feel that was what the "child protection system" was trying to do.

The second possible explanation for the findings is that training – even when supplemented by 8 weeks of weekly supervision - are not enough to create large changes in practice. The management expert Peter Drucker argued that for companies the culture of the organization is more influential than the management strategy. He pithily encapsulated this by saying "culture eats strategy for breakfast". We felt that the same was true for this study: in creating change in children's services, culture eats training for breakfast. In this context by culture we mean the everyday practices that shape the shared understanding of what the service is for and about. Our sense was that the culture of the local authority in this study was very typical of local authorities in the UK: it was heavily driven by procedural understandings of what social work practice should be. Motivational Interviewing ran counter to some of the key tenets of this approach, making it difficult for individuals to adopt.

For instance, the pattern of supervision provided for workers was heavily influenced by procedural approaches. Workers and supervisors would sit down at computer screens and discuss whether various tasks had been completed. Supervisors varied, and some attempted to add reflective elements, but the dominant approach to supervision was about ensuring workers carried out certain tasks (for research carried out in this authority to explore this see Wilkins, Forrester, & Grant, 2017). The pattern of supervision was replicated in the tone and content of many of the interviews with families, in which workers often seemed to be reviewing tasks for completion. Introducing MI into this context was challenging. Achieving changes in practice would appear to require more holistic organizational changes.

4.3. Conclusions and next steps

MI is one of a family of strengths-based and solution orientated approaches that have been identified as likely to be helpful in child and family social work over recent years (see for instance Benard, 2006; Dawson & Berry, 2002; Munro, 2011; Turnell & Edwards, 1999). One of the key implications of this study is that far more attention needs to be paid to evaluating whether these approaches make a positive difference and how they can and should be implemented. The complex relationship between skills and outcomes and the challenges of changing practice encountered in this study illustrate that we know too little about good practice and about how to create it in Children's Service.

Our conclusion is that if MI – and by extension we believe other strengths-based approaches – are to be integrated into social work practice, three conditions need to be met. First, the approaches need to

incorporate risk assessment (developing a shared understanding of potential harms to children) and risk management (developing a plan for mitigating such risks) that is consistent with the approach but that takes risks to children seriously. In this respect, *Signs of Safety* is a good case study (Turnell & Edwards, 1999). Taking the principles of solution-focused practice, *Signs of Safety* is based on developing a more strengths-based and solution orientated approach to carrying out child protection work. For MI and similar approaches to be effective they need to incorporate risk assessment and management into child and family social work in a similar way.

Second, work needs to be undertaken to ensure that such approaches are adapted for the specific context of child and family work. In observing extensively what social workers actually do it becomes obvious that much communication in social work is less formal than is generally considered in "evidence-based practice". Features of workers such as humour, reliability and clarity seemed at least as important as empathy and developing client autonomy. So perhaps effective approaches in social work need to recognize this. Social work is not therapy, it involves use of authority and work with other agencies as well as elements of helping that have similarities to therapy. Yet most of our evidence-based interventions and the models for working that we teach in social work are based on therapeutic approaches. Approaches such as MI may provide valuable insights into what good social work is, but perhaps more holistic social work approaches need to be developed that are congruent with the everyday job of the social worker. As such, borrowing from other settings should only be the start of a process of developing social work specific ways of working effectively.

Finally, and perhaps most importantly, the underlying model for the current RCT was too individualistic about the nature of evidence-based practice. A "social model" is one of the key features of social work, yet we have not applied such insights into how we create better practice often enough. We have often assumed that "skills" reside in individuals and can be increased or reduced by things (such as training, supervision etc.) that we do to people. One of our conclusions from this study is that practice is produced by *organizations* more than by individuals. A social model of evidence-based practice requires us to turn our attention to changing organizations as well as individuals. There are two consequences for such an orientation. The first is that organizations should have a model of practice: they should be able to say what they strive to achieve. The second is that achieving that vision requires far more than training: organizations need to be designed to deliver the vision of practice they espouse (Forrester, 2016; Munro, 2010).

This is a challenging agenda, for it requires both individual and contextual change. We know from working with parents and children how difficult making lasting changes can be. One of the lessons from this study is that we as professionals and organizations face equally difficult processes of change if we are to move toward more humane and effective ways of working. If evidence-based practice means creating organizations devoted to excellence, then attempts to improve social work practice need to focus not just on helping individuals to improve their practice but also on changing the organizational contexts which they work in so that both share a focus on delivering outstanding practice. Our belief is that when such changes are made, social work will be more able to achieve its aspiration to help transform the lives of those we work with.

Conflict of interest statement

There are no conflicts of interest for any of the authors of this paper.

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