PATTERNS OF PRACTICE: AN EXPLORATORY FACTOR ANALYSIS OF CHILD AND FAMILY SOCIAL WORKER SKILLS

Abstract

There is relatively little research on the communication skills that social workers use in direct practice with families. This study explores patterns of practice skill found in child and family social work home visits. The study analysed 127 practice interactions in family homes, coding for seven dimensions of worker skill using a coding framework drawn from Motivational Interviewing (MI). Exploratory factor analysis was employed to establish patterns of skill within the data, and to group key dimensions of skill. The findings make two contributions. First, three fundamental dimensions of good practice emerged, which we characterize as: care and engagement; good authority; support for behaviour change. Second, in exploring the relationship between ‘care’ and ‘control’ elements of social work, skilled social workers were able to combine good authority and empathic engagement, while those who were less skilled in use of authority were also less good at engagement. This contributes to debates about care and control in social work. The usefulness of these dimensions for conceptualising practice in child and family social work is discussed and directions for further research suggested.

**Keywords:** Communication skills, child protection policy and practice, Motivational Interviewing
INTRODUCTION

There is a general consensus that how social workers talk to people is important. Communication skills are a core part of the social work curriculum, and it is required that they are assessed and students demonstrate adequate skills before they can qualify as social workers. There are myriad social work textbooks devoted to communication and effective work with people, and most introductory guides have at least some focus on how to work face to face with those using a service (see for example Coulshed and Orme, 2006; Davies, 2007; Koprowska, 2014). Yet, despite general agreement on the importance of communication skills, there are few studies looking directly at social work practice, particularly in the complex area of child and family work. As a result, we do not have strong evidence about how workers practice or the difference that it makes. In this context, Ferguson argues that “What is needed is nothing less than a social science of the home visit.” (Ferguson, 2018: 78). This paper attempts to contribute to such a social science by applying quantitative analysis to explore the relationship between different social work skills. In doing so it describes the pattern of skills found in 127 meetings between social workers and families. These were coded using a seven skill framework based on the principles of Motivational Interviewing (MI) and analysed using exploratory factor analysis to identify whether the skills could usefully be grouped together. Three key dimensions emerged – care and engagement, good authority and behaviour change support. It is suggested that these make a potentially helpful contribution to our conceptualisation of practice in child and family social work.

To date research exploring direct social work practice and, in particular, the home visit, has tended to use qualitative methods to analyse naturally occurring data. The Talking and Listening to Children project focused on direct work with children, and highlighted the complexity of such conversations and the ways in which social workers manage practice in this context (Ruch et al. 2017; Winter et al. 2016). Hall and colleagues (Hall and Slembrouck 2009; Hall et al. 2014) have drawn upon studies of interaction
in sociolinguistics and discourse analysis to produce detailed analyses of the use of language in social work practice conversations, in the UK and other European countries. Their work has highlighted the varied ways in which meaning is negotiated, resisted and constructed in such conversations, providing rich descriptions of the complexities of social work practice. Hall et al. (2014:178) conceptualise social work interaction as existing at the “intersection of autonomy and control” where tensions in the worker’s position between government and the individual play out as they act to support people to live fulfilled lives, and to control people when they place themselves or society at risk.

Ferguson is perhaps the leading academic focussing on direct practice, drawing on sociologies of mobility and place, and psycho-analytic concepts to analyse the complexities of child protection practice. In a series of ethnographic papers (for instance 2016 a, b) and a key book (2011), Ferguson developed a complex and nuanced description and theorisation of what happens when social workers visit family homes. His studies have identified the mobile and creative elements of the home visit (Ferguson, 2018), the impact of powerful emotions and physical experiences on workers and their practice (Ferguson, 2011, 2016a, 2016b, 2018) and the effect such experiences can have on the ability of social workers to “see” the child or to critically reflect on or during their practice (Ferguson, 2017). Ferguson (2011: 171) has also contributed to the conceptualisation of the unique nature of good child protection practice which utilises authority “in a skilful, empathic yet forthright manner”. This he calls ‘good authority’ (Ferguson 2011: 39). For those who have or do practice in child protection, his articles act as powerful reminders of the messy realities of such work.

In producing detailed qualitative description and analysis of naturally occurring data, the research discussed above has been crucial in illuminating the complex task of social work, including how aspects of the role that are seemingly at odds with each other play out in practice (Ruch et al. 2017, Ferguson 2011, Hall et al. 2014). The current study employs quantitative methods and uses a different sampling and analytic strategy, aiming to complement these qualitative studies by exploring the relationships
between social work skills within a comparatively large data set. It therefore aims to contribute to an understanding of the relationship between key practice skills.

In doing so, the study draws on traditions of research-based practice that have an extensive history in the USA. This includes for instance Zeira and Rosen (1999,2000) who analysed patterns of tacit knowledge and the relationship between interventions and outcomes. More recently Epstein (2010) has championed “data mining” as a way of using resources such as existing case records to undertake high quality practice focussed research. These and other studies have in common a focus on starting with what social workers already do as a foundation for building descriptions of practice and guidelines for how it might be improved. This paper attempts to contribute to this tradition by describing patterns of practice through coding recordings of meetings with social workers and parents. An exploratory factor analysis (EFA) was conducted to understand the number and nature of the dimensionality in these skills and their codings. The intention is to begin to think about how social workers – at least in this UK context – actually practice and in particular how we might best describe it. We are conscious this is simply an initial attempt to provide a description, and that as described below it uses a specific framework for understanding and evaluating practice.

Using a coding scheme based on the principles of MI this article attempts to answer the following research questions:

1. How do social workers use MI related skills in their practice? Specifically, what level of different key skills are found?

2. What is the most helpful way of grouping these MI social work skills? Are there underlying dimensions that allow a simplified grouping of skills into broader dimensions?
To answer these questions, we applied a coding scheme of seven key social work skills to a sample of 127 recordings and observations of workers. We then analysed the relationships between different key skills.

BACKGROUND TO THE STUDY

The data analysed in this paper were part of a randomized controlled trial (RCT) evaluating the impact of a package of training and supervision on the development of skills in Motivational Interviewing (MI) (Anonymous et al. 2018). The research took place in a London, UK borough in 2013-14. The current analysis was undertaken for the whole sample – including both workers who had received extensive training and support to develop skills in Motivational Interviewing and those who had had none. In fact, the RCT found very limited between-group differences in skills, though the fact that half the sample were trained in MI is an important consideration in interpreting the findings.

DATA COLLECTION

All families allocated a social worker where there were 3 or more home visits were eligible to enter the sample. This decision was made because it was believed unlikely that direct communication skills would have much impact on families seen fewer times. There was an expectation that social workers would ask parents whether they wished to take part in the study. Where parents consented for researchers to observe a home visit the observation was typically the second or third visit with the social worker following case allocation.

ETHICS

Ethical approval was provided by [University to be supplied]. Families were asked for permission to make an audio recording of the visit and use it for research. All data was stored securely and anonymised.
DATA ANALYSIS

The unit of analysis was the meeting between the worker and family. For recorded interviews, seven dimensions of worker skill were coded for. Of the seven dimensions, four were drawn from concepts in Motivational Interviewing and were measured using the Motivational Interviewing Treatment Integrity manual (version 3.1) (MITI; Moyers, Martin, Manuel, Miller, & Ernst, 2010). These were:

i. Collaboration

ii. Autonomy (self-determination of parent is recognised and increased)

iii. Evocation (elicitation and enhancement of intrinsic motivation)

iv. Empathy (demonstration of understanding of parent’s views or feelings)

In addition, it was recognized that there are other important elements of social work practice – such as those associated with the appropriate use of authority. Some additional dimensions were developed to recognize this broader range of skills needed in child protection work. MI was developed for counselling situations with a client, while child protection involves working with a parent in a child’s best interests and as appropriate using state sanctioned authority. The developmental process for these dimensions included reviewing the literature, expert focus groups and piloting (see Anonymous et al. 2017 for a full description). It resulted in the following additional dimensions of practice:

v. Purposefulness (degree to which purpose/s of interview was clear)

vi. Clarity about concerns (reason for social work involvement)

vii. Focus on Child (degree to which child’s needs or views were brought into conversation)

It is important to note that while these three skills are not part of MI, the description of them was influenced by the principles of MI. High scores represent the ability to create collaborative
understanding of concerns or the child’s needs. The implications of this are considered in the discussion section.

Each of the 7 dimensions was coded on a 5-point scale for the whole session, with 3 being the “anchor” or starting point and practice being rated as more or less skilled than that. Descriptors are provided for each variable, with more detail provided in Anonymous et al, 2016. A summary description of scores for each grade of the seven dimensions is provided in Table 1. The full handbook is freely available on (website provided). As well as reporting on the development of the measures Anonymous et al (2016) reports a high degree of inter-rater reliability for coding these seven dimensions of practice skill with the current sample. Six of the dimensions can be applied to any interview. Evocation relates to behaviour change discussions, and is only applied where there was such a discussion (107 interviews).

CODING AND ANALYSIS
Interviews were coded by researchers who were blind to all features of the meeting between the social worker and the family. All coders were trained using audio recordings of simulated client interviews from a previous study involving the authors (Anonymous et al, 2018). Coders were deemed reliable in when they were able to score each of the four global domains within a margin of 1.0 from the ‘gold standard’ scores on 80% of 10 consecutive simulated interview tapes. This method replicated the one used by Moyers et al. (2005) when developing the Motivational Interviewing Treatment Integrity (MITI) coding. In total, it took approximately 60 hours of training for coders to reach inter rater reliability (IRR) on all seven domains of skill. Throughout the three month duration of the study coders met for weekly coding sessions in which a tape was coded collectively in order to prevent drift. In total, 28 (21%) of the 133 audio recordings were blindly scored by all three coders. An analysis reported separately found high rates of inter-rater reliability (Anonymous et al, 2016).
Analysis proceeded through three stages. First, a descriptive analysis of practice dimensions was carried out. Second, we explored relationships between variables looking at simple bivariate correlations (Pearson’s $r$) and tested for the effects of possible nesting of data (i.e., multilevel effects of workers having multiple observations) using intraclass correlations. This identified relationships between variables. Third, we evaluated whether there were simpler ways of describing the skills through EFA with maximum likelihood estimation extraction method with a direct oblimin rotation (an oblique rotation). The broad purpose of EFA is to enable relationships and patterns in the data to be more easily interpreted. It enables variables to be re-grouped into factors based on shared variance and therefore helps to isolate underlying concepts (see Young and Pearce, 2013). All factors with Eigenvalues over 1.00 were extracted. Model chi-square test ($\chi^2$; Kline, 2011) was used to evaluate model fit to the data with chi-square per degrees of freedom ($\chi^2$/df; Bollen, 1989). A non-significant $\chi^2$ value and a $\chi^2 < 3.0$ indicate adequate model fit. An oblique rotation was used as the domains were conceptually similar and expected to correlate. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Barlett’s Test of Sphericity were first examined if the skill domains were factorable. Eigenvalues, item variance explained by the model (commonality), factor loadings, and the scree plot were examined to determine the number of factors in the model. Internal consistency reliability for each factor was calculated through Cronbach’s $\alpha$ coefficient. Analyses were completed using SPSS 25.0 (IBM, 2018).

RESULTS

Sample Characteristics

A total of 48 workers were included in the study and had a home visit with families observed (Table 2). Workers had a mean age of 36.67 (SD = 8.46) and most were women (78.7%). Workers were largely employed in a permanent position (89.4%) and half had completed a Master’s degree (50.0%). Workers
varied greatly in the number of months they were qualified with a mean of 73.23 but with a SD of 71.59, indicating that the sample ranged from newly qualified to very experienced social workers.

Family and case data (Table 3) is presented for the 127 families observed during home visits and recordings of the visit coded for MI skill domains. Most often, the mother of the child was the family member present for the home visit (85.3%). On average, families had been allocated the worker for 6.19 weeks (SD = 6.16) and met with the worker 3.34 times (SD = 1.75). Most families had previous involvement with child services (55.6%). At time of the observed home visit, most cases had Child in Need as the highest statutory basis of care (84.8%) while 12.8% were Child Protection and 6.4% of cases were Looked After Children.

Descriptive and Inter-Correlation Statistics of Skills

A total of 127 recordings of home visits were analysed and coded for the seven skills (Table 4). Workers had between 1 and 8 families included in the sample (M = 2.65, SD = 1.55, Median = 3). Nearly half of workers were observed either once or twice (n = 23, 47.9%). To test for possible multi-level effects (e.g., random intercepts) in the data, ICC coefficients were estimated for each skill score. Estimated ICC coefficients were each not significantly different from 0 indicating a lack of meaningful effects of nested data (i.e., observations within workers). In the EFA modelling, these skill scores were treated as independent cases. Mean scores ranged from 2.57 to 3.01 indicating slightly below average to average skill (Moyers, Martin, Manuel, Miller, & Ernst, 2010). For all skills except for Evocation, median scores indicate average skill (3.0). The widely accepted cut-off for MI skill is 4 out of 5. This sample were not
practicing in an MI-consistent manner, and a substantial minority demonstrated low levels of skills in each dimension. However, this needs to be seen in the context of often rather difficult conversations about child protection concerns. In the absence of other research in this area it is not possible to know whether this is good or bad, whether it has an effect on families or whether it can be improved (or made worse) for instance by training or other practice improvement initiatives.

The primary focus of this analysis is the relationship between the different skills. Correlations between skills were moderate to strong (Table 5) with every skill significantly correlating with at least several other skills (a requirement for EFA). Correlations ranged from $r = .138$ to $.953$, most $p < .001$. Only the correlation between Autonomy and Purposefulness was not statistically significant ($r = .138$, $p = .122$).

Insert Tables 4, 5 and 6 around here
EFA was performed on the seven skills to explore possible underlying structures. Preliminary analyses indicate that the overall instrument has good internal reliability (Cronbach’s $\alpha = .859$). Initial analyses determined the domains to be factorable (i.e., KMO = .827; Bartlett’s Test of Sphericity $\chi^2 = 343.192$, df = 21, $p < .001$). The analyses met the sample requirement for factor analysis of a 12 to 1 subject to variable ratio and over 100 cases (Bryant & Yarnold, 1995). All skill variables did not exhibit significant departures from normality.

An initial EFA including the Evocation variable resulted in a single factor model explaining 54.64% of variance in the skills ($n = 101$). The amount of variance in each item explained by the model ranged from 14.2% to 87.3% (commonalities). The single factor was labelled as “Skill”. Factor loadings ranged from .377 to .934. The model chi-square testing the fit of the model to the data demonstrated poor fit ($\chi^2 = 32.11$, df = 14, $p = .004$, $\chi^2$/df= 2.29). The Cronbach $\alpha$ score for the single factor indicated good internal consistency reliability ($\alpha = .859$).

Evocation involves the use of change talk in the spirit of MI and cannot be coded in home visits where there is no discussion of behaviour change. In 26 cases, Evocation was identified as absent from the communication between the families and social workers. Thus, Evocation was excluded from the analysis and another EFA model was conducted (Table 6; $n = 127$). Analyses from this second model indicated that the six remaining MI skill domains remained factorable with KMO = .764 and Bartlett’s test of sphericity statistically significant ($\chi^2 = 256.766$, df = 15, $p < .001$). Two factors were found to have Eigenvalues over 1.00 which explained 67.36% of the variance in the model. The model explained between 27.6% and 99.9% of the variance in each skill (commonalities). The mode chi-square test and chi-square per degrees of freedom supported the fit of the model to the data ($\chi^2 = 2.90$, df = 4, $p = .575$, $\chi^2$/df= 0.78). The total model had good internal consistency reliability (Cronbach’s $\alpha = .803$). The first factor, labelled “Care and engagement”, included Collaboration, Autonomy, and Empathy with factor loadings ranging from .500 to .999. This first
factor was also found to have good internal consistency reliability (Cronbach’s $\alpha = .809$). The second skill factor contained Purposefulness, Clarity of Concerns, and Focus on the Child and was labelled “Good Authority”, following the qualitative and theoretical formulation of Ferguson (2011). Loadings ranged from .453 to .853. This second factor had lower internal consistency reliability (Cronbach’s $\alpha = .641$). A lower reliability score for these items was expected given their recent development and inclusion in social worker skills coding (Anonymous et al., 2017). The two factors were significantly correlated at $r = .591 \ (p < .001)$.

**STRENGTHS AND LIMITATIONS**

The sample is drawn from one local authority in the United Kingdom. The degree to which findings can be extrapolated to other settings requires further study. Additionally, multiple families were assigned to workers, although nearly half the sample of workers only had one or two assigned cases which were observed. The current study and sample may have nested data. However, this initial exploration of dimensionality of practice skills and the sample do not lend itself to a multi-level factor analysis. Future studies of practice skill would be needed to capture a large number of cases observed per worker to model nested data within a factor analytic approach.

The findings are part of a larger study (an RCT) investigating the impact of a skills development package of training and supervision in MI (Anonymous et al., 2018 a, b; Anonymous et al., 2013). As a result, 40% of the sample had social workers who had had significant input in relation to MI. Findings from that study suggested that on average this had increased MI related skills by 0.5 points, while having no impact on the use of “good authority”. We replicated the analysis in this paper for the sample of non-trained social workers and found this did not affect the findings, but further research on workers not trained in MI would help develop our understanding of this area.
More importantly, the coding framework developed was largely based on the principles of MI. Indeed, four of the categories were used directly from the MITI scheme. Even those associated with authority were influenced by the collaborative principles of MI. It would be possible to develop alternative skills categorisation schemes and these might lead to different patterns of skills. We are not suggesting that this is the only way of categorising worker skills, but rather to report on one attempt to do so systematically. The ultimate test for any such scheme is whether it has validity, particularly in predicting meaningful process and outcome factors.

Nonetheless, the study has significant strengths. It is to our knowledge the first study to explore the inter-relationship of key elements of direct practice found in child and family social work using a quantitative analysis. It is based on the largest sample of directly observed recordings yet reported in the social work literature. The measures used have established reliability with this sample (Anonymous et al. 2016) and the MI dimensions have predictive validity in other helping settings (Moyers et al. 2003). Also, in contrast to most research directly observing practice, there was an expectation that social workers would take part, and this was therefore not a convenience sample.

**DISCUSSION**

The study makes two main contributions to our developing knowledge of direct practice skills in social work. The first is to identify three dimensions of good practice in child and family work. These seem to be good descriptions of key dimensions of good practice when using the principles of MI. However, it is possible that they have wider relevance, identifying dimensions that may be considered important for other ways of conceptualizing key practice skills in social work. The first of these dimensions, combining collaboration, autonomy and empathy, might be thought of as a measure of “care and engagement skills”. These are the skills workers need to listen to families and work in partnership with them. They are the type of practice that provides a foundation for effective
helping across a range of professions, though it is perhaps a particularly difficult set of skills to demonstrate in the challenging world of child protection.

The second dimension were skills related to what Ferguson (2011) has called “good authority”. These were purposefulness, clarity about concerns and a focus on the child (see Anonymous et al. 2016). These are elements of practice closely associated with the challenges of child protection, where the worker has to demonstrate clarity about their role and the reason for their involvement in addition to any focus they may have on engaging or helping the parent.

The third dimension relates to behaviour change discussions. A high proportion of social work conversations with parents involve some discussion about behaviour change issues – even if that is not the main focus of the interview. In the current sample the proportion involving behaviour change discussions was 83%, however in forthcoming studies with different child and family social work samples it has been closer to half of all interviews (Anonymous 2017). For behaviour change discussions we currently code for just evocation. This is, as explained in the methods section, a concept central to MI which relates to the degree to which the worker elicits the person’s intrinsic motivation, with low scores indicating workers telling people what they should do or suggesting why they should do it. Evocation is theoretically coherent and there is evidence that it is associated with positive change across many settings, including child and family social work (Author, forthcoming). However, there are other ways to create or support behaviour change. Solution focused (De Jong and Berg 2001), restorative (Pennell 2006) or systemic (Anonymous et al. 2013; Goodman, Trowler and Munro 2011) approaches each have different conceptions of how change can be supported. It appears that the first two dimensions of practice – care and authority – are relatively well developed, but that more work is needed on how social workers effectively support behaviour change. Directly observing practice, coding for skills hypothesised to be important and then exploring their relationship to outcomes is therefore an important research priority.
Indeed, the usefulness of this – or any – proposed framework for coding social work skills is to a large extent dependent on the correlational or predictive validity of the measures used. The three-factor solution presented here appears to have face validity, for instance when presented to social workers or their managers they intuitively understand it. In recent work, we have used it to describe practice and changes in practice in attempts to reform services (Anonymous et al, 2016). Most interestingly, there are indications that some of the practice dimensions are positively correlated with outcomes for families and children and that changes in practice from training or staff development can be identified using this three dimensions framework (Anonymous et al. forthcoming). This suggests that the dimensions of skill identified may be useful for developing thinking about what is likely to be helpful for children and families in practice. As such, we hope that developing ways of measuring such skills has implications for policy and practice.

The second contribution of the study is that it allowed us to explore the relationship between “care” and “control” elements of social work. These are often framed as in opposition (Cooper et al. 2003), and as requiring careful balancing in effective social work (Morrison 2000; Gilbert et al. 2001; Thompson 2015). Given the conceptual distinction between care and control it might have been expected to find a negative correlation between “care” and “control” elements of practice; where a social worker needs to emphasise their concerns or focus on the child’s need it might be hypothesised that there would be lower levels of empathy or collaboration. In fact, we found the opposite. Workers who demonstrated higher levels of care and engagement were more likely to demonstrate good authority as evidenced by the strong and positive correlation between the factors. Conversely, workers with low levels of care and engagement tended to also show low levels of good authority. In other words, variation between interviews was not primarily about the focus of the interview (with some for instance emphasizing care and others control functions), it was about
the skill of the social worker. Good workers were able to combine authority and engagement, while workers who struggled to engage families also tended to demonstrate low levels of good authority.

It is possible that this finding is a product of the definitions of the dimensions that make up “good authority” that we have used. Our descriptions of the different levels suggest that good authority has a collaborative element, and this is likely to contribute to the positive inter-relationship between the skills. Each of the dimensions was based on the principles of good practice of MI. It would probably be possible to develop measures of “authority” that valued telling people what to do, why they should do so and placing a premium on high degrees of direct challenge. Such a formulation of authority might find a negative relationship to care and engagement skills. The importance of the current finding is therefore perhaps not that care and authority are necessarily positively related, it is that they can be conceptualised as such and this conceptualisation can be reliably identified in real practice. Put simply, care and control are not necessarily in conflict: skilled workers are able to combine effective engagement and good authority.

The three dimensions of practice we identify in this analysis have been used by us in evaluating both the relationship between practice skills and outcomes and the ways in which different interventions may or may not change practice. For instance, for the current sample we found relatively weak but statistically significant associations between care and engagement and parental engagement, and between good authority and evocation and family outcomes 20 weeks after the recorded interviews (Anonymous et al, 2019). We have also evaluated whole system moves toward embedding MI into practice and found statistically significant increases in key skills (Anonymous et al, 2016; 2018). Interestingly, we used the same coding scheme for evaluating the impact of training and support for Systemic Practice and found similar shifts (Anonymous et al, 2016). Our hypothesis is that the underlying skills of MI and Systemic Practice are comparatively similar – at least when compared to normal practice in child and family social work in the UK – and this may explain the similar impact of training in theoretically different practice models.
CONCLUSION

June Thoburn recently quoted Olive Stevenson in characterising social workers as “creative helpers” (in Carter 2017). This seems an apt description given the findings of this paper that skilled practitioners make use of complex and seemingly divergent skills in their interactions with families. The role of the social worker is so broad and complex that it will never be reducible to a few categories of good practice. For instance, humour and reliability are crucial elements of good practice not captured here. Furthermore, central elements of practice – such as working directly with children – are not considered in the current analysis and require specific skills.

Nonetheless, as a profession we have processes and procedures that require judgements about the quality of practice, including for assessing students, selecting staff, in England developing post-qualifying accreditation, inspection of services and the myriad other elements of professional accountability. We also have a growing interest in developing and trying out new models of practice. All of these activities require implicit or explicit descriptions of what social work practice should be. It will never be possible to capture the full range of good practice required by social workers as “creative helpers”. Yet we can aspire to identify key features of good practice that flow from our theories, our beliefs and from empirical, practice based evidence (Zeira and Rosen, 2000; Rosen et al, 1999). Doing so allows us to test out our theories, and hopefully to progress by refining and developing our understanding of what makes a difference. This paper reports on one step in such a journey. Our hope is that other researchers, using this or different frameworks, will be encouraged to explore the complex and fascinating nature of practice, and its relationship to outcomes for children and their families.
REFERENCES

Anonymous et al 20013, 2016, 2018, 2018 a and b


