Cass School of Education
Institute for Health and Human Development
School of Psychology

UEL
University of
East London

A PROJECT TO ASSIST FAMILY ACTION'S *BUILDING BRIDGES* PRACTITIONERS WITH THE USE OF THE *INDEX OF FAMILY RELATIONS* AS AN OUTCOME MEASUREMENT

FINAL REPORT

2009

Angela Harden, Eva Lloyd, Mark McDermott, Sylvia Potter and Zahirun Sayeed

CONTENTS

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

INTRODUCTION

This report describes the methods and findings of a partnership project between Family Action practitioners and managers, and a research team led by Angela Harden and Eva Lloyd of the University of East London. Since 1999, Family Action has been providing services in a number of locations across England under the Building Bridges name, working with families affected by parental mental health problems and other complex needs. Since 2004, Building Bridges projects have been using four separate validated psychometric tools to measure family functioning, parental satisfaction, self-esteem and depression in order to evaluate the impact of its services on outcomes for parents and their children: the Index of Family Relations (IFR); the Kansas Parental Satisfaction Scale; the Rosenberg Self-Esteem Scale; and the Depression Rating Scale.

Some years ago, the Building Bridges service model was independently evaluated (Morris, 2007). In the light of Family Action's commitment to ongoing monitoring and evaluation of its work, a decision was taken to build on the findings of the 2007 evaluation. The focus selected for further research was an important cultural issue identified by Morris (2007: 25) regarding the appropriateness of the Index of Family Relations for black and minority ethnic (BME) communities, in particular Bangladeshi and Somali families. With support from DCSF's Parenting Fund, Family Action commissioned a team of researchers from the University of East London to evaluate the utility of the IFR for continued use as an outcome measure to evaluate its work.

BACKGROUND, AIMS AND METHODS

The Index of Family Relations (IFR) is one of a number of widely used self-report family assessment measures. It was designed as a 'uni-dimensional scale' (i.e. a scale with no sub-scales) to provide a measure of family distress. A number of questions arise when using self-report family assessment measures, including: whether assessments at the family level are lost with scales that rely on individual family members' perceptions of the family; how to handle divergent perceptions from different members of the family; how to account for families at different stages of development (e.g. families with teenage children versus families with very young children); and how to guard against social desirability in responses to portray the family in a positive light. Of significance to this report is the issue of measuring family functioning amongst ethnically diverse families or families spanning different socio-economic positions. Measures tend to be developed with reference to white western families and so embody norms of the family associated with these cultures. The IFR is no exception to this.

In this report we describe a programme of work designed to: summarise what is already known in the research literature about the reliability and validity of the IFR with reference to BME families; consult with practitioners and managers to explore their experiences of using the IFR and gather views on potential adaptations to the scale to increase its usability, particularly with BME families living in the UK (with a specific emphasis on Bangladeshi and Somali families); and conduct new analyses of the IFR to assess its psychometric properties based on data routinely collected by Family Action from a sample of families across the UK.

FINDINGS

Our literature review found a small body of evidence demonstrating the reliability and validity of the IFR, including one study using the most robust method to assess validity. Some of this

evidence was generated with ethnically diverse samples. There are, however, limitations and gaps in the evidence, particularly in relation to evidence on the use of the IFR with ethnically diverse families in the UK. The research is almost entirely US-based, there have been no reported attempts to adapt the IFR for BME families and there has generally been very little reflection on the suitability (or otherwise) of the IFR for BME families. Compared to the IFR, there appears to have been more research activity focused on assessing the cultural relevance of other self-report family assessment tools which measure, for example, family cohesion and adaptability, family routines, satisfaction with family life or the family environment.

Consultation with practitioners and managers revealed several problems including: the length of the scale and the complexity of the response options, especially for those with little or no English; varying concepts and definitions of the 'family'; and the lack of equivalent meanings or phrases in Bengali and other languages for some items in the scale. The research team, including a Bengali and Sylheti speaking educational psychologist, drafted a 'family-friendly' version of the IFR, informed by the above consultation. This version of the IFR was felt to be more suitable for *all* clients regardless of ethnicity. The existing Bengali translation of the IFR was also made more user friendly and took into account the linguistic abilities of different Bengali client groups. Three months after the introduction of the new version of the IFR, feedback was mixed. There was some evidence of an improvement in the ease of administration of the IFR for practitioners and in the ease of completion for clients. There still continued to be problems with the length of the scale, problems with the meaning of some of the items and difficulties using the questionnaire when involving two parents. The projects working with Somali families reported no improvements in the use of the IFR.

The psychometric analysis was conducted on a total of 188 complete cases held by Family Action, 80% of which were classified as 'White UK'. The psychometric analysis found that the 24 items of the IFR are measuring one construct: the emotional expression and experience or 'tone' of family life – or, in effect, how pleasant or unpleasant life in the family is. In measurement terms, using 24 items to measure one construct is considered to be inefficient. All except one of the 24 items in the IFR closely measured this construct (the item that did not was 'My family does not understand me'). For measurement purposes, the first eight to ten would be sufficient to measure how pleasant or unpleasant life in the family is. Further analysis would be necessary to check fully the reliability and validity of this shortened version of the IFR. Given the weight of the data set used in this study towards 'white UK' families, any further analysis should also ensure that samples are fully representative of ethnic and linguistic diversity.

On the basis of the three different approaches used to explore the use of the Index of Family Relations, in particular with families from minority ethnic groups, we formulated separate recommendations for Family Action managers and for researchers in the field of family relations.

RECOMMENDATIONS FOR FAMILY ACTION

As many of the problems with using the IFR appear to stem from its length and complexity, addressing these would go some way to helping practitioners use the IFR with parents from diverse ethnic groups whose first language is not English.

We recommend that managers write to the IFR test developers to ask for permission to produce a shortened 10-item version of the scale based on the results of the psychometric analysis presented in this report. This would greatly reduce administration time and may contribute to a greater common understanding of the items within the scale.

Ease of use of the IFR may also be facilitated by a standard explanatory note, translated into different languages, about the dimensions of a family, which practitioners could discuss with new clients prior to the completion of the IFR.

Translations of the IFR can also be useful. These should take into account the appropriateness of the English phrasing used in the IFR within different cultures and languages (e.g. 'gets on my nerves') and differences in linguistic abilities. Translated scales should ideally go through a process of 'back translation' into English and be re-tested for reliability and validity.

We would also recommend some reflection on the range of outcomes currently measured by projects and that Family Action should consider which aspects of family life it would be most useful to measure. The IFR provides a window on one aspect of family life: 'family distress' (in the terms of the original test developer) or the 'emotional expression and experience of family life' (the construct identified by the analysis presented in this report).

As the length of measures is considered to be a major obstacle by practitioners, it may be worth exploring shortened versions of other outcome measures used by Family Action.

While FA staff do receive initial training in administering the IFR and other psychometric measures, continued support and training for measuring outcomes needs to be encouraged at all levels of the organisation. One way to encourage support is to provide regular and ongoing training for practitioners. This training could be focused specifically on administering the IFR and other measures as well as including a broader discussion of the nature and experience of family life and how this may vary (or not) across different cultures and groups.

RECOMMENDATIONS FOR RESEARCH

More research is needed on the reliability and validity of the IFR and other self-report measures of family life amongst UK samples.

The use of psychometric tools of this type with families from ethnically, culturally and linguistically diverse backgrounds deserves more attention than it is currently getting within the research literature.

There is a need for research on the criterion-related validity (the most robust measure of validity) of the IFR in both the UK and worldwide, both in the original 24-item form and in the shortened 10-item form described in this report.

Opportunities to assess the criterion-related validity of the IFR based on routinely collected data in Family Action projects should be explored, as should opportunities to examine in more detail whether reliability and validity vary across families from different ethnic groups.

The relative predictive utility of the IFR in long and short form should be tested against other similar measures to establish which are of greatest utility and benefit for clients and practitioners.

1. INTRODUCTION AND BACKGROUND

This is a report on the findings of a partnership project between, on the one hand, Family Action practitioners and managers and on the other a research team led by Angela Harden and Eva Lloyd of the University of East London. The study was funded with the help of a grant from the Parenting Fund administered by the Department for Children, Schools and Families and was undertaken between February and November 2009.

1.1 FAMILY ACTION'S BUILDING BRIDGES PROJECTS

Since 1999, Family Action has been providing services in a number of locations across England under the Building Bridges name, working with families affected by parental mental health problems and other complex needs (Family Action, 2009). Key characteristics of the Building Bridges service model summarised by Morris (2007: 3) include:

- The service has been designed to meet the needs of families where parents have profound and enduring mental health difficulties. The model has now also been used for work with a wider group of families affected by parents' complex needs.
- The starting point is the families' perception of their needs and the issues they want to address.
- The service offered is, as far as possible, tailored to meet families' needs and circumstances. It is flexible and holistic.
- The service is led by qualified social workers and utilises Family Support Workers who have been supported by comprehensive training since 2004.
- Family Support Workers go into families' homes to help with practical issues as well as providing emotional support.
- The service is available at times when other services often are not, for example, weekends, bank holidays, evening, early morning, bath times, bed times, getting children to school.
- The service improves family relationships by enabling parents and children to have a better understanding of each other's needs.
- The service helps parents to access and coordinate with other agencies and professionals.
- The service is task-centred and time-limited.
- The service uses internationally validated clinical tools to measure the effects of the intervention.

This final bullet point reflects Family Action's profound commitment to an evidence-based approach (Roberts, 2002) to its work with particularly vulnerable groups of families with children, which involves continually exploring its effectiveness and impact.

1.2 MEASURING SERVICE IMPACT

Since 2004, Building Bridges projects have been using four separate internationally validated psychometric tools to measure family functioning, parental satisfaction, self-esteem and depression in order to evaluate the impact of its services on parents and their children. With parents (mostly mothers), projects have been using the Index of Family Relations (IFR) and the Kansas Parental Satisfaction Scale. With children, the projects have been using the Rosenberg Self-Esteem Scale and the Depression Rating Scale. These are administered at the start of working with families, at the close and if at all feasible at a six-month follow-up contact (Morris, 2007: 9).

Some two years ago, the Building Bridges service model was independently evaluated (Morris, 2007). At this time, the model was operating in 12 independent projects. The Building Bridges approach was found to be representative of successful interventions in this area as identified in the literature. Parents described the service as non-judgemental and flexible, as well as different from other agencies, while 26 of the 32 parents interviewed gave only positive feedback.

The evaluation's statistical analysis of the monitoring data, collected by means of the four psychometric tools, identified a statistically significant improvement in parents' satisfaction with their family relationships and experience of parenting in the course of the intervention. After six months this improvement continued, although the lack of follow-up data made it difficult to assess whether this continued improvement was statistically significant as far as parents' satisfaction with family relationships was concerned. No significant change for children was found using these measures, though at the end of the intervention both the number of children 'looked after' and those on the child protection register had decreased to a statistically significant extent.

1.3 BUILDING ON THE INITIAL EVALUATION'S FINDINGS

In the light of Family Action's commitment to ongoing monitoring and evaluation of its work, a decision was taken to build on the 2007 evaluation's findings. The focus selected for further research was an important cultural issue identified by Morris (2007: 25): the difficulty experienced by Building Bridges practitioners in using the Index of Family Relations with families from black and minority ethnic (BME) communities. Whereas the IFR had proved useful with non-BME families, problems had proved acute for projects working mainly with Bangladeshi families and also with Somali families.

Family Action received funding through DCSF's Parenting Fund to research how the IFR could be made more user friendly overall, but in particular when implemented with BME communities. Subsequently, Professor Angela Harden and Eva Lloyd were commissioned by Family Action to design a project to evaluate the IFR and its suitability for use with BME families using Building Bridges services.

2. EVALUATING THE **IFR** AND ITS SUITABILITY FOR USE WITH **BME** FAMILIES

A mixed quantitative and qualitative methodology was employed in this research project aimed at evaluating the Index of Family Relations and its suitability for use with BME families within the Building Bridges services,. The research activities were planned to take place in four separate phases in such a way as to allow for the direction of the research to change depending on the findings of each phase of the project and on Building Bridges practitioner input and feedback at each stage. In this way the present research project clearly displays the main characteristics of a piece of action research, whose essence is

> ….that it enables a reflective cyclic process to be brought to bear on the understanding of the problem at hand.
>
> (Opie, 2004:79)

In planning the design, the two research directors had to take into account a number of factors described in section 2.2 below. These factors were considered with the help of the research team, whose views informed the project's eventual shape. At all stages of the research, information was also gathered from Family Action colleagues, as this was key to ensuring that the researchers properly understood practitioner experience and the agency's needs in this area.

2.1 THE RESEARCH TEAM

In order to deliver the research project, the project directors gathered a small research team consisting of colleagues inside and outside UEL who brought relevant experience and expertise to the project. The team comprised: the two project directors, both applied psychologists; Professor Mark McDermott, also at the UEL, a senior academic psychologist experienced in the validation of psychometric tools; and two research consultants. The first research consultant was an experienced educational psychologist from the Bangladeshi community, Dr Zahirun Sayeed, who is a fluent user of both Bengali and Sylheti. The second research consultant was a freelance researcher, editor and database expert with a track record in researching evidence-based interventions, Mrs Sylvia Potter. All have contributed to the present report.

2.2 SCOPE AND LIMITATIONS OF THE RESEARCH DESIGN

The focus of this research was to remain firmly on ways to optimise the use of the IFR within Building Bridges projects with families from a wide variety of backgrounds. This was for a number of different reasons. From the outset it was clear that the development and full validation of an alternative psychometric tool to the Index of Family Relations was not feasible within the timescale and funding available to the project. An important consideration was also the need to build on the achievements with the IFR within the Building Bridges projects.

It was hoped that the pertinent academic literature might reveal other researchers having experienced, and possibly overcome, similar problems with the use of the IFR with BME

communities. For this reason alone, the literature search was a crucial phase of the research, which would inform the subsequent course of the research activities.

There were other reasons why improving the acceptability of the IFR to service users would be preferable to exchanging it either for a newly developed, but not yet properly validated psychometric tool or for an existing validated and equivalent alternative. Either course of action was likely to impair the generalisability of any future evaluation findings.

Finally, the use of an existing alternative to the IFR might mean that the valuable time series of monitoring data from the Building Bridges projects would be interrupted. Hence a comparison of findings from future impact evaluations with the previous one would no longer be feasible.

2.3 IMPLEMENTING THE RESEARCH PLAN

A more detailed description of main phases of the research and their findings will be given in subsequent chapters; here we provide a brief summary of each phase and the chosen methods as they were actually carried out. At the end of the first phase of the research, an interim report was prepared for Family Action.

2.3.1 PHASE ONE

In this phase the identification of existing information on the IFR and gathering of Building Bridges practitioner feedback took place, using the following methods:

- A literature search to identify any studies of the use of the IFR with BME communities, any existing adaptations or any potentially suitable alternatives.
- A focus group session with Building Bridges project managers to explore experiences of using the IFR. This was scheduled for a regular Building Bridges managers' meeting, and was led by the research directors.
- A summary report for team members was produced.
- Expert analysis of an existing Bengali translation of the IFR already in use in certain Building Bridges projects.
- Communication with IFR publishers.
- Correspondence between UEL team members and experts in the field to explore their experience of using the IFR and their views on this and on alternative psychometric tools for measuring family relationships, including those in BME families.

2.3.2 PHASE TWO

In the initial literature search in phase one of the research, no studies were identified exploring the use of the IFR with BME communities, although some potential alternative psychometric tools for measuring family functioning were identified. Therefore phase two consisted firstly of the development of a more user-friendly form of the IFR by means of minimal adaptations, and secondly preparing for testing this version in Building Bridges projects, using the following methods:

- A brief analysis of all potentially pertinent studies identified in the literature search and production of a summary report for team use by two team members.
- A comparison of potential alternative psychometric tools identified and an option analysis.
- The preparation of minor adaptations to the English version of the IFR.
- The translation into Bengali of this more family-friendly version, taking account of pertinent issues for the Bengali community.
- A discussion of the alternative English version in a Building Bridges practitioner focus group led by a Family Action manager.

- The incorporation of practitioner feedback from this meeting into the final version of the IFR for testing out in Building Bridges projects.

2.3.3 PHASE THREE

This phase consisted of a three-month period for employing the more user-friendly version of the IFR and its translation into Bengali and monitoring its use via the following methods:

- Consultation by telephone with two Building Bridges managers of projects catering predominantly for BME families. The aim was to gather initial impressions.
- A group discussion with Building Bridges project managers to explore experiences of using the IFR. This was scheduled for a regular Building Bridges managers' meeting, and was led by the research directors.
- A summary feedback report was produced for team members.

2.3.4 PHASE FOUR

During this final phase of the research, the findings from different parts of the project were synthesised into a coherent analysis and a set of recommendations was formulated. We drew on the following resources to do this:

- The results of the analysis of the psychometric properties of the IFR based on monitoring data routinely collected by the projects.
- Email and face-to-face discussion among team members about emerging findings and pertinent recommendations.
- The collation and editing of a draft report with contributions from all five team members.
- A discussion of the draft report and recommendations with Family Action senior managers.

2.4 AN ANALYSIS OF THE PSYCHOMETRIC PROPERTIES OF THE IFR

After discussions with Family Action, an analysis of the psychometric properties of the IFR using the routinely collected data that had been gathered on its use since 2004 was carried out in tandem with the four phases of the research project. This was felt to be a useful addition to the project as such an analysis might highlight ways in which it could potentially be simplified and adapted to better meet the needs of all families using Building Bridges projects, while protecting its psychometric properties.

This analysis was completed with the help of the SPSS statistical analysis package, to explore whether a more substantial simplification might in principle be feasible. Family Action made available administrative support for inputting the relevant project data into SPSS to facilitate the analysis. The findings from this analysis are reported in section 5 of this report and informed its recommendations.

3. What is known about the use of the Index of Family Relations with BME families?

The activities described here constituted the first phase of the research as outlined in section 2.3 above. Extensive searches of the research literature were undertaken to identify and analyse existing research knowledge around the use of the Index of Family Relations. This was a significant part of the whole project, which addressed the following questions:

1. What is the reliability and the validity of the IFR and to what extent has reliability and validity been assessed with families from BME groups?

2. Has the IFR been adapted for use with ethnic minority populations? Have these adaptations been:

   - subjected to reliability and validity assessments?
   - for populations living in the UK?
   - for Bangladeshi or Somali families?
   - for Bangladeshi or Somali families living in the UK?

3. Are there measures of family relations other than the IFR which have been used with BME groups? Have these been:

   a) tested for their suitability for use with BME families?

   b) adapted for use with BME families?

3.1 Searching the literature on the Index of Family Relations

The searching followed established principles for exhaustive searching when conducting a systematic review or searching for evidence to inform policy and practice (e.g. EPPI-Centre, 2006; Harden, 2001, Petticrew and Roberts, 2006).

To identify studies to address our seven research questions above, we implemented a five-strand search of the English language literature as follows:

- A search of six bibliographic databases (Psychinfo, the Web of Science, including Social Sciences Citation Index and Science Citation Index, Science Direct, JSTOR and Medline).
- A search of the research database held by the Economic and Social Research Council.
- A hand search of handbooks and collections of psychological tests for measures to test family functioning in two university libraries (University of East London and Senate House at the University of London).
- A search of the test sections featured on four pertinent websites: American and British Psychological Association websites, the GL-Assessment website and Buros Institute of Mental Measurements.
- Contacting seven experts in the field.

The following three questions were asked in correspondence between the three UEL members of the team with the seven experts in the field:

- What would be your preferred measure for assessing family relations and why? Is it suitable for use with BME families? If not what would you use for this purpose?
- Have you heard of the Index of Family Relations (IFR)? What do you think of it?
- If you have used the IFR, have you used it with BME groups? How did this work? Did you have to adapt the measure?

The full search strategies used for each database and the results of each strand of the search are listed in Tables A1 and A2 in the Annex to this report.

3.2 SEARCH RESULTS

The extensive and systematic database search returned 324 potentially relevant references to research studies. The other strands of the search strategy yielded a further three unique items (and several duplicates). One of the research team (AH) screened these results by applying the inclusion criteria detailed below to titles and (when available) abstracts. To meet the inclusion criteria, items had to mention in their titles or abstract:

- That the reliability and/or validity of the IFR had been tested or discussed;
  OR
- That the IFR had been used to measure family relations or that some form of measurement of family relations had been undertaken; AND
- That the IFR or other measurement of family relations had been used within a BME group.

Thirty-seven items were deemed to potentially meet one or more of the above inclusion criteria and a further 20 were marked as potentially useful background material. Hard copies of all 37 potentially relevant studies were obtained within the timeframe of the project (16 of the 20 items marked as relevant background material were also obtained). On obtaining full reports, the 37 potentially relevant items were re-screened. On further inspection, 20 studies were excluded as they did not meet the inclusion criteria. The 17 full reports which did meet the inclusion criteria were then studied in more detail by one member of the team (AH). In section 3.3 we report what we learned from the literature about the use of the IFR with BME families.

None of the seven colleagues consulted by members of the UEL research team reported using the IFR in their work with families. In response to our query about how they measured family relations among minority ethnic groups, some interesting information was provided, though. Two suggested measures that could be considered as a potential replacement for the IFR in Building Bridges projects were the Family Environment Scale (FES) (Moos and Moos, 1981) and the Family Assessment Device (Epstein *et al.*, 1983).

3.3 THE USE OF THE IFR AND OTHER MEASURE OF FAMILY RELATIONS AS REPORTED IN THE LITERATURE

Table 1 shows the amount of research literature we found in relation to our research questions, as outlined in section 3.1.

Table 1: Number of research reports (N=17) according to which research question on the measurement of family relations was addressed

Research question	N
1) What is the reliability and the validity of the IFR and to what extent has reliability and validity been assessed with families from BME groups?	10
2) Has the IFR been adapted for use with ethnic minority populations? Have these adaptations been: Subjected to reliability and validity assessments? For populations living in the UK? For Bangladeshi or Somali families? For Bangladeshi or Somali families living in the UK?	0
3) Are there measures of family relations other than the IFR which have been used with BME groups? Have these been a) tested for their suitability for use with BME families? or b) adapted for use with BME families?	7

As demonstrated by Table 1, the majority of studies we identified addressed the issue of the reliability and validity of the IFR. We found no previous adaptations of the IFR for use with BME families, although we did find a handful of studies that had used the IFR with a BME or largely BME sample. The remainder of the studies examined alternative self-report measures of family functioning with BME groups. None of the identified studies were conducted in the UK. Evaluations of the reliability and validity of the IFR or alternative measures of family functioning for use with BME populations in the UK appear to be non-existent.

3.3.1 STUDIES FOCUSED ON THE INDEX OF FAMILY RELATIONS

The most well-researched aspect of the reliability and validity of the IFR is around its internal reliability, i.e., the stability of the individual test items in relation to each other. Relatively high internal reliability scores have been reported by the test developer (alpha = 0.95) (Hudson, 1997) and high scores have also been found by other researchers using the IFR with a range of ethnic groups (Bussing and Burket, 1993; Grgic *et al.*, 2005; Roudkovski, 2003). For example, Bussing and Burket (1993) report an alpha of 0.90 amongst ethnically diverse parents of children with haemophilia and asthma living in Florida in the USA and Grgic *et al.* (2005) report an alpha of 0.75 with a sample of displaced Croatian children.

In terms of validity, Hudson *et al.* (1980) (cited in Tutty, 1995) found that the IFR accurately distinguished between families clinically assessed as distressed or non-distressed (the socio-demographic characteristics of the sample of families participating in the Hudson *et al.* (1980) study are not clear). Hamilton and Orme (1990) used the IFR as a check on the construct validity of three parenting knowledge scales with a largely BME sample of 296 mothers in Louisiana in the USA (the authors described their sample as 70% 'Black' and 24% 'White'). They found that the IFR correlated significantly with two parent-attitude scales and scales measuring knowledge of children's development.

We located three studies that had used the IFR to assess the validity of other self-report measures of family functioning or parenting knowledge and attitudes. Some of these studies had representation from BME families in their samples. One study focused on parenting knowledge and attitudes and was conducted by Hamilton and Orme (1990). This study and its findings has already been described above. Daly *et al.* (1991) used the IFR in a study to examine the construct validity of the Family Adaptability and Cohesion Evaluation Scale (FACES-II) developed by Olson and Killorin (1985). The study was conducted with a sample in Florida in the USA described by the authors as '92 per cent white, 5 per cent black, and 2 per cent Hispanic' (p136). FACES-II is based on the 'circumplex model of family functioning' – a model which views family dysfunction

as an interaction of the properties of cohesion and adaptability; it was found to be lacking in validity because the scores on the FACES-II showed a linear relationship with scores on the IFR. In a study of the reliability and validity of the North Carolina Family Assessment Scale (NCFA), Reed-Ashcroft *et al.* (2001) compared scores from 135 families in the USA on the NCFA with those on the IFR (alongside the Child Well-Being Scales and the Family Inventory of Resources for Management). (Although different ethnic groups were represented in the sample, the study authors did not present details on the ethnic profile of their sample.) The construct validity of the NCFA was supported. Although these studies reveal important information about the psychometric properties of other self-report measure of family functioning, it is unclear what these studies add to our knowledge of the validity of the IFR itself.

Although the IFR was developed as a uni-dimensional scale, Green (1999) examined the factor structure of the IFR in the context of a study in the USA to examine the relationship between family stress and personality adjustment (measured by the Minnesota Multiphasic Personality Inventory-2). A three-factor structure emerged: an overall 'systems' factor with two subscales labelled 'interaction' and 'individual' (again, the socio-demographic profile of participants in this study is not clear).

As indicated above, whilst there have been studies that have assessed the reliability and validity of the IFR which have included BME families in their samples, limited reporting and a lack of direct reflection on the applicability of the IFR to BME families makes it difficult to draw out specific lessons from the literature. We also identified a further two studies that had used the IFR with BME families but did not attempt to assess reliability and validity. Ortega (2002) used the IFR as a measure of social support in a study to examine the relationship between social support and parenting efficacy amongst a predominantly BME sample of mothers living on a low income in the US. Aziz and Shah (1995) compared scores on the IFR between users and non-users of hashish or heroin amongst university students in Pakistan. Neither of these studies discussed the reliability and validity of the IFR in relation to the BME samples used or discussed its use and suitability for BME groups in more general terms. It is not clear whether the study authors' lack of comment or examination of the use of the IFR with culturally diverse samples indicates a lack of problems arising or a failure to address or consider the suitability of the IFR for diverse groups.

3.3.2 STUDIES FOCUSED ON OTHER SELF-REPORT MEASURES OF FAMILY FUNCTIONING

McGuire and Earls (1993) assessed the reliability of a scale measuring intra-family conflict and violence, the 'Conflicts-Tactics Scale', together with three other scales (Parental Attitudes Towards Childrearing, Parental Acceptance Rejection Questionnaire and Raising Children). The reliability assessment was conducted with a 'disadvantaged minority' sample of 40 mothers in the USA (the majority were African-American or Hispanic). The reliability of the scale was found to be good, suggesting that these measures are applicable for use with diverse families. However, some of the individual questions within the measures were found to lack sensitivity to the diversity and deprivation experienced by families. As McGuire and Earls (1993, p 1046) note:

> Environmental stressors may influence the way that questions are interpreted, so that the responses are not reflecting the dimension of parenting intended by the test developers. When a single parent comments that she does not do things her child thinks are important when it is inconvenient for her, the answer may be an indicator of her style of coping with the stresses and demands of single parenthood rather than her feelings of warmth. An affirmative response to a statement expressing worry about bad and sad things happening to one's child may reflect reality rather than irritation with the parental role.

Clay *et al.* (2007) compared ethnic differences in perceptions of childhood environment amongst 290 women using the Family Environment Scale (FES). The study authors described their two groups for comparison as simply 'Black' and 'White'. They found that the psychometric

properties of the FES were similar across the two groups. All of the sample reported good childhood family environments, although 'Black' women when compared with 'White' women rated their families of origin as more cohesive, organized and expressive, and lower in conflict.

Knight *et al.* (1992) assessed the cross-ethnic equivalence of parenting and family interaction measures amongst English-speaking Hispanic and Anglo-American families living in an urban area in the South-West of the USA. Four scales were examined: the Children's Report of Parental Behavior Inventory, the Parent-Adolescent Communication Scale, the Family Adaptability and Cohesion Evaluation Scales (FACES) II and the Family Routines Inventory. Before psychometric analysis, all items from the scales were assessed by a panel of trained members of the Hispanic community. Sixteen items were identified as of questionable relevance for Hispanic families. Unfortunately the authors do not state what these items were. Psychometric analysis identified problems with the cross-ethnic equivalence of the Family Routines Inventory and two of the sub-scales of the Parent-Adolescent Communication Scale. The authors recommend the 'cautious' use of the Children's Report of Parental Behavior Inventory and the Family Adaptability and Cohesion Evaluation Scales (FACES) II with English speaking Hispanic families. Henry *et al*. (1996) also used the FACES II scale with an ethnically diverse sample of young people living in the USA, but the authors did not report on the suitability of the scale with their sample.

Tolan *et al.* (1997) developed a self-report measure of 'basic family processes' for use amongst diverse ethnic groups. To develop the scale the researchers primarily used two existing scales: the adaptability and cohesion subscales of the FACES III and the Family Belief Inventory. These were supplemented with items from other scales which the research team believed would capture aspects of family functioning pertinent to Latino and African-American families. These additional items covered religious involvement (from the Family Environment Scale) and somatic expression of family tensions (from the Parent and Adolescent Relationship Questionnaire). A panel of experts on family characteristics and on African-American and Latino cultural issues reviewed and revised this pool of items, resulting in a 90-item measure. This was administered to 94 families (18% African American, 56% Latino and 26% Caucasian; 47.5% of families had incomes below the poverty level). Six scales (Cohesion, Beliefs About Family, Deviant Beliefs, Organization, Support and Communication) were organised into a three-dimension higher order factor model (Cohesion, Structure and Beliefs). This model was the best fit for the ethnically diverse sample. The study found that scores on the measure correlated with depression and aggression and these relationships varied little by age, ethnicity, marital status of parent or family income.

Weisman *et al.* (2005) examined the relationship between ethnicity, family cohesion, religiosity and emotional distress amongst an ethnically diverse sample of patients with schizophrenia and their families. They used the Family Environment Scale to measure family cohesion and religiosity. Fifty-seven families took part (21 Latino families, 20 white families and 16 African-American families). A lower internal reliability score was found for the cohesion sub-scale of the FES (alpha of 0.63 compared to an alpha of 0.78 by the test developers). For Latino and African-American families, greater reported family cohesion appeared to have a protective effect against emotional distress but this was not observed in Anglo-American families. The authors suggest that:

> [t]his finding may be viewed as support for earlier findings in the cross-cultural literature that indicate that self-construal (how one defines or views oneself) is more tied to one's social roles and relationships in minorities, whereas it is more tied to being unique and successful in mainstream Anglo-Americans. (p365)

Gorall *et al.* (1995) reviewed the circumplex model of family systems (on which the FACES self-report measure is based) in relation to ethnic diversity and diversity of family structures. Citing Woehrer (1989) they argue that the circumplex model is applicable to families from diverse

ethnic groups but that it is important to a) determine what is culturally normative for a particular group when classifying families as 'balanced', 'mid-range' or 'unbalanced'; b) take acculturation into account to avoid stereotyping; and c) consider both nuclear and extended family systems when assessing levels of cohesion and flexibility.

3.4 SUMMARY

There is a small amount of largely USA-based data on the reliability and validity of the IFR and some of this data has been generated from ethnically diverse families. The IFR appears to have been used in a small number of studies as a standard to compare the psychometric properties of other scales measuring family relations or related concepts.

The IFR has been used with BME groups but there has been no formal testing or informal reflections on the success or otherwise of using the IFR with diverse groups.

We did not locate any studies from the UK which had used the IFR with BME groups, nor did we locate any studies that had adapted the IFR for use with BME groups either in the UK or in the rest of the world.

We found several studies, all from the USA, which had evaluated the suitability of alternative measures of family functioning with BME groups. In the main these studies found that these measures were applicable and valid across diverse ethnic groups. However, problems were noted with some individual items within scales, which lacked sensitivity to the disadvantaged circumstances in which the BME groups under study were living.

Several questions remain regarding the use and applicability of measures of family relations with diverse groups, especially within the UK. Whilst studies from the US suggest that measures can be applicable across diverse groups, it is unclear whether this evidence is transferable to BME groups such as Bangladeshi and Somali families in the UK. There are also important unanswered questions about first and second generation BME groups.

The findings from the literature and other searches described here, alongside practitioner comments, informed the modified version of the IFR subsequently tried out in the Building Bridges projects. The process of constructing such a 'family-friendly' version with the help of practitioners is described in the next section of this report.

4. Producing a 'user-friendly' version of the IFR

In carrying out this project, building on the findings of the evaluation of the Building Bridges project model was an essential starting point. After all, Morris (2007: 28) had recommended that Family Action should seek expert advice on whether the clinical tools in use were the most appropriate. The research team also needed to tap into the valuable additional experience gained by Building Bridges practitioners since 2004 in measuring family functioning among service users. It would soon become clear that a more 'family-friendly' version of the IFR for all service users would be very welcome. Such a version might also be more acceptable to families from BME communities.

The challenge encountered by Family Action in working with a culturally and linguistically diverse range of families is by no means unique. Internationally, the need for cross-cultural adaptations of psychometric tests for use in multi-cultural and multi-lingual contexts is receiving increasing research attention (Malda, *et al.*, 2008). Procedures demanded by a cross-cultural adaptation of a psychometric instrument do require a multi-disciplinary approach. Moreover, preserving original meaning between different versions during the process of generating and testing the cultural adequacy and cross-cultural equivalence of adapted psychometric tools is key.

We will now describe the process of adapting the IFR as part of this project; this process had four separate stages.

4.1 Consulting Building Bridges practitioners

At the outset of the research project, fourteen managers of twelve Building Bridges and two Young Carers projects were consulted in a focus group style meeting attended by the two research directors. Conceptual and practical issues raised by these practitioners concerning their experiences of the IFR echoed some of those already noted by Morris (2007: 25ff). They included the following:

The concept of the 'family' needed exploring with parents before the IFR was administered, as for BME families this usually included extended family and the term was interpreted as applying much more widely than just to the nuclear family.

A Bengali translation of the IFR previously produced for the Tower Hamlets Building Bridges project contained formal and unfamiliar language, not well understood by either the parents completing it or the Sylheti speaking practitioners administering it (Sylheti is an unwritten, regional dialect of Bengali).

As the questionnaire was administered orally, this presented additional difficulties for parents from some BME communities, notably Bangladeshi and Somali parents.

In this and other projects working with parents with little or no English, it seemed as if some completed the questionnaire without quite understanding either the set of statements about family functioning, or the meaning of the phrases they could use to express their views.

Parents' views on each item on the IFR were captured using a seven-point Likert-scale. A crib sheet was available which helped parents to see the responses available to them to express their

views. However, there were still challenges for parents in selecting phrases from the seven-point scale. For some parents whose first language was not English, there was a tendency to pick points at either end of the scale. Practitioners observed that Bangladeshi parents in particular rarely opted for a phrase from the middle of the scale, such as 'some of the time', but tended to select replies from either end (e.g. 'not at all' or 'always').

Some questions were regularly considered 'too obvious', while both BME and white British parents also struggled with some questions seeming repetitive.

Suggestions were made for words practitioners would like to see changed, as they presented significant difficulties.

Some phrases in the English version of the IFR, e.g. 'gets on my nerves', 'do not care to be around' and 'enjoy my family' would not necessarily be clear to many Bangladeshi or some other BME clients, even in translation.

It became clear from the discussion that practitioners need great sensitivity in administering the IFR during early contact with families referred to Building Bridges projects. Administering a set of psychometric tools early on was felt by some practitioners to be a barrier to developing a good working relationship with families. There may therefore be a tension between establishing a relationship with the family and obtaining a baseline measure on outcomes as early as possible.

It was acknowledged, on the other hand, that the use of the IFR could help positively structure an initial consultation. Managers and practitioners mostly agreed that the IFR and other psychometric tools were useful as monitoring instruments, but difficult to administer. Data inputting processes had also presented problems at times.

Finally, practitioners commented on the challenge inherent in the length of the scale, 25 items. This presented difficulties for both parents and practitioners. These particular concerns gave rise to a separate analysis, a factor analysis of the IFR monitoring data collected by Building Bridges projects since 2004, with a view to exploring the relevance of each item. This psychometric analysis will be discussed in chapter five below.

In the next sections the process is described by which Building Bridges experience was translated into both a family-friendly adaptation and a modified Bengali translation of this version of the IFR.

4.2 GENERATING A USER-FRIENDLY IFR ADAPTATION

Having taken on board these comments and views, coupled with comments in the report by Morris (2007), members of the research team produced and discussed three drafts of a version of the IFR which addressed some of the general issues raised in respect of the negative responses its use elicited from parents using the Building Bridges service. For the reasons mentioned above, a concerted effort was made to preserve the meaning of the 25 items making up the IFR scale, in order to protect its validity and reliability.

The third draft was then discussed at a meeting of Building Bridges practitioners, and further refinements were made by the team on the basis of their reported observations. For the piloting phase, which had been built into the project plan, the Building Bridges projects were to use the fourth modified English language version of the IFR for roughly three months, before their views would again be sought by the research team.

4.3 A USER-FRIENDLY BENGALI VERSION

Alongside her input into the preparation of the modified English version, the educational psychologist and Bengali and Sylheti speaking member of the team also explored the user friendliness of the existing Bengali translation in use in certain Building Bridges projects. While the translation had been professionally and accurately done, this could not be described as 'user friendly' either. For instance, in the seven-point Likert type scale used to score each item, the seventh description consisted of the English words 'very rarely'. These words were difficult to translate into a comprehensible term in Bengali. Some of the rather formal words used in the original Bengali version could be replaced with simpler, more accessible ones, but occasionally this was difficult to achieve.

In modifying the translation, the researcher took into account the linguistic abilities of different Bengali client groups as follows:

- Those not fully literate in Standard Bengali (formal Bengali)
- Those only speaking regional dialects, e.g. Sylheti
- Those who are second generation Bangladeshi living in England
- Those who have only basic conversational Bengali with limited vocabulary.

Following standard practice, this translation was 'back translated' into English to compare the resulting version with the phrasing of the original IFR.

The educational psychologist explored whether the scale allowed for variation in family composition among different client groups. She strongly recommended that a standard explanatory note in Bengali about the dimensions of a family should be given to the practitioners administering the IFR, which they could discuss with new clients prior to its completion. To a Bangladeshi parent, the term 'family' will usually refer to three generations of extended family members. If the practitioner's understanding of the concept differed from that of the client, inappropriate scores might be obtained which could jeopardise the scale's validity.

Thorough practitioner training in all aspects of psychometric testing was also a recommendation from the educational psychologist. Such training may well highlight how administration could be made more user friendly despite the need for standardized procedures. Family action staff do undertake training in administering the IFR, with opportunities to 'role play' before working with service users. This might usefully be supplemented with ongoing and refresher training to cover the complexities involved in administering standardised psychometric tests with diverse families.

4.4 EARLY EXPERIENCES WITH THE FAMILY-FRIENDLY IFR

In late October, eleven managers and staff representing nine Building Bridges projects were once again consulted in a focus group style meeting attended by one of the research directors and the Bengali and Sylheti speaking research consultant. They responded to an invitation circulated in advance of this meeting to comment on:

- Their projects' experience with the more family-friendly IFR version over the preceding three months: had it been used at all and if so with how many families?
- Practitioners' reported experience of working with this version and whether it was different from working with the original version.
- Families' response to this version of the IFR and if this response was different from that observed with the use of the original version.
- Any specific aspects that worked particularly well or particularly badly.

Projects working with families from Bangladesh were asked these questions also in relation to the amended Bengali translation, but it transpired that no feedback on its use was as yet available.

Even though the family-friendly English version had only been used with small numbers of newly referred families, emerging evidence suggested a modest improvement in the ease of IFR administration. For three of the Building Bridges projects represented at this second focus group, a better experience for both practitioners and parents was reported since its introduction. According to one of these managers, for instance:

> Practitioners do not need to return to questions so often (to explain them further).

The manager of a fourth project noted that, even though no explicit endorsement of the new version had been expressed:

> New members of staff coming in are not picking up on the old resistance to using the tool.

This suggested that across the board, an improvement in the process had made itself felt. In another project, practitioners had not noted any difference with the previous version, a newly opened project had experience only with the family-friendly version, while in two more projects the new version had not yet been introduced. The situation had not changed for Somali speakers, where the manager's translation of the IFR into Arabic was better received than any attempt to provide a Somali interpretation. Families tended to always score high, certainly the first time the IFR was completed.

In a wide-ranging discussion, the group revisited issues already mentioned six months previously. These included: the questionnaire's length; continuing cultural problems, such as those surrounding the concept of 'family'; and terms that remained hard to interpret, such as the replacement of 'friction' with 'tension' in statement 16 ('There seems to be a lot of friction in my family). Another manager pointed out that the questionnaire was not designed to be administered to two parents simultaneously, while the project was expressly aiming to involve both parents in its programme.

The information gathered at this focus group informed the conclusions and recommendations at the end of this report.

5. A PSYCHOMETRIC ANALYSIS OF THE IFR

In respect of any psychometric tool, the questions arise whether some of its items measure separate components, or whether there is only one component to measure composed of a smaller number of highly correlated items. This was the basis for the psychometric analysis of the questionnaire items constituting the IFR, mentioned previously in section 2.4 of this report. To this end IFR records dating from the period 2004 to summer 2009 were prepared for analysis with administrative support from Family Action.

5.1 EXPLORING THE USE OF THE INDEX OF FAMILY RELATIONS

At the outset of the project, the psychometric expert on the research team set out to carefully examine the provenance of the IFR, the copyright rules governing its use and the practice guidance provided by the publishers. One key aspect of its use that soon became apparent was that it should be employed as part of a package of scales. On its own, the IFR was likely to be of limited use in highlighting aspects around family functioning in families presenting with mental health issues. This point must be borne in mind when considering the usefulness of producing any adaptation.

 The process of rendering a questionnaire such as the IFR more family friendly while preserving its psychometric properties, though challenging, is not as complex as the adaptation of a multi-component test of cognitive ability, such as reported in the article by Malda et al (2008). The exercise described here, though, was separate from the process reported in the preceding sections of this report.

This was a theoretically informed attempt to identify the key IFR questionnaire items responsible for its validity in order to explore whether in principle it might be simplified and adapted to better meet the needs of families such as those using Building Bridges services. It was never intended to simplify the IFR to this extent, given copyright restrictions and the need for further validation of this finding and communication with other experts in the field and with the IFR's publishers.

5.2 FINDINGS FROM THE PSYCHOMETRIC ANALYSIS

Out of 294 cases of data made available to the research team, a total of 188 were complete; these anonymised records were entered into the Statistical Package for the Social Sciences (SPSS). No missing values had to be inputted, so responses were just as the respondents provided them. These cases comprised 33 adult male and 155 adult female respondents, the majority (80%) of whom designated themselves as 'white UK'. Of note is that in the whole sample of 294 cases only 62% of respondents describe themselves as `white UK'; this implies that a greater proportion of records from BME families were incomplete, thus validating practitioner observations reported in section 4.2 of this report that there are particular difficulties in the use of the IFR with BME families.

Initial `scree analysis' (after Cattell, 1966) showed there to be one factor (or `component') underlying the 24 items, Thus, the questionnaire does not measure multiple constructs – it only measures one construct. The corollary of this is that psychometrically 24 items are not needed to accomplish such measurement. This could be achieved with the best 10 items.

A subsequent principal components analysis specifying the extraction of one factor showed that 23 out of 24 items loaded at above 0.4 (the standard cut-off) on this one factor and so are of relevance to it. The one item that did not and loaded at only 0.086 was `my family does not understand me'. So, this latter item is not relevant to what the other items are measuring and could be omitted.

All 24 items were tabulated in descending rank order of factor loading to display the top 10 and others below these in terms of item relevance to the factor (see Table 2). The top ten items are featured in the shaded area of Table 2. The small number of males in the sample (N=33) did not allow running the principal components analysis on their scores alone to check the factor structure in males versus females.

The item with the highest loading at 0.84 was `Life in my family is generally unpleasant'. So, this in essence is what this questionnaire measures: how pleasant or unpleasant life in the family is like. The item with the second largest loading on the one factor was `My family is an unhappy one' (0.82), followed by `There is too much hatred in my family'. So, essentially this questionnaire measures the expression and experience of positive and negative hedonic tone within the family. Indeed, it can be seen that the first eight items in the IFR clearly are about this perceived quality of the family environment, with the ninth and tenth items being more about a respondent's enjoyment of that environment.

As this is a one-factor questionnaire, in principle the 10 items with the highest loadings could be administered on their own as this would achieve much the same psychometric outcome and be more time efficient for both clients and practitioners. So, for measurement purposes, that is, to be able to reliably distinguish between one individual's responses and characterisation of his/her family from another, responses to the first ten items would be sufficient, since additional items after that are not really contributing much extra information.

Table 2 Rank order of factor loading

IFR item	Component Loading
Life in my family is generally unpleasant	0.84
My family is an unhappy one	0.82
There is too much hatred in my family	0.77
Members of my family are really good to one another	0.77
The members of my family really care about each other	0.76
There is a lot of love in my family	0.76
Members of my family get along well together	0.74
There seems to be a lot of friction in my family	0.72
My family is a great joy to me	0.72
I get on well with my family	0.72
Other families seem to get along better than ours	0.72

I really enjoy my family	0.71
I think my family is great	0.70
I really do not care to be around my family	0.69
My family is a real source of comfort to me	0.69
There is no sense of closeness in my family	0.68
I feel like a stranger in my family	0.68
I feel proud of my family	0.68
I wish I was not part of my family	0.67
Members of my family argue too much	0.65
I feel left out of my family	0.64
I can really depend on my family	0.63
My family gets on my nerves	0.60
My family is well respected by those who know us	0.51
My family does not understand me	0.09

Note: the 10 items with the largest loadings on the factor feature in the shaded area of the table

Whilst a short form version of the IFR could be composed of the first 10 items, reducing administration time by more than half, of course psychometric utility and clinical utility are not one and the same. So, clinicians may well regard some items lower down the rank order of item loadings to be worthy of retention; for example: `I wish I was not part of my family', is an item that informs not just about the expression of negative or positive emotion but also about whether the respondent wishes to remove him/herself from the family, which arguably is clinically informative in a way that is distinct from those items at the top of the rank order.

However, the production and use of such a shortened version of the IFR would necessarily involve consultation and agreement with its publishers and copyright holders.

CONCLUSIONS AND RECOMMENDATIONS

This report has described a programme of work evaluating the use of the Index of Family Relations (IFR) within Family Action's Building Bridges Projects. The IFR is described in the literature as a self-report measure of family distress. It has been used by Family Action as one measure to evaluate the outcomes of its work with families. Our work programme had a particular focus on using the IFR with BME families, especially Bangladeshi and Somali families living in the UK; with this in mind, we: systematically searched and reviewed the international research literature on the IFR; consulted with Family Action practitioners and managers to develop a more user-friendly version of the IFR; and carried out a psychometric analysis of the IFR using data routinely collected by Family Action.

Our literature review found a small body of evidence on the reliability and validity of the IFR. There are several studies which have found the IFR to show good internal reliability and several more which have established the convergent validity of the IFR in relation to other self-report measures assessing related constructs. One study, conducted in the early eighties, has also established the criterion-related validity of the IFR (the most robust assessment of validity). There are, however, limitations and gaps in the evidence, particularly in relation to using the IFR with ethnically diverse families in the UK. The research is almost entirely US-based, there have been no assessments of the reliability and validity of the IFR conducted in the UK and there have been no attempts reported in the literature to adapt the IFR for use with BME families. Although some of the evidence on the reliability and validity of the IFR has been generated from ethnically diverse families, we found no direct attempts to compare the reliability and validity of the IFR across families from different ethnic groups, and there was very little reflection or consideration of the suitability of the IFR amongst different types of families.

The findings of the literature review also raise the issue of the range of family-related constructs that could be measured. The IFR focuses on one specific construct, the level of family distress expressed and experienced. Other self-report measures focus on family adaptability and cohesion, family routines, satisfaction with family life or the family environment. Compared to the IFR, there appears to have been more research activity focused on assessing the cultural relevance of some of these other measures.

The development and evaluation of an adapted version of the IFR showed mixed results. Our initial consultation with practitioners and managers from Family Action revealed the following problems in using the IFR: varying concepts of the 'family'; a lack of understanding of the meaning of some or all of the statements in the IFR, particularly for BME families; the challenge of using the seven-point Likert scale for responses; the length of the scale; and items in the scale that appeared to be repetitive. Team members, including our educational psychologist (ZS), a Bengali and Sylheti speaker, drafted a revised version of the IFR, informed by Dr Sayeed's expertise in adapting outcome measures for BME groups and the input provided by Family Actions practitioners (including Bengali and Somali practitioners). This process resulted in a 'family-friendly' version of the IFR which was felt to be more suitable for *all* clients regardless of ethnicity. The existing Bengali translation of the IFR was also made more user friendly and took into account the linguistic abilities of different Bengali client groups. Both the English user-friendly version and the translation would need to be analysed to check reliability and validity.

Three months after the introduction of the new version of the IFR, follow-up consultation with practitioners and managers suggested some evidence of an improvement in the ease of administration of the IFR for practitioners and the ease of completion for clients. There still continued to be problems with the length of the scale, problems with the meaning of some of

the items and a conflict between the design of the questionnaire for use with one parent versus the intent of the projects to involve both parents in two-parent families. The projects working with Somali families also reported no improvements in the use of the IFR.

The psychometric analysis found that the 24 items of the IFR are measuring one construct: the emotional expression and experience or 'tone' of family life – or, in effect, how pleasant or unpleasant life in the family is. In measurement terms, using 24 items to measure one construct is considered to be inefficient. All except one of the 24 items in the IFR closely measured this construct (the item that did not was 'My family does not understand me'). The strength of each item in its measurement of the central construct is measured on a scale of 0 to 1 and the cut-off point is usually a score of 0.4. All items (except for 'My family does not understand me') had scores of 0.51 or more. For measurement purposes, the first eight to ten items with the highest scores would be sufficient to measure the emotional 'tone' of family life. Further analysis would be necessary to check fully the reliability and validity of this shortened version of the IFR.

RECOMMENDATIONS FOR FAMILY ACTION

As many of the problems with using the IFR appear to stem from its length and complexity, addressing these would go some way to helping practitioners use the IFR with parents from diverse ethnic groups whose first language is not English.

We recommend that managers write to the IFR test developers to ask for permission to produce a shortened 10-item version of the scale based on the results of the psychometric analysis presented in this report. This would greatly reduce administration time and may contribute to a greater common understanding of the items within the scale.

Ease of use of the IFR may also be facilitated by a standard explanatory note, translated into different languages, about the dimensions of a family, which practitioners could discuss with new clients prior to the completion of the IFR.

Translations of the IFR can also be useful. These should take into account the appropriateness of the English phrasing used in the IFR within different cultures and languages (e.g. 'gets on my nerves') and differences in linguistic abilities. Translated scales should ideally go through a process of 'back translation' into English and be re-tested for reliability and validity.

We would also recommend some reflection on the range of outcomes currently measured by projects and that Family Action should consider which aspects of family life it would be most useful to measure. The IFR provides a window on one aspect of family life: 'family distress' (in the terms of the original test developer) or the 'emotional expression and experience of family life' (the construct identified by the analysis presented in this report).

As the length of measures is considered to be a major obstacle by practitioners, it may be worth exploring shortened versions of other outcome measures used by Family Action.

While FA staff do receive initial training in administering the IFR and other psychometric measures, continued support and training for measuring outcomes needs to be encouraged at all levels of the organisation. One way to encourage support is to provide regular training for practitioners. This training could be focused specifically on administering the IFR and other measures as well as including a broader discussion of the nature and experience of family life and how this may vary (or not) across different cultures and groups.

RECOMMENDATIONS FOR RESEARCH

More research is needed on the reliability and validity of the IFR and other self-report measures of family life amongst UK samples.

The use of psychometric tools of this type with families from ethnically, culturally and linguistically diverse backgrounds deserves more attention that it is currently getting within the research literature.

There is a need for research on the criterion-related validity (the most robust measure of validity) of the IFR in both the UK and worldwide, both in the original 24-item form and in the shortened 10-item form described in this report.

Opportunities to assess the criterion-related validity of the IFR based on routinely collected data in Family Action projects should be explored, as should opportunities to examine in more detail whether reliability and validity vary across families from different ethnic groups.

The relative predictive utility of the IFR in long and short form should be tested against other similar measures to establish which are of greatest utility and benefit for clients and practitioners.

REFERENCES

REFERENCES CITED IN THE TEXT

Aziz, S. and Shah, A. (1995). Home environment and peer relations of addicted and nonaddicted university students. *Journal of Psychology: Interdisciplinary and Applied*, 129(3), 277-284.

Bussing, R. and Burket, R. C. (1993). Anxiety and intrafamilial stress in children with hemophilia after the HIV crisis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32(3), 562-567.

Cattell, R. B. (1966). The Scree Test for the number of factors. *Multivariate Behavioral Research,* 1(2), 245-276.

Clay, C. M., Ellis, M. A., Griffin, M. L., Amodeo, M. and Fassler, I. R. (2007). Black women and white women: Do perceptions of childhood family environment differ? *Family Process*, 46(2), 243-256.

Daley, J. G., Sowers-Hoag, K. M. and Thyer, B. A. (1991). Construct validity of the circumplex model of family functioning. *Journal of Social Service Research*, 15(1), 131-147.

EPPI-Centre (2006) *EPPI-Centre methods for conducting systematic reviews.* London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Epstein, N.B., Baldwin, L.M., and Bishop, D.S. (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy*, 9, 171-180.

Family Action (2009) Parents with mental health problems: Our services. http://www.family-action.org.uk/section.aspx?id=780 (accessed 11 November 2009)

Gorall, D. M., Olson, D. H., Mikesell, R. H., Lusterman, D.-D. and McDaniel, S. H. (1995). Circumplex model of family systems: Integrating ethnic diversity and other social systems. In: Mikesell, Richard H., Lusterman, Don-David and McDaniel, Susan H. (Eds) *Integrating family therapy: Handbook of family psychology and systems theory*. Washington, DC: American Psychological Association (pp. 217-233).

Green, P. A. (1999). *Family relations and personality adjustment: An object relations perspective.* Unpublished PhD. Lawrence, KS: University of Kansas.

Grgic, M., Vidovic, V., Soldo-Butkovic, S. and Koic, O. (2005). Depression and perceived family functioning in Croatian displaced children. *Drustvena Istrazivanja*, 14(3), 597-608.

Hamilton, M. A. and Orme John G. (1990). Examining the construct validity of three parenting knowledge measures using LISREL. *The Social Service Review*, 64(1), 121-143.

Harden A (2001). The fine details: conducting a systematic review: In: Oliver, S. and Peersman, G. (Eds) *Using research for effective health promotion*. Buckingham: Open University Press.

Henry, Carolyn S., Sager, David W. and Plunkett, Scott W. (1996). Adolescents' perceptions of family system characteristics, parent-adolescent dyadic behaviors, adolescent qualities, and adolescent empathy. *Family Relations,* 45(3), 283-292.

Hudson, W (1997) *The WALMYR Assessment Scales: Scoring manual*. Tempe, AZ: WALMYR.

Hudson, W., Ackin, J. and Bartosh, J. (1980) Assessing discord in family relationships. *Social Work Research and Abstracts*, 16, 21-29.

Knight, G. P., Tein, J. Y., Shell, R. and Roosa, M. (1992). The cross-ethnic equivalence of parenting and family interaction measures among Hispanic and Anglo-American families. *Child Development*, 63(6), 1392-1403.

Malda, M., van de Vijver, F., Srinivasan, K., Transler, C., Sukamar, P. and Rao, K. (2008). Adapting a cognitive test for a different culture: an illustration of qualitative procedures. *Psychology Science Quarterly*, 50(4), 451-468.

McGuire, Jacqueline and Earls, Felton (1993). Exploring the reliability of measures of family relations, parental attitudes, and parent-child relations in a disadvantaged minority population. *Journal of Marriage and the Family*, 55(4), 1042-1046.

Moos, R. H. and Moos, B. S. (1981). *Manual for the Family Environment Scale*. Palo Alto, CA: Consulting Psychologists Press.

Morris, J. (2007). Family Action – Building Bridges model: Evaluation. London: Family Action.

Olson, D.H. and Killorin, E. (1985). *Clinical rating scale for the circumplex model of marital and family systems*. St Paul, MN: University of Minnesota.

Opie, C. (2004). Research approaches. In: C. Opie (Ed.) *Doing educational research.* London: Sage.

Ortega, D. M. (2002). How much support is too much? Parenting efficacy and social support. *Children and Youth Services Review*, 24(11), 853-876.

Petticrew, M. and Roberts, H. (2006) *Systematic reviews in the social sciences: A practical guide*. Oxford: Blackwell Publishing.

Reed-Ashcraft, K., Kirk, R. S. and Fraser, M. W. (2001). The reliability and validity of the North Carolina Family Assessment Scale. *Research on Social Work Practice*, 11(4), 503-520.

Roberts, H. (Ed.), with McNeish, D. and Newman, T. (2002). What *works: Effective care services for children and families*. Buckingham, Open University Press.

Roudkovski, M. B. (2003). *An analysis of factors indicative of healthy family functioning in a multicultural population.* Unpublished PhD. Louisiana, NO: Louisiana State University.

Tolan, P. H., Gorman-Smith, D., Huesmann, L. R. and Zelli, A. (1997). Assessment of family relationship characteristics: A measure to explain risk for antisocial behavior and depression among urban youth. *Psychological Assessment*, 9(3), 212-223.

Tutty, L. M. (1995). Theoretical and practical issues in selecting a measure of family functioning. *Research on Social Work Practice*, 5(1), 80-106.

Weisman, A., Rosales, G., Kymalainen, J. and Armesto, J. (2005). Ethnicity, family cohesion, religiosity and general emotional distress in patients with schizophrenia and their relatives. *Journal of Nervous Mental Disorders*, 193(6), 359-368.

Woehrer, C.E. (1989). Ethnic families and the circumplex model: Integrating nuclear and extended families. In: Olson, D.H., Russell, C.S. and Sprenkle D.H. (Eds) *Circumplex model: Systemic assessment and treatment of families*. New York: Haworth.

OTHER REFERENCES

Bray, James H. (1995). Family assessment: Current issues in evaluating families. *Family Relations*, 44(4), 469-477.

Camfield, L. and Ruta, D. (2007). 'Translation is not enough': Using the global person generated index (GPGI) to assess individual quality of life in Bangladesh, Thailand, and Ethiopia. *Quality of*

Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, 16(6), 1039-1051.

Ellis, B. H., Lhewa, D., Charney, M. and Cabral, H. (2006). Screening for PTSD among Somali adolescent refugees: Psychometric properties of the UCLA PTSD Index. *Journal of Traumatic Stress*, 19(4), 547-551.

Fuggle, P., Glover, L., Khan, F. and Haydon, K. (2002). Screening for postnatal depression in Bengali women: Preliminary observations from using a translated version of the Edinburgh Postnatal Depression Scale (EPDS). *Journal of Reproductive and Infant Psychology*, 20(2), 71-82.

Gausia, K., Fisher, C., Algin, S. and Oosthuizen, J. (2007). Validation of the Bangla version of the Edinburgh Postnatal Depression Scale for a Bangladeshi sample. *Journal of Reproductive and Infant Psychology*, 25(4), 308-315.

Gorman, Jean Cheng and Balter, Lawrence (1997). Culturally sensitive parent education: A critical review of quantitative research. *Review of Educational Research*, 67(3), 339-369.

Greenhalgh, T., Chowdhury, M. M. and Wood, G. W. (2006). Story-based scales: Development and validation of questionnaires to measure subjective health status and cultural adherence in British Bangladeshis with diabetes. *Psychology*, *Health and Medicine*, 11(4), 432-448.

Greenhalgh, T., Chowdhury, M. M. and Wood, G. W. (2007). Corrigendum: 'Story-based scales: Development and validation of questionnaires to measure subjective health status and cultural adherence in British Bangladeshis with diabetes'. *Psychology*, *Health and Medicine*, 12(1), 116.

Hanna, L., Hunt, S. and Bhopal, R. S. (2006). Cross-cultural adaptation of a tobacco questionnaire for Punjabi, Cantonese, Urdu and Sylheti speakers: Qualitative research for better clinical practice, cessation services and research. *Journal of Epidemiology and Community Health*, 60(12), 1034-1039.

Ievers, C. E., Brown, R. T., Lambert, R. G., Hsu, L. and Eckman, J. R. (1998). Family functioning and social support in the adaptation of caregivers of children with sickle cell syndromes. *Journal of Pediatric Psychology*, 23(6), 377-388.

Izutsu, T., Tsutsumi, A., Islam, M. A., Matsuo, Y., Yamada, H. S., Kurita, H. and Wakai, S. (2005). Validity and reliability of the Bangla version of WHOQOL-BREF on an adolescent population in Bangladesh. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 14(7), 1783-1789.

Kuo, B. C. H., Chong, V. and Joseph, J. (2008). Depression and its psychosocial correlates among older Asian immigrants in North America: A critical review of two decades' research. *Journal of Aging and Health*, 20(6), 615-652.

Kvernmo, S. and Heyerdahl, S. (1998). Influence of ethnic factors on behavior problems in indigenous Sami and majority Norwegian adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(7), 743-751.

Lewisfernandez, R. and Kleinman, A. (1995). Cultural psychiatry: Theoretical, clinical, and research issues. *Psychiatric Clinics of North America*, 18(3), 433-448.

Meller, P. J., Ohr, P. S., Marcus, R. A., Suzuki, L. A. and Ponterotto, J. G. (2001). Family-Oriented, Culturally Sensitive (FOCUS) assessment of young children. In: Suzuki, Lisa A., Ponterotto, Joseph G. and Meller, Paul J. (Eds) *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (2nd ed.). San Francisco, CA: Jossey-Bass (pp. 461-496).

Munir, S. Z., Zaman, S. and McConachie, H. (1999). Development of an independent behavior assessment scale for Bangladesh. *Journal of Applied Research in Intellectual Disabilities*, 12(3), 241-252.

Nilsson, J., Parker, M. G. and Kabir, Z. N. (2004). Assessing health-related quality of life among older people in rural Bangladesh. *Journal of Transcultural Nursing*, 15(4), 298-307.

Parke, R. D., Coltrane, S., Borthwick-Duffy, S., Powers, J., Adams, M., Fabricius, W., Braver, S., Saenz, D., Day, R. D. and Lamb, M. E. (2004). Assessing father involvement in Mexican-American families. In: Day, R. D. and Lamb, M. D. (Eds) *Conceptualizing and measuring father involvement.* Mahwah, NJ: Lawrence Erlbaum Associates Publishers (pp. 17-38).

Rait, G., Morley, M., Lambat, I. and Burns, A. (1997). Modification of brief cognitive assessments for use with elderly people from the South Asian sub-continent. *Aging and Mental Health*, 1(4), 356-363.

Sorcar, N. R. (1994). Reliability of the Bengali version of OM-12: Short form of Overall Modernity scale. *Bangladesh Journal of Psychology*, 14, 63-68.

Tsutsumi, A., Izutsu, T., Kato, S., Islam, M. A., Yamada, H. S., Kato, H. and Wakai, S. (2006). Reliability and validity of the Bangla version of WHOQOL-BREF in an adult population in Dhaka, Bangladesh. *Psychiatry and Clinical Neurosciences*, 60(4), 493-498.

ANNEX: INDEX OF FAMILY RELATIONS: SEARCH REPORT

SEARCH STRATEGY

A search strategy was constructed on the basis of the search question:

1. What is the reliability and the validity of the IFR?
2. Has the IFR been adapted for use with ethnic minority populations? Have these adaptations been subjected to reliability and validity assessments? Have any of these adaptations been done for populations living in the UK? Are any for Bangladeshi or Somali families? Are any for Bangladeshi or Somali families living in the UK?
3. Are there other measures of family relations which have been used for BME groups?

Databases were selected on the basis of their relevance and their availability to the researcher. The search strategy and its results are listed in Table A1.

Table A1: Database searches for both evaluation of the IFR and any alternative/modified rating scales

Database	Strategy		Results
Psycinfo	1.	Search for 'index of family relations' as free text phrase	1 – 14
			2 – 11
	2.	Search for subject headings (Psychometrics or Rating Scales or Test construction or Test validation or Measurement) AND SU=Family relations AND SU=ethnic	3 – 17
			Total: 42
	3.	Search for subject headings (Psychometrics or Rating Scales or Test construction or Test validation or Measurement) AND (Bangladesh* or Somali* or sylhet*)	
Web of Science	1.	Search 'index of family relations' as free text phrase	1 – 9
	2.	Topic=('rating scales' or 'psychometric tests' or 'psychometric scales') AND Topic=(family relations*) AND Topic=(ethnic* or race or racial or black or asian)	2 – 51
			3 – 14
	3.	Topic=('rating scales' or 'psychometric tests' or 'psychometric scales') AND Topic=(Bangladesh* or Somali* or sylhet*)	Total: 74
Science Direct	1.	Phrase {Index of family relations} in free text	1 – 0
	2.	Select subject areas Medicine and Dentistry; Nursing and Health Professions; Psychology; Social Sciences. Combine Title/Abs/Keyword ('rating scales' or 'psychometric tests' or 'psychometric scales') AND Title/Abs/Keyword (family relations*) AND Title/Abs/Keyword (ethnic* or race or racial or black or asian)	2 – 2
			3 – 0
			Total: 2
	3.	Select subject areas Medicine and Dentistry; Nursing and Health Professions; Psychology; Social Sciences. Combine Title/Abs/Keyword ('rating scales' or 'psychometric tests' or 'psychometric scales') AND Title/Abs/Keyword (Bangladesh* or Somali* or sylhet*	

JSTOR	1. Phrase 'index of family relations' in free text	1 – 7
	2. Search full-text: ('rating scales' or 'psychometric tests' or 'psychometric scales') AND ('family relations' OR 'family relationships') AND (ethnic* or race or racial or black or asian)	2 – 165
		3 – 26
		Total: 198
	3. Search full-text: ('rating scales' or 'psychometric tests' or 'psychometric scales') AND (Bangladesh* or Somali* or sylhet*)	
Medline	1. Phrase 'index of family relations' in free text	1 – 5
	2. Search MeSH 'Psychiatric status rating scales' AND MeSH 'Family Relations' AND MeSH 'Ethnic Groups'	2 – 27
		3 – 11
	3. Search MeSH 'Psychiatric status rating scales' AND (Bangladesh* or Somali* or sylhet*) as Topic – Add MeSH	Total: 43
ESRC	1. Search for ('rating scales' or 'psychometric tests' or 'psychometric scales') and (Bangladesh* or Somali* or sylhet*). Browse through results.	1 – 0
		2 – 2
	2. Search for ('rating scales' or 'psychometric tests' or 'psychometric scales') and (ethnic or ethnicity or race or racial or black or asian). Browse through results.	Total: 2
	Note: the ESRC is a list of research projects, including outputs from the research; it is not a bibliographic database. Thus it was necessary to browse the results online.	

Further sources, both online and hard copy, were identified and searched. The sources and the results are listed in Table A2.

Table A2: Non-database searches for alternative/modified rating scales

Source	Findings
Fischer *Measures for clinical practice*: 2007 list of rating scales relating to families and children	Description of the IFR found. No modifications of any scales in the Families section found for Bangladeshis or Somalis.
Senate House library catalogue has a subject heading 'psychological tests'. Manual search in library to find any items of relevance	Only one mention of the IFR (Fischer, above). No modifications of any scales in the Families section of listings found for Bangladeshis or Somalis.
Browse American Psychological Association website	Browsed area Publications – Clinical resources, Health psychology, Personal and social psychology Found three marginally relevant books
Browse NFER and GL-Assessment websites	NfER – nothing GL-Assessment – checked Health and Psychology catalogue. Found one family relations test

Browse British Psychological Society website	Searched Publications. Found nothing
	Searched BPS Blackwell site under Clinical and Psychometrics. Found nothing
Buros Institute of Mental Measurements http://www.unl.edu/buros/	Most material already seen at Senate House

The researchers also contacted individuals with experience in this field.