Testing a parenting programme evaluation tool as a pre and post course measure of parenting self-efficacy

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Short title **Tool to Evaluate Parenting Programmes**

ABSTRACT

Aim

This paper is a report of a study to measure changes in parenting self-efficacy after attending a parenting programme and to determine if these changes are maintained over time.

Background A need for the evaluation of parenting programmes from the perspective of parents who take part has led to the development of a Tool to Measure Parenting Self-Efficacy. Self-efficacy, a self-perception of one's ability to perform competently and effectively in a particular task or setting, provided the framework for the development of the tool.

Methods A total of 356 parents took part in the study over 53 parenting programmes in 2004-05. Parents completed the evaluation tool as a pre- and post-course measure of parenting self-efficacy and at four-month follow-up.

Findings Parenting self-efficacy increased at the end of the parenting programmes for all scales. The increase from baseline to end of course was maintained for all scales at four month follow-up and there was a further increase for two scales. Increases in self-efficacy were found across a range of parenting programme.

Conclusion The tool can be used to assess the impact of different types of parenting programmes on parenting self-efficacy and in research into this topic.

Keywords: parenting programmes, instrument development, health visiting, evaluation research, self-efficacy, Tool to Measure Parenting Self-Efficacy (TOPSE)

SUMMARY STATEMENTS

What is known about the topic

- Parenting interventions are often underpinned by self-efficacy theory.
- There is limited evidence of evaluation tools to measure parenting self-efficacy.
- Parenting Programme evaluations rarely include long-term follow-up.

What this paper adds

- There was a statistically significant increase from baseline to end of course scores on all scales
- There was a statistically significant increase in mean scores from end of course to follow-up for the scales measuring emotion and routine.
- TOPSE can be used to assess the impact of different types of parenting programmes on parenting self-efficacy and in research into this topic.

INTRODUCTION

The World Health Organisation (WHO) states that 'the future of human societies depends on children being able to achieve their optimal physical growth and psychological development. Never before has there been so much knowledge to assist families and societies in their desire to raise children to meet their potential'(WHO 2002 page 1). In this paper we present the findings from a study to test a Tool to Measure Parenting Self-Efficacy (TOPSE) in practice. To address the need for rigorous evaluation of parenting programmes, TOPSE has been developed as a tool which is sensitive to parenting in the UK (Kendall and Bloomfield 2005). It has been developed to take into account the views and experiences of specialist public health practitioners and parents from a diverse range of cultural, educational and social backgrounds (Bloomfield, Kendall et al. 2005). In this paper we report the findings of a study to test TOPSE as a pre- and post-parenting programme measure of parenting self-efficacy and at four-month follow-up.

BACKGROUND

Interventions to support parents are an important contribution to combating social inequalities in health, and the quality of parent-child relationships predict physical as well as mental health outcomes in adulthood (Stewart-Brown 2005). The emphasis of the UK Children Act 2004 and 'Every Child Matters' (Department for Education and Skills 2003) is on improved outcomes for children. It is recognised in the government consultation document (Department of Health 2003) that strategies for supporting parents through education, health and social services are the most effective way to facilitate improved outcomes for children. The role of parents is central to the health, well-being and development of their children through to adulthood, and it is

recognised that this role can often be challenging (Department for Education and Skills 2005). The findings of an evaluation of the SureStart government-funded programmes, which supports parents to improve the health and development of young children, revealed that families attending SureStart gained in confidence (Department for Education and Skills 2001). An absence of positive attention by parents, coupled with inconsistent and inappropriate discipline, is a known cause of anti-social behaviour, conduct disorder and delinquency (Marshall and Watt 1999; Shonkoff and Phillips 2000; Stewart-Brown 2005). Because of this known impact of parenting on crime and violence, parenting interventions are believed to be more cost-effective than dealing with antisocial offending behaviour (Scott et al. 2001a).

The underpinning ideology of parenting interventions is to help parents understand the effects of their behaviour on their children and to feel empowered and confident in their parenting roles (Gaze 1997; Gibbs, Underdown et al. 2003; Miller and Sambell 2003). A number of parenting programmes offered in the UK are based on skill acquisition, strengthening relationships, behaviour management and parent education and support. Similar interventions are provided in the USA, Canada and Australia (Hemphill and Littlefield 2001; Fernandez 2004; Landy and Menna 2006) but, as in the UK, there few validated evaluation tools exist. A recent international evaluation of what works in parenting support conducted by Moran and colleagues (Department for Education and Skills 2004) reported outcomes for children, parents and families. In almost all evaluations it was found that parents felt satisfied with the programme they had received; however, few interventions studies could demonstrate strong evidence of actual impact. There is a strong tradition of using qualitative methods to evaluate services in the UK and as a result few can answer the question ‘What works?’

according to strictly scientific criteria (Department for Education and Skills 2004). Parenting interventions need to be rigorously evaluated to determine their immediate and longer-term effectiveness and to search for ways of improving practice that will provide the best possible outcomes for parents and children. The TOPSE tool was developed to meet this need (Bloomfield, Kendall et al. 2005; Kendall and Bloomfield 2005).

Evidence from the literature (Gross and Rocissano 1988; Gaze 1997; Dennis 1999; Dennis 2003; Dennis 2006) and from direct correspondence with the authors of this manuscript suggests that nurses in many parts of the world play a key role in supporting parents. This is particularly evident among nurses working in primary care and public health. Indeed, the TOPSE tool was originally developed in response to public health nurses (health visitors) in England, who identified the need for a reliable and valid instrument with which to assess the outcomes of their parenting work. With this in mind, we developed TOPSE through focus group work with parents and parenting programme facilitators to explore the range of challenges and difficulties faced by parents of children under the age of six years and parents' perceived ability to manage their children, based on their own views and experiences (Bloomfield, Kendall et al. 2005). The tool was tested for validity through consultation with a panel of experts in the fields of self-efficacy and parenting and estimates of reliability were obtained through pilot testing (Kendall and Bloomfield 2005).

THEORETICAL FRAMEWORK

According to Bandura's social learning theory, from which the concept of self-efficacy is derived, the acquisition and retention of behaviour is affected by the

person's expectations that the action will result in anticipated benefits (Bandura 1982). People are thus motivated to attempt behaviour that they feel confident in performing. Bandura has suggested that there is a clear distinction between perceived efficacy, which refers to a personal judgement of one's capability to perform a behaviour, and expectation of the outcome or consequence of performing that behaviour.

The theoretical underpinning of the TOPSE tool, which is based on the self-efficacy theory of Bandura (1982; 1986; 1989), is believed to be of particular relevance to nurses (and other practitioners) who are involved in parenting support work. This assertion is based on a key tenet of self-efficacy theory, namely that a person's self-efficacy expectations in any domain of behaviour will be developed by performance mastery and vicarious experience and learning through role modelling. This process of developing self-efficacy can be achieved through group work (O'Leary 1985) and sharing experiences with other similar individuals. The approach has recently been shown to be effective in the domain of breastfeeding success, for example (O'Leary 1985; Dennis 1999; Dennis 2003; Dennis 2006). The evidence from this health-related research has shown that nurses and midwives can facilitate the process of performance accomplishment in breastfeeding.

Similarly, in the domain of parenting support, nurses can implement and evaluate their practice through the application of self-efficacy theory. Through facilitating parenting programmes, health visitors provide opportunities for parents to raise their expectations as a result of mastering positive behaviours, experiencing other parents' success, and through encouragement from programme facilitators and other parents

(Kendall 1991). Kendall has previously discussed how health visitors can apply this approach to their everyday practice in family health promotion. The extension of this approach to parenting support, and the development of TOPSE to measure the outcome, is an important stage in the application of theory to nursing practice (Kendall 1991).

We have located a number of validated scales to measure parenting sense of competence (Gibaud-Wallston and Wandersman 1978), Maternal Efficacy Questionnaire (Teti and Gelfand 1991), Toddler Care Questionnaire (Gross and Rocissano 1988) and The Self-Efficacy for Parenting Tasks Index-Toddler Scale (Coleman and Karraker 1997). However, these scales were all developed with the USA population in mind and we considered it important to develop a tool that would address parenting issues salient to parents in the UK and phrased in language appropriate to them.

THE STUDY

Aims

The aim of the study was to measure changes in parenting self-efficacy after attending a parenting programme and to determine if these changes are maintained over time.

Design

A pre-test/post-test design was employed using parenting self-efficacy as the outcome measure. The study was conducted in 2004/5.

Participants

A convenience sample of parents of children from six months to ten years who were attending parenting programmes took part. These programmes were facilitated by specialist public health practitioners and family centre workers. The intention was to include all parenting programmes over a period of 18 months. It was anticipated that this would include approximately 50 courses. Assuming typical group sizes of between 6 and 8, this was expected to yield a baseline sample of approximately 350. A drop-out rate of 30% was assumed, which would result in a sample of approximately 245.

Initial sample size estimates suggested that a minimum sample size of 90, using estimates of the mean scales scores of between 50 and 70 and standard deviations of the difference estimates of 10 (i.e. a typical effect size of 0.3) for a one-sample t test of the difference, would be capable of detecting a 5% change in mean scores of each scale with 5% significance and 80% power.

On this basis, the study had more than adequate power for the main objective. The sample size would also enable subsequent investigations into the effects of additional factors such as group size in future analyses. Analysis of difference from end of course to subsequent follow-up after 4 months assumed a further non-response rate of 30% , yielding approximately 171 participants at the end of the study.

Instrument

The parenting self-efficacy measure used was TOPSE, which is a multi-dimensional instrument of 82 statements within 9 scales, each representing a distinct dimension of parenting: Emotion and affection (9 items), Play and enjoyment (7 items), Empathy

and understanding (9 items), Routines (11 items), Control (9 items), Discipline and boundary setting (11 items), Pressure (10 items), Self-acceptance (9 items), Learning and knowledge (7 items).

The items are rated on an 11-point Likert scale where 0 represents completely disagree and 10 represents completely agree. The scale contains positive and negatively worded items and the responses are summed to create a total score; the lower the score, the lower the level of parenting self-efficacy.

Estimates of reliability and validity

Previous studies have provided support for the reliability and validity of TOPSE (Kendall and Bloomfield 2005). Internal consistency reliability for each scale was estimated at baseline for the current sample through the use of Cronbach's alpha co-efficients (table 1).

Data Collection

Data were collected over an 18-month period in 2004-2005. Prior to the recruitment of parents, the researcher (LB) met with groups of programme facilitators to explain the purpose of the study and how the TOPSE booklet should be used. Facilitators of parenting programmes from four primary care provider organisations in England had been involved in the development of TOPSE (Bloomfield, Kendall et al. 2005; Kendall and Bloomfield 2005), and many were already familiar with and supportive of the research. Parents were recruited at the site of the parenting programmes by the facilitators or co-workers. Information letters about the study were given to parents and written consent obtained.

Parents were asked to complete the TOPSE booklet at the first session of a parenting programme and again at the final session. The facilitators returned all completed booklets to the researcher. In a few cases where written consent was not obtained completed booklets were excluded from the study (n=14). Identity numbers and dates of completion were coded on to the booklets to facilitate scoring and matching up with follow-up booklets. Four months after the final session follow-up booklets were sent to parents who had completed pre- and post-programme booklets, and on return of this final booklet they were sent a £5 (10 US$, 7.4 Euro) voucher to thank them for participating in the study.

Ethical considerations

Approval for the study was granted by the Local Research Ethics Committee. Parents attending parenting programmes were given an information sheet outlining the study, together with a consent form and questionnaire to complete and return to the parenting programme facilitator.

Data Analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 14.0. Paired t-tests were conducted to determine differences in self-efficacy scores from baseline to end of course and from end of course to four month follow-up. Independent samples t-tests were conducted to determine if there was a difference between responders and non-responders to the 4-month follow-up questionnaire in terms of mean change in scores from baseline to end of course.

One aspect of potential bias was that participants who completed the parenting programme may have had higher baseline scores than those who dropped out. Kruskall Wallis independent samples tests were conducted to test whether there was a difference in baseline scores between parents who completed all questionnaires, those who completed baseline and end of course questionnaires, and baseline questionnaires only.

RESULTS

Data were collected for 356 parents attending 53 parenting programmes over a period of 18 months; 356 parents completed the pre-programme and, of those, 254 (71.3%) completed the end of programme booklet, while 110 (43.3%) returned completed booklets at 4-month follow-up.

Demographic data were not available for 16 programmes (n=144) and were collected for parents attending 37 programmes (n=212). The majority were female (n=201), married or living with a partner 71% (n=151) and white 85% (n=180). Other ethnic groups included were African (3), Caribbean (3), Chinese (2), Indian (9) and Pakistani (1). The remaining 14 parents did not specify their ethnicity. The age range was from 17 – 53 years (mean = 35) and the number of children in the family ranged from 1 to 8, the median being 2. One hundred and twenty-nine parents had attended post-compulsory education and the remainder had left school at or before the age of 16. Ninety-nine parents were currently working either full- or part-time. There were no statistically significant differences in baseline scores for self-efficacy according to age, education or working status of the 212 parents for whom demographic data were collected.

Programme facilitators were generally supportive of the study and encouraged parents to complete the booklet, although a number felt that it was time-consuming to complete, particularly for parents with low literacy skills. Parents who did not complete the second booklet were those who dropped out of the parenting programme. Table 2 shows summary statistics for all participants at baseline, end of course and follow-up.

Difference in scores over time

There was a mean increase from baseline to end of course scores on all scales and these increases were statistically significant (table 3). There was a statistically significant increase in mean scores from end of course to follow-up for the scales measuring emotion and routine, which suggests that this increase from baseline to end of course was maintained over time. (table 3). There was no change in scores for all other scales.

Non-responders to follow-up questionnaires

There were no statistically significant differences in base-line self-efficacy scores on any scale between participants who completed all questionnaires, those who completed baseline and end of course, and those who did so at baseline only.

There were no differences between responders and non-responders to 4-month follow-up questionnaire in terms of mean change in scores from baseline to end of course for any scale ($p>0.8$).

DISCUSSION

Study limitations

The analysis assumed independence of all observations and it is acknowledged that there may have been differences between groups that were not analysed, for example number of parents attending. Furthermore, the group dynamics and characteristics of the parenting programme facilitators are clearly factors which should be taken into account in assessing the overall impact of the course. The purpose of this study was to measures changes in parenting self-efficacy after attending parenting programmes and not to evaluate the effectiveness of specific programmes. Although parenting programmes vary in their aims and content, the underpinning ideology is to enable parents to feel empowered and confident (Gaze 1997; Gibbs, Underdown et al. 2003; Miller and Sambell 2003). The consistent increase in self-efficacy after attending a parenting programme suggests that programmes are successful in helping parents to feel more confident.

The tool was developed within a self-efficacy framework (Bloomfield, Kendall et al. 2005; Kendall and Bloomfield 2005) that grounded the study theoretically, enabling further development and refinement within this construct. We tested the tool in a range of parenting programmes in different settings to include parents from diverse cultural, social and educational backgrounds.

There was an increase in self-efficacy scores on all scales at the end of the course and this increase was maintained at four-month follow-up. Not only does this provide evidence that TOPSE measures changes in parenting self-efficacy, but it also suggests that parents perceive themselves to be more efficacious in all domains of their parenting role after attending parenting programmes, and that they continue to feel

this way over time. This would further suggest that TOPSE is a useful aid in the evaluation of parenting programmes and in gauging longer-term outcomes.

The evidence from this study would suggest that there is scope to continue the research and use TOPSE to assess the impact of different types of parenting programmes on parenting self-efficacy. This may help to determine what programmes work best and for whom. A tool to evaluate the effectiveness of different types of intervention, as well as pre- and post-course measures of individual parenting programmes, would be valuable in demonstrating the contribution of both specialist public health practitioners and family support centre workers to supporting parents and families in the community. It may further be useful to look at the relationship between parenting self-efficacy and outcomes for children. The World Health Organisation has recognised a clear link between responsive parenting and child development (WHO 2002). Self-efficacy theory enables public health practitioners to assess outcomes from the parental perspective, thus leading to more effective care. It is particularly relevant where the main health needs of children are being directly influenced by parental capacity to cope with a given situation (Kendall 1991).

CONCLUSION

If parenting programmes are to be truly useful in supporting parents to improve outcomes for their children (Department of Health 2003), then the most effective methods need to be found to assist them with the issues that they consider to be the most important and challenging (Department for Education and Skills 2005). TOPSE is currently being used to evaluate parenting programmes in several regions of the UK and as a research tool in a number of academic institutions internationally. Enquiries

from a number of facilitators working with specific client groups have led to the revision of the tool for parents with learning disabilities. TOPSE is available as a pdf file and may be viewed by contacting the authors.

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Table 1 Cronbach's alpha reliability co-efficients

Scale	Cronbach's alpha	Number of items	Cases
Affection/emotion	.80	9	352
Play	.85	7	353
Empathy/Understanding	.76	9	341
Routines/Goals	.65	11	346
Control	.81	9	350
Boundaries	.77	11	338
Pressures	.76	10	344
Acceptance	.89	9	347
Learning/Knowledge	.81	7	353
Total Scale	.89	82	304

Table 2

Summary statistics for all participants at baseline, end of course and follow-up

SCALE	Base-line			End of course			Follow -up		
	n	Mean (SD)	median	n	Mean (SD)	median	n	Mean (SD)	median
Emotion	352	71.2 (14.2)	74	253	77.0 (12.2)	80	110	79.2 (11.0)	83
Play	353	52.2 (12.7)	54	253	58.7 (9.5)	61	110	59.2 (10.6)	63
Empathy	341	61.4(13.1)	60	251	71.4 (12.5)	74	110	72.6 (11.8)	75
Routine	346	67.2(15.9)	66	249	76.8 (15.5)	77	109	78.1 (15.30	78
Control	350	46.8 (15.6)	46	251	59.6 (14.8)	61	109	59.6 (15.3)	62
Boundaries	338	60.3 (16.8)	60	249	74.8 (17.1)	76	109	73.7 (18.3)	75
Pressures	344	59.6 (17.8)	60	249	70.7 (16.3)	72	109	69.5 (17.4)	72
Acceptance	347	66.8 (15.8)	69	249	76.2 (12.5)	79	109	76.8 (13.5)	80
Learning	353	57.2 (9.7)	59	251	61.1 (6.9)	63	109	61.1 (6.9)	63

Table 3

Mean change in scores from baseline to end of course and from end of course to follow-up for all scales

SCALE	Baseline to end of course			End of course to follow-up		
	n	Mean (95%CI)	*p*	n	Mean (95%CI)	*p*
Emotion	253	5.6 (4.2, 7.0)	<0.001	109	2.3 (0.2, 4.3)	0.03*
Play	254	6.4 (5.1, 7.7)	<0.001	110	0.6 (-0.9, 2.1)	0.43
Empathy	247	9.5(8.1,11.0)	<0.001	110	1.4(-0.8,3.60)	0.22
Routine	246	8.8(6.9,10.8	<0.001	106	2.6(0.0,5.2)	0.05*
Control	250	12.6(10.9,14.4)	<0.001	109	0.2(-2.4,2.8)	0.89
Boundaries	241	14.0(12.0,16.1)	<0.001	107	0.3(-2.3,2.9)	0.81
Pressures	249	10.5(8.5,12.9)	<0.001	108	0.9(-2.1,3.8)	0.57
Acceptance	248	9.4(7.8,11.1)	<0.001	108	1.9(0.2,4.0)	0.08
Learning	252	3.9(2.8,5.0)	<0.001	109	0.4(-0.9,1.6)	0.56