An Effective Way of Alleviating Children's Emotional, Behaviour and Mental Health Problems - the Latest Research

This short paper/article presents in straightforward terms the results of Play Therapy UK's (PTUK) 10 year research programme to quantify the effectiveness of play and creative arts therapies.

It is written from a management perspective rather than an academic one. In addition to the results themselves – the clinical outcomes – it also describes the client attributes, the potential for change, the activities that led to the results and the research methods used. As such it is the most comprehensive survey of the use of non-talking therapies with primary school aged children carried out in any country.

Its main purpose is to provide evidence for **commissioners of services,** who are concerned with the emotional welfare of children, that the combination of play and creative arts therapies is an extremely good investment. It is an intervention where the results may be predicted with confidence.

The paper also provides benchmarks against which **practitioners,** who are members of PTUK, may compare their own performance.

PTUK welcomes enquiries from commissioners of services about more detailed analyses and advice upon implementing play and creative arts therapies programmes and methods to monitor them effectively.

> 'Mankind's greatest natural resource is the minds of our children.'
>
> Walt Disney

Summary of Results

The simple answer to the question; 'How Effective is Play Therapy?' is that **between 74% and 83% of children receiving play therapy, delivered to PTUK/PTI standards, show a positive change.**

The extent of the improvement depends upon the severity of the presenting issues – the more severe the problems the greater the percentage of children showing a positive change. 74% for those with slight/moderate problems, 83% for those with severe problems

Age also has an effect on improvement: **Generally speaking the younger the child the greater the percentage of children showing a positive change:** 80% at age 6 - 71% at age 12

Girls show a higher improvement rate than boys, 79% compared to 73%.

The average cost of using play and creative arts therapies is estimated at £693 per child. This estimate is based upon an overall average of 15.4 sessions, applying a cost per session of £45. For every £1 invested annually in targeted services designed to catch problems early and prevent problems from reoccurring, society benefits by between £7.60 and £9.20. (National Economic Foundation 2011). **Play and creative therapies should therefore give a notional return to society of at least £5267 in the long term**. However this does not give the full picture because there are many short term benefits, specific to the setting, for example: better academic results and less stress for teachers; more successful fostering placements; faster response to medical treatment.

The statistics in this report are based on analyses of data selected from a total database of **8026 cases, with 10,744 pre and post therapy observations** by referrers and parents received from **507 PTUK/PTI registered practitioners.**

More Detailed Results

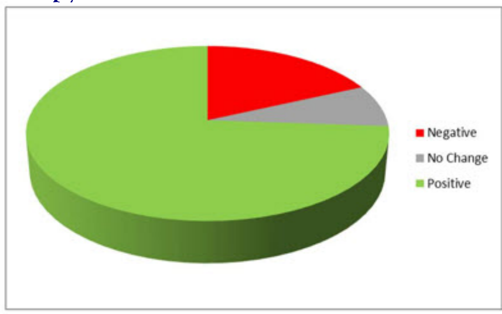
Overall effectiveness

Table 1 and chart 1 show the results of the combined referrer and parent observations of changes in the children immediately after the conclusion of the therapy. They have been taken for the period 1st January 2008 to 30th June 2011 to reflect the most current results. The 3702 cases are children who were classified as 'Borderline' or 'At risk' according to the SDQ scores at the time of referral, before therapy started. (The SDQ psychometric measurement instrument is described in the section 'The Research Programme and Methods' below). The main reasons for the 677 (18%) who showed a negative change are: (i) external changes in the child's environment for the worse whilst therapy was in progress, and (ii) therapy triggering a release of a more severe issue, from the unconscious, that was not apparent at the time of the referral. In this latter case more sessions would normally have been recommended after the first episode.

Table 1 - All Children Referred – Changes Observed Post Therapy

	N	%
Negative change	677	18%
No change	289	8%
Positive change	2736	74%
	3702	100%

Chart 1 - All Children Referred – Changes Observed Post Therapy



There are only small differences between the referrer (75%) and parent (73%) perceptions of positive change.

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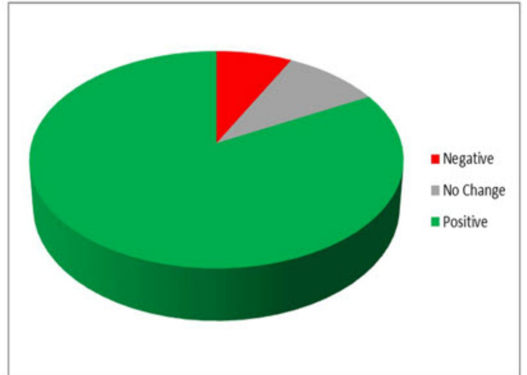
Children with severe problems

Table 2 and chart 2 show the results of the combined referrer and parent observations of changes in the children, who were assessed as having severe problems, defined as scoring 30 or over on the SDQ Total Difficulties domain. 56 observations by referrers and 89 by parents were provided during the period 1st January 2008 to 30th June 2011.

Table 2 – All Children Referred With Severe Problems – Changes Observed Post Therapy

	N	%
Negative	11	8%
No Change	14	10%
Positive	120	83%
	145	

Chart 2 – All Children Referred With Severe Problems – Changes Observed Post Therapy



There is a pronounced difference between the referrer (91%) and parent (78%) perceptions of positive change.

Improvement according to age of the child

Table 3 shows the results of the combined referrer and parent observations of changes in the children following therapy, by age of the child at the date of referral.. They have been taken for the period 1st January 2008 to 30th June 2011. The 1871 cases shown in this table are children who were classified as 'Borderline' or 'At risk' according to the SDQ score at the time of referral.

Table 3 - Positive change by age

Age	N	% showing a positive change
5	111	73
6	215	80
7	280	78
8	275	76
9	332	74
10	276	74
11	223	76
12	159	71
	1871	

The data show a slightly decreasing rate of positive change as age increases, possibly accounted for by the neurobiology findings that the plasticity of the human brain lessens with age. This highlights the importance of reaching young children before problems become entrenched.

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Predictability of using play and creative arts therapies

A good test of research results is the predictability of outcomes in real life practice –the degree to which the results of the research will reoccur in the future. The following list shows the accuracy of the PTUK yearly forecasts, based on the percentage of *all* children that will show a positive change in their total difficulties SDQ scores after receiving play and creative arts therapies delivered to PTUK standards.

- 2008 outcome = 68.63% - *prediction for 2009 = 68% to 70%*
- 2009 outcome = 70.36% - *prediction for 2010 = 70% to 71%*
- 2010 outcome = 72.73% - *prediction for 2011 = 70% to 72%*

It must be remembered that these prediction are based on relatively large numbers of referrals. The percentage of improvement may vary either way for smaller cohorts. Nevertheless this degree of predictability should encourage commissioners and those providing funds to invest in this intervention.

Improvement according to the gender of the child

Table 4 shows the results of the referrers' observations of changes in the children following therapy, by the sex of the child. They have been taken for the period 1st January 2008 to 30th June 2011. The 1871 cases shown in this table are children who were classified as 'Borderline' or 'At risk' according to the SDQ score at the time of referral.

Table 4 - Changes Observed Post Therapy by Gender

	Boys		Girls	
	N	%	N	%
Negative change	277	19%	102	15%
No change	115	8%	43	6%
Positive change	1086	73%	535	79%
	1478	100%	680	100%

Other countries

The evidence in this report is based upon outcomes in the UK (94%) and the Republic of Ireland (3%). Play Therapy International (PTI) has gathered evidence from smaller scale projects in other countries. The results suggest that play and creative arts therapies are successful across cultures.

Table 5 - Positive Changes Observed Post Therapy in Other Countries

	% showing positive change	
	Australia	61%
	Malaysia	69%
	Ethiopia	90%

The Activities That Achieved the Results

Measuring activities is essential for the good management of any service. How can decisions be taken to improve a service if we don't know the activities that contributed to the current situation? PTUK measures two main types of activities: i) those decided by the therapists and ii) those chosen by the clients – the children and young persons.

Therapist activities

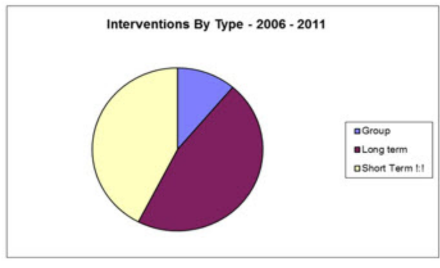
The therapist, in consultation with the referrer, the parent and the child will decide on the number of sessions and whether it will be on a one to one basis or in small groups of 3 to 4 clients.

Table 6 shows the split between one to one and whether it is short term (12 or less sessions) or long term and groups. In this case we have used data covering 2006 to mid 2011.

Table 6 – Interventions by type

	N Clients	%
Group	851	11.2%
Long term	3527	46.41%
Short Term 1:1	3222	42.39%
	7600	100%

Chart 3 – Interventions by type



The average (arithmetic mean) number of sessions is 15.4, the median is 12. The average cost of using play and creative arts therapies is estimated at £693 per child. This estimate is based upon an overall average of 15.4 sessions, applying a cost per session of £45. *For every £1 invested annually in targeted services designed to catch problems early and prevent problems from reoccurring, society benefits by between £7.60 and £9.20. (National Economic Foundation 2011).*

'A rational man acting in the real world may be defined as one who decides where to strike the balance between what he desires and what can be done.'

Walter Lippman

Client activities

One of the main features of the standard PTUK play and creative arts therapies approach is that the *child chooses* what to do in the play room. The therapist communicates with the child using the medium that he or she has chosen. The data in this section are taken from the therapists observations during the play therapy sessions. They have been taken for the period 1st January 2008 to 30th June 2011 to be compatible with the results shown in the previous section. Table 7 shows the wide range of creative arts media that the children use.

Table 7 – Therapeutic media used by the children by number of activities and session time

	Activities N	% of total	% of total session time
Sand Tray	19518	**23%**	**27.08%**
Drawing and Painting	17765	**21%**	**23.97%**
Talking	9031	11%	9.32%
Drama / Role Play /Dressing Up	8366	10%	10.64%
Clay /Play Doh	7669	9%	8.35%
Games	6511	8%	8.46%
Music	5813	7%	3.98%
Puppets	4783	6%	1.47%
Movement / Dance	1768	2%	1.47%
Therapeutic Story Telling	1389	2%	1.32%
Masks	822	1%	0.61%
Creative Visualisation	632	1%	0.68%
	84067	100%	97.36%

Important points are:

- Talking by the children only accounts for 9% of the total session time.
- The therapist needs to be trained to use a wide range of media because every child has different needs for different media choices at different times
- There are differences according to the gender of the client as shown in table 8.
- There are differences according to the age of the client – see table 8 on the next page

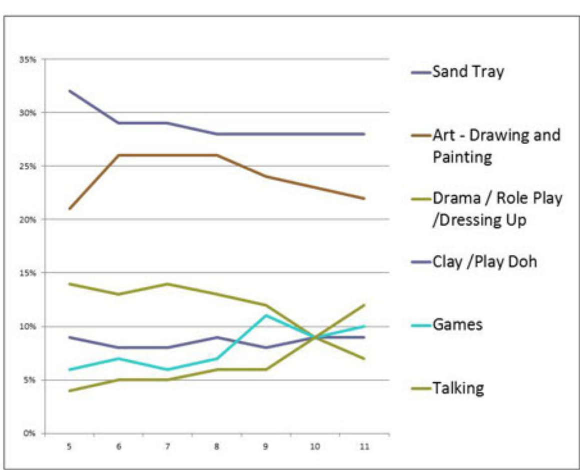
This shows that:

- Sand tray and drawing/painting are used extensively, accounting for 50% of the session time
- Girls talk 50% more than boys
- Boys are nearly three times as likely to spend their session time playing games

Table 8 – Main therapeutic activities used by number, session time and gender

	Boys			Girls		
	Activities N	*% of total N*	*% of total session time*	*Activities N*	*% of total N*	*% of total session time*
Sand tray	13587	26%	**32%**	5782	19%	19%
Drawing/painting	9751	18%	20%	7908	26%	**31%**
Talking	5099	10%	8%	3825	13%	12%
Games	4997	9%	11*	1444	5%	4%
Drama/role play/dressing up	4942	9%	10%	3396	11%	12%

Chart 4 - Main therapeutic activities used by session time and age



This chart demonstrates that the use of sand tray and art shows only a slight decrease with age, compared to drama/dressing up which shows a pronounced decline. Talking increases with age but still only accounts for a small proportion of time.

Client Attributes

In taking decisions it is important to consider the potential for improvement as well as the results and the activities that contributed to them. In this section we review the gender and age of the clients and the severity of their presenting problems.

Table 9 & Chart 5 – Clients by Gender

	N	%
Female	2726	34.83%
Male	5037	64.35%
Not given	64	0.82%
	7827	

The proportion of referrals of two thirds boys and one third girls has remained constant over the 7 years that the data has been collected.

Table 10– Clients by Gender and Age

	Girls		Boys	
Age	*N*	*%*	*N*	*%*
1	12	44%	15	56%
2	2	33%	4	67%
3	6	35%	11	65%
4	31	28%	80	72%
5	112	33%	228	67%
6	235	35%	431	65%
7	322	37%	558	63%
8	317	32%	660	68%
9	333	33%	667	67%
10	329	35%	603	65%
11	328	39%	507	61%
	2027	35%	3764	65%

The age of children referred to play and creative arts therapies peaks at ages 8 and 9 but there are minor differences between gender. The proportion of boys rises at the ages of 4, 5, 8 and 9.

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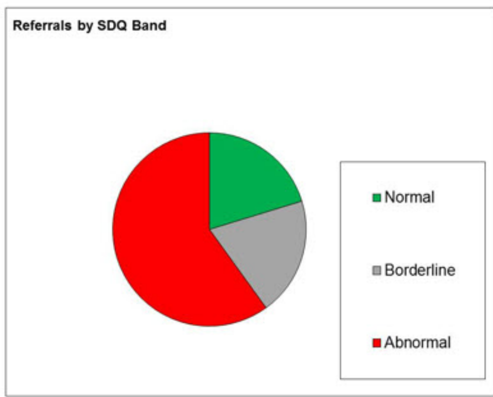
Severity of presenting problems

Table 11 and chart 7 show the severity of the problems at the time of referral, as measured by the SDQ total difficulties score bands.

Table 11 Severity of presenting problems, by SDQ bands

	N	%
Normal	1218	20.27%
Borderline	1188	19.77%
Abnormal	3603	59.96%
	6009	

Chart 7 Severity of presenting problems, by SDQ bands



The main question is why are 20% of the referrals 'normal'? This is sometimes due to one of the SDQ sub domain scores indicating a problem with pro-social, emotion, conduct, peer relations or hyperactivity. However a further analysis of the data shows that still 16% may be unnecessary. There may be issues that are not detected by the SDQ but our view is that some resources may be used unnecessarily, requiring more consideration of the referral assessment by practitioners.

The Research Programme and Methods

Rationale

PTUK's research policies are based upon distinguishing between efficacy, effectiveness and efficiency in choosing a research method for any particular research project.

Efficacy is concerned with establishing the *potential* for a *new type* of intervention. Qualitative, quantitative and mixed methods are used. Single case studies, grounded theory and randomised control trials (RCTs) are examples of the most commonly used approaches and have an important contribution to make. However most involve a relatively small number of cases (less than 100) leading to questions about replication and predictability if and when the intervention is rolled out. There is an abundance of this type of research in play and creative arts therapies literature (Barnes 2004, Cochran 2010, McMahon 2009, O'Connor 1991, Van Fleet 2010, West 1992). The meta-analysis ('Analysis of analyses') method may overcome the numbers issue, but are usually based on a 'hodge-podge' of different studies, using different scales of measurement – often suffering from a lack of homogeneity and do not include data from studies that are not published because of negative results.

RCTs are known as the 'gold standard' for medical, in particular pharmaceutical research, but are inappropriate for most play and creative arts therapies research studies for technical and ethical reasons.

Effectiveness is concerned with achieving a desired result (the effect), in our case an improvement in the emotional, behaviour and mental health of the children, resulting from an intervention used on a relatively large scale (thousands – not hundreds) in real life, delivered by many practitioners. PTUK has chosen *evaluation research*, primarily quantitative, as the most appropriate method. (Robson 2007, Chapter 7) describes the main purpose of real world research in the social sciences as evaluation and provides a full explanation of this method and its close cousin action research.

Quinn Patton (1982) identified six definitions of research through evaluation including:

'The practice of evaluation involves the systematic collection of information about the activities, characteristics and outcomes of programs (*sic*) personnel and products (*also services*) for use by specific people to reduce uncertainties, improve effectiveness, and make decisions with regard to what those, programs, personnel or products are doing and affecting.'

Research through programme evaluation is therefore the 'platinum standard' for play and creative arts therapies.

Efficiency is the ratio of output:input – the productivity of our therapists. This factor is important for two main reasons: i) the focus on value for money by commissioners and funders and ii) achieving an optimum match of resources and needs. The estimated need for Play and Creative Arts Therapists in England and Wales is 16500 (Thomas 2004) whereas there are less than 2000 qualified practitioners. Our research goes some way in setting a standard for the efficiency of practice and in suggesting a return on investment.

Because PTUK is very much concerned with encouraging policy and operational decisions to use play and creative arts therapies we have also taken into account the main principles behind decision taking:

- What outcomes have been obtained? – the *results*
- What was the baseline for achieving the results? – the *potential*
- What *activities* contributed to the results?

Unless we have some answers to these three questions it is not possible to take a rational commissioning decision, or upon the allocation of funds.

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Programme details

The PTUK evaluation research programme has been running continuously since 2004. We have gradually increased the different types of data that are collected. The data is provided by PTUK Members from their case records. The parents of the children have given their consent for the data to be used for research purposes, anonymously, to protect the confidentiality of their children and themselves. The data is entered into a relational database management system (RDBMS). This enables many different sub sets to be analysed using a variety of selection criteria for output to spread sheets for further statistical manipulation and the production of charts.

Psychometric measuring instrument

The Goodmans Strengths and Difficulties Questionnaire (SDQ) is used to measure the pre and post therapy mental state of the clients (Goodman 1997, 1998, 1999). It is a brief behavioural screening questionnaire for 3-16 year olds. It exists in several versions to meet the needs of researchers, clinicians and educationalists. It has an excellent provenance, being used by the British Government in its 1999 and 2004 surveys of the mental health of children. The version used for our research includes 25 items on psychological attributes some positive and others negative. These items are divided between 5 scales:

<table>
<tr><td>1) emotional problems (5 items)</td><td rowspan="4">}</td><td rowspan="4">Added together to generate a total difficulties score (based on 20 items)</td></tr>
<tr><td>2) conduct problems (5 items)</td></tr>
<tr><td>3) hyperactivity/inattention (5 items0</td></tr>
<tr><td>4) peer relationship problems (5 items)</td></tr>
<tr><td>5) prosocial behaviour</td><td></td><td></td></tr>
</table>

The same 25 items are included in the questionnaires for completion by the parents and the referrers. Although PTUK carries out a full set of analyses for each the SDQ sub domains, this report concentrates on the main total difficulties domain, for the sake of clarity and brevity.

For further information about the SDQ see: www.sdqinfo.org

There is current discussion about the use of the measuring children's and young people's well being (Newton *et al* July 2011). It was concluded that subjective well-being measurement provides a useful mechanism to capture the views of children and young people, but it was also agreed that the straightforward transferral of the current ONS Subjective Well-being questions that have just been introduced on the Integrated Household Survey (IHS) would not be sufficient to capture the well-being of children and young people and that further development is needed.

The SDQ is highly likely to be compatible with whatever emerges since it measures the underlying personal causes of well-being that can be addressed by appropriate therapies.

About Play Therapy UK

The United Kingdom Society of Play and Creative Arts Therapies – Play Therapy UK (PTUK) was formed in October 2000 as a not for profit organisation. It has grown to become the leading organisation in the UK supporting the play therapy profession with over 800 members. Amongst its innovations are:

- The first play therapy organisation, in 2002, to define a set of competencies as standards for practice, training and job descriptions. These have been accepted by Play Therapy International as worldwide standards which are also used for accrediting training courses. This framework enables commissioners to establish sound recruitment, evaluation and staff management procedures for play and creative arts therapists.
- The first, and still the only, organisation to run a continuous research programme, since 2004, to measure the effectiveness of play and creative arts therapies.
- The first, and still the only, organisation to require its Members to submit evidence of the quality management (clinical governance) of their work, which provides commissioners with an assurance of safe and effective practice.
- The first, and still the only, organisation to produce a demand model showing an estimated need for play and creative arts therapists in small geographic areas (Census enumeration wards).

The therapeutic approach that has emerged to meet the PTUK standards is the Evolutionary Model of Play Therapy. This integrates working with conscious and unconscious processes, the use of non-directive and directive modalities and the application of a wide range of creative arts therapeutic media.

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