A meta-analysis of play therapy outcomes
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Authors' objectives
To conduct a meta-analysis of play therapy outcomes in children to determine the overall effectiveness of play therapy and the variables related to effectiveness. The specific objectives were to assess whether there was an overall positive effect associated with the use of play therapy; whether the variation in effect sizes could be attributed to the type of outcome measures used; and whether the variation in effect sizes could be attributed to study characteristics such as the age of the clients or the mode of play therapy.

Searching
PsycINFO, ERIC and MEDLINE were searched from their respective starting dates (1967, 1966 and 1966, respectively) to present (date not specified) using the keywords 'play therapy', 'filial therapy', 'child relationship enhancement therapy' and 'Theraplay'. Dissertation abstracts was searched from 1945 to present (date not specified) for the words 'play therapy', 'filial therapy', 'parent child interaction therapy' and 'Theraplay' in the title of the referenced dissertations and theses. The database searches were limited to studies reported in the English language.

In addition, reference lists of articles and the Social Sciences Citation Index were searched for frequently cited papers. Four named organisations associated with play therapy were contacted for further articles. A message was also posted on the newsgroup 'sci.psychology.research' requesting unpublished studies on play therapy that used an experimental design.

Study selection
Study designs of evaluations included in the review
Only those studies that included a no treatment comparison group, and statistics that could be transformed into standardised effect sizes, were selected. The authors did not provide details on the design of individual studies included in the review.

Specific interventions included in the review
Play therapy interventions were included.

Participants included in the review
Children from 0 to 12 years receiving play therapy were included in the review. The summary statistics for age were not provided, and neither were the ages of the participants in the individual included studies. The presenting problems were coded into six categories: emotional maladjustment; social maladjustment; reaction to or anticipation of identified traumatic event; academic problems; family maladjustment; and behavioural problems.

Outcomes assessed in the review
There were no pre-specified inclusion or exclusion criteria in relation to the outcomes. The outcome measures for the included studies were coded into four groups: self in relation to others including measures of sociometry and parental acceptance; self in relation to self including measures of self-concept, locus of control, anxiety and other measures of interpersonal functioning; behavioural measures including behavioural checklists and ratings of problem behaviours; and academic measures including measures of academic achievement and functioning.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
The authors stated that study quality was assessed by coding studies according to whether or not they used...
randomisation. They were also coded according to study design: pre-test post-test random design, pre-test post-test comparison group design, and self as control group design. Since the types of designs encompassed the type of assignment, only the design type was tested for differences. The authors do not state how the papers were assessed for quality, or how many of the reviewers performed the quality assessment.

**Data extraction**

Fourteen categories of data were extracted: outcome measures; the modality of play therapy used; the inclusion of parents in the play therapy process; the duration of the therapy; the gender composition of the participants; the presenting problems; the use of other therapies in conjunction with play therapy; date of publication; source of the article (journal, dissertation, unpublished); whether the study was published or unpublished; the average age of the participants; whether the study used a control group or a comparison group; the type of research design used; and the use of group or individual therapy. The outcome was coded (see 'Outcomes Assessed in the Review' field) by two persons with experience in counselling and assessment. Any differences between the reviewers were discussed and changes were made to the coding scheme until agreement was reached. The modality of play therapy used was coded by the authors and two experts in child therapy and assessment. It was unclear what form this process took. The type of play therapy was coded into four groups: nondirective modes of therapy; therapies focusing on specific tools such as use of puppets; parent-trained modes including filial and parent-child interaction therapies; all other types of therapy. It was unclear how the other categories of data were extracted.

For continuous data, an effect size (ES) was calculated for each outcome in every study. To correct for small sample size, the effect size was multiplied by a correction factor (see Other Publications of Related Interest no.1). For studies that did not report the necessary statistics to directly calculate the standardised effect size, other summary statistics (e.g. F, t or chi-squared) were used to formulate the effect sizes. Where only sample means, sample sizes and probabilities of tests of significance were reported, the test statistics were determined using Fisher and Yates tables (see Other Publications of Related Interest no.2) to estimate the test statistic associated with the probabilities. If a specific probability was not reported, the upper limit of the probability was used to determine the test statistic (e.g. \( p<0.01 \) was transformed to \( p=0.01 \)). A total of 166 effect sizes were calculated.

**Methods of synthesis**

How were the studies combined?

The studies were combined using hierarchical linear modelling (HLM), which enabled the modelling of multiple effect sizes from individual studies. Publication bias was investigated using funnel plots.

How were differences between studies investigated?

HLM was also used to investigate differences between the studies. A fixed-effect model was used. The following variables were entered into the model: parental involvement in the therapy process; the number of sessions of therapy; type of publication; age; concomitant treatment; gender; whether the study was published or unpublished; group therapy; presenting problem and outcome measure.

**Results of the review**

Forty-two studies (166 ES) were included. These were not specified according to study design. The number of participants was not stated.

The authors concluded that the funnel plot was fairly symmetrical and peaked, and that the collection of studies was representative of play therapy outcomes. The average treatment ES was 0.66 (SE=0.09). An accompanying t-test was significant (\( p<0.001 \)). The authors stated that this translates, on average, to children who received play therapy performing 25 percentile units higher on the given outcome measures when compared with children who did not receive treatment. Parental involvement in the therapy process was significantly related to effect size (ES=0.332, SE=0.156, \( p=0.044 \)). The number of sessions was also related to effect size. Both the linear and quadratic components from the trend analysis were significant (linear: ES=0.043, SE=0.0199, \( p=0.036 \); quadratic: ES=-0.001, SE=0.0003, \( p=0.050 \)). The trend for number of therapy sessions was quadratic, and indicated that maximum effect sizes were associated with approximately 30 to 35 sessions and the effect sizes decreased as the number of treatments moved away
from this range in either direction. The relationship between the effect size and number of sessions was no longer significant when the variable parental involvement in the therapy process was also entered into the model. The publication also contained details of the findings for all the other variables entered into the model, all of which were non significant. The authors indicated that there was significant within- and between-study variance. They reported that 47% of the variance in effect size was between studies, indicating effect size heterogeneity; no further details were provided.

Cost information
No

Authors’ conclusions
Play therapy appeared to be as effective as non-play therapies in treating children experiencing emotional difficulties. A strong relationship between treatment effectiveness and the inclusion of parents in the therapeutic process was reported. The duration of therapy also appeared to be related to treatment outcomes, with maximum effect sizes occurring after approximately 30 treatment sessions.

CRD commentary
The research question was clearly stated. However, there were no inclusion or exclusion criteria for the outcomes, nor were there any descriptive data on the outcomes used by the included studies. The literature search was reasonably comprehensive and the authors attempted to identify unpublished research. However, the authors were unclear about how they dealt with foreign language papers. It was also unclear how many of the reviewers were involved in deciding the relevance of the studies and for most of the data extraction process. Quality was addressed in a very limited manner. The only aspect of quality assessed was randomisation/study design and the authors did not specify what they accepted as adequate randomisation. This variable did not appear to be used in the analysis to examine the predictors of outcome, and no reason is provided for this.

No individual study details were reported. It was therefore not possible to assess issues such as the range of sample sizes, the outcome variables used, types of concomitant treatments, the control groups used and the number of effect sizes used from individual studies. Given the unexplained heterogeneity between the studies, a random-effects model would have provided a more conservative estimate of the treatment effect. The authors do not appear to have conducted a formal assessment of heterogeneity before embarking on the analysis. The authors found evidence in their analysis of effect size heterogeneity and, given the range of effect sizes, it is likely that it was inappropriate to pool the data in this study to obtain an overall effect size. The meaning of the authors’ conclusion, that play therapy appeared to be as effective as non-play therapies, is unclear given that only studies using a non-treatment comparison group were included in the review. The authors used more than one effect size from each study, but they did not provide sufficient information to assess how variable the effect sizes were from individual studies. Given the unexplained variance between the studies and the lack of information about study quality, the authors recommendation about the appropriate number of play therapy sessions is unlikely to be reliable.

Implications of the review for practice and research
Practice: The authors state that the results provide empirical support for professionals to advocate an increased number of play therapy sessions with children. They state that, based on their results, at least 20 sessions would appear to be recommended.

Research: The authors stated that the research did not highlight many of the important characteristics that differentiate therapists or therapy characteristics that lead to effective treatment, such as years of therapist training and experience. Future research should focus on therapeutic processes and client and therapist characteristics that lead to successful therapy. In addition, the authors suggest that research should be based on sound designs that validate the use of play therapy and allow others to replicate or analyse the results. It was suggested that, given the significant variation present in short-term play interventions, researchers should be prompted to discover what makes short-term play interventions successful.
Bibliographic details

Other publications of related interest


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Child; Child Behavior Disorders /therapy; Play Therapy

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.