Case Study 1: Evidence Based Practice Report

Theme: Interventions implemented by parents.

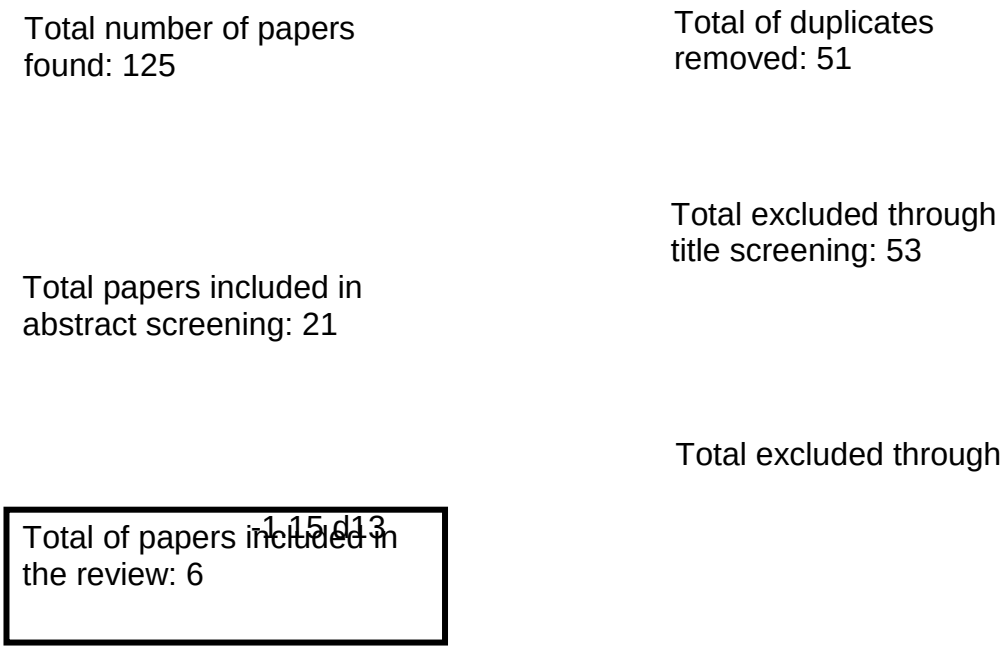
How effective is the KEEP intervention at reducing child externalising behaviours?

Summary

The KEEP intervention was developed in Oregon by Dr Patricia Chamberlain (KEEP, n.d.), a 16 week programme delivered to foster and kinship carers of children who display challenging behaviours. The intervention comprises of one 90 minute session a week, with follow up phone calls to gather information on the child's behaviour throughout the intervention. The current literature review aimed to find out how effective the KEEP intervention is at reducing child externalising behaviours. A systematic literature search was completed, which identified six studies to be included in the review; included studies were then evaluated using the Gough (2007) weight of evidence (WoE) framework; the Gersten et al., (2005) checklist was used to appraise the studies for WoE A. Effect sizes and significance of results were considered alongside the WoE ratings given to each study. The review found that KEEP does seem to be effective at reducing child externalising behaviours, however, some recommendations for future research are provided.

Critical review of the evidence base

A systematic literature search was carried out on the 4th of January 2023 on the following databases; Web of Science, Scopus, PsycINFO, ERIC, and PubMed. The search term used was 'KEEP' AND foster AND parent* AND intervention*. Figure 1 shows a flowchart, outlining the search and screening procedures followed to identify the studies to be included in the review. A set of inclusion and exclusion criteria, specific to the current literature review, were devised, and are outlined in Table 1, along with the rationale for why these criteria were chosen. Following the screening, six studies were selected for review; Appendix A shows a detailed mapping the field table for each study. Any studies that were excluded from the current review (using the inclusion and exclusion criteria) are detailed in Appendix B. The final studies included in the review are outlined in Table 2.



		before and after the intervention.		
Criteria number	**Criteria**	**Inclusion criteria**	**Exclusion criteria**	**Rationale**
5	Age of children	The children included in the study are aged between 4 and 12 years old.	The children in the study are not aged between 4 and 12 years old.	The KEEP intervention was designed for children between the ages of 4 and 12.
6	Date of publication	The study was published after 2006.	The study was published before 2006.	As the target area of this literature review was the USA, studies published after 2006 were chosen, as this is when the 'child and family services improvement act' was signed into law. 6

Table 2: papers to be reviewed

Studies included in the review

Greeno, E.J., Lee, B.R., Uretsky, M.C., Moore, J.E., Barth, R.P., and Shaw,

last 24 hours or not (Oregon Social Learning Centre). The other measure used is the Child Behaviour Checklist (CBCL). This checklist is completed by parents, and comprises of two overarching sections, internalising and externalising, which is then broken down into eight subsections (anxious/depressed, depressed, somatic complaints, social problems, thought problems, attention problems, rule-breaking behaviour, and aggressive behaviour), with responses being given by parents regarding the last six months of child behaviour (Achenbach, 2001).

Weight of Evidence (WoE)

The current study used Gough's (2007) Weight of Evidence (WoE) framework to critically appraise the six studies included in the review. There are three waves of appraisal (WoE A, WoE B and WoE C), followed by an overall weighting (WoE D). Weight of Evidence A is related to the quality of the study. For the purpose of this review, Gersten et al's (2005) checklist was used. This checklist was chosen as all the studies included comprised of an intervention group and a control group, meaning all studies could be appraised using the same checklist. In order to be considered an acceptable quality study, the research must meet at least 9 of the essential criteria, and one desirable. High quality research meets at least 9 essential criteria and 4 or more desirable. If research does not meet the criteria needed to be considered high or of acceptable quality it is considered to be low quality. The completed checklist for each of the studies is included in Appendix C. Weight of Evidence B relates to the design aspects of each study that are relevant to the review question; these criteria are detailed in Appendix D. In

order for a study to be considered of acceptable quality, a medium WoE B score must be achieved (this is detailed in Table 3). Weight of Evidence C is related to the relevance of the topic studied in the research compared to the literature review question; Appendix E outlines the criteria and ratings for all selected studies. Finally Weight of Evidence D is calculated by finding the mean scores of WoE A, B and C, and can be seen in table 3.

Table 3: Weight of Evidence D

Authors	**WoE A**	**WoE B**	**WoE C**	**WoE D**
Greeno et al., (2016)	3 High	2.7 High	2.75 High	2.8 High
Price et al., (2019)	3 High	2.7 High	2.5 High	2.7 High
Price et al., (2012)	1 Low	2 Medium	3 High	2 medium
Price et al., (2015)	3 High	2.7 High	2.75 High	2.8 High
Leathers et al., (2011)	3 High	3 High	2.25 Medium	2.75 high
Chamberlain et al., (2008)	3 High	2.7 high	2.75 High	2.8 High

Note. 0 - 1 = low, 1.1 - 2 = medium, 2.1 - 3 = high

Participants

Although each of the studies measured the impact of the KEEP intervention on child behaviour, it was the foster and kinship carers that were considered the participants in the studies. The total number of participants from all the studies included in this review was 1670. All studies except that conducted by Price, Roesch and Walsh (2012), studied a control group and an

intervention group concurrently. Price, Roesch and Walsh (2012) used the control group from Chamberlain et al., (2008) in order to compare their findings from an intervention group to a control. Leathers et al.'s (2011) study comprised smallest sample, with just 31 participants. In contrast, Chamberlain et al. (2008) study comprised of 700 participants. All the studies included in the review provided data on the demographics of their

s o (f)2 ta 78e/l(he)1erll.'s

from the intervention and control groups. Reasons for participant drop out included the participants no longer being interested, being in poor health, or the focus child had left the home (and no suitable alternative child remained in the home). Chamberlain et al. (2008) study reported a completion rate of 81%, with 564 out of 700 participants providing pre and post-test data. They reported that parents who used more positive reinforcement at baseline assessments were less likely to complete the study.

Study design

Of the six studies being included in the review, four used randomised control trials in order to divide their participants between the intervention and control groups (Chamberlain et al., 2008; Leathers et al., 2011; Price, Roesch, & Burce, 2019; Price et al., 2015). The exception to this was Greeno et al.'s (2016) study, which used a quasi-experimental design. This was due to the different recruitment processes for control groups and experimental groups. it still comprised of a control and experimental group, and made direct comparisons between the results of the two; quasi-experimental designs are an effective alternative to using randomised control trials (Hudson, Fielding & Ramsay, 2019), as they allow for pre and post intervention comparisons to be made, without requiring randomisation of groups. The effective use of quasi-experimental design (allowing pre and post intervention comparisons between the control and intervention groups, without randomising or manipulating groups themselves) contributed to the high WoE A score that was given to the study. Price et al., (2012), who, as previously mentioned,

and this should be considered when interpreting the results. Both these scales measure the child's behaviour directly, and therefore contributed to the high WoE scores of 5 of the 6 studies; as previously mentioned, Price et al. (2012) did not meet 2 of the 10 essential criteria, and therefore received a low WoE A and D rating, however, their measures did appear to measure what they were intended to.

Findings

Table 4 shows a summary of the findings of each of the studies, as well as the effect sizes, and the overall weight of evidence (WoE D) given to each study. Table 5 outlines the effect size descriptors to aid interpretation of the results.

the PDR, which may have contributed to the large effect size, and therefore this should be accounted for.

Price et al., (2015) also used the PDR to measure child behaviour changes over the course of the intervention. They found a significant difference in child behaviour ($p < 0.033$). This study reported effect sizes as between group effects, rather than within; in order to find out the difference between groups, the difference in interventions was calculated (Cohen's $d = 0.55$). The medium effect size for the intervention group, along with the significant findings, suggests that the KEEP intervention is effective at reducing challenging behaviours in children in foster or kinship care. This study also received a high WoE D, meaning that this study should be given a lot of

we(t)2 (16Td [(0 (i)6lp (en a l (o)]1(,)2 (60 59.67 Td [(t)2 (he-T6 (z)1d (er)7 (e)1 (en a l (dy

Td)4 (urueani)6 (ng)1o f)-8 (i)16 (ndr)7 (ec)4 (ei)eq4 (urua(s)4f)2 ((ng)16 (s)4 (s6 lp (en)4 (o 10 (t)e,)2)6 (v)1

significant reduction in externalizing behaviours when pre intervention scores were comp7 (e i)6 (nt)2 nt r-3.3 ()14 (to pr-3.3o3 TD)14 (t)(v)14 (ent)2 (6or)7 (o)9.9 (n s)4

References

Achenback, T.M. (2001). *Integrative guide to the 1991 CBCL/4-18, YSR and TRF profiles*. Burlington, VT: University of Vermont, Department of Psychology. DOI: 10.1016/j.biopsycho.2006.09.005

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall.

https://guidebook.eif.org.uk/programme/keeping-foster-and-kin-parents-supported-and-trained

Gersten, R., Fuchs, L.S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M.S. (2005). Quality Indicators for Group Experimental and Quasi-Experimental Research in Special Education. *Exceptional Children*, 71(2), 149-164. DOI: 10.1177/001440290507100202

Gough, D. (2007). Weight of evidence: a framework for the appraisal of the quality and relevance of evidence. *Research Papers in Education*, 22(2), 37-41.

Government Education Statistics (2022) A level and other 16 to 18 results, academic year 2021/22. URL: https://explore-education-statistics.service.gov.uk/find/statistics/a-level-and-other-16-to-18-results/2021-22

acaddenceour *anudi(e)10 (1 Tf-0.012 Tw [,06*

Greeno, E.J., f</MCIDC ( )Tj 0.27 0 Tduuww 0.3b77J 17.35 0 3DC U *quT/P*

Melkman, E. (2018). Educational trajectories of looked after children (LAC) across the primary years of schooling. Pre

Appendices

Appendix A- mapping the field

Appendix B- Excluded studies

Appendix C- WoE A Checklists

Appendix D- WoE B table

Appendix E- WoE C table

Full reference	Reason for exclusion
Greeno, E.J., Uretsky, M.C., Lee, B.R., Moore, J.E., Barth, R.P., & Shaw, T.V. (2016). Replication of the KEEP foster and kinship parent training program for youth with externalising behaviours. DOI: 10.1016.j.childyouth.2015.12.003	Criteria 7 7-the study comprised of an intervention group only.
Hurlburt, M.S., Chamberlain, P., DeGarmo, D., Zhang, J., & Price, J.M. (2010). Advancing prediction of foster placement disruption using Brief Behavioural Screening. *Child Abuse and Neglect*, 34, 917-926. DOI: 10.1016/j.chiabu.2010.07.003	Criteria 1, 4 and 5 1-the paper looked at foster parent interventions other than KEEP. 4-the study did not look at behaviour change in children. 5-the children in the study were not aged between 4 and 12.
Lopez, M., del Valle, J.F., Montserrat, C., & Bravo, A. (2012). Factors associated with family reunification for children in foster care. *Child and Family Social Work,* 18, 226-236. DOI: 10.1111/j.1365-2206.2012.00847.x	Criteria 1, 2, 3, 4, 5, and 7 1-the paper looked at foster parent interventions other than KEEP. 2-the paper was not originally written in English. 3-the study was carried out outside the USA. 4-the study did not look at behaviour change in children. 5-the children in the study were not aged between 4 and 12. 7-the study comprised of an intervention group only.

McL68.56 re W10.6 (r)-6 (v)8.9 (ente0.5 (mr)4T 11.04 -00.5 (.5 ET /P

F

Appendix C- Weight of Evidence A Example Checklist

Coding protocol- Gersten, R., Fuchs, L.S., Compton, D., Coyne, M., Greenwood, C., and Innocenti, M.S. (2005). Quality Indicators for Group Experimental and Quasi-Experimental Research in Special Education. *Exceptional Children*, 71(2), 149-164. DOI: 10.1177/001440290507100202

Appendix D- Weight of Evidence B

Criteria category	Criteria	Rationale
Participant allocation	3. Random allocation of participants. 2. No random allocation but participants in control and intervention groups recruited in different ways/ semi-random allocation (teams were allocated to condition). 1. No random allocation and same recruitment methods used.	Risk of bias is reduced when participants are randomly assigned to each group. Different recruitment methods for participant groups may result in participants with more challenging behaviours in the KEEP intervention group, as they were referred to the intervention by a social worker, whereas participants in the control group were approached by the researchers via a database of kinship/foster carers, meaning the children may not have shown as many challenging behaviours.
Timing of control group	3. Control group is running in parallel to the intervention group.	

Criteria category	Greeno et al (2016)	Price et al (2018)	Price et al (2012)	Price et al (2015)	Leathers et al (2011)	Chamberlain et al (2008)
Participant allocation	2	3	3	3		

Appendix D- Weight of Evidence C

Criteria category	Criteria	Rationale
Intervention	3. KEEP intervention with no adaptation 2. KEEP with some adaptations (explanation given for why). 1.KEEP with adaptations (no explanation)	The focus of this study was to look at the effectiveness of KEEP intervention- any adaptations should have a rationale for why they were made.
Focus of the study	3. The main focus of the study was the change in behaviour of the children. 2. The study looked at the change in behaviour of the children as well as other factors (e.g., parent stress). 1. Other factors were the main focus of the study, and child behaviour change was a secondary focus.	The current study was looking at how effective KEEP is at reducing challenging/externalising child behaviours; if this was a main focus of the study it is likely to have been measured and considered well.
Measures of child behaviour	3. Data was collected often (once a week) on child behaviour. 2. Data on child behaviours was collected at pre, during and post intervention points. 1. Data on child behaviour was	