Quantitative studies

Akin 2015

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Children in foster care with serious emotional disturbance
Study dates	Not reported (published 2015)
Duration of follow-up	Participants were tested pre and post intervention. Post-test was at 6-months.
Sources of funding	developed under the Kansas Intensive Permanency Project, which was funded by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. Department of Health and Human Services
Inclusion criteria	Age aged between 3 and 16 years Care situation in foster care; participating families also: 1) had a case plan goal of reunification; 2) had caregivers who resided in the service area and had not been incarcerated for more than three months at the time of study enrollment; Emotional or mental health needs identified as having an SED within six months of entering foster care
Exclusion criteria	Caregiver characteristics an order of “no contact” from the court.

Sample size	121
Split between study groups	PMTO: 78 CAU: 43
Loss to follow-up	Not reported
% Female	56.2
Mean age (SD)	11.7 ± 4.2 years
Condition specific characteristics	Non-white 21.5%
Outcome measures	Social-emotional outcomes 1 Social-emotional functioning: he Child and Adolescent Functioning Assessment Scale (CAFAS) and the Preschool and Early Childhood Functional Scale (PECFAS); The CAFAS provides an overall functioning score and eight subscales (School, Home, Community, Behavior Toward Others, Moods/ Emotions, Thinking Problems, Self-Harm, and Substance Use). Social outcome 1 Social Skills: Social Skills Improvement System (SSIS): used to assess child problem behaviors and social skills by administering it to the primary caregiver seeking to reunify with the child (i.e., usually the birth parent). Data collection protocols required that the caregiver had had visits with the child within the last 60 days. The SSIS measures problem behaviors with a total score that is based on five subscales: externalizing, bullying, hyperactivity/inattention, internalizing, and Autism Spectrum. Higher problem behavior scores indicate more problem behaviors. The SSIS measures social skills with a total score that comprises seven subscales: communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. Higher social skills scores indicate stronger social skills. Placement stability 1 Placement instability: erived from administrative data and was calculated as an annualized rate of placement settings: ðAnnualized Placement Rate = ((number of placement/days in foster care)*365)
Study arms	**Parent Management Training-Oregon (N = 78)**

PMTO is a behavioral parent training program based on social interaction learning theory, which posits that parents are the agents of change for affecting improvements in their children's problematic behaviors. It was developed for children with externalizing behavior problems and is one of a family of parent training programs that were developed at the Oregon Social Learning Center (OSLC), specifically by its affiliate the Implementation Sciences International, Incorporated. PMTO was delivered in-home to individual families, focusing on parents as the agents of change, and delivered for up to six months. Core components include: 1) appropriate discipline; 2) skill building; 3) supervision and monitoring; 4) problem-solving; and 5) positive involvement.

% Female	51.3
Mean age (SD)	11.2 ± 4.22 years
Condition specific characteristics	Non-white 23.1%
Outcome measures	Social-emotional outcomes 1 Social-emotional functioning postintervention (CAFAS): 34.9 ± 38.4 Behavioural outcome 1 Problem behaviours postintervention: 20.2 ± 11.7 Social outcome 1 Social Skills postintervention (SSIS): 96.5 ± 19.6 Placement stability 1 Placement instability rate postintervention: 0.9 ± 0.8

Care-as-usual (N = 43)
Participants received services as usual

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Sources of funding	developed under the Kansas Intensive Permanency Project, which was funded by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. Department of Health and Human Services
Inclusion criteria	Age aged between 3 and 16 years Care situation in foster care; participating families also: 1) had a case plan goal of reunification; 2) had caregivers who resided in the service area and had not been incarcerated for more than three months at the time of study enrollment; Emotional or mental health needs identified as having an SED within six months of entering foster care
Sample size	121
Split between study groups	PMTO: 78 CAU: 43

	Loss to follow-up	Not reported
	% Female	56.2
	Mean age (SD)	11.7 ± 4.2 years
	Outcome measures	Social-emotional outcomes 1 Social-emotional functioning postintervention (CAFAS): 64.1 ± 53.3 Behavioural outcome 1 Problem behaviours score postintervention (SSIS): 29.6 ± 16.6 Social outcome 1 Social Skills score postintervention (SSIS): 81.4 ± 21.5 Placement stability 1 Placement instability rate postintervention: 1.2 ± 0.8
Risk of Bias	**Domain 1: Bias arising from the randomisation process** **High** (Subjects were aware of their assignment group prior to agreeing to study participation. Few baseline characteristics reported. Some differences but unclear if significant. 1:1 Randomisation resulted in considerably more in the intervention group.) **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** **High** (Unclear if there were deviations from assigned intervention, this is likely since more participants were assigned to the intervention group than control group despite 1:1 randomisation (in order to fill PMTO case load)) **Domain 3. Bias due to missing outcome data**	

	High (Though missing data did occur, this study is not clear how much data was missing and proportion between groups) **Domain 4. Bias in measurement of the outcome** **Some concerns** (Low risk for placement stability that was determined using administration data) **Domain 5. Bias in selection of the reported result** **Some concerns** (Information on conduct of trial was insufficient and there was no protocol cited.) **Overall bias and Directness** **High** **Overall Directness** **Partially applicable** (USA based)

Bergstrom 2016

Study type	Randomised controlled trial (RCT)
Study location	Sweden
Study setting	Juveniles entering into out of home care

Study dates	Not reported
Duration of follow-up	3 year follow up
Sources of funding	Not reported
Inclusion criteria	Age between 12 and 17 years old Care situation at risk for immediate out-of-home placement (all but one participants were in out of home care during the course of the study Behavioural needs eet the diagnostic criteria for a conduct disorder according to DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association)
Sample size	46
Split between study groups	MTFC: 19 CAU: 27
Loss to follow-up	None reported
% Female	Not reported
Mean age (SD)	Not reported
Condition specific characteristics	Behaviour that challenges 100%
Outcome measures	Placement stability 1

	Number of out-of-home placements: indicates whether the juvenile has been in an out-of-home placement (e.g., foster home or residential care). Excerpted data from social case record. Criminal outcomes Locked settings: describes whether the juvenile was in an out-of-home care setting and in a locked ward. Excerpted data from social case record. Homelessness Homeless: describes whether the juvenile had a notation of not having a place to live or did not currently have a registered place to live. Excerpted data from social case record. Negative placement change Negative treatment exit describes whether the juvenile experienced a breakdown or had exited a minor treatment facility to enter a more secure one (e.g., the juvenile exited foster care and entered institutional care). Excerpted data from social case record. Criminal outcomes 2 Criminality is described using only confirmed reports from the police or convictions reported in the case record. Violent crime describes whether the crime involved a crime towards a person (e.g., assault, rape or robbery) from confirmed police reports or convictions. Excerpted data from social case record. Health outcome 1 Substance Abuse is described using a combination of records, such as urine samples, to test for drugs, treatment (e.g., out-of-home placement in group care directed towards drug problems) or conviction (use or dealing). Excerpted data from social case record.
Study arms	**Multidimensional Treatment Foster Care (N = 19)** MTFC is designed to decrease deviant behaviour and to increase pro-social behaviour (e.g., co-operativeness, acting within boundaries of the law, attending school, engaging in socially acceptable communication). A juvenile is placed with a professionally trained foster family, and a clinical team is formed around the juvenile and his or her birth family. The clinical team consists of a case manager (who supervises and coordinates the treatment), a family therapist (who conducts weekly therapy sessions with the juvenile and her or his family), an individual therapist (who supports the juvenile to achieve daily progress), a skills trainer (who practises new skills in the juvenile's daily activities and everyday life), a parent daily report (PDR) caller (who telephones the foster family every day to monitor progress) and the foster family (which provides the juvenile with a structured, therapeutic living environment). Members of the foster family help the juvenile to develop pro-social skills by being role models and providing clear sets of rules with predictable privileges and consequences for specified target behaviours. They also make sure the juvenile has a high level of structure for daily activities and tasks, and they closely monitor their adolescent. The programme provides juveniles with tight supervision but also focuses on helping youths develop positive relationships with the adults around them. Efforts are made by the

MTFC team to strengthen the juvenile's relations to peers or friends not associated with antisocial behaviour, for example, to re-establish contacts with friends from the youth's social past. The individual therapist has sessions with the juvenile to discuss what constitutes a good friend and a positive relationship. The skills trainer can role-play with the juvenile to prepare the latter to re-establish contact with former friends. Interventions for the birth family through family therapy and carefully planned home visits are essential parts of the programme. The home visits start after about three weeks and increase in frequency and length in an ongoing manner. Interventions to reduce the juvenile's contact with antisocial peers are also an important focus, as is developing a functional school situation (e.g., greater participation, less truancy and improved pupil skills). Efforts within the MTFC team are meant to ensure school attendance. For example, the case manager has worked out a plan of action with the head teacher that is applied if minor or major problems occur. The school personnel are instructed to inform the case manager of any problems. If a major problem arises (e.g., the juvenile is involved in physical fighting), the day after the incident, at the latest, the case manager personally visits the school to provide support. Daily school activities with troublesome juveniles are often challenging. Much effort is expended to assure the school personnel that all their efforts with the juvenile in MTFC are taken seriously. The MTFC programme has five parts, one for each treatment role, outlined in a manual description (Chamberlain, 1998). Several aspects must be individually adjusted,according to the manual—for instance, which specific need (individual, family or skills) should first be addressed and the length of the initial home visits. Adherence to the manual was considered important throughout the programme processes. For example, the foster parents had to complete the PDR checklist and report every day on the juvenile's performance on the point and level systems. Further, the team discussions and foster parents' supervision sessions were videotaped and sent to the Oregon Social Learning Center for analysis of adherence.

Outcome measures	Placement stability 1 Number of out-of-home placements over 1 year/3 years follow up: 1.4 ± 0.5/3.1 ± 2.2 Criminal outcomes Juveniles with experience of a locked setting over 1 year/3 years follow up: 1 (5%)/5 (26%) Homelessness Homeless over 1 year/3 years follow up: 0 (0%)/ 0 (0%) Negative placement change

	Negative treatment exit over 1 year/3 years: 2 (11%)/8 (42%) Criminal outcomes 2 Criminal activity over 1 years/3 years: 1 (5%)/3 (15%); Violent crime over 1 years/3 years: 0 (0%)/ 0 (0%) Health outcome 1 Substance Abuse over 1 year/3 years follow up: 4 (21%)/5 (26%)

Care as Usual (N = 27)

The juveniles in the TAU group received several different treatment alternatives. Most of them (n = 21, 78%) received more than one intervention during the first year after assessment. Out-of-home care was the most-used option (n = 26); this alternative could include residential care, private group care and foster care. Fifteen juveniles received in-home care, an alternative that could involve family therapy, individual counselling, mentorship with non-professional volunteers and drug testing. Only one juvenile was sent home, stayed home the whole first year and later received in-home care. Another two juveniles were sent home first but received out-of-home care during parts of the first year. The TAU alternative seldom included manual-based treatment, behaviour modification or evidence-based programmes. Some of the juveniles in out-of-home care may have received some form of manual-based treatment, at least in the residential care; at most, 12 juveniles experienced this. only one recording was found for one adolescent who received a manual-based treatment during the first year at in-home care.

Outcome measures	Placement stability 1 Number of out-of-home placements over 1 year/3 year follow up: 1.5 ± 1.0/3.4 ± 2.4 Criminal outcomes Experience of a locked settings over 1 year/3 years follow up: 12 (44%)/12 (44%) Homelessness Homeless over 1 year/3 years follow up: 0 (0%)/ 2 (7%) Negative placement change Negative treatment exit over 1 year/3 years follow up: 9 (33%)/13 (48%)

	Criminal outcomes 2 Criminal activity over 1 year/3 year follow up: 6 (22%)/11 (41%); Violent crime over 1 year/3 year follow up: 7 (26%)/11 (41%) Health outcome 1 Substance Abuse over 1 year/3 year follow up: 10 (27%)/12 (44%)
Risk of Bias	**Domain 1: Bias arising from the randomisation process** **High** (unclear if allocation concealment. the MTFC group had significantly more families with an immigrant background. Few baseline characteristics reported other than those on which randomisation was performed.) **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** **High** (No information provided about whether there were deviations from treatment, or whether intent-to-treat analysis was used) **Domain 3. Bias due to missing outcome data** **High** (Unclear if missing outcome data, approach to missing outcome data and whether missing data varied between comparison groups) **Domain 4. Bias in measurement of the outcome** **Low** **Domain 5. Bias in selection of the reported result** **Some concerns** (Unclear information about the conduct of trial and no protocol cited) **Overall bias and Directness**

	High **Overall Directness** **Partially applicable** (Participants were juveniles at risk for immediate out-of-home placement (awaiting placement in out of home care). However, all but one participants (treatment/control group) were in out of home care during the course of the study.)

Berzin 2008

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Foster family or relative care and were at risk of placement moves or placement in a higher level of care.
Study dates	April 2000 to December 2002
Duration of follow-up	Outcomes assessed over a 5 year period
Sources of funding	Not reported
Inclusion criteria	Age ages 2 to 12 years Care situation at risk of placement moves or placement in a higher level of care.

Sample size	50
Split between study groups	FGDM=31 Comparison = 19
Loss to follow-up	missing data in 4 from the intervention group and 2 from the comparison group for permanency outcomes
% Female	44%
Mean age (SD)	5.5 ± 3.3 years
Condition specific characteristics	Exploitation or trafficking Caregiver absence of incapacity: 44.2%; physical abuse: 7.7%; severe neglect: 7.7%; Sexual abuse: 3.9%; exploitation: 0% Non-white 54% Care situation foster family home: 22%; relative home: 74%; guardian home: 2.0%
Outcome measures	Placement stability 1 number of placement moves, placement moves as a dichotomous measure (0 moves or 1 or more moves), and steps up in placement (from a foster home or foster family agency to a group home). Administrative data were extracted from the California Children's Services Archive. The archive is administered by the Child Welfare Research Center (CWRC) at the University of California at Berkeley. The primary data in the archive are from the Child Welfare Services/Case Management System (CWS/CMS), the information system administered by the CDSS and used by county child welfare workers to manage information related to a child's involvement with the child welfare system. Permanency 1 case closure during the study period, exit type, and time from case opening to case closure. Administrative data were extracted from the California Children's Services Archive. The archive is administered by the Child Welfare Research Center (CWRC) at the University of California at Berkeley. The primary data in the archive are from the Child Welfare Services/Case Management System (CWS/CMS), the information system administered by the CDSS and used by county child welfare workers to manage information related to a child's involvement with the child welfare system.

Study arms	**Family Group Decision Making (FGDM) (N = 31)** FGDM is a child welfare decision-making process in which efforts are made to bring together all parties with an interest in the well-being of the child and his/her family. At the FGDM meeting, the group works to discuss the concerns that bring the child to the attention of protective services, the strengths that exist in the family system, and the changes necessary to keep the child safe. Parallel to the rise of family group conferencing in New Zealand, the family unity meeting model arose out of a casework audit conducted by the Oregon State Office for Children and Families. Like family group conferencing, this model seeks to include extended family members in child welfare decisions. Variations on the family group conferencing and family unity meeting models proliferate. Despite their differences, the majority of FGDM models share several basic tenets: • collaboration between families and community and agency supports in child welfare decision making and service provision • respect for the family's community and culture • children's rights to a voice in decision making and to safety • empowerment of families to formulate their own workable family plans • mobilization of increased family support, including extended family and community resources. In addition to these philosophies and goals, the FGDM model relies on a structure of four main components: (1) referral, (2) preparation and planning, (3) the FGDM meeting, and (4) follow-up planning and events. In the referral stage, the social worker assigned to investigate the initial report of child abuse or neglect refers a family to a FGDM meeting coordinator, who determines whether a FGDM meeting will be held. The preparation and planning stage includes several premeeting activities including (1) ensuring safety for the child or adolescent (2) inviting family members and other participants, (3) defining and communicating participants' roles, (4) managing unresolved family conflicts, and (5) coordinating meeting logistics.The FGDM meeting itself consists of an introduction, an information sharing phase, a plan-deliberation phase, and finalization of a family plan. Family plans are formulated in the family deliberation phase of the FGDM meeting, which may involve a private family meeting or a joint meeting between family members, agency professionals, and community members. Family plans comprise specific provisions for child safety, child physical and mental health, material assistance, recreational activities, and other services, as well as detailed plans regarding how and by whom each provision will be completed. Family plans are presented to the full group for discussion and the meeting concludes with the final approval of the plan. The follow-up phase, the plan is monitored to ensure that the requested services are accessible and that all participants honor agreements made toward ensuring the care and protection of the child. Monitoring may include collateral contacts with professionals and family

members, as well as additional FGDM meetings. Failure to comply with the provisions set forth in the family plan may result in referral to family court.

Loss to follow-up	Not reported
% Female	Not reported
Mean age (SD)	Not reported
Outcome measures	Placement stability 1 mean number of placement moves: 0.94 ± 1.36 Permanency 1 case closure for a positive reason during the study period: 11/27 (40.7%) Permanency 2 For children who's case was closed the average time to permanency was 20.81 ± 5.82 months

Comparison group (N = 19)
Care of comparison group not described. Riverside County's program was aimed at children ages 2 to 12 years who were placed in foster family or relative care and were at risk of placement moves or placement in a higher level of care.

Loss to follow-up	Not reported
% Female	Not reported
Mean age (SD)	Not reported

	Outcome measures: Placement stability 1 mean number of placement moves: 0.95 ± 1.51 Permanency 1 case closure for a positive reason during the study period: 6/18 (33.3%) Permanency 2 For children who's case was closed the average time to permanency was 17.25 ± 9.34 months
Risk of Bias	**Domain 1: Bias arising from the randomisation process** High **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** Low **Domain 3. Bias due to missing outcome data** Low **Domain 4. Bias in measurement of the outcome** Low **Domain 5. Bias in selection of the reported result** Low **Overall bias and Directness** High (No information with regards to the randomization method. No information with regards to the baseline characteristics comparisons for each arm of the 2 studies. Allocation concealment was not possible.)

	Overall Directness Partially applicable (USA study)

Fisher 2011/Lynch 2014

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Preschool foster children
Study dates	Not reported
Duration of follow-up	12 months post baseline
Sources of funding	National Institute of Mental Health, U.S. Public Health Service; National Institute on Drug Abuse, U.S. Public Health Service; and National Institute of Mental Health and Office of Research on Minority Health (ORMH), U.S. Public Health Service.
Inclusion criteria	Age 3-6 years Care situation entering care for the first time, reentering care, or moving between foster homes
Sample size	137

Split between study groups	MDTFC = 64 Regular foster care = 73
Loss to follow-up	26 participants (19 participants in regular foster care/7 participants in MTFC)
% Female	Not reported for total sample
Mean age (SD)	Not reported for total sample
Outcome measures	Placement stability 1 Time to placement disruption in months: Authors defined a placement disruption as exiting the current placement for a negative reason (i.e., removal deemed in the best interest of the child or requested by the caregiver). Authors did not include nonnegative reasons for placement disruptions (i.e., changing circumstances in the home unrelated to child behavior, clinical transitions, permanent foster placements, adoptions, and biological family reunifications). The duration of each foster placement was recorded as the dependent variable. Placement stability 2 Children who experienced a placement disruption: Authors defined a placement disruption as exiting the current placement for a negative reason (i.e., removal deemed in the best interest of the child or requested by the caregiver). Authors did not include nonnegative reasons for placement disruptions (i.e., changing circumstances in the home unrelated to child behavior, clinical transitions, permanent foster placements, adoptions, and biological family reunifications). Placement stability 3 Number of placement disruptions over 12 months follow up: Authors defined a placement disruption as exiting the current placement for a negative reason (i.e., removal deemed in the best interest of the child or requested by the caregiver). Authors did not include nonnegative reasons for placement disruptions (i.e., changing circumstances in the home unrelated to child behavior, clinical transitions, permanent foster placements, adoptions, and biological family reunifications).
Study arms	**Multidimensional Treatment Foster Care for Preschoolers (N = 57)** The MTFC-P intervention addresses key developmental and social-emotional needs for foster preschoolers. The intervention is delivered via a team approach to the children, foster parents, and permanent placement resources (birthparent and adoptive relative/nonrelative). Before receiving a foster child, each foster parent completes 12 hr of intensive training. After placement, the foster parents work with a foster parent consultant and receive support and supervision through daily telephone contacts, weekly foster parent support group meetings, and 24-hour on-call staff. The foster parent consultant works with the foster parent to maintain a positive, responsive, and consistent environment through

the use of concrete encouragement for positive behavior and clear limit setting for problem behavior. The children also receive services from a behavior specialist working in preschool/daycare and home-based settings. Additionally, the children attend weekly socialization playgroup sessions. The program staff is largely composed of clinicians with bachelor's and master's degrees, with a licensed psychologist as the clinical supervisor. Group supervision occurs weekly, with consultation provided as needed. Whenever possible, a family therapist works with birth parents or adoptive parents to familiarize them with the parenting skills used by the foster parents in the program. This helps to facilitate consistency between settings. Children typically receive services for 9–12 months, including the period of transition to a permanent placement (or, if the child is remaining in long-term foster care, until his/her behavior has stabilized and the risk of placement disruption appears to have been mitigated). Treatment fidelity for all MTFC-P components is monitored via progress notes and checklists completed by the clinical staff.

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Preschool foster children
Study dates	Not reported
Duration of follow-up	12 months post baseline
Sources of funding	National Institute of Mental Health, U.S. Public Health Service; National Institute on Drug Abuse, U.S. Public Health Service; and National Institute of Mental Health and Office of Research on Minority Health (ORMH), U.S. Public Health Service.
Sample size	137

Split between study groups	MDTFC = 64 Regular foster care = 73
Loss to follow-up	26 participants (19 participants in regular foster care/7 participants in MTFC)
% Female	50.9%
Mean age (SD)	4.54 ± 0.86
Condition specific characteristics	Behaviour that challenges Parent Daily Report Score, mean: 22.31 ± 13.50 Non-white 17.5%
Outcome measures	Placement stability 1 Time to placement disruption in months: 3.82 ± 3.93 Placement stability 2 Children who experienced a placement disruption: 7 (12.3%) Placement stability 3 Number of placement disruptions over 12 months follow up, mean: 1.08 ± 0.29

Usual Foster Care (N = 60)
The routine foster care families received routine services, which commonly involve individual psychotherapy, developmental screening, and referrals for services for the children and social service support, substance abuse treatment, mental health treatment, and parent training (not through our center) for the birth families and adoptive families.

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Preschool foster children
Study dates	Not reported
Duration of follow-up	12 months post baseline
Sources of funding	National Institute of Mental Health, U.S. Public Health Service; National Institute on Drug Abuse, U.S. Public Health Service; and National Institute of Mental Health and Office of Research on Minority Health (ORMH), U.S. Public Health Service.
Sample size	137
Split between study groups	MDTFC = 64 Regular foster care = 73
Loss to follow-up	26 participants (19 participants in regular foster care/7 participants in MTFC)
% Female	41.7%
Mean age (SD)	4.34 ± 0.83 years

	Condition specific characteristics	Behaviour that challenges Parent Daily Report score, mean: 18.41 ± 12.85 Non-white 6.6%
	Outcome measures	Placement stability 1 Time to placement disruption in months: 4.45 ± 2.64 months Placement stability 2 Children who experienced a placement disruption: 12 (20%) Placement stability 3 Number of placement disruptions over 12 months follow up, mean: 1.08 ± 0.29
Risk of Bias	**Domain 1: Bias arising from the randomisation process** Low **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** Low **Domain 3. Bias due to missing outcome data** Low **Domain 4. Bias in measurement of the outcome** Low **Domain 5. Bias in selection of the reported result** Low **Overall bias and Directness**	

	Low **Overall Directness** Partially applicable (USA study)

Kim 2011/2013

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Summer programme for girls in foster care
Study dates	Not reported (study published 2011)
Duration of follow-up	36 months
Sources of funding	National Institute of Mental Health US Public Health Service National Institute on Drug Abuse
Inclusion criteria	Age

	In final year of elementary school Gender Girls Care setting Relative or non-relative foster care Geography Living in one of two counties in the Pacific Northwest
Sample size	100
Split between study groups	48 randomised to intervention group; 52 randomised to control group
Loss to follow-up	3 lost to follow up in intervention group, 7 lost to follow up in control group
% Female	100%
Mean age (SD)	Not reported for total sample
Outcome measures	Number of placement changes Number of care placement changes from baseline to 12 months follow up. Behavioural outcomes Internalising and externalising symptoms defined by caregiver report using the Achenbach System of Empirically Based Assessment (ASEBA). Mean results across 12 and 24 month follow up were reported. Behavioural outcomes 2 At 6 months (Smith 2011) internalising problems. An internalizing problems composite was computed based on five Parent Daily Report items that reflected internalizing behavior (e.g., irritable and nervous/jittery). Behavioural outcomes 2 At 6 months (Smith 2011) externalising problems. An externalising problems composite was computed based on 18 PDR items that reflected externalizing behavior (e.g., argue and defiant).

	Social outcomes Prosocial behaviour defined by a subscale from the Parent Daily Report Checklist. A prosocial behavior composite was computed based on 11 PDR items that reflected prosocial behavior (e.g., clean up after herself and do a favor for someone). Delinquency Delinquent behaviour and was measured using the Self-Report Delinquency Scale (SRD). Girls association with delinquent peers was defined using a modified version of the general delinquency scale from the SRD. Delinquency was measured at 36 months. Substance use girls were asked how many times in the past year they had (a) smoked cigarettes or chewed tobacco, (b) drank alcohol (beer, wine, or hard liquor), and (c) used marijuana. The response scale ranged from 1 (never) through 9 (daily). Substance use was assessed at 36 months.
Study arms	Middle School Success intervention (N = 48) The MSS intervention was delivered during the summer prior to middle school entry with the goal of preventing delinquency, substance use, and related problems for girls in foster care. The intervention consisted of two primary components: (a) six sessions of group-based caregiver management training for the foster parents and (b) six sessions of group-based skill-building sessions for the girls. The groups met twice a week for 3 weeks, with approximately seven participants in each group. In addition to the summer group sessions, follow-up intervention services (i.e., ongoing training and support) were provided to the caregivers and girls in the intervention group once a week for two hr (foster parent meeting; one-on-one session for girls) during the first year of middle school. The interventionists were supervised weekly, where videotaped sessions were reviewed and feedback was provided to maintain the fidelity of the clinical model. The summer group sessions for the caregivers emphasized establishing and maintaining stability in the foster home, preparing girls for the start of middle school, and preventing early adjustment problems during the transition to middle school. The summer group sessions for the girls were designed to prepare the girls for the middle school transition by increasing their social skills for establishing and maintaining positive relationships with peers, increasing their self-confidence, and decreasing their receptivity to initiation from deviant peers. Specifically, the girls' curriculum targeted strengthening pro-social skills; practicing sharing/cooperating with peers; increasing the accuracy of perceptions about peer norms for abstinence from substance use, sexual activity, and violence; and practicing strategies for meeting new people, dealing with feelings of exclusion, and talking to friends and teachers about life in foster care.
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs History of special services: 46.2% % with behaviour that challenges Arrest record 2.1%; history of runaway 4.2%

	Outcome measures	Number of placement changes Mean 0.33 changes ± 1.05 Behavioural outcomes Internalising and externalising behaviour score: mean 12.77 ± 8.53 Behavioural outcomes 2 Association between being in the intervention group and foster parent and girl reported internalising problems at 6 months: β -0.28 P<0.01 (adjusted for age, maltreatment history, pubertal development, internalising behaviours at baseline) Behavioural outcomes 3 Association between being in the intervention group and foster parent and girl reported externalising problems at 6 months: β -0.21 P<0.01 (adjusted for age, maltreatment history, pubertal development, externalising behaviours at baseline) Social outcomes Prosocial behaviour score: mean 0.80 ± 0.12. Association between being in the intervention group and foster parent and girl reported prosocial behaviour at 6 months: β 0.15 P>0.05 Delinquency Self-Report Delinquency Scale (SRD): mean 0.30 ± 0.92; Girls association with delinquent peers score: mean -0.17 ± 0.86; Composite delinquency score: mean -0.17 ± 0.57 Substance use Tobacco use score: mean 1.49 ± 1.63; Alcohol use score: mean 1.49 ± 0.90; Marijuana use score: mean 1.29 ± 0.82; composite substance use score: mean 1.42 ± 0.93
	Control group (N = 52) The girls and caregivers in the control condition received the usual services provided by the child welfare system, including services such as referrals to individual or family therapy, parenting classes for biological parents, and case monitoring.	
	Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs History of special services: 36.6% % with behaviour that challenges Arrest record: 3.8%; History of runaway: 7.7%

	Interventions	Control 1 62% percent of girls in the control condition received individual counseling, 20% received family counseling, 22% received group counseling, 30% received mentoring, 37% received psychiatric support, and 40% received other counseling or therapy services (e.g., school counseling, academic support) during the 1st year of middle school
	Outcome measures	Number of placement changes mean 0.76 ± 1.19 Behavioural outcomes internalising/externalising behaviour score: mean 12.50 ± 8.29 Social outcomes Prosocial behaviour score: mean 0.74 ±0.14 Delinquency Delinquent behaviour score: mean 0.95 ± 2.69; association with delinquent peers score: mean 0.17 ± 1.02; composite delinquency score: mean 0.17 ± 1.06 Substance use Tobacco use score: mean 2.36 ± 2.49; Alcohol use score: mean 1.80 ± 1.46; Marijuana use score: mean 2.33 ± 2.43; Composite substance use score: mean 2.16 ± 1.93
Risk of Bias	Domain 1: Bias arising from the randomisation process Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) Low Domain 3. Bias due to missing outcome data Low Domain 4. Bias in measurement of the outcome Low	

	Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High (High for placement change, prosocial behaviour, and internalising and externalising symptoms outcomes. Some concerns for delinquency and substance use outcomes.)

Landsman 2014/Boel-Studt 2017

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Children in foster care
Study dates	May 2009 to Feb 2012.
Duration of follow-up	3 year observation period
Sources of funding	U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau,
Inclusion criteria	Age children ages 0–17

	Care situation eferred to the state's centralized foster care placement matching program managed by Four Oaks
Sample size	243
Split between study groups	FIC = 139 Control = 123
Loss to follow-up	FIC = 10 Control = 5
% Female	47%
Mean age (SD)	9.81 ± 5.48
Condition specific characteristics	Non-white 29.9%
Outcome measures	Outcome 1 Data for this study were extracted from case records and a database that was specifically developed for this project to monitor random assignment procedures and model implementation. In addition, for children assigned to FIC the database served as the primary data source for documenting case progress and outcomes. DHS case files served as the primary data source for children in the control group. To extract data fromcase files of children in the control group the research team traveled to county DHS offices that were within the service area included in the project. Case file reading took place at two time points over the course of the three-year study period. We created a data collection instrument to ensure that the information extracted from the DHS case records was comparable to the data that was extracted from the project database. This instrument was piloted in one county office and revised. Case file reading was completed by two of the authors and two research assistants who were trained in the data collection procedures. In addition, inter-rater coding was used at each site, representing 15.25% of cases. Any discrepancies were discussed between the two raters and resolved. Placement stability 1 Placement changes over 3 year observation period: authors calculated the number of placement disruptions from the date of random assignment through case closure or the end of the study. Permanency 1

	Type of permanent placement over 3 year observation period: Physical permanency was determined based on the type of placement to which the child was discharged or where the child was living at the final observation period. To compare differences in the time it took for children to achieve permanency, the number of days that elapsed between the date of random assignment and placement in a setting that was planned to be the child's permanent home was recorded. Permanency 2 Maltreatment report over 3 year observation period: child maltreatment data provided by DHS to identify whether each child had a confirmed maltreatment report following the date of random assignment. Relational outcome 1 Relational permanency over 3 year observation period: Relational permanency wasmeasured as a 1/0 variable and was based on qualitative data extracted from case records. A child was coded “1” if therewas evidence in the case record of continued contact and emotional support from at least one adult. A child was coded “0” if there was no evidence that the child had ongoing contact and emotional support from at least one adult consistently. Authors recognized the inherent subjectivity of this measure, but there was sufficient detail in the case records—including case notes, permanency plans, family team meeting minutes, and court reports—to make this assessment. To ensure reliability, two researchers examined the coding of this measure, with nearly complete agreement.
Study arms	**Family Finding Intervention (N = 130)** The theory of change underlying family finding and engagement asserts that by focusing efforts on identifying and nurturing a natural support network for each child in care, meeting frequently to sustain a sense of urgency around permanency, providing opportunities for relationship-building, and providing post-placement support, this expanded support network will result in shorter time to permanency, a greater likelihood of permanent placement with family, and improved child safety. FIC was conceptualized in five key components: Referral; Information Gathering, Documentation and Search and Identification; Contact, Assessment and Engagement; Family Ties: Transition to Family; and Documentation. The goal of the Referral stage is to expedite family finding through a seamless randomization process, with quick turnaround times for approving and assigning cases. At the Information Gathering stage, the focus is on identifying and searching for all potential relatives and kin and creating an individualized team and a process for facilitating permanency. The Contact, Assessment and Engagement stage seeks to work with family and supports on relationship building and to prepare the child and family for successful visits with family. By the Family Ties stage, the emphasis is on transitioning decision-making to the family and strengthening plans for sustained family connection after case closure. Documentation represents the provision of ongoing feedback and continuous assessment of process and outcomes. Although these stages are presented as discrete and sequentially related, they occurred simultaneously and in an interrelated way. Children were assigned a DHS worker and each received standard child welfare services. As well as

Children in FIC were additionally assigned a Search and Engagement Specialist (S&E specialist) who provided intensive family finding and engagement services.

% Female	53.6%
Mean age (SD)	9.41 ± 5.24
Condition specific characteristics	Exploitation or trafficking Physical abuse: 16.7%; Psychological abuse 1.8%; Sexual abuse 6.1%; neglect 67.5% Placement changes prior placements: 2.40 ± 3.13 Non-white 30.4%
Outcome measures	Placement stability 1 Placement changes over 3 year observation period: 2.20 ± 2.25 placement changes. Controlling for gender FFI was not significantly associated with reduced placement changes: beta -0.13 ± 0.61 Permanency 1 Type of placement over 3 year observation period n(%): birth home 36 (28.8%); relative 22 (17.6%); relative adoption 16 (12.8%); nonrelative adoption 16 (12.8%); foster home 28 (22.4%); group care 16 (12.8%); aged out 6 (4.8%). Controlling for gender family finding intervention, beta coefficient: birth home -0.19 ± 0.55; relative 0.77 ± 0.80; relative adoption ; nonrelative adoption 2.16 ± 1.51; foster home 0.32 ± 0.67; group care 0.45 ± 0.82; aged out -1.06 ± 1.00 Permanency 2 In a placement planned for permanency by the last observation: 59.2%; Analysis of the survival curves showed that for both groups the probability of not entering a permanent placement decreased as days of service increased. Difference between groups was not significant. limited to participants with history of congregate care, intensive family finding was not significantly associated with physical permanency over follow up: beta 0.73 ± 0.78 for being in the control group with congregate care Relational outcome 1 Relational permanency over 3 year observation period: beta 0.87 ± 0.61. Limited to participants with history of congregate care, intensive family finding was significantly associated with relational permanency over follow up: beta -0.87 ± 0.78 for being in the control group with congregate care

	adverse event Maltreatment report over 3 year observation period: 26 (22.8%): beta 0.26 ± 0.67

Standard Child Welfare Services (N = 123)
Children were assigned a DHS worker and each received standard child welfare services. because all children in the study were active child welfare cases, both the experimental and control groups received DHS casework services and other therapeutic and supportive services based on individual needs. FIC services were viewed as an enhancement, not a substitute for other child welfare services.

% Female	53.6%
Mean age (SD)	9.41 ± 5.24
Condition specific characteristics	Exploitation or trafficking Physical abuse: 16.7%; Psychological abuse 1.8%; Sexual abuse 6.1%; neglect 67.5% Placement changes prior placements: 2.40 ± 3.13 Non-white 30.4%
Outcome measures	Placement stability 1 Placement changes over 3 year observation period: 2.28 ± 2.54 placement changes Permanency 1 Type of permanent placement over 3 year observation period n(%): birth home 39 (33.1%); relative 10 (8.5%); relative adoption 2 (1.7%); nonrelative adoption 21 (17.8%); foster home 19 (16.1%); group care 11 (9.3%); aged out 14 (11.9%) Permanency 2 In a placement planned for permanency by the last observation: 60%

	Relational outcome 1 Relational permanency over 3 year observation period: 73 (64.6%) adverse event Maltreatment report over 3 year observation period: 19 (18.4%)
Risk of Bias	**Domain 1: Bias arising from the randomisation process** Some concerns **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** Low **Domain 3. Bias due to missing outcome data** Low **Domain 4. Bias in measurement of the outcome** Some concerns **Domain 5. Bias in selection of the reported result** Low **Overall bias and Directness** High (No details of the randomization method. There are slight differences in gender between the arms. No allocation concealment. No blinding. Although randomization was prospective, data collection was retrospective via records. Some of the outcomes are subjective.) **Overall Directness** Partially applicable

	(USA study)

Maaskant 2017

Study type	Randomised controlled trial (RCT) see also Maaskant 2016: Parent training in foster families with children with behavior problems: Follow-up results from a randomized controlled trial.
Study location	Netherlands
Study setting	Foster children with behavioural problems
Study dates	January 2011 and April 2014
Duration of follow-up	postintervention and four month follow up
Sources of funding	ZonMw (the Netherlands Organization for Health Research and Development).
Inclusion criteria	Age 4 to 11 years old Care situation Foster families Emotional or mental health needs Total Difficulties Score above the clinical cut off score of 14 Behavioural needs Parent Daily Report - a mean number of more than five different types of problem behavior each day

Sample size	88 randomised
Split between study groups	PMTO = 47 CAU = 41
Loss to follow-up	PMTO = 17 CAU = 8
% Female	Not reported for total sample
Mean age (SD)	Not reported for total sample
Interventions	Intervention 1 In the PMTO group, 13 foster families (43%) received alternative parenting support or child treatment in addition to PMTO at postintervention and nine foster families (31%) at follow-up. In the CAU group, 21 foster families (63%) reported the received alternative parenting support or child treatment between baseline and postintervention assessment, and nine foster families (26%) between postintervention and follow-up assessment. In total, five families in the CAU received some form of protocolled parenting interventions which might abut to the insensitivity of PMTO (e.g. Triple P course, Video Interaction Guidance, Intensive Home Treatment).
Outcome measures	Behavioural outcome 1 Foster carer-reported Child Behaviour (Child Behaviour Checklist): Child behavior problems were measured with the Dutch version of the Child Behavior Checklist (CBCL). The CBCL and TRF consists of 113 items (6–18 years version, also used for 4–5-years-old after personal agreement of Achenbach) rated on a 3-point Likert scale. Externalizing Problems (CBCL: 35 items, TRF: 32 items, e.g., disobedient at home, destroy his/her own things, can't sit still) and Internalizing Problems (CBCL: 26 items, TRF: 27 items, e.g., too fearful or anxious, feels worthless or inferior, worries). Placement stability 1 Number of placement breakdowns Behavioural outcome 2 Teacher-reported Child Behaviour (Teacher Report Form): the Teacher Report Form (TRF) completed by teachers. The CBCL and TRF consists of 113 items (6–18 years version, also used for 4–5-years-old after personal agreement of Achenbach) rated on a 3-point Likert scale. Externalizing Problems (CBCL: 35 items, TRF: 32 items, e.g., disobedient at home, destroy his/her own things, can't sit still) and Internalizing Problems (CBCL: 26 items, TRF: 27 items, e.g., too fearful or anxious, feels worthless or inferior, worries). Relational outcome 1

	Parenting Stress: The Dutch revised version of the Parenting Stress Index (PSI-R; Abidin, 1983; translated revised version by De Brock, Vermulst, Gerris, & Abidin, 1992; De Brock, Vermulst, Gerris, Veerman, & Abidin, 2009, NOSI-R) was used to assess parental experiences of stress and competence in the parenting situation. This parent-report inventory consists of 78 items using a four-point scale (1 = strongly agree; 4 = strongly disagree) and is divided into 13 subscales, referring to two main domains of parenting stress experience. The 'parent domain' (Parent Stress; e.g. being a foster parent of this child is more though than I thought it would be, it is difficult to understand what my foster child needs from me; because of being a foster parent, I cannot do other things I would like to do) refers to perceived stress regarding family factors and includes seven subscales: sense of competence (seven items), restricted role (six items), attachment (five items), depression (six items), parent health (five items), social isolation (six items) and marital relationship (five items). The 'child domain' (Child Stress; my foster child demands more than my other children, I don't feel my foster child appreciate my good intentions, a lot of things are upsetting my foster child) refers to stress evoked by their child's behavior and emotions and contains six subscales: adaptability (seven items), mood (six items), distractibility/ hyperactivity (seven items), demandingness (six items), positive reinforcement (five items) and acceptability to the child (seven items). Finally, a Total Stress score of parenting stress (Parent Stress + Child Stress) can be calculated. The psychometric qualities of the Dutch version of the PSI-R are acceptable to good (De Brock et al., 1992, 2009). In the present study, the Parent, Child and Total Stress score were used as outcomemeasures for parenting stress. In our sample, the Cronbach's alpha varied (from baseline to follow-up and for foster mothers and fathers) from 0.67 and 0.94 for the different subscales. The Cronbach's alpha of the Parent, Child and the Total Stress score varied from 0.93 and 0.98. Relational outcome 2 Parenting behaviour: Parental behavior was assessed with the Parenting Behavior Questionnaire (PBQ, Wissink, Deković, & Meijer, 2006). The PBQ comprises 30 items on a five-point rating scale (1=never; 5=very often), divided into six subscales (5 items each), referring to threemain dimensions of parental behavior: warmth and responsiveness (dimension parental support e.g. howoften you compliment your child?), explaining and autonomy granting (dimension authoritative control; e.g. how often you encourage your child to decide something on its own?) and strictness and discipline (dimension restrictive control e.g. how often you need to set strict rules?).
Study arms	**Parent Management Training Oregon (PMTO) (N = 30)** PMTO is an intensive (mostly 6–9 months with weekly sessions), individual parenting intervention in which intervention goals are set in agreement between trainer and parents. PMTO treatment is based on the social interaction learning model (SIL), which combines the principles of social learning, social interaction and behavioral perspectives. SIL emphasizes the importance of the social context in the development of children. Contextual factors (e.g., family structure transitions, parents' stress-level and children's temperament) are expected to have indirect effects on child outcomes, and are mediated by coercive processes and ineffective parenting skills. Coercive cycles in family interactions are initiated when children and parents reinforce each other's negative behavior, and these cycles often flourish in stressful contexts. In relationships characterized by coercive interactions parental expression of warmth and encouragement tend to be scarce, and the children are rarely reinforced for developing positive skills. Once coercive processes are established, they tend to be maintained by both the parent and child. The main focus of PMTO is enhancing effective and positive parenting practices, and diminishing coercive practices while making relevant adaptations for high risk contextual factors (e.g., divorce; Forgatch et al. 2005a). The five central parenting skills are: limit setting and discipline, monitoring and supervision, problem solving, positive involvement, and skill encouragement (Patterson 2005). In addition to the core parenting practices, PMTO incorporates the supporting parenting components of identifying and regulating emotions, enhancing communication,

giving clear directions, and tracking behavior. The PMTO program is fully manualized. The central role of the PMTO therapist is to teach and coach parents by role play, and modeling exercises in the use of effective parenting strategies. Nevertheless, the central parenting skills and supporting parenting components offered by the therapists depend on the specific goals set for each family. Internationally the mean number of individual treatment sessions is about 25 (depending on the set goals) and sessions are generally once a week. The average number of sessions in the present study was 21.42 (SD = 7.90). In 29% of the PMTO treatments in this study only the foster mother was involved, in 71% both foster parents attended.

Study type	Randomised controlled trial (RCT)
Study location	Netherlands
Study setting	Foster children with behavioural problems
Study dates	January 2011 and April 2014
Duration of follow-up	postintervention and four month follow up
Sources of funding	ZonMw (the Netherlands Organization for Health Research and Development).
Inclusion criteria	Age 4 to 11 years old Care situation Foster families Emotional or mental health needs Total Difficulties Score above the clinical cut off score of 14

	Behavioural needs Parent Daily Report - a mean number of more than five different types of problem behavior each day
Sample size	88 randomised
Split between study groups	PMTO = 47 CAU = 41
Loss to follow-up	PMTO = 17 CAU = 8
% Female	54%
Mean age (SD)	7.85 ± 2.36 years
Condition specific characteristics	Placement changes Number of previous placements: 0.96 ± 0.79 Care situation Non-kinship: 83%
Outcome measures	Behavioural outcome 1 Foster carer-reported Child Behaviour (Child Behaviour Checklist): total problems at postintervention/4 month follow up: 60.63 ± 10.62/60.75 ± 10.85; externalising problems at postintervention/4 month follow up: 62.10 ± 10.09/61.68 ± 10.09; internalising problem at postintervention/4 month follow up: 54.91 ± 10.35/55.16 ± 11.24 Placement stability 1 Number of placement breakdowns: 2 Behavioural outcome 2

	Teacher-reported Child Behaviour (Teacher Report Form): total problems at postintervention/4 month follow up: 58.07 ± 9.12/60.04 ± 8.47; externalising problems at postintervention/4 month follow up: 77.86 ± 22.11/79.37 ± 21.71; internalising problem at postintervention/4 month follow up: 55.32 ± 9.92/56.48 ± 9.78 Relational outcome 1 Parental stress mean score (PSI-R) at postintervention/4 month follow up: total scale: 141.98 ± 36.43/146.75 ± 40.32; parent domain: 62.07 ± 16.95/64.71 ± 20.89; child domain: 79.21 ± 22.65/81.41 ± 22.08 Relational outcome 2 Parenting behaviour (PBQ) mean score at postintervention/four months follow up: Warmth: 4.10 ± 0.67/4.06 ± 0.72. Responsiveness: 3.89 ± 0.55/3.86 ± 0.61. Explaining: 3.98 ± 0.60/4.00 ± 0.57. Autonomy granting: 3.38 ± 0.59/3.44 ± 0.56. Strictness: 2.78 ± 0.62/2.84 ± 0.67. Discipline: 2.12 ± 0.61/2.14 ± 0.61

Care as Usual (N = 33)

All foster parents received regular support services from the foster care institution. These support services typically included an appointment with a foster care supervisor once every 3–6 weeks. The supervisors were blind for the allocation of families into the control group. If necessary, foster parents from the control group were free to ask for more intensive or specialized support, including every available form of treatment or intervention except PMTO. Foster parents in the intervention group also received care as usual and were free to ask for other help besides PMTO. At posttest, foster parents of both the PMTO and CAU group were asked which (alternative) forms of support or treatment they had received and how often.

Study type	Randomised controlled trial (RCT)
Study location	Netherlands
Study setting	Foster children with behavioural problems
Study dates	January 2011 and April 2014

Duration of follow-up	postintervention and four month follow up
Sources of funding	ZonMw (the Netherlands Organization for Health Research and Development).
Inclusion criteria	Age 4 to 11 years old Care situation Foster families Emotional or mental health needs Total Difficulties Score above the clinical cut off score of 14 Behavioural needs Parent Daily Report - a mean number of more than five different types of problem behavior each day
Sample size	88 randomised
Split between study groups	PMTO = 47 CAU = 41
Loss to follow-up	PMTO = 17 CAU = 8
% Female	50%
Mean age (SD)	7.52 ± 2.30

	Condition specific characteristics	Placement changes Number of previous placements: 1.05 ± 1.13 Care situation Placement type (non-Kinship): 85%
	Outcome measures	Behavioural outcome 1 Foster carer-reported Child Behaviour (Child Behaviour Checklist): total problems at postintervention/4 month follow up: 63.00 ± 9.19/61.64 ± 9.47; externalising problems at postintervention/4 month follow up: 64.75 ± 9.68/63.22 ± 10.95; internalising problem at postintervention/4 month follow up: 53.89 ± 10.92/52.47 ± 10.60 Placement stability 1 Number of placement breakdowns: 3 Behavioural outcome 2 Teacher-reported Child Behaviour (Teacher Report Form): total problems at postintervention/4 month follow up: 62.03 ± 9.40/59.23 ± 9.15; externalising problems at postintervention/4 month follow up: 81.59 ± 19.60/78.80 ± 21.63; internalising problem at postintervention/4 month follow up: 55.69 ± 10.18/53.73 ± 9.69 Relational outcome 1 Parental stress mean score (PSI-R) at postintervention/4 month follow up: total scale: 158.3 ± 40.82/152.45 ± 44.29; parent domain: 70.79 ± 22.54/67.83 ± 25.15; child domain: 83.92 ± 22.49/83.92 ± 22.49 Relational outcome 2 Parenting behaviour (PBQ) mean score at postintervention/four months follow up: Warmth: 4.14 ± 0.61/4.18 ± 0.64. Responsiveness: 3.90 ± 0.60/3.90 ± 0.63. Explaining: 4.09 ± 0.50/4.09 ± 0.62. Autonomy granting: 3.51 ± 0.52/3.47 ± 0.53. Strictness: 3.18 ± 0.53/3.20 ± 0.58. Discipline: 2.24 ± 0.53/2.26 ± 0.52
Risk of Bias	**Domain 1: Bias arising from the randomisation process** Low **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** High **Domain 3. Bias due to missing outcome data**	

	High **Domain 4. Bias in measurement of the outcome** High **Domain 5. Bias in selection of the reported result** Low **Overall bias and Directness** High (In the intervention arm, 5 participants dropped out because they wished for 'other kind of help'. There was also 'no need for help' in 7 instances. These reasons were not evident in the control arm. Also, the number of participants dropping out in the intervention arm was greater. The number of participants who dropped out in the intervention arm is relatively large (approximately 1/3). Foster parents from the control group were free to ask for more intensive or specialised support, including every available form of treatment or intervention except PMTO. It's not clear that participants in the intervention arm had this too. Investigators who collected data were not blinded.) **Overall Directness** Partially applicable (Study was conducted in the Netherlands)

Macdonald 2005

Study type	Randomised controlled trial (RCT)
Study location	UK

Study setting	Foster Care
Study dates	Not reported
Duration of follow-up	Postintervention (intervention took place over 4-5 weeks), and 6 months follow up
Sources of funding	Not reported
Inclusion criteria	Care situation foster-carers from six local authorities in the south-west of England.
Exclusion criteria	Care situation foster-carers engaged in respite care
Sample size	117
Split between study groups	Training: 67 Wait list: 50
Loss to follow-up	None reported
% Female	76.1%
Mean age (SD)	mean 45 years
Outcome measures	Behavioural outcome 1 Number of behaviours found challenging (constructed index). At each time point participants were asked what behaviours they found particularly difficult or challenging. Carers reported a wide range of problems, amongst which those most frequently reported included physical aggression, Attention Deficit Hyperactivity Disorder (ADHD) and its consequences, anxiety and phobias, stealing and lying, and a variety of behaviour problems such as temper tantrums, biting spitting, screaming and eating problems. Authors anticipated that carers in the training group would find some things less challenging over time as a result of the training. On the basis of the number of problems each participant

	reported, an index was calculated representing the proportion of reported difficult behaviours. The index was developed by summing the number of behaviours reported as difficult and challenging by each participant and dividing this number by twenty-five (total number of behaviours that could be listed). Placement stability 1 Number of unplanned breakdowns of placement at 6 months: These data were ontained from interview data, which covered the 6 months after training. Authors tried to identify placements that came to unplanned endings that foster carers attributed (at least in part) to behaviour problems.
Study arms	**CBT-informed Parent training programme (N = 67)** The training sought to familiarize carers with an understanding of social learning theory, in terms of both how patterns of behaviour develop and how behaviour can be influenced using interventions derived from learning theory. There was an emphasis throughout on developing the skills to observe, describe and analyse behaviour in behavioural terms—the so-called 'ABC' analysis. In the programme, these skills were developed before moving on to consider specific strategies or interventions, though the way in which the training was conducted resulted in some fluidity between sessions. In order to standardize the intervention and ensure its replicability, the trainers produced a manual for carers that provided an overview of the curriculum and associated materials. In relation to the children, the programme sought to ensure that each child's particular situation was taken into account. Authors made explicit the importance of such issues as a child's attachment history, their early childhood experiences and other significant events, and how these impact on how children experience current events and relationships. The programme also focused on the experience of foster-carers, and the quality of the relationships they enjoyed with those they fostered. Sometimes, the reason people do not respond appropriately in stressful situations is not attributable to lack of skills, or even lack of insight into how best to handle a situation. Rather, it is because of a lack of belief in one's ability to act or to bring about change. The curriculum was therefore designed to promote a sense of confidence or self-efficacy on the part of foster-carers. It did this essentially by encouraging foster-carers to apply behavioural and cognitive behavioural principles to an analysis of their own learning and their own responses to situations, and by affirming and reinforcing their endeavours. The programme also focused on other important factors, such as the quality of relationships between foster-carers and those they looked after. For example, we explored with carers how they managed when looking after children with whom close bonds were difficult to forge, whether because of a child's history of rejection, or simply because a carer found a child particularly difficult to 'like'. The first two groups met weekly for three hours over five weeks. The study groups were, however, considerably larger than those in the pilot, and authors moved to four, weekly, five-hour sessions in order to enable the participation of all group

	members in the remaining four groups. A follow-up day was designed as an opportunity for participants to discuss their experiences of implementing these interventions over a period of time. % Female: 77.6% Outcome measures: Behavioural outcome 1 Proportion of behaviours found challenging (constructed index mean score) at postintervention/6 month follow up: 0.07/0.05. There were no differences between the comparison groups at any time point. Placement stability 1 Number of unplanned breakdowns of placement: 4/49 (8.2%) **Wait list control (N = 50)** Those in the control group continued to receive standard services and were assured that should the training prove helpful, it would be made available to them in the future. Outcome measures: Behavioural outcome 1 Proportion of behaviours found challenging (constructed index mean score) at postintervention/6 month follow up: 0.07/0.05. There were no differences between the comparison groups at any time point. Placement stability 1 Number of unplanned breakdowns of placement at 6 months: 4/40 (10%)
Risk of Bias	**Domain 1: Bias arising from the randomisation process** High (Baseline characteristics not compared between study groups, however there were considerable differences between the numbers assigned to either group after randomisation (50 vs 67)) **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**

	High (No information was reported about adherence to the interventions or whether a per-protocol approach was used for analysis.) **Domain 3. Bias due to missing outcome data** High (>10% of missing data for placement breakdown outcome. Intervention group almost twice the missing data of the control group.. Unclear reasons for missing data.) **Domain 4. Bias in measurement of the outcome** Some concerns **Domain 5. Bias in selection of the reported result** Some concerns (Unclear research protocol in study, and no protocol cited) **Overall bias and Directness** High **Overall Directness** Directly applicable (UK based)

Pasalich 2016/Spieker 2014

Study type	Randomised controlled trial (RCT)

	ORIGINAL TRAIL SPIEKER 2012
Study location	USA
Study setting	Children in a court-ordered placement that resulted in a change in primary caregiver
Study dates	April 2007 to March 2010
Duration of follow-up	6-month follow up and 2-year follow up
Sources of funding	National Institute of Mental Health and the National Institute of Child Health and Human Development.
Inclusion criteria	Age aged between 10 - 24 months Care situation In state dependency and who experienced a court-ordered placement that resulted in a change in primary caregiver within the 7 weeks prior to enrollment. Eligible caregivers spoke English and included foster parents (n = 89), biological parents (n = 56), or adult kin (n = 65).
Sample size	210
Split between study groups	PFR: 105 EES: 105
Loss to follow-up	16 participants (5 lost to the EES intervention and 11 lost to the PFR intervention at 6 months)
% Female	44%
Mean age (SD)	18.01 ± 4.73 months

Condition specific characteristics	Placement changes 2.7 ± 1.6 placement changes Non-white 44.8%
Outcome measures	Social outcome 1 Social competence: measured by the Brief Infant Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan & Carter, 2002). Descriptions of positive social behaviors and problem behaviors in the last month were rated on a 3-point scale (not true/rarely; somewhat true/ sometimes; very true/often). Placement stability 1 Stability was coded as present if the child had remained with the study caregiver since randomization into the study, with no temporary intermediate moves. A state child welfare administrative database provided dates of a child's birth, entry into care, any placement changes while in care, when a discharge to a permanent placement occurred, and when a child re-entered care, if ever. A placement change was defined as any move to another home recorded in the data base, even if it was labeled as a short term or temporary placement after which the child returned to a familiar home. Permanency 1 Permanency required stability plus a legal discharge to the study caregiver. Permanency could include reunification and discharge to the study birth parent, adoption by the study kin or non-kin caregiver, or legal guardianship by the study kin Behavioural outcome 2 Problem behaviour: measured by the Brief Infant Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan & Carter, 2002). Descriptions of positive social behaviors and problem behaviors in the last month were rated on a 3-point scale (not true/rarely; somewhat true/ sometimes; very true/often). Relational outcome 1 Attachment security: The primary child outcome of attachment security was measured with the Toddler Attachment Sort-45, which was scored immediately after each research home visit. The TAS45 is a 45-item modified version of the Attachment Q-Sort (AQS; Waters, 1987), a gold standard attachment measure which has been extensively validated. Authors used a sorting technique that the developers of the TAS45 termed trilemmas in which the 45 descriptive statements are presented in specific sets of three. The three items in a sample trilemma are: "Child wants to be at the center of mother's attention"; "Child is very independent"; "Child will go towards mother to give her toys, but does not touch nor look at her". The observer decides which one of the three statements in the set is most like and which is least like the child's behavior during the observation just completed. Each of the 45 statements appears in two trilemmas; there are 30 trilemmas in all. The scoring results in an overall security score. Two research visitors were trained to administer the TAS45 by the first author; in 16% of visits the TAS45 was coded by the two raters on-site. Inter-rater reliability was r = .92. Relational outcome 2 Engagement: Scored from the Indicator of Parent-Child Interaction (IPCI; Baggett, Carta, & Horn, 2009). Items such as "positive feedback", "sustained engagement", and "follow through (including turn-taking)" were coded on a 4-point scale (never, rarely, sometimes, or often). Reliability was assessed by the IPCI trainer on 34% of coded episodes across all three time points. IPCI inter-rater agreement ranged from r = .80 to r = .84. Behaviour outcome 3 Child Behaviour Checklist: Descriptions of behavior in the last two months were rated on a 3-point scale (not true; somewhat true/sometimes; very true/often). Four scales were used: Internalizing (36 items; Alpha = .80), Externalizing (24 items; Alpha = . 90), Sleep problems (7 items; Alpha = .70), and Other Problems (32 items; Alpha = .70).

	Behavioural outcome 4 Emotional regulation and orientation/engagement: At baseline and again at the six month follow-up data collectors used 1 – 5 scales to rate the child's behavior during administration of the Bayley-III Screening Test (Bayley, 2005) on seven of ten items from the Emotional Regulation factor and six of nine items from the Orientation/Engagement factor from the Bayley Behavior Rating Scales (Bayley 1993).
Study arms	**Promoting First Relationships (N = 105)** Caregiver-toddler dyads (n = 105) randomized to the PFR intervention were offered ten weekly 60- to 75-minute in-home visits by a masters-level mental health provider from one of several local agencies. Seventy one percent of the caregivers received all ten sessions. The sessions focused on increasing parents' sensitivity using attachment theory-informed and strength-based consultation strategies. For instance, reflective video feedback was included in five sessions using taped episodes of caregiver-child play or caregiving behavior, wherein the PFR provider guided discussion concentrating on parenting strengths and interpretation of the child's cues. Across the sessions a variety of handouts were reviewed pertaining to topics such as "Staying Connected During Difficult Moments." This aspect of the curriculum promoted caregivers' understanding that toddler challenging behavior often reflects underlying unmet attachment needs (e.g., safety and comfort). PFR providers received 90 hours of training (including supervision) over six months, and there was good implementation fidelity.

Study location	USA
Study setting	Children in a court-ordered placement that resulted in a change in primary caregiver
Study dates	April 2007 to March 2010
Duration of follow-up	6-month follow up and 2-year follow up
Sources of funding	National Institute of Mental Health and the National Institute of Child Health and Human Development.

Sample size	210
Split between study groups	PFR: 105 EES: 105
Loss to follow-up	16 participants (5 lost to the EES intervention and 11 lost to the PFR intervention at 6 months)
% Female	40%
Mean age (SD)	17.96 ± 4.97 months
Condition specific characteristics	Placement changes 2.67 ± 1.66 placement changes Non-white 51.4%
Outcome measures	Social outcome 1 Social competence score postintervention (Brief Infant Toddler Social and Emotional Assessment), mean: 16.38 ± 3.19; Social competence score at 6 months (Brief Infant Toddler Social and Emotional Assessment), mean: 17.53 ± 3.28 Placement stability 1 PFR vs comparator for placement stability at 2 years, odds ratio (95%CI): 1.19 (0.63 to 2.27), adjusted for foster/kin placement, age of child, months in child welfare, number of prior placements, multiple removals, foster carer commitment. Permanency 1 PFR vs comparator, Permanency over 2 years follow up, odds ratio (95%CI): 1.72 (0.73 to 4.04), adjusted for foster/kin placement, age of child, months in child welfare, number of prior placements, multiple removals, foster carer commitment Behavioural outcome 2 Problem behaviour postintervention (Brief Infant Toddler Social and Emotional Assessment), mean: 10.81 ± 6.45; Problem behaviour at 6 months (Brief Infant Toddler Social and Emotional Assessment), mean: 9.88 ± 5.74

	Relational outcome 1 Attachment security score postintervention (Toddler Attachment Sort-45), mean: 0.58 ± 0.30. Attachment security score at 6 months (Toddler Attachment Sort-45), mean: 0.53 ± 0.37 Relational outcome 2 Engagement score (Indicator of Parent-Child Interaction) at postintervention: 2.08 ± 0.53. Engagement score (Indicator of Parent-Child Interaction) at 6 months: 2.29 ± 0.51 Behaviour outcome 3 Child Behaviour Checklist at 6 months, mean scores: internalising problems: 7.39 ± 5.85; externalising problems: 12.87 ± 8.55; Sleep problems: 2.27 ± 2.17; other problems: 9.18 ± 6.13 Behavioural outcome 4 Emotional regulation and orientation score at 6 month follow up: emotional regulation: 4.13 ± 0.69; orientation: 4.41 ± 0.49

Early Education Support (N = 105)

Those randomized to the comparison condition (n = 105) received Early Education Support (EES) through bachelor-prepared providers from a local community agency. EES consisted of three monthly 90-minute, in-home sessions facilitated by a child development specialist, who focused on child developmental guidance and resource and referral. The provider made suggestions for activities that would stimulate the child's cognitive and language development and assisted the caregiver to find services in the community, such as Early Head Start, for which the family was eligible. The PFR group did not receive these types of resource and referral suggestions from the PFR providers. However, families were not prohibited from seeking and utilizing any additional services to which they were entitled. That only PFR providers used relationship-focused consultation strategies (positive feedback; positive and instructive feedback; reflective comments or questions; and validating, responsive statements) and video feedback was verified in regular fidelity checks of both PFR and EES providers.

% Female	47.6%
Mean age (SD)	18.06 ± 4.49 months

	Condition specific characteristics	Placement changes 2.70 ± 1.51 placement changes Non-white 38.1%
	Outcome measures	Social outcome 1 Social competence score at postintervention (Brief Infant Toddler Social and Emotional Assessment), mean: 16.38 ± 3.19. Social competence score at 6 months (Brief Infant Toddler Social and Emotional Assessment), mean: 17.94 ± 2.77 Behavioural outcome 2 Problem behaviour at postintervention (Brief Infant Toddler Social and Emotional Assessment), mean: 10.72 ± 6.08. Problem behaviour at 6 months (Brief Infant Toddler Social and Emotional Assessment), mean: 9.09 ± 5.76 Relational outcome 1 Attachment security score postintervention (Toddler Attachment Sort-45), mean: 0.54 ± 0.29. Attachment security score at 6 months (Toddler Attachment Sort-45), mean: 0.55 ± 0.28 Relational outcome 2 Engagement score at postintervention (Indicator of Parent-Child Interaction), mean: 2.15 ± 0.49. Engagement score at 6 months (Indicator of Parent-Child Interaction), mean: 2.38 ± 0.50 Behaviour outcome 3 Child Behaviour Checklist at 6 months, mean scores: internalising problems: 7.55 ± 4.88; externalising problems: 13.94 ± 8.35; Sleep problems: 3.12 ± 2.88; other problems: 9.99 ± 5.36 Behavioural outcome 4 Emotional regulation and orientation/engagement score at 6 months follow up: emotional regulation: 4.01 ± 0.61; orientation: 4.38 ± 0.53
Risk of Bias	**Domain 1: Bias arising from the randomisation process** Some concerns (Unclear if allocation concealment. participants in PFR were more likely to have been removed from birthparents home more than once) **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	

	Low (fidelity outcomes reported and appears to be modified intention to treat analysis) **Domain 3. Bias due to missing outcome data** Some concerns (a significant proportion of attrition was as a result of change in caregiver which could be directly related to child outcomes. However, the proportion of attrition was similar between groups.) **Domain 4. Bias in measurement of the outcome** Some concerns **Domain 5. Bias in selection of the reported result** Low **Overall bias and Directness** Some concerns (Particularly large loss to follow up) **Overall Directness** Indirectly applicable (USA based study)

Price 2008

Study type	Randomised controlled trial (RCT)

	see also Chamberlain 2008: Prevention of Behavior Problems for Children in Foster Care: Outcomes and Mediation Effects. Chamberlain 2008: Cascading Implementation of a Foster and Kinship Parent Intervention.
Study location	USA
Study setting	Children in Foster Care
Study dates	between 1999 and 2004
Duration of follow-up	6.5 months follow up
Sources of funding	Department of scientific and industrial research; National Institute of Mental Health; US Public Health Service; National Institute on Drug Abuse.
Inclusion criteria	Age child aged 5 to 12 years Care situation all foster and kinship parents receiving a new placement; children had to have been in the new placement for at least 30 days
Sample size	700
Split between study groups	KEEP: 359 Control: 341
Loss to follow-up	Not reported
% Female	52%

Mean age (SD)	8.8 years
Condition specific characteristics	Non-white 78% (29% spoke both english and spanish, 2% spoke only spanish)
Outcome measures	Behavioural outcome 1 Child behaviour problems postintervention and at 5 months follow up: measured using the parent daily report (PDR) checklist a 30-item measure of child behavior problems delivered by telephone to parents during a series of three consecutive or closely spaced days (1 to 3 days apart). A trained interviewer asked the parent "Thinking about (child's name), during the past 24 hours, did any of the following behaviors occur?" Parents were asked to recall only the past 24 hours and to respond "yes" or "no" (i.e., the behavior happened at least once or did not occur). Placement stability 1 Negative exits from care (placement breakdown) over 200 day/6.5 month follow up. Foster parents were asked at the termination assessment if the child had remained in the home or had moved, and assessors coded the timing and reason for these exits. Negative exits were defined by negative reasons for the child's exit from the home, such as being moved to another foster placement, a more restrictive environment such as a psychiatric care or juvenile detention center, or child runaways. Permanency 1 Positive exits from care (permanency) over 200 day/6.5 month follow up . Foster parents were asked at the termination assessment if the child had remained in the home or had moved, and assessors coded the timing and reason for these exits. Positive exits were defined as any exit from the foster or kinship placement home that was made for a positive reason, such as a reunion with biological parent or other relative or an adoption. Placement stability 2 No change in placement over follow up (%) Relational outcome 1 Proportion of positive reinforcement: Proportion positive reinforcement was measured using a ratio score of foster parent positive reinforcement and discipline behaviors. The amount of positive reinforcement and discipline per day was computed by aggregating foster parent responses to standardized questions during a 2-hour foster parent interview, and foster parent reports of the use of reinforcement and discipline on the PDR. The foster parent interview items included measures of the frequency of positive reinforcement (How often do you use rewards?) and discipline (How often do you have to discipline?). Each item was rated on a 7-point Likert-type scale, ranging from "don't use this strategy" to "3 or more times per day." PDR items included the number of incentives the foster parent reported using per day (positive reinforcement) and the total number of disciplines used per day (discipline). Correlations between the foster parent interview and PDR scores were significant (r = .20–.28 for positive reinforcement and r = .48–.51 for discipline). An average from the two sources provided a multimethod index of these dimensions of parenting.
Study arms	**KEEP foster parent training (N = 359)** Participants in the intervention group received 16 weeks of training, supervision, and support in behavior management methods. Intervention groups consisted of 3 to 10 foster parents and were conducted by a trained facilitator and co-facilitator team. Curriculum topics were designed to map onto protective and risk factors that were been found in previous

studies to be developmentally relevant malleable targets for change. The primary focus was on increasing use of positive reinforcement, consistent use of non-harsh discipline methods, such as brief time-outs or privilege removal over short time spans (e.g., no playing video games for one hour, no bicycle riding until after dinner), and teaching parents the importance of close monitoring of the youngster's whereabouts and peer associations. In addition, strategies for avoiding power struggles, managing peer relationships, and improving success at school were also included. Sessions were structured so that the curriculum content was integrated into group discussions and primary concepts were illustrated via role-plays and videotaped recordings. Home practice assignments were given that related to the topics covered during sessions in order to assist parents in implementing the behavioral procedures taught in the group meeting. If foster parents missed a parent-training session, the material was delivered during a home visit (20% of the sessions). Such home visits have been found to be an effective means of increasing the dosage of the intervention for families who miss interventions sessions. Parenting groups were conducted in community recreation centers or churches. Several strategies were used to maintain parent involvement, including (a) provision of childcare, using qualified and licensed individuals so that parents could bring younger children and know that they were being given adequate care, (b) credit was given for the yearly licensing requirement for foster care, (c) parents were reimbursed $15.00 per session for traveling expenses, and (d) refreshments were provided. Attendance rates were high: 81% completed 80% or more of the group sessions (12+), and 75% completed 90% or more of the group sessions (14+). The intervention was implemented by paraprofessionals who had no prior experience with the MTFC behavior management model or with other parent-mediated interventions. Rather, experience with group settings, interpersonal skills, motivation and knowledge of children were given high priority in selecting interventionists. Interventionists were trained during a 5-day session and supervised weekly where videotapes of sessions were viewed and discussed.

Study type	Randomised controlled trial (RCT)
% Female	50%
Mean age (SD)	8.88 years

Condition specific characteristics	Non-white 80%
Outcome measures	Behavioural outcome 1 Child behaviour problems score (mean number of child problem behaviours per day) 5 months post baseline, mean: 4.37 ± 3.91. Adjusting for baseline child behaviour problems, and child age, a significant relationship between the intervention group and 5 month child behaviour problems: beta coefficient -0.14. Effect size was greater for a high risk subgroup (>6 child problem behaviours daily): beta coefficient -0.11 (P<0.01) compared to a low risk subgroup (<6 problem behaviours daily): beta coefficient -0.22 (P<0.01) Placement stability 1 12.2% had negative exits from care (placement breakdown) over 200 day/6.5 month follow up. In Cox regression, the relationship between intervention status and placement breakdown: beta coefficient 0.89 ± 0.47, adjusted for kinship care, child age, child gender, english primary language, days in placement at baseline, number of prior placements Permanency 1 17.4% had a positive exit from care (unclear n). Relationship between being in the intervention group and rate of positive exit from care: beta coefficient 1.96 ± 0.47 (p=0.006), adjusted for kinship care, child age, child gender, english primary language, days in placement at baseline, number of prior placements Placement stability 2 Number experiencing no change over follow up: 70.4% (n not reported) Relational outcome 1 Positive reinforcement score 5 months post-baseline, mean: 1.06 ± 0.60; Discipline score 5 months post-baseline, mean: 1.06 ± 1.13; Proportion positive reinforcement 5 months post-baseline, mean: 0.60 ± 0.28. A model that excluded child behavior problems but included paths from baseline intervention group, proportion positive reinforcement, and child age to termination proportion positive reinforcement showed a significant path from intervention group to termination proportion positive reinforcement controlling for initial levels of reinforcement, Beta = 0.13 (P<0.05)

Control (N = 341)

State law requires all foster parents to participate in some form of parent training and support group each year in order to maintain their licenses. Foster parents participating in the KEEP intervention were permitted to use participation in this training to count toward their licensing requirements. During the course of the year, foster parents in the control condition also participated in some type of parent training and support group made available to them through usual child welfare services.

Study type	Randomised controlled trial (RCT)
% Female	54%
Mean age (SD)	8.72 years
Condition specific characteristics	Non-white 75%
Outcome measures	Behavioural outcome 1 Child behaviour problems score (mean number of child problem behaviours per day) 5 months post baseline, mean: 5.44 ± 4.15 Placement stability 1 Negative exits from care (placement breakdown) over 200 day/6.5 month follow up: 14.3% (n not reported) Permanency 1 Positive exits from care (permanency) over 200 day/6.5 month follow up: 9.1% (n not reported) Placement stability 2 number with no change in placement over follow up: 76.6% (n not reported) Relational outcome 1 Positive reinforcement score 5 months post-baseline, mean: 0.88 ± 0.53; Discipline score 5 months post-baseline, mean: 1.24 ± 1.20; Proportion positive reinforcement 5 months post-baseline, mean: 0.52 ± 0.28

Risk of Bias

Domain 1: Bias arising from the randomisation process

Some concerns

(unclear how randomisation was performed and whether allocation was concealed. Children in the intervention group were more likely to be Spanish-speaking than control group children, but no further differences were found between groups for age, type of care, gender, or ethnicity)

Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)

	Some concerns (Unclear if significant deviations between intervention groups.) **Domain 3. Bias due to missing outcome data** Some concerns (Of the 700 parents who completed the baseline interview, 81% (n = 564) provided data at termination. Comparisons of missing and non-missing cases on baseline measures showed a significant difference in foster parents' proportion positive reinforcement, t(696) = -2.95, p = .003; cases with missing data at termination were higher on this variable at baseline. There were no significant differences between the intervention group and the control group on attrition and missing data rates.) **Domain 4. Bias in measurement of the outcome** Some concerns (outcomes were self-reported from interviews with a trained interviewer. It was unclear if interviewers were aware of intervention status but a validated questionnaire was followed.) **Domain 5. Bias in selection of the reported result** Some concerns (many aspects of the trial protocol and methods are unclear such as: method of randomisation, allocation concealment, drop out, number who successfully completed placements, whether intent to treat analysis was used, and whether assessors of the outcomes were aware of the intervention group.) **Overall bias and Directness** High Overall Directness Indirectly applicable (USA based)

Taussig 2012

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Preadolescent children in foster care
Study dates	July 2002 to November 2010
Duration of follow-up	1 year follow up (18 month study period - from 3 months into a 9-month intervention)
Sources of funding	the National Institute of Mental Health, the Kempe Foundation, Pioneer Fund, Daniels Fund, Children's Hospital Research Institute, the National Institutes of Health (NIH).
Inclusion criteria	Care situation Placed in foster care by court order because of maltreatment in the preceding year; living within proximity to study site (35 minutes drive); lived with their substitute caregiver for at least 3 weeks; only children who had open cases at the start of the study time frame were included in analyses.
Exclusion criteria	Care situation When multiple members of a sibling group were eligible, 1 sibling was randomly selected to participate in the study. Language Monolingual Spanish speaking
Sample size	156 randomised
Split between study groups	Intervention = 79 Control = 77

Loss to follow-up	Intervention = 23 Control = 23
% Female	48.2%
Mean age (SD)	10.46 ± 0.88 year
Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 32.7%; sexual abuse: 14.5%; neglect (failure to provide): 50.0%; Neglect (lack of supervision): 75.5%; emotional maltreatment: 64.5%; Moral neglect (exposure to illegal activity): 33.6% Placement changes Placements pre-intervention: 3.18 ± 2.60 Behaviour that challenges Child Behaviour Checklist externalising score: 64.13 ± 11.27 Non-white 45.7% Care situation Nonrelative foster care: 55.5%; Relative foster care: 36.4%; Residential treatment centre: 8.2%
Outcome measures	Placement stability 1 Number of placement changes over the 18-month study period. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database. Negative placement change whether a child had experienced a new placement in a residential treatment center (RTC) during the 18-month period. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database. Permanency 1 Whether a child had attained permanency by 1-year postintervention. Case closure was used as the index of permanency. Secondary outcomes included 2 types of permanence: adoption and reunification with biological parents. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at

	intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database.
Study arms	**Fostering Healthy Futures (N = 56)** The 9-month FHF preventive intervention consisted of 2 components: (1) manualized skills groups and (2) one-on-one mentoring. The program was designed to be "above and beyond treatment as usual;" both children in the control and intervention groups should have received any services that would typically be provided to them through social services (eg, therapy, visitation). Although eligibility criteria required that children be in foster care at the start of the intervention, their participation continued (with appropriate consent) if they reunified or changed placements during the intervention. The intervention was mainly child focused because the skills groups were for children only, and mentoring activities involved one-on-one activities in the community. The interventionists (ie, mentors and program staff) never made recommendations to social services regarding placements or permanency goals, although mentors and program staff did report all suspected maltreatment. SKILLS GROUPS: FHF skills groups met for 30 weeks for 1.5 hours per week during the academic year and included 8 to 10 children and 2 group facilitators. The FHF skills groups followed a manualized curriculum that combined traditional cognitive-behavioral skills group activities with process-oriented material. Units addressed topics including emotion recognition, perspective taking, problem solving, anger management, cultural identity, change and loss, healthy relationships, peer pressure, abuse prevention, and future orientation. The skills group curriculum was based on materials from evidence based skills group programs, including Promoting Alternative Thinking Strategies and Second Step, which were supplemented with project-designed exercises from multicultural sources. MENTORING: The mentoring component of the FHF program provided 30 weeks of one-on-one mentoring for each child. Mentors were graduate students in social work who received course credit for their work on the project. Mentors were each paired with 2 children with whom they spent 2 to 4 hours of individual time each week. Mentors received weekly individual and group supervision and attended a weekly didactic seminar, all of which were designed to support mentors as they (1) created empowering relationships with children, serving as positive examples for future relationships; (2) advocated for appropriate services; (3) helped children generalize skills learned in group by completing weekly activities; (4) engaged children in a range of extracurricular, educational, social, cultural, and recreational activities; and (5) promoted attitudes to foster a positive future orientation.

Mean age (SD)	10.38 ± 0.85 year
Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 39.3%; sexual abuse: 12.5%; neglect (failure to provide): 48.2%; Neglect (lack of supervision): 78.6%; emotional maltreatment: 58.9%; Moral neglect (exposure to illegal activity): 42.9% Placement changes Placements pre-intervention: 3.20 ± 2.55 Behaviour that challenges Child Behaviour Checklist externalising problems score: 64.21 ± 11.13 Non-white 47.2% Care situation Nonrelative foster care: 53.6%; Relative foster care: 37.5%; Residential treatment centre: 8.9%
Outcome measures	Placement stability 1 TOTAL SAMPLE: Number of placement changes over the 18-month study period: 0.71%. Association between FHF intervention and placement change: OR 0.64 (95%CI 0.35 to 1.19). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.68 (95%CI 0.40 to 1.16). FOSTER CARE SUBGROUP: Number of placement changes over the 18-month study period: 0.73%. Association between FHF intervention and placement change: OR 0.51 (95%CI 0.27 to 0.95). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.56 (95%CI 0.34 to 0.93). Negative placement change TOTAL SAMPLE: movement to residential care over the 18-month study period: 10.7%. Association between FHF intervention and residential care: OR 0.38 (95%CI 0.13 to 1.08). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.29 (95%CI 0.09 to 0.98). FOSTER CARE SUBGROUP: Number of placement changes over the 18-month study period: 10.0%. Association between FHF intervention and placement change: OR 0.23 (95%CI 0.06 to 0.96). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.18 (95%CI 0.03 to 0.96). Permanency 1 TOTAL SAMPLE: attaining permanency over the 18-month study period: 57.1%. Association between FHF intervention and permanency: OR 1.67 (95%CI 0.78 to 3.54). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 1.81 (95%CI 0.77 to 4.22). FOSTER CARE SUBGROUP:

	Permanency over the 18-month study period: 50.0%. Association between FHF intervention and permanency: OR 5.20 (95%CI 1.57 to 17.18). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 5.14 (95%CI 1.55 to 17.07).

Care as Usual (N = 54)
both children in the control and intervention groups should have received any services that would typically be provided to them through social services (eg, therapy, visitation).

Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 32.7%; sexual abuse: 14.5%; neglect (failure to provide): 50.0%; Neglect (lack of supervision): 75.5%; emotional maltreatment: 64.5%; Moral neglect (exposure to illegal activity): 33.6% Placement changes Placements pre-intervention: 3.18 ± 2.60 Behaviour that challenges Child Behaviour Checklist score: 64.13 ± 64.13 Non-white 45.7% Care situation Nonrelative foster care: 55.5%; Relative foster care: 36.4%; Residential treatment centre: 8.2%
Outcome measures	Placement stability 1 TOTAL SAMPLE: Incidence of placement changes over the 18-month study period: 1.11%. FOSTER CARE SUBGROUP: 1.45% Negative placement change TOTAL SAMPLE: incidence of residential treatment center (RTC) during the 18-month period: 24.1%; FOSTER CARE SUBGROUP: 32.3% Permanency 1 TOTAL SAMPLE: permanency by 1-year postintervention. FOSTER CARE SUBGROUP: 16.1%

Risk of Bias	**Domain 1: Bias arising from the randomisation process**

	Low **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** Low **Domain 3. Bias due to missing outcome data** Low **Domain 4. Bias in measurement of the outcome** Some concerns **Domain 5. Bias in selection of the reported result** Some concerns **Overall bias and Directness** Some concerns (There was no blinding. However, the outcomes are not particularly subjective.) **Overall Directness** Partially applicable (USA study)

Taussig 2019

Study details

Study type	Randomised controlled trial (RCT)
Study location	USA

Study setting	Preadolescent children in foster care
Study dates	July 2002 to November 2010
Duration of follow-up	1 year follow up (18 month study period - from 3 months into a 9-month intervention)
Sources of funding	the National Institute of Mental Health, the Kempe Foundation, Pioneer Fund, Daniels Fund, Children's Hospital Research Institute, the National Institutes of Health (NIH).
Inclusion criteria	Care situation Placed in foster care by court order because of maltreatment in the preceding year; living within proximity to study site (35 minutes drive); lived with their substitute caregiver for at least 3 weeks; only children who had open cases at the start of the study time frame were included in analyses.
Exclusion criteria	Care situation When multiple members of a sibling group were eligible, 1 sibling was randomly selected to participate in the study. Language Monolingual Spanish speaking
Sample size	156 randomised
Split between study groups	Intervention = 79 Control = 77
Loss to follow-up	Intervention = 23 Control = 23
% Female	48.2%
Mean age (SD)	10.46 ± 0.88 year
Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 32.7%; sexual abuse: 14.5%; neglect (failure to provide): 50.0%; Neglect (lack of supervision): 75.5%; emotional maltreatment: 64.5%; Moral neglect (exposure to illegal activity): 33.6% Placement changes Placements pre-intervention: 3.18 ± 2.60 Behaviour that challenges Child Behaviour Checklist externalising score: 64.13 ± 11.27 Non-white

	45.7% Care situation Nonrelative foster care: 55.5%; Relative foster care: 36.4%; Residential treatment centre: 8.2%
Outcome measures	Placement stability 1 Number of placement changes over the 18-month study period. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database. Negative placement change whether a child had experienced a new placement in a residential treatment center (RTC) during the 18-month period. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database. Permanency 1 Whether a child had attained permanency by 1-year postintervention. Case closure was used as the index of permanency. Secondary outcomes included 2 types of permanence: adoption and reunification with biological parents. Data were obtained from (1) baseline interviews with children and their caregivers, (2) social histories completed by caseworkers at intake, (3) legal petitions filed in the dependency and neglect court that led to foster care placement, and (4) administrative case and placement records from the statewide administrative database.

Study arms

Fostering Healthy Futures (N = 56)

The 9-month FHF preventive intervention consisted of 2 components: (1) manualized skills groups and (2) one-on-one mentoring. The program was designed to be “above and beyond treatment as usual;” both children in the control and intervention groups should have received any services that would typically be provided to them through social services (eg, therapy, visitation). Although eligibility criteria required that children be in foster care at the start of the intervention, their participation continued (with appropriate consent) if they reunified or changed placements during the intervention. The intervention was mainly child focused because the skills groups were for children only, and mentoring activities involved one-on-one activities in the community. The interventionists (ie, mentors and program staff) never made recommendations to social services regarding placements or permanency goals, although mentors and program staff did report all suspected maltreatment. SKILLS GROUPS: FHF skills groups met for 30 weeks for 1.5 hours per week during the academic year and included 8 to 10 children and 2 group facilitators. The FHF skills groups followed a manualized curriculum that combined traditional cognitive-behavioral skills group activities with process-oriented material. Units addressed topics including emotion recognition, perspective taking, problem solving, anger management, cultural identity, change and loss, healthy relationships, peer pressure, abuse prevention, and future orientation. The skills group curriculum was based on materials from evidence based skills group programs, including Promoting Alternative Thinking Strategies and Second Step, which were supplemented with project-designed exercises from multicultural sources. MENTORING: The mentoring component of the FHF program provided 30 weeks of one-on-one mentoring for each child. Mentors were graduate students in social work who received course credit for their work on the project. Mentors were each paired with 2 children with whom they spent 2 to 4 hours of individual time each week. Mentors received weekly individual and group supervision and attended a weekly didactic seminar, all of which were designed to support mentors as they (1) created empowering relationships with children, serving as positive examples for future relationships; (2) advocated for appropriate services; (3) helped children generalize skills learned in group

by completing weekly activities; (4) engaged children in a range of extracurricular, educational, social, cultural, and recreational activities; and (5) promoted attitudes to foster a positive future orientation.

Mean age (SD)	10.38 ± 0.85 year
Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 39.3%; sexual abuse: 12.5%; neglect (failure to provide): 48.2%; Neglect (lack of supervision): 78.6%; emotional maltreatment: 58.9%; Moral neglect (exposure to illegal activity): 42.9% Placement changes Placements pre-intervention: 3.20 ± 2.55 Behaviour that challenges Child Behaviour Checklist externalising problems score: 64.21 ± 11.13 Non-white 47.2% Care situation Nonrelative foster care: 53.6%; Relative foster care: 37.5%; Residential treatment centre: 8.9%
Outcome measures	Placement stability 1 TOTAL SAMPLE: Number of placement changes over the 18-month study period: 0.71%. Association between FHF intervention and placement change: OR 0.64 (95%CI 0.35 to 1.19). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.68 (95%CI 0.40 to 1.16). FOSTER CARE SUBGROUP: Number of placement changes over the 18-month study period: 0.73%. Association between FHF intervention and placement change: OR 0.51 (95%CI 0.27 to 0.95). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.56 (95%CI 0.34 to 0.93). Negative placement change TOTAL SAMPLE: movement to residential care over the 18-month study period: 10.7%. Association between FHF intervention and residential care: OR 0.38 (95%CI 0.13 to 1.08). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.29 (95%CI 0.09 to 0.98). FOSTER CARE SUBGROUP: Number of placement changes over the 18-month study period: 10.0%. Association between FHF intervention and placement change: OR 0.23 (95%CI 0.06 to 0.96). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 0.18 (95%CI 0.03 to 0.96). Permanency 1 TOTAL SAMPLE: attaining permanency over the 18-month study period: 57.1%. Association between FHF intervention and placement change: OR 1.67 (95%CI 0.78 to 3.54). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 1.81 (95%CI 0.77 to 4.22). FOSTER CARE SUBGROUP: Permanency over the 18-month study period: 50.0%. Association between FHF intervention and permanency: OR 5.20 (95%CI 1.57 to 17.18). Adjusted for number of foster care placements before the intervention, whether a child had been placed in a RTC before the intervention, type of baseline placement, and baseline externalizing behavior problems: OR 5.14 (95%CI 1.55 to 17.07).

Care as Usual (N = 54)

both children in the control and intervention groups should have received any services that would typically be provided to them through social services (eg, therapy, visitation).

Condition specific characteristics	Exploitation or trafficking Maltreatment type: physical abuse: 32.7%; sexual abuse: 14.5%; neglect (failure to provide): 50.0%; Neglect (lack of supervision): 75.5%; emotional maltreatment: 64.5%; Moral neglect (exposure to illegal activity): 33.6% Placement changes Placements pre-intervention: 3.18 ± 2.60 Behaviour that challenges Child Behaviour Checklist score: 64.13 ± 64.13 Non-white 45.7% Care situation Nonrelative foster care: 55.5%; Relative foster care: 36.4%; Residential treatment centre: 8.2%
Outcome measures	Placement stability 1 TOTAL SAMPLE: Incidence of placement changes over the 18-month study period: 1.11%. FOSTER CARE SUBGROUP: 1.45% Negative placement change TOTAL SAMPLE: incidence of residential treatment center (RTC) during the 18-month period: 24.1%; FOSTER CARE SUBGROUP: 32.3% Permanency 1 TOTAL SAMPLE: permanency by 1-year postintervention. FOSTER CARE SUBGROUP: 16.1%

Risk of Bias

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns *(There was no blinding. However, the outcomes are not particularly subjective.)*
	Overall Directness	Partially applicable *(USA study)*

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Study type	Randomised controlled trial (RCT)
Study location	Belgium
Study setting	Children in new foster care placements with behavioural problems
Study dates	January 2011 to May 2013
Duration of follow-up	post intervention and 3 months follow up
Sources of funding	Vrije Universiteit Brussel
Inclusion criteria	Age 3 - 12 years Care situation Foster parents of new foster care placements with a long-term perspective (>1 year)

	Behavioural needs Foster parents were eligible if their foster child had a borderline or clinical score on the externalizing broad-band or on one of the externalizing small-band scales of the Child Behaviour Checklist
Exclusion criteria	Care situation Foster placements where at least two of the following criteria were present: 1) foster parents considered terminating the foster placement during the past two months 2) were experiencing psychological distress (measured with the General Health Questionnaire (GHQ; Koeter & Ormel, 1991) and defined as a score ≥ 2) 3) their foster child had a sum score above 3 (for children < 6 years) or 5 (for children ≥ 6 years) on the critical CBCL-items. Caregiver characteristics Foster parents: with a mental/psychological disorder; who were involved in divorce proceedings; who have low cognitive ability; who are already receiving professional support for the foster child's externalizing problems Language Caregiver with insufficient knowledge of Dutch Clinical/health problem uses psychotropic medication in an inconsistent way; behavioral problems are the result of medical problems or medication, Special educational needs learning disability; autism
Sample size	63 participants
Split between study groups	Social learning theory-based training: 30 Care as Usual: 33
Loss to follow-up	Social learning theory-based training: 3 Care as Usual: 0
% Female	52.4%

Mean age (SD)	6.14 ± 2.60 years
Condition specific characteristics	Placement changes Most (77.8%) of the foster children were previously placed in out-of-home care. The current foster placement had a mean duration of 36.20 months (sd=34.79). Care situation non-kinship placements: 55.6%
Outcome measures	Behavioural outcome 1 Foster children's behavioural problems were measured with the Child Behaviour Checklist (CBCL/1.5-5-CBCL/6-18; Achenbach & Rescorla 2000, 2001). For 99 (for children younger than 6 years) and for 118 (for children over 6 years) concrete behavioural, emotional and social problems, foster mothers were asked to indicate how often these behaviours occurred (0=not true, 1=somewhat or sometimes true, 2=very true or often true). The instrument provides scores for some problem scales and three broad-band scales: internalizing, externalizing and total problems. Authors used the internalizing and externalizing scores as (general) indexes for internalizing (e.g. withdrawn, anxious, inhibited and depressed behaviours) and externalizing problem behaviour (e.g. rule breaking and aggressive behaviours). The authors of the CBCL suggest using a T-score ≥ 60 to discriminate between children with and without externalizing and/or internalizing problems (i.e. the cut-off score for borderline clinical range). Placement stability 1 Temporary (e.g. short stay at child psychiatric unit) or permanent (move to other care) breakdown over follow up from baseline to follow up (approximately 6.5 months) Relational outcome 1 Parenting stress (ijmegen Questionnaire for the Parenting Situation) at postintervention/3 month follow up: Foster mothers' parenting stress was measured using the Nijmegen Questionnaire for the Parenting Situation (NQPS; Robbroeckx & Wels 1996). Four subscales from the first part of this questionnaire (not feeling able to cope, experiencing problems in parenting the child, experiencing the child as a burden and wanting the parenting situation to be different) were used. The authors considered them as the core of parenting stress (28 items). The sum score of these four subscales is the measure of parenting stress (α0=0.95, α1=0.95, α2=0.96).
Study arms	**Social learning theory-based training (N = 30)** A detailed training manual including 10, usually weekly, home sessions was developed, describing the treatment's rationale, providing guidelines to therapists and outlining the sequence and contents of the sessions. The social interaction perspective on the development of behavioural problems and associated parenting skills (positive involvement, positive reinforcement, problem solving, effective limit setting and monitoring) was at the core of the programme. Based on a literature study on the specific needs of foster children, psychoeducation about attachment was included. The intervention has a modular design. An overview of the modules can be found in Fig. 2. Some modules are mandatory; others are optional and are only used when indicated. Guidelines about the use of these modules are included in the treatment protocol. The intervention takes a positive approach from the outset: enhancing the quality of the foster parent–foster child

	relationship and creating a positive atmosphere. The 'positive involvement' module involves psychoeducation about foster children's need for warmth and acceptance from their foster parents. Emotional communication skills (e.g. active listening, using I-messages) are discussed and practised. As homework assignment, foster parents are asked to introduce a daily 10-min play activity. The 'praising' module focuses on encouraging positive behaviour in the foster child (e.g. by giving verbal, non-verbal and indirect praise). The next two modules deal with creating predictability. The 'structure' module includes psychoeducation about how a good structure (e.g. introducing family routines) and clear expectations (e.g. formulating household rules) give foster children a sense of security. The 'effective commands' module deals with communicating expectations in an effective way (e.g. short, direct commands). To treat some specific behaviour, more actions may be needed. In the 'reward programme' module, tangible rewards are given for positive behaviours that have not increased sufficiently. This provides consistent positive reinforcement to increase these behaviours. Only after this positive approach, intervention practitioners address how to deal with misbehaviour. The 'effective limit setting' module provides psychoeducation about the basic principles of limit setting. Depending on the specific problem behaviours, a more elaborate discussion about effective limit setting can be conducted by offering one or more of the following optional modules. Each of these modules focuses on specific parenting behaviour to reduce specific remaining problem behaviours. The 'ignoring' module is proposed when foster parents often react (and thus give a lot of attention) to behaviours that are better ignored (i.e. frequently occurring mild misbehaviour such as whining). For misbehaviours that cannot be ignored (e.g. aggressive or destructive behaviour), foster parents are instructed to react consistently with a specific negative consequence ('logical consequence/loss of privilege' module). The 'time out' module is used to avoid escalation by the foster child and foster parents (i.e. putting the child in time out for specific aggressive or destructive behaviour before the situation escalates). The remaining modules can be offered once the 'reward programme' module has been offered. The 'avoiding problems' module mainly deals with increasing the predictability of difficult situations (e.g. play dates, visits to the supermarket). Foster parents learn to plan these situations in advance and communicate clearly which behaviour is expected, and the consequences for positive behaviour and misbehaviour. The 'problem solving' module provides psychoeducation about a constructive, stepwise problem solving process (defining the problem, brainstorming solutions, making a plan, executing the plan and evaluation) and teaches the foster parent how they can help their foster child to solve problems. The 'autonomy and monitoring' module provides psychoeducation about the importance of this parenting skill and offers tools to monitor young children's behaviour (e.g. asking concrete questions, checking if the child does what she/he is expected to do). Because a lack of autonomy may also occur, foster parents are helped to find a good balance in

providing safety/control and stimulating autonomy (e.g. giving more responsibilities, asking the foster child's opinion). It may, furthermore, be necessary to enhance foster parents' reflective function. Two modules can be used for this purpose. The 'avoiding escalations' module provides psychoeducation about coercive processes. The therapist explores what makes it difficult for foster parents to avoid escalations (e.g. specific emotions, expectations) and what can help them to prevent escalations (e.g. relaxation). In the 'evaluating own parenting behaviour' module, foster parents are encouraged to critically reflect on their own parenting values and behaviours (e.g. influence of own parenting history on their values) in order to decrease resistance or help them maintain a certain approach. The final module 'a look at the future' offers foster parents a plan for dealing with future behavioural problems and tips for maintaining positive changes.

% Female	Not reported
Mean age (SD)	Not reported
Outcome measures	Behavioural outcome 1 Internalising problems postintervention/3 months follow up (Child Behaviour Checklist): 58.26 ± 10.47/56.73 ± 12.30; Externalising problems postintervention/3 months follow up (Child Behaviour Checklist): 64.51 ± 7.50/63.01 ± 8.96 Placement stability 1 1 families in the intervention group experienced temporary breakdown of placement over follow up, and 1 family experience permanent breakdown of placement placement (Relational outcome 1 Parenting stress (ijmegen Questionnaire for the Parenting Situation) at postintervention/3 month follow up: 67.40 ± 19.60/69.82 ± 20.36

Care as usual (N = 33)
The control group received treatment as usual. A regular foster care worker in Flanders monitors on average 25 foster care placements. He/she is very autonomous both in terms of the frequency of contact and the content of care offered. On average, a foster care worker has 11.5 face-to-face contacts a year per foster care placement, either with the foster parents, the foster child or the biological family. In addition, foster parents have access to external mental health services. There are large differences in the frequency and in the proportion of foster families that decide to accept such help. By registering

	foster care workers' activities during the intervention period, Authors found the number of personal contacts between a foster care worker and at least one member of the foster family varied from 0 to 8 (M=2.51, sd=1.79) and that 39.6% of the foster children received additional mental health services. % Female: Not reported Mean age (SD): Not reported Outcome measures: Behavioural outcome 1 Internalising problems postintervention/3 months follow up (Child Behaviour Checklist): 61.36 ± 9.92/63.35 ± 9.11; Externalising problems postintervention/3 months follow up (Child Behaviour Checklist): 65.94 ± 8.77/68.33 ± 7.46 Placement stability 1 Over follow up, four temporary breakdowns in placement occurred in the control group Relational outcome 1 Parenting stress (ijmegen Questionnaire for the Parenting Situation) at postintervention/3 month follow up: 68.88 ± 16.06/74.61 ± 17.95
Risk of Bias	**Domain 1: Bias arising from the randomisation process** Some concerns **Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)** Low **Domain 3. Bias due to missing outcome data** Low **Domain 4. Bias in measurement of the outcome** High

	Domain 5. Bias in selection of the reported result Low **Overall bias and Directness** High (No baseline characteristics of both arms to assess the success of randomisation. No blinding. Outcomes were measured by foster parents. This could lead to bias particularly since they were likely aware of the interventions.) **Overall Directness** Partially applicable (Study took place in Belgium)

Van Holen 2018

Bibliographic Reference Van Holen, Frank; Vanderfaeillie, Johan; Omer, Haim; Vanschoonlandt, Femke; Training in nonviolent resistance for foster parents: A randomized controlled trial.; Research on Social Work Practice; 2018; vol. 28 (no. 8); 931-942

Study details

Study type	Randomised controlled trial (RCT)
Study location	Belgium
Study setting	three of the five Flemish provinces (Dutch speaking part of Belgium) - Foster Care
Study dates	July 2010 to September 2012
Duration of follow-up	post intervention and three months follow up
Sources of funding	The authors received no financial support for the research, authorship, and/or publication of this article
Inclusion criteria	Age

	children aged between 6 and 18 Care situation all new foster-care placements with a long-term perspective (>1 year) emotional or behavioural disorders Foster parents were eligible if their foster child had a borderline or clinical score on the externalizing broad band or on one of the externalizing small-band scales of the CBCL. In families with more than one eligible foster child, the foster child with more serious behavioural problems was considered in the study.
Exclusion criteria	Caregivers Foster parents who were currently involved in divorce proceedings or foster parents with a current mental health disorder, measured with the General Health Questionnaire (Koeter & Ormel, 1991) and defined as a score >= 2, were excluded. health problems intellectual disability, autism, unstable use of psychotropic medication (psychotropic medication use must have started at least 2 months before the start of the intervention and must be stable for at least 2 weeks before start of the intervention), and behavioral problems stemming from medical problems (e.g., Prader–Willi syndrome) or medication (e.g., anticonvulsive drugs)
Sample size	62 foster families randomised
Split between study groups	Intervention group = 31 families Control group = 31 families
Loss to follow-up	All were analysed
% Female	Gender of the foster child Intervention group = 51.6%

	Control group = 45.2%
Mean age (SD)	Age of the foster child in years 11.6 ± 3.46 years 12.3 ± 3.49 years
Condition specific characteristics	Type of care Foster care 100%
Outcome measures	Behavioural outcome 1 CBCL/6-18 (Achenbach & Rescorla, 2001). This questionnaire assesses child behaviour problems. For 118 concrete behavioural, emotional, and social problems, foster mothers were asked to indicate how often they had occurred on a 3-point scale. The results of the questionnaire form a total problem score, an internalizing and externalizing score, and eight problem scale scores. Authors used the internalizing, externalizing, and total problem scores as (general) indices for internalizing, externalizing, and overall behavioural problems. Behavioural outcome 2 Nijmegen Parenting Situation Scale (Nijmeegse Vragenlijst voor de Opvoedingssituatie—NVOS; Wels & Robbroeckx, 1996). This questionnaire measures parenting stress. Foster mothers indicate on a 5-point scale how closely concrete statements relate to them. Four scales from the first part of the questionnaire were used in this study. These scales are viewed as the core components of parenting stress by the authors of the NVOS: Coping ability refers to the feeling of being able to cope with the parenting situation. For example, ‘‘Raising . . . requires a lot of my strength.’’; Problem severity refers to the severity of the problems as experienced by foster mothers. For example, ‘‘I’m glad when . . . is out for some time (e.g., at school, with friends, playing outside).’’ Viewing parenting as a burden refers to the extent to which parenting this specific child is experienced as a burden. For example, ‘‘Raising . . . is a real burden for me.’’ Wishing for changes in the parenting situation refers to the extent to which foster mothers desire the parenting situation to change. For example, ‘‘Things should go really differently between me and . . . . . ’’

Study arms

Non-Violent Resistance (N = 31) The intervention was an adaptation for foster families of the NVR treatment program for parents of violent and self-destructive children. NVR places escalation processes at the center of attention. The underlying assumption is that parental submission and power struggles are mutually enhancing and that they feed on and are fed by negative feelings. Foster parents, who previously felt helpless and were caught up in escalation with the foster child, are trained

to effectively resist the foster child's negative behaviour without lashing out or giving in. To achieve this, NVR focuses on the following four intervention areas. 1) Prevention of escalation. Emotional regulation of foster parents is trained in order to prevent and halt escalating cycles. Foster parents learn to recognize escalatory patterns and identify their own and their foster child's typical reactions and the associated thoughts and feelings. Alternative ways of responding in non-escalating manners are taught and rehearsed. For example, foster parents learn to delay their response (''Strike the iron when it's cold!'') and to abstain from controlling and domineering messages (''You don't have to win, only to persist!''). 2) Resisting problem behaviour. The foster parents aim at resisting rather than controlling the child's negative behaviours. Depending on the risks and the foster child's specific problems, Omer (2004, 2011) developed well-documented techniques to help foster parents to resist problem behaviour in a respectful and nonviolent way: 3) Delivery of a formal announcement in which the foster parents declare their decision to resist the child's negative behaviours. This announcement is delivered in writing and read aloud by the foster parents. In accordance with the treatment's emphasis on parental self-control, it is written in the first person plural (''We will no longer accept . . . '') and not in the second person singular (''You will have to . . . ''). The announcement also stipulates that the foster parents will not keep the problems secret but will seek help from supporters. Foster parents rehearse how to deliver the announcement and how to develop non-escalating responses to the foster child's reactions. 4) Performance of ''sit-ins''. The foster parents enter the child's room at a quiet time, sit down, and announce that they will sit and wait for a proposal by the child to stop the problem behaviour that triggered the sit-in: ''We are here because we are no longer willing to accept the kind of behaviour you displayed. We will sit here and wait for a proposal as to how this behaviour might end.'' The foster parents are trained to remain quiet and strictly avoid arguments or escalation. The therapist helps them to develop ways of coping with typical reactions, such as attempts to expel them, ignore them, or deride them, and instructs them as to how to end the sit-in and resume daily life. The sit-in serves as a manifestation of resistance that does not depend on the child's compliance for success and that can be performed without escalating into negative cycles of aggression. 5) Documentation of negative behaviours. The foster child's unacceptable acts are documented by the foster parents, shown to the foster child, and distributed to the supporters. Foster parents tell their foster child that they are no longer keeping the events secret and that they will send their report to whomever they feel is appropriate. Supporters are specifically asked to address the foster child in a positive way, to make clear that they know what happened, and to offer help in finding solutions for stopping those behaviours. 6) Increasing supervision by telephone rounds or parental visitation. In the telephone rounds, foster parents react to the foster child's failing to come home in time. Foster parents call a previously prepared list of friends, acquaintances, and relevant contacts, telling them that their foster child has not come home, asking for help, and requesting them to tell the foster child that they are looking for him or her. Foster parents are rigorously instructed as to how to prevent escalation, once the foster child returns home. In the parental visitation, foster parents actually go to the place where the foster child spends his or her time without parental permission. They are instructed in detail on how to behave so as to prevent escalation. 7) Creating a network of support. Foster parents are encouraged to activate potential sources of support in their social network such as family, friends, acquaintances, and professionals (e.g., school staff). Involving other people in what is happening at home and seeking their help is a major factor in coping with the child's negative behaviour. Whenever possible, a meeting with the supporters is organized by the therapist to explain the purpose and principles of the treatment and to discuss how and when the supporters can help. When a supporters' meeting is not feasible, supporters are recruited on an individual base. Some typical roles of supporters are: to back the foster parents' acts of resistance, to offer emotional and/or practical help for foster parents and/or the foster child, to help in breaking the seal of secrecy that often surrounds negative behaviours, to mediate in situations of polarization, to help defuse situations of acute escalation, and to offer help in finding acceptable solutions. 8) Relational gestures. Foster parents are encouraged to initiate positive interactions by systematic relational gestures such as signs of appreciation, suggestions of shared activities, and symbolic gifts. Frequently used is the album or box of positive memories, which documents good times, and positive opinions about the child such as short stories, a ticket from a nice

vacation, photos, and reminders of events such as a family trip, parties, and so on. Foster parents invite friends and members of the birth family to participate. These gestures are unilateral initiatives by the foster parents. They are independent of the foster child's behaviour and are aimed at promoting positive aspects of the parent–child relationship. They are acts of caring that show the foster parents' love independently of their ongoing resistance to the foster child's negative behaviours. The foster parent intervention consisted of 10, usually weekly, home sessions of 75 min and 1 telephone support session between every 2 home sessions. A detailed training manual was developed, describing the treatment's rationale, providing guidelines for each intervention area, and outlining the sequence and contents of the treatment sessions. The training manual, including training materials, can be obtained from the first author. The main modifications of the original program include (1) use of a home-visit format in order to lower barriers to service access; (2) development of practical aids, such as hand-outs, worksheets, a workbook for foster parents, and a DVD illustrating NVR techniques; (3) development of special components for foster families and foster children (e.g., guidelines describing when and how to involve members of the biological family in the support network, for instance to engage them in relational gestures); and (4) treatment administration by experienced foster-care workers who are best acquainted with the needs of foster families. Treatment in the experimental group was administered by three experienced foster-care workers who received special training in NVR consisting of 12 4-hr sessions. As part of the training, each therapist treated three foster families under close supervision. Treatment integrity and quality was ensured by fortnightly group supervision sessions.

Condition specific characteristics	Number of care placements Previous placements = 64.5% time in care Duration in care placement = 46.7 ± 53.54 months Type of care Foster care 100% Kinship = 54.8% non-kinship = 45.2% Type of household

	Single parent = 25.8% Two parent = 74.2% Number of children Biological = 1.74 ± 1.46 Foster = 1.55 ± 0.68

Treatment as Usual (N = 31)

The control group was given TAU. In Flanders, foster-care workers organize support for the foster child, optimize contacts with birth parents and family, and coach and train foster parents. More specifically, the support for foster-care situations comprises of at least seven face-to-face contacts a year. However, it is not defined with whom these contacts should take place. They can be with foster parents, foster children, birth parents, the wider context of the foster child (e.g., grandparents), and combinations of the parties involved (e.g., foster parents and foster child together). Furthermore, certain aspects of good practice (e.g., the use of care plans) are obligatory. Although foster-care workers have great autonomy within these guidelines, a caseload of 25 foster-care placements for a full-time foster-care worker hinders them from providing intensive support to foster parents. Herewith, nothing is said about the content of these contacts nor about the practices used by the foster-care worker. In addition to the regular foster-care support described above, foster parents have access to external mental health-care services for themselves or for their foster child. In short, the help offered during a foster-care placement is very diverse and heterogeneous and the support for foster families varies enormously. As a consequence, it is not unthinkable that the TAU received by foster families in a control group differs considerably between participants. To control this factor, authors asked foster-care workers to register not only their own contacts with the foster family but also referrals to external mental health services.

Condition specific characteristics	Number of care placements Previous placements = 71.0% time in care Duration of placement = 35.1 ± 39.91 months Type of care

	Foster care 100% Kinship = 64.5% Non-kinship = 35.5% Number of biological children = 1.61 ± 1.26 Number of foster children = 1.42 ± 0.62 Single parent household = 22.6% Two parent household = 77.4%

Risk of Bias

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Low
	Overall Directness	Indirectly applicable *(Study was from belgium)*