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Effectiveness of a trauma-informed care psychoeducational program for foster carers - Evaluation of the *Fostering Connections Program*

Abstract

Background: The need to improve the quality of foster care training has been highlighted and evidenced-based programs that aim to support foster carers in the care of children who have experienced trauma are warranted.

Objective: This study aimed to evaluate the effectiveness of the *Fostering Connections* program, a newly developed trauma-informed care program within the national child welfare agency in Ireland.

Participants and Setting: The study included 79 foster carers**.** The *Fostering Connections* group-based experiential intervention was delivered over a period of 6-weeks in a community-based setting to intervention group participants.

Methods: A quasi-experimental design was used to compare the results of the intervention group (n= 49), to a control group (n= 30,) who received usual care. Standardized assessment measures were used at baseline, 6-weeks on completion, 16 weeks and 15 months post-intervention. Foster carers' knowledge of trauma-informed fostering, tolerance of misbehavior and fostering efficacy, and children's emotional and behavioral difficulties were assessed.

Results: Significant improvements were found in foster carers' knowledge of trauma-informed fostering (p< 0.001), tolerance of child misbehavior (p= 0.007) and fostering efficacy (p< 0.001), with effect sizes ranging from medium to large and sustained over fifteen months (ES= 0.07- 0.14). Significant improvement was also found in children's emotional and behavioral difficulties at fifteen months (p= 0.019), with a small effect size (ES= 0.05).

Conclusion: Preliminary evidence suggests that *Fostering Connections* is potentially an effective intervention in increasing foster carer's capacity to provide children with trauma-informed care.

Keywords: Foster Care, Trauma-informed Care, Intervention, Psychoeducation, Developmental Trauma

1.Background

Often, children have endured developmentally traumatising experiences prior to coming into foster care. As a result, they may have major developmental problems (Kisiel et al., 2014). Foster children have higher rates of mental health difficulties than the general population across foster care systems as seen in the USA (Ford et al., 2007), the UK (Vostanis, 2010) and Australia (Delfabbro et al., 2010). Foster children were also found to have higher rates of attachment difficulties (Vasileva, & Petermann, 2016), behavioural difficulties (Goemans, van Geel, & Vedder, 2015), chronic medical conditions (Deutsch, & Fortin, 2015), lower educational attainment (Luke, & O'Higgins, 2018) and peer difficulties (Holland, & Gorey, 2004) than the general population. Foster care is an intervention that seeks to resolve children's developmental trauma-related difficulties through family-based care. Whilst foster care can involve high levels of personal satisfaction for foster carers (Gibbs, Sinclair, & Wilson, 2004), it is often experienced as emotionally and psychologically demanding (Whenan, Oxlad, & Lushington, 2009). Despite foster carers' motivations to provide nurture and security, many foster children are unable to experience a sense of safety and security owing to their past experiences. The impact of exposure to developmental traumas may have involved stress-related neurological changes (Schwaiger et al., 2016), placing them at-risk of systems dysregulation impacting affect, attachment, behavior and cognition (Cook et al., 2005). Foster children often have developed survival based behaviors owing to their necessity

to adapt to a threatening environment prior to coming into care. These behaviors which served them well in a threatening environment become problematic by impeding their capacity to function in a foster family, at school and in relationships in general. These difficulties can be long-lasting and may even worsen in foster care (Vanderfaeillie, Van Holen, Vanschoonlandt, Robberechts, & Stroobants, 2013). These adverse effects may also be explained by children's experience of separation from their familiar environment and/or their experiences in care, including living with a sense of uncertainty or impermanence about their future (Lewis, 2011). Therefore, the process of adapting to an unfamiliar environment and developing a relationship with new foster carers can be challenging and may take time (Woolgar, 2013) and carers can feel ill-equipped and overwhelmed by the complexity of foster children's behavior (Storer et al., 2014). These behaviors which can range from being violent and controlling to dissociative and rejecting may appear frightening, unmanageable and even bizarre to foster carers (Octoman & McLean, 2014). Children's internalized behavior may also be missed by carers (McWey, Cui, Cooper, & Ledermann, 2018). Without specific trauma-informed training and support it is likely that carers will not be able to recognize or respond appropriately to trauma and attachment related behaviors (Bovenschen et al., 2016).

The foster caring role is further complicated by developing relationships with birth families, social workers and a myriad of others professionals. A challenge for foster children is the internal conflict that arises when living between two families (Dansey, John, & Shbero, 2018). For carers developing restorative relationships with the children may necessitate supporting children's reunification with birth families or integration with their family on a long term basis or a transition to another family or supporting children to cope with the uncertainty about their future. It can also involve grief and concern for future welfare when foster children leave (Lynes & Sitoe, 2018). Thus, the impact of the fostering can come at a

high price often resulting in high levels of stress (Adams, Hassett, & Lumsden, 2018), compassion fatigue (Ottaway & Selwyn, 2016) and personal sacrifice (Murray, Tarren-Sweeney, & France, 2011). Without effective intervention through training and support foster carers are at risk of burn-out (Salas, García-Martín, Fuentes, & Bernedo, 2015) and pre-maturely terminating their role (Whenan et al., 2009). This increases the risk of placement instability which further compounds children's developmental difficulties (Rubin, O'Reilly, Luan, & Localio, 2007).

Foster care as an intervention to resolve children's developmental problems has had mixed findings in research (Lawrence, Carlson & Egeland, 2006; Lloyd & Barth, 2011; Vanderfaeillie, Van Holen, De Maeyer, & Robberechts, 2013). A recent meta-analysis was carried out with the aim of reviewing the longitudinal developmental outcomes of children in foster care (Goemans, van Geel, & Vedder, 2015). A total of 29 studies were included that focused foster children's adaptive functioning and behavioral outcomes (N= 2904). No improvement or deterioration in developmental characteristics was found with which the children had entered foster care. The meta-analysis also reported considerable heterogeneity of developmental outcomes in the studies synthesized. The authors suggest that this heterogeneity was as a result of studies conducted in different countries reflecting different policies and practices, and differences in the use of, accessibility and fidelity to interventions provided to foster carers and the children. Similarly, a recent systematic review on outcomes of children in foster care (Gypen et al., 2017) found many of those who grew up in foster care were disadvantaged compared to their peers in the general population in areas of education, employment, income, housing, health, substance abuse and criminal involvement. The implications are that children in foster care are a vulnerable group and interventions need to take into account their developmental needs.

In Ireland, there are substantial gaps in the resources available to children in foster care and foster carers (McElvaney & Tatlow-Golden, 2016; Shannon & Gibbons, 2012). Despite the prevalence of high rates of attachment and trauma related difficulties in children in foster care, they often do not have access to trauma-specific treatments (McElvaney, Tatlow, Webb, Lawlor, & Merriman, 2013; McNicholas & Bandyopadhyay, 2013). The need to improve the quality of foster carer training has been highlighted (IFCA & Tusla 2017; National Review Panel, 2018) and many foster carers have reported inadequate levels of support (IFCA, 2019; Irwin, 2009; O'Toole, 2016). *Fostering Connections* is a trauma-informed care psychoeducational program for foster carers recently developed in Ireland representing a new departure within child welfare service (Anonymous, 2019). Trauma-informed care is an approach that is consistently growing in acceptance amongst practitioners (Purtle, 2018). The approach draws from a biopsychosocial model integrating research from neurobiology, attachment, trauma and resilience (Bath, 2015; Brendtro, Mitchell, & McCall, 2009) and aligns with the core values of social work practice (Knight, 2015). Whilst there are some examples of promising interventions such as the training progam *Keeping Foster and Kin Parents Supported and Trained* (KEEP) (Chamberlain, & Lewis, 2010) and the intensive wraparound intervention *Multidimensional Treatment Foster Care for Adolescents* (MTFC-A) (Biehal et al., 2012), these are based on social learning theory and behavioural management training. The emergence of trauma-informed care programs for foster carers can be described as a shift from psychosocial approaches (cognitive, behavioral and attachment-based) in social work practice to a wider holistic biopsychosocial approach (Larkin, Felitti, & Anda, 2014). The evidence base for such programs is small, but growing with studies to date reporting limited evidence to support effectiveness (Purvis, Razuri, Howard, DeLuna & Cross, 2015; Selwyn, del Tufo, & Frazer, 2009). Purvis et al. (2015) reported a reduction of emotional and behavioural difficulties and trauma symptoms in children who received the

Parenting Training Trust-Based Relational Intervention (TBRI). Selwyn et al. (2009) reported significant increases in carers' confidence in managing difficult child behaviour following the *It's a Piece of Cake Parenting Support Programme.* Both these programme are underpinned by a biopsychosocial trauma-informed approach. *Fostering Connections* seeks to support foster carers in caring for foster children by increasing their capacity to provide trauma-informed care and in turn reduce foster children's trauma-related difficulties. This study is the first outcome evaluation of the program.

2. Methods

2.1 Design

The current study used a pretest-posttest non-randomized quasi-experimental study design with a control group. The intervention group comprised of foster carers who had received the *Fostering Connections* intervention and the control group comprised of foster carers who had received care as usual. Quantitative data was collected over four-time points to measure the degree of change occurring because of the intervention on pre-defined outcomes. Both intervention and control groups completed validated measures at baseline (Time 1), at 6-weeks on completion (Time 2), 16 weeks (Time 3) and 15 months (Time 4) post-intervention.

2.2 Participants

Foster carers were recruited from the Irish national child welfare agency, in two geographical sites in the south of Ireland in May 2017. A broad recruitment strategy was applied as *Fostering Connections* is targeted at all approved foster carers. The following inclusion criteria were applied: (1) were approved foster carers by the child welfare agency, (2) were general and/or relative foster carers, (3) were fostering at least one child, (4) wished to attend the trauma-informed care training program and (5) whose participation was supported by their link fostering social worker. Foster carers who had previously participated in trauma-

informed care type training were excluded from the study. All foster carers that met eligibility were selected for the study. Participants were allocated to either the intervention group or control group according to the geographical area in which they resided. This strategy was employed to reduce the risk of contamination from the intervention group to the control group and to make the attendance of the program accessible for intervention participants.

The flow of participants through the study is shown in Figure 1. 128 foster carers were recruited and assessed for eligibility to participate in the study. A total of 49 foster carers were excluded: 6 did not met eligibility and 43 were unable to commit to attending the 6 sessions of the program. In total, 79 foster carers met eligibility and were allocated to either the intervention group or control group according to the geographical area in which they resided. Matching the control group to the intervention group was not possible owing to participant numbers being low (n= 30). However, participant characteristics were tested for similarity during the analysis. Thus, 49 foster carers from site 1 were allocated to the intervention group and 30 foster carers from site 2 were allocated to the control group. Among the intervention group, 7 dropped out of the study and among the control group, 6 dropped out of the study. Hence, the attrition rate in the study was 14% (7/49) in the intervention group and 20% (6/30) in the control group.

[Insert Figure 1 here]

2.3 Measures

The selection of measures was guided by the aims of the study. The measures tested for trauma-informed care which involved examining three components: knowledge of trauma-informed fostering, tolerance of child misbehavior and fostering efficacy, the primary study outcomes. The measures also tested for observed child emotional and behavioral difficulties,

the secondary study outcome. Standardized measures with psychometric properties were used.

2.3.1 Trauma-informed Care. The Resource Parents Knowledge and Beliefs Survey (KBS) was used to assess trauma-informed care. KBS is a measure that was devised specifically "to capture self-reported beliefs and attitudes related to parenting a traumatized child" (Sullivan, Murray, & Ake, 2016: 150) to rate the impact of trauma-informed psychoeducational interventions targeted at foster carers. The KBS is made up of 33 questions divided between three separate scales: (knowledge of) trauma-informed parenting (fostering), tolerance of misbehavior and parenting (fostering) efficacy. The Trauma-Informed Parenting (Fostering) scale with 24 questions; the Tolerance of Misbehavior scale with 4 questions and the Parenting (Fostering) Efficacy scale with 5 questions. Each question is rated on a 6-point scale (1= strongly disagree to 6= strongly agree). The Trauma-informed Parenting (Fostering) scale is reported to have acceptable psychometric properties with good internal consistency reliability (Cronbach's α= 0.75) (Murray, 2014). In the present study, the Cronbach alpha coefficient was 0.85. The Tolerance of Misbehavior scale was adapted from the Casey Foster Applicant Inventory-Applicant Version (Orme, Cuddeback, Buehler, Cox, & Le Prohn, 2007) and measures carers' capacity to care for a child with the type of challenging behaviors that often present in children who have experienced trauma. This scale is reported to have good psychometric properties with internal reliability (Cronbach's α= 0.83) (Murray, 2014). In the present study, the Cronbach alpha coefficient was 0.87. The Parenting (Fostering) Efficacy scale was adapted from the Parenting Self-Agency Measure (Dumka, Stoerzinger, Jackson, & Roosa, 1996) and also reported to have acceptable psychometric properties with internal reliability (Cronbach's α= 0.77) (Murray, 2014). In the present study, the Cronbach alpha coefficient was 0.79.

2.3.2 Observed Child Emotional and Behavioral Difficulties. The Strengths and Difficulties Questionnaire (SDQ) was used to assess foster carers' observed child emotional and behavioral difficulties. The SDQ is a short questionnaire for 3 to 16-year olds that can be completed by parents, teachers or adolescents (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). The SDQ has five sub scales with five questions in each. These scales measure emotional problems (1), conduct problems (2), hyperactivity /inattention (3), peer relationship problems (4). These four problem subscales added together generate a total difficulties score. A high score indicate problems in one or more of the domains. The fifth subscale measures prosocial behavior (5). Higher scores on the prosocial scale indicate good social functioning. Each item is rated on a 3-point Likert scale (0=not true to 2=certainly true). The SDQ is widely used and has acceptable internal reliability (Cronbach $\alpha = 0.73$) (Goodman, 2001). In the present study, the internal reliability was acceptable with a Cronbach alpha coefficient of 0.74. The measure has been used in many peer reviewed studies with children in foster care (Goemans, van Geel, & Vedder, 2018; Nash & Flynn, 2009; Wretham & Woolgar, 2017).

2.4 Interventions

2.4.1 The Intervention Group. *Fostering Connections* is a manualized trauma-informed psychoeducational intervention. It is facilitated by two trained practitioners and one trained foster carer over 6 weeks (6 x 3.5-hour sessions) in a community setting. The content is cumulative, based on information on trauma, attachment, fostering resilience and collaborative working (Anonymous, 2019). The format is based on experiential exercises, videos, demonstration role-play, discussion and at-home exercises with limited slides. Foster carers receive a Toolkit and Homework Copybook. The program aligns with the National Child Traumatic Stress Network (NCTSN) description of trauma-informed child and family service systems in that it supports the development of 'trauma awareness, knowledge, and

skills' in practices in those who have contact with the child welfare system such as foster carers (NCTSN, 2016:1). *Fostering Connections* provides understanding and knowledge to carers of trauma and effective strategies to promote the restorative relationships with foster children in order to reduce the children's trauma and attachment related difficulties within the context of the Irish care system.

2.4.2 Control group. The control group received usual care. In Ireland, usual care comprised of on-going support from an allocated fostering social worker and access to available foster care training as set out by the national standards for foster care (Clarke et al., 2003). Training typically consists of single sessions on fostering related topics. At the time of this study *Fostering Connections* was not offered to foster carers in the geographical area where the control group participants resided.

2.5 Procedures

All participants were initially contacted by phone and study requirements discussed. Three separate face-to-face data collection days were arranged on completion (Time 2) and at 16 weeks (Time 3) post-intervention and two face-to-face collection days were arranged at 15 months (Time 4) post-intervention to facilitate data collection in the distinct geographical areas. A home-visit, office visit, e-mails or posting the questionnaire was also facilitated to collect data from participants who were unable to attend the drop-in days. The majority of participants attended the face-to-face collection days at Time 1, 2 and 3. At Time 4, the majority of participants posted the questionnaires.

2.6 Data Analysis

Preliminary analysis was carried out to assess if statistical assumptions were met in the statistical tests selected. Tests were performed for normality, homogeneity of variance and sphericity. Baseline characteristics were analyzed before and after attrition as follows:

Continuous variables (age of the participant and age of the children) were compared between the two groups using the independent samples t-test and were described using mean (standard deviation, SD). Categorical variables were compared between the two groups using the chi-squared test, or Fisher's exact test in the case of small expected counts. Where, there was a difference in participant baseline variable between groups, we firstly performed a one-way Anova to determine if there was significant differences in mean scores on the dependent variables at baseline in the intervention group. Then, we performed a Univariate Analysis of Variance using group and the identified independent variable as between subject variables (fixed factors) to consider if there was an interactional effect between group and the identified independent variable in relation to the mean scores of the dependent variables. We did not use a Propensity Score Matching Design as the sample size was small which limits the use of this approach (Fan, & Nowell, 2011;Thoemmes, 2012).

For each of the Knowledge and Beliefs Survey scales (primary outcomes) and for each of the scales in the Strengths and Difficulties Questionnaire (secondary outcome), a two-way mixed ANOVA was conducted to investigate if changes across the four time points (baseline, immediately post-intervention, 16 weeks post-intervention and 15 months post-intervention) differed significantly between the two groups (intervention, control). A two-way mixed ANOVA was selected as it allows the joint and individual effect (between-groups) of two independent variables to be investigated, in this case intervention and control group, on one continuous dependent variable (scores of each scale), over four time points (within-groups independent variables). Group, time and the interaction of group by time (group*time) were included as fixed effects in the model. The interaction of group*time tested if changes over time differed significantly between the intervention and control groups and was of most interest in this study. If the interaction was found to be statistically significant, post-hoc pairwise comparisons between the intervention and control groups were performed at each

time point separately. Post-hoc comparisons were also performed between Time 4 and Time 1 for each group. Further analyses using a three-way mixed ANOVA were conducted to investigate if the effect of the intervention differed regarding fostering type. The effect size of the interaction was measured using partial eta squared (η^2). Using Cohen's guidelines, 0.01 was considered a small effect, 0.06 a medium effect and 0.14 a large effect (Cohen, 1988: 284-7). All statistical analyses were performed in IBM SPSS Statistics (Version 24, IBM Corp, Armonk, NY, USA).

2.7 Ethics Statements

Ethical approval was granted from both the Social Research Ethics Committee, University College Cork, Ireland and by the Tusla Ethics Review Group, Tusla, Child and Family Agency, Ireland.

3. Results

3.1 Description of sample

47 completed the intervention, with an overall attendance rate of 96%, with 88% (43/49) attending 5 or more sessions. 2 foster carers did not complete the intervention owing to the chronic medical needs of the child in their care (1) and escalation of behavioral difficulties of the child in their care which included school refusal (2). Both of these participants expressed the wish to complete the program at a future date. Foster carers reported on a total of 121 foster children at baseline. Data was not collected on a total of 25 children (19 in the intervention group and 6 in the control group). These children had either moved placement owing to a placement breakdown (*n*= 9), planned move (*n*= 4) or their foster carers had left the study (*n*= 12). Data was collected from participants between 22nd August 2017 and 13th February 2019. There was no missing data in the primary outcomes dataset**.** For secondary outcomes, only children who were in the same foster placement at all four time points and

who were over 2 years at Time 1 data collection, are included in the analysis (n= 90). The SDQ is not normed children under 2 years .

Baseline characteristics of the participants split by intervention and control group are described in Table 1. Overall, the average age of participant in both groups was 49 years. The majority of participants were female (81%, *n*= 64), in a relationship (82%, *n*= 65), Irish (92%, *n*= 73) and were general foster carers (67%, *n*= 53). The groups were similar in terms of participant education levels (completed secondary school: 51% versus 34.6%), number of birth children living at home (1-2 children at home: 53.1% versus 36.7%), income levels (20-50k: 44.9% versus 55.2%) and the number of years they were fostering (3-5 years: 36.7% versus 23.3%). However, the groups did differ in terms of their residence and number of children that they fostered. Those in the intervention group were more likely to live in an urban location (55.1%, versus 23.3%; *p*= 0.006). It was more common for one child to be fostered in the control (56.7%) while in the intervention group fostering 2 children was more common (59.2%; *p*= 0.009). The groups were re-analyzed for differences again after attrition and the results were compared (*n*= 66). A statistically significance difference was found only with regard to the number of children fostered. It remained the case that in the intervention group it was more common to foster 2 children (59.5%; *p* = 0.018) compared to 1 child in the control group (54.2%). (Table 1).

[Insert Table 1 here]

3.2 Children placed with participants

Descriptive characteristics of the foster children the participants reported (*N*= 121) split by intervention group (*n*= 81) and control group (*n*= 40). Overall, the average age of the children was 9.1 years in the intervention group and 10.07 years in the control group. The majority of children were subject to care orders (85.2% versus 72.5%) and had contact with their birth families frequently or very frequently (61.7% versus 60%). The children were similar in both

groups in terms of their gender (female 53.1% versus 52.5%), the number of previous placements they experienced (no previous placements: 50.6% versus 44.7%), whether they were placed with siblings (separated from siblings: 38.1% versus 35%) and the length of time in the placement (4-7 years: 39.5% versus 40%). There were no statistically significant differences found between the two groups for any of the child baseline descriptive characteristics. The characteristics of the children were retested after attrition (N= 90). A statistically significance difference was found only with regard to the age of the children. Children in the intervention group were younger compared to the control group (p= 0.020).

3.3 Primary Outcomes

[Insert Table 2 here]

3.3.1. Trauma-informed Fostering (TIF). The interaction of time*group was statistically significant [(F (2.43, 155.32) = 8.916, p< 0.001)], with a medium effect size (0.12), indicating that changes in TIF score over time differed between the intervention and control groups. Post-hoc pairwise comparisons revealed that the intervention group had significantly higher (better) mean TIF scores at Time 2 (Mean= 5.25, SD= 0.37; p< 0.001), Time 3 (Mean= 5.16, SD= 0.41; p= 0.001) post-intervention and Time 4 (mean= 5.28, SD= 0.45; p< 0.001) compared to the control group at Time 2 (Mean= 4.69, SD= 0.39), Time 3 (Mean= 4.71, SD= 0.59) and Time 4 (Mean= 4.69, SD= 0.48) (Table 2, Figure 2). The improvement in means scores were sustained at 15 months. There were no significant differences between the groups at baseline (p= 0.448). The effect of the intervention on the Trauma-informed Fostering scale was not influenced by participants' fostering type (TIF: F= 1.179, p= 0.315). Participants who completed *Fostering Connections* had a higher mean score for trauma-informed fostering at all post-intervention time points compared to the control group. These findings support research hypothesis 1 in that the intervention group showed improved trauma-informed fostering whereas the control group did not.

[Insert Figure 2 here] [Insert Figure 3 here]

3.3.2 Tolerance of Misbehavior (TOM). The interaction of time*group was statistically significant [(F (2.57, 164.21) = 4.55, *p*= 0.007)], with a medium effect size (0.07), indicating that changes in TOM score over time differed between the intervention and control groups. The effect of the intervention on the Tolerance of Misbehavior scale was not influenced by participants' fostering type (TOM: F= 0.204, *p*= 0.866). Post-hoc pairwise comparisons revealed that the intervention group had significantly higher (better) mean TOM scores at Time 2 (Mean= 4.85, SD= 0.68; *p*= 0.011), Time 3 (Mean= 4.80, SD= 0.67; *p*= 0.024) post-intervention and at Time 4 (Mean= 4.90, SD= 0.70; *p*= 0.005) compared to the control group at Time 2 (Mean= 4.43, SD= 0.54), at Time 3 (Mean= 4.31, SD= 1.06) and at Time 4 (Mean= 4.30, SD= 0.99) (Table 2, Figure 3). The improvement in means scores were sustained at 15 months. There were no significant differences between the groups at baseline (*p*= 0.802). Participants who completed *Fostering Connections* had a higher mean score for tolerance of misbehavior at all post-intervention time points compared to the control group. These findings support research hypothesis 2 in that the intervention group showed improved tolerance to child misbehavior whereas the control group did not.

3.3.3 Fostering Efficacy (EFF). The interaction of time*group was statistically significant, [(F (2.68, 171.20) = 10.08, *p*< 0.001)], with a large effect size (0.14), indicating that changes in EFF score over time differed between the intervention and control groups. The effect of the intervention on the Fostering Efficacy scale was not influenced by participants' fostering type (EFF: *F*= 0.714, *p*= 0.539). Post-hoc pairwise comparisons revealed that the intervention group had significantly higher (better) mean EFF scores at both Time 2 (Mean= 5.32, SD= 0.41; *p*< 0.001), Time 3 (Mean= 5.35, SD= 0.49; *p*< 0.001) post-intervention and Time 4 (Mean= 5.45, SD= 0.46; *p*= 0.002) compared to the control group at Time 2 (Mean= 4.73, SD= 0.59), Time 3 (Mean= 4.80, SD= 0.57) and Time 4 (Mean= 4.88, SD= 0.64) (Table 2,

Figure 4). The improvement in means scores were sustained at 15 months. There were no significant differences between the groups at baseline (p= 0.800). Participants who completed *Fostering Connections* had a higher mean score for fostering efficacy at both post-intervention time points compared to the control group. These findings support research hypothesis 3, in the intervention group showed improved fostering efficacy whereas the control group did not.

[Insert Figure 4 here] [Insert Figure 5 here]

3.4 Secondary Outcome

3.4.1 Observed child emotional and behavioral difficulties. For the secondary outcome, data was summarised across children in the same family, the interaction of group*time was statistically significant indicating that changes over time differed between the intervention and control groups. Foster carers in the intervention group reported a significantly higher reduction (improved) mean scores than foster carers in the control group for total observed child emotional and behavioral difficulties over the course of the study [(F (3, 177) = 3.385, p = 0.034)], with a small effect size (0.05). Two of the sub scales of the TOTEBD scale indicated small and medium effect sizes (Hyperactivity scale= 0.05; Peer problems scale= 0.07). A non-statistically significant result was found in the SDQ scales of emotional, conduct, and prosocial behavior (Table 3, Figure 5).

[Insert Table 3 here]

4. Discussion

Fostering Connections seeks to support foster carers in caring for children by increasing their capacity to provide trauma-informed care and in turn reduce children's trauma-related

difficulties. This study is the first outcome evaluation of the program. The aim of this study was to evaluate the effectiveness of the program in Ireland. We used a quasi-experimental design to compare an intervention group (*n*= 49), who received *Fostering Connections* a 6-session experiential groupwork intervention, with a control group (*n*= 30) who received usual care. Standardized assessment measures were used at baseline, at 6-weeks on completion, 16 weeks and 15 months post-intervention. Foster carers' capacity to provide trauma-informed care was assessed through three scales that measured knowledge of trauma-informed fostering, tolerance of child misbehavior and fostering efficacy, all core elements of trauma-informed foster care, the primary outcomes. Foster children's emotional and behavioral difficulties were assessed as the secondary outcome. Our results show that *Fostering Connections* was effective in increasing foster carers' capacity to provide trauma-informed care and in reducing child hyperactivity and peer problems over the study period.

Baseline characteristics of both groups of foster carers, despite the lack of randomized assignment to groups, were very similar, with no significant difference between groups except for residence and number of children in the placement. The latter was expected owing to the more rural location and lower population in one site.

Foster carers in the intervention group significantly improved their trauma-informed fostering understanding compared to the control group. Increased knowledge of trauma-informed care, is an important facilitator of behavioral change as the developing of knowledge provides the foundation to the practical application of the learning (Kirkpatrick & Craig, 1967). *Fostering Connections* emphasized an integrated biopsychosocial multidisciplinary understanding of trauma and also was underpinned by the values of collaboration and empowerments recognizing the importance of the role foster carers play in supporting children's life progress. This finding suggests that foster carers understood the theoretical principles of

trauma-informed care which in turn underpinned their application of trauma-informed caregiving strategies.

Foster carers in the intervention group increased their tolerance of child misbehavior significantly more than the control group. The study suggests that they became more tolerant of the children's behavior by understanding the children's behavior within a trauma-informed framework. This is an important dimension of trauma-informed care as the caregiver's attitude to and perception (attribution) of a child's behavior is linked to caregiving behavior (Sawrikar & Dadds, 2018). Negative perception of children with emotional and behavioral difficulties has been found to be related to foster carers using negative parenting strategies (García-martín, Salas, Bernedo, & Fuentes, 2015). Research also indicates that when perception of the child's behavior is seen more positively, this is associated with more positive parenting strategies by foster carers and improved child behavior (Sprang, 2009; Vanschoonlandt, Vanderfaeillie et al., 2013).

Foster carers in the intervention group increased their fostering efficacy significantly more than the control group. Foster carers' confidence in caring for children who have experienced trauma is important as it is linked to positive parenting strategies and improved child emotional and behavioral difficulties (Deković et al., 2010). Increased confidence is likely to influence foster carers behavior and capacity to provide trauma-informed care. Research indicates that foster carers with higher self-efficacy perceive less behavioral problems in the children they care for compared to carers with lower efficacy (Whenan et al., 2009). Foster carer efficacy was found to be a predictor of fostering satisfaction, leading to retention of carers (Eaton & Caltabiano, 2009) and reduction in stress related to child behavior (Adams et al., 2018).

Foster carers in the intervention group reported significantly reduced observed child emotional and behavioral difficulties between Time 4 and Time 1. Two of the sub scales of

the SDQ, hyperactivity and peer problems had significant results. A non-statistically significant result was found in the SDQ scales of emotional, conduct, and prosocial behavior. The intervention specifically targeted child regulation owing to research showing that trauma, such as abuse and neglect, impact's the child's developing stress regulatory system which results in children having difficulty regulating emotions (Vanderwert, Zeanah, Fox, & Nelson Iii, 2016). Challenging behavior is related to emotional dysregulation (Cole, Michel, & Teti, 1994) and thus, by targeting child regulation the program aimed to support improvement in child behavior. The results of our study suggest that the foster carer's increased their capacity to provide trauma-informed care and that the children experienced an increase in their ability to regulate their emotions and behaviors over the study period. Research has indicated that when children experience a feeling of safety and predictability, in the foster carer-child relationship, this is likely to mediate against trauma symptoms (Asselmann, Wittchen, Lieb, Höfler, & Beesdo-Baum, 2015; Rayburn, Withers, & McWey, 2018) and reduce disruptive child behavior (Joseph, O'Connor, Briskman, Maughan, & Scott, 2014; Wojciak, Thompson, & Cooley, 2017). These findings contribute to the small but growing evidence base that supports trauma-informed care foster care programs (Purvis et al., 2015; Selwyn et al., 2009).

Many children (approximately 45%) were experiencing serious developmental difficulties, consistent with other studies on children in foster care that found varied levels of psychosocial functioning (Goemans et al., 2018). Given the level of these difficulties, not surprisingly, support for reduced child difficulties was not statistically evident until fifteen months post-intervention. As has been shown in previous research, changes in children's behavior for children in foster care requires considerable patience and commitment of foster carers (Lindhiem & Dozier, 2007) and involves slow progress (Tarren-Sweeney, 2017).

Neurological and behavioral research also supports the contention that meaningful change may take some time (Ogundele, 2018).

Children who experienced placement instability during the study period were not included in the study analysis which may have influenced the study results owing to placement instability most often being associated with high levels of challenging behavior (Konijn et al., 2018). It was also notably, the vast majority of children (93, 78.2%) who were in their first placement or had experienced one move and were subject to care orders (98, 81%). Thus, the majority of children who benefited from this intervention had little placement disruption which is likely to reflect less externalized behavior associated with placement instability (Konijn et al., 2018). The children also were involved in legal proceedings which is associated with less likelihood of reunification with birth family (López, Del Valle, Montserrat, & Bravo, 2013). It is, thus, likely that the foster carers were more invested and motivated to develop long term relationships with these children than children with chronic experiences of placement instability and under voluntary care arrangements. However, given the demands on foster carers, the need for on-going and continued effective support and training for foster carers to sustain the progress they have made with the children, is required. Thus, children with clinical levels of emotional and behavioral difficulties would need trauma-specific evidenced based treatment alongside foster carer interventions (Gigengack, Hein, Lindeboom, & Lindauer, 2017).

This study has produced the first empirical evidence to support *Fostering Connections* as effective in increasing foster carer's capacity to provide trauma-informed care. Additionally, this study is one of the few studies to suggest that foster carers providing children with trauma-informed care, can may lead to a reduction in children's' hyperactivity and peer problems over time. Therefore, our findings have important implications for foster carer intervention in child welfare agencies by suggesting that *Fostering Connections* could make a

contribution to placement stability through the supporting foster carers' capacity to provide trauma-informed care and reduce children's difficulties. We therefore recommend child welfare agencies to implement this group intervention that can be employed by trained experienced practitioners and foster carers.

4.1 Limitations

This study has some limitations. This study was limited by the lack of a matched comparison group design, program attrition, and the lack of a control for group differences. The groups differed by the number of children being fostered. The children reported on by their foster carers differed across the groups by age. The quasi-experimental design mitigates the generalisability of the results owing to the sampling methods used. The sample size was small. Participants were all drawn from the Irish child welfare agency community which may not be representative of the foster carer population owing to the differing policies and practices which Irish foster carers operate within. It is also possible the participants were generally more motivated to participate in the research owing for a need for intervention and were therefore invested in the training process. The program content may have been more useful to foster carers of younger children. Intervention group participants may also have had a greater need for the intervention as they were caring for more children. The study sought to test an intervention in real life setting and participants may have benefitted from usual care, the on-going support available to them such as social work support. Limitations also were present with regard to data collection; the data was obtained through self-reported measures only which has potential validity problems (Barker, Flynn, & Pepper, 2002). Inclusion of other methods such as observation of interactions between carer and the children may have been useful to evaluate the impact of the program on carer-child relationships.

There are several avenues for future research that may be of value. It would add value if the perspectives of other important players in the foster care system such as children in foster

care and practitioners, were evaluated. The measures chosen focused on three aspects of the foster carers' experience and child emotional and behavioral difficulties. Further examination of aspects of foster carers' experience such as reflective functioning, emotional regulation, carer-child relationship, stress and child trauma related difficulties could have also been explored. We plan to put in place a scaled-up study that will include an RCT to test for further evidence to support the effectiveness of the program and an implementation trial to test acceptability, feasibility, and preliminary outcomes of a focused implementation strategy of *Fostering Connections.*

5. Conclusions

This study has produced promising research evidence to support the effectiveness of *Fostering Connections.* Thus, this intervention is likely to support Irish foster carers in caring for foster children who have experienced trauma and have challenging needs. The results from this study contribute to the small but growing body of evidence to support trauma-informed care psychoeducational programs for foster carers. However, there is need for further research to support the effectiveness of *Fostering Connections.*

References

Adams, E., Hassett, A. R., & Lumsden, V. (2018). What do we know about the impact of Stress on foster carers and contributing factors? *Adoption and Fostering, 42(4)* 338-353. doi:http://dx.doi.org/10.1177/0308575918799956

Asselmann, E., Wittchen, H. U., Lieb, R., Höfler, M., & Beesdo-Baum, K. (2015). The role of behavioral inhibition and parenting for an unfavorable emotional trauma response and PTSD. *Acta Psychiatrica Scandinavica, 131*(4), 279-289.

Barker, K. N., Flynn, E. A., & Pepper, G. A. (2002). Observation method of detecting medication errors. *American Journal of Health-System Pharmacy, 59*(23), 2314-2316.

Bath, H. (2015). The Three Pillars of TraumaWise Care: Healing in the Other 23 Hours1. *Reclaiming Children and Youth, 23*(4), 5.

Bovenschen, I., Lang, K., Zimmermann, J., Förthner, J., Nowacki, K., Roland, I., & Spangler, G. (2016). Foster children's attachment behavior and representation: Influence of children's pre-placement experiences and foster caregiver's sensitivity. *Child Abuse & Neglect, 51*, 323.

Brendtro, L. K., Mitchell, M. L., & McCall, H. (2009). *Deep brain learning: Pathways to potential with challenging youth*: Circle of Courage Institut.

Clarke, M., Collins, M., Doherty, N., Fagan, A., Henderson, K., Joyce, M., . . . O'Brien, P. (2003). *National Standards for Foster Care*. Dublin. Retrieved on the 7th April 2017 from: https://www.dcya.gov.ie/documents/publications/National_Standards_for_Foster_Care.pdf

Cohen, J. (1988). Statistical power analysis for the behavioral sciences 2nd edn. In: Erlbaum Associates, Hillsdale.

Cole, P. M., Michel, M. K., & Teti, L. O. D. (1994). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the society for research in child development, 59*(2-3), 73-102.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., . . . Van der Kolk, B. A. (2005). Complex trauma in children and adolescents. *Psychiatric Annals, 35*(5), 390-398.

Dansey, D., John, M., & Shbero, D. (2018). How children in foster care engage with loyalty conflict: presenting a model of processes informing loyalty. *Adoption & Fostering, 42*(4), 354-368. doi:http://dx.doi.org/10.1177/0308575918798767

Deković, M., Asscher, J. J., Hermanns, J., Reitz, E., Prinzie, P., & Van Den Akker, A. L. (2010). Tracing changes in families who participated in the home-start parenting program: parental sense of competence as mechanism of change. *Prevention Science, 11*(3), 263-274.

Delfabbro, P., King, D., & Barber, J. (2010). Children in foster care–Five years on. *Children Australia, 35*(1), 22-30. Deutsch, S. A., & Fortin, K. (2015). Physical health problems and barriers to optimal health care among children in foster care. *Current problems in pediatric and adolescent health care, 45*(10), 286-291.

Dumka, L. E., Stoerzinger, H. D., Jackson, K. M., & Roosa, M. W. (1996). Examination of the cross-cultural and cross-language equivalence of the parenting self-agency measure. *Family Relations*, 216-222.

Eaton, A., & Caltabiano, M. (2009). A four factor model predicting likelihood of foster carer retention. *Australian Journal of Social Issues, 44*(2), 215-229.

Fan, X., & Nowell, D. L. (2011). Using propensity score matching in educational research. *Gifted Child Quarterly, 55*(1), 74-79.

Ford, T., Vostanis, P., Meltzer, H., & Goodman, R. (2007). Psychiatric disorder among British children looked after by local authorities: comparison with children living in private households. *The British Journal of Psychiatry, 190*, 319-325. doi:http://dx.doi.org/10.1192/bjp.bp.106.025023

García-martín, M. A., Salas, M. D., Bernedo, I. M., & Fuentes, M. J. (2015). Foster Care Profiles: A Guide to Identifying At-Risk Placements. *Journal of Child and Family Studies, 24*(9), 2579-2588. doi:http://dx.doi.org/10.1007/s10826-014-0060-z

Gibbs, I., Sinclair, I., & Wilson, K. (2004). *Foster placements: Why they succeed and why they fail*: Jessica Kingsley Publishers.

Gigengack, M. R., Hein, I. M., Lindeboom, R., & Lindauer, R. J. L. (2017). Increasing Resource Parents' Sensitivity towards Child Posttraumatic Stress Symptoms: a Descriptive Study on a Trauma-Informed Resource Parent Training. *Journal of Child & Adolescent Trauma*, 1-7.

Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse & Neglect, 42*, 121.

Goemans, A., van Geel, M., & Vedder, P. (2018). Variability in Developmental Outcomes of Foster Children: Implications for Research and Practice. *Children Australia, 43*(2), 116-123.

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(11), 1337-1345.

Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *The British Journal of Psychiatry, 177*(6), 534-539.

Gypen, L., Vanderfaeillie, J., De Maeyer, S., Belenger, L., & Van Holen, F. (2017). Outcomes of children who grew up in foster care: Systematic-review. *Children and Youth Services Review, 76*, 74-83.

Holland, P., & Gorey, K. M. (2004). Historical, developmental, and behavioral factors associated with foster care challenges. *Child and Adolescent Social Work Journal, 21*(2), 117-135.

IFCA & Tusla, (2017). Foster Care- A National Consultation with Foster Carers & Social Workers 2015-2016. Quality Matters. Available at: https://www.tusla.ie/uploads/content/Foster_Care_-_A_National_Consultation_with_Foster_Carers_and_Social_Workers_2015-2016.pdf

IFCA, (2019). Members Survey. IFCA News, Spring edition, Ireland. Accessed on 24th April 2019 at: http://www.ifca.ie/files/2115/5601/8749/IFCA_News_Spring_2019.pdf

Irwin, B. (2009). Voice of Foster Carers: A Survey of Foster Carers by the Irish Foster Care Association. In: Dublin, Irish Foster Care Association.

Joseph, M. A., O'Connor, T. G., Briskman, J. A., Maughan, B., & Scott, S. (2014). The formation of secure new attachments by children who were maltreated: An observational study of adolescents in foster care. *Development and psychopathology, 26*(1), 67-80.

Kirkpatrick, D. L., & Craig, R. L. (1967). Evaluation of training. *Evaluation of Short-Term training in Rehabilitation. Monograph*(3), 35-56.

Kisiel, C. L., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of interpersonal trauma and symptoms in child welfare: Implications for a developmental trauma framework. *Journal of Family Violence, 29*(1), 1-14.

Knight, C. (2015). Trauma-Informed Social Work Practice: Practice Considerations and Challenges. *Clinical Social Work Journal, 43*(1), 25-37. doi:10.1007/s10615-014-0481-6

Konijn, C., Admiraal, S., Baart, J., van Rooij, F., Stams, G.-J., Colonnesi, C., . . . Assink, M. (2018). Foster care placement instability: A meta-analytic review. *Children and Youth Services Review*. doi:https://doi.org/10.1016/j.childyouth.2018.12.002

Larkin, H., Felitti, V. J., & Anda, R. F. (2014). Social work and adverse childhood experiences research: Implications for practice and health policy. *Social work in public health, 29*(1), 1-16.

Lawrence, C. R., Carlson, E. A., & Egeland, B. (2006). The impact of foster care on development. *Development and Psychopathology, 18*(1), 57-76.

Lewis, C. (2011). Providing therapy to children and families in foster care: A systemic-relational approach. *Family process, 50*(4), 436-452.

Lindhiem, O., & Dozier, M. (2007). Caregiver commitment to foster children: The role of child behavior. *Child abuse & neglect, 31*(4), 361-374.

Lloyd, E. C., & Barth, R. P. (2011). Developmental outcomes after five years for foster children returned home, remaining in care, or adopted. *Children and Youth Services Review, 33*(8), 1383-1391.

Lynes, D., & Sitoe, A. (2018). Disenfranchised grief: the emotional impact experienced by Foster Carers upon the cessation of a placement. *Adoption and fostering*.

López, M., Del Valle, J. F., Montserrat, C., & Bravo, A. (2013). Factors associated with family reunification for children in foster care. *Child & Family Social Work, 18*(2), 226-236.

Luke, N., & O'Higgins, A. (2018). Is the care system to blame for the poor educational outcomes of children looked after? Evidence from a systematic review and national database analysis. *Children Australia, 43*(2), 135-151.

McElvaney, R., Tatlow, M., Webb, R., Lawlor, E., & Merriman, B. (2013). Someone to care: The mental health needs of children and young people with experience of the care and youth justice systems.

McElvaney, R., & Tatlow-Golden, M. (2016). A traumatised and traumatising system: Professionals' experiences in meeting the mental health needs of young people in the

care and youth justice systems in Ireland. *Children and Youth Services Review, 65*, 62-69.

McNicholas, F., & Bandyopadhyay, G. (2013). Are we meeting the mental health needs of Irish children in care? *Adolescent Psychiatry, 3*(1), 90-94.

McWey, L. M., Cui, M., Cooper, A. N., & Ledermann, T. (2018). Caregiver–Adolescent Disagreement on the Mental Health of Youth in Foster Care: The Moderating Role of the Caregiver Relationship. *Child maltreatment*, 1077559518769375.

Murray, L., Tarren-Sweeney, M., & France, K. (2011). Foster carer perceptions of support and training in the context of high burden of care. *Child & Family Social Work, 16*(2), 149-158. doi:http://dx.doi.org/10.1111/j.1365-2206.2010.00722.x

Murray, K. (2014). Psychometric Properties of the resource parent knowledge and beliefs survey (Unpublished manuscript). Center for the Child and Family Health, Durham, North Carolina, USA.

Nash, J., & Flynn, R. J. (2009). Foster-parent training and foster-child outcomes: An exploratory cross-sectional analysis. *Vulnerable Children and Youth Studies, 4*(2), 128-134.

Octoman, O., & McLean, S. (2014). Challenging behaviour in foster care: what supports do foster carers want? *Adoption & Fostering, 38*(2), 149-158. doi:http://dx.doi.org/10.1177/0308575914532404

Ogundele MO. Behavioural and emotional disorders in childhood: A brief overview for paediatricians. World J Clin Pediatr. 2018;7(1):9–26. Published 2018 Feb 8. doi:10.5409/wjcp.v7.i1.9)

Orme, J. G., Cuddeback, G. S., Buehler, C., Cox, M. E., & Le Prohn, N. S. (2007). Measuring foster parent potential: Casey foster parent inventory-applicant version. *Research on Social Work Practice, 17*(1), 77-92.

O'Toole, P. (2016). IFCA survey of the emotional and psychological support needs of carers, the children in their care, and their families. Dublin. *Foster, Issue 1*, Irish Foster Care Association.

Ottaway, H., & Selwyn, J. (2016). *"No-one told us it was going to be like this"*: Fostering Attachments Ltd.

Purtle, J. (2018). Systematic review of evaluations of trauma-informed organizational interventions that include staff trainings. *Trauma, Violence, & Abuse*, 1524838018791304.

Purvis, K. B., Razuri, E. B., Howard, A. R. H., Call, C. D., DeLuna, J. H., Hall, J. S., & Cross, D. R. (2015). Decrease in Behavioral Problems and Trauma Symptoms Among At-Risk Adopted Children Following Trauma-Informed Parent Training Intervention. *Journal of Child and Adolescent Trauma, 8*(3), 201-210. doi:10.1007/s40653-015-0055-y

Rayburn, A. D., Withers, M. C., & McWey, L. M. (2018). The importance of the caregiver and adolescent relationship for mental health outcomes among youth in foster care. *Journal of Family Violence, 33*(1), 43-52.

Rubin, D. M., O'Reilly, A. L. R., Luan, X., & Localio, A. R. (2007). The Impact of Placement Stability on Behavioral Well-being for Children in Foster Care. *Pediatrics, 119*(2), 336.

Salas, M. D., García-Martín, M. Á., Fuentes, M. J., & Bernedo, I. M. (2015). Children's emotional and behavioral problems in the foster family context. *Journal of child and family studies, 24*(5), 1373-1383. doi:http://dx.doi.org/10.1007/s10826-014-9944-1

Sawrikar, V., & Dadds, M. (2018). What role for parental attributions in parenting interventions for child conduct problems? Advances from research into practice. *Clinical child and family psychology review, 21*(1), 41-56.

Schwaiger, M., Grinberg, M., Moser, D., Zang, J. C. S., Heinrichs, M., Hengstler, J. G., . . . Kumsta, R. (2016). Altered stress-induced regulation of genes in monocytes in adults with a history of childhood adversity. *Neuropsychopharmacology, 41*(10), 2530.

Selwyn, J., del Tufo, S., & Frazer, L. (2009). It's a Piece of Cake? An evaluation of an adopter training programme. *Adoption & Fostering, 33*(1), 30-43.

Shannon, G., & Gibbons, N. (2012). Report of the Independent Child Death Review Group. Government Publications, Dublin. Retrieved on the 9th November 2016 from http://www.dcya.gov.ie/ documents/publications/Report_ICDRG.pdf

Sprang, G. (2009). The Efficacy of a Relational Treatment for Maltreated Children and their Families. *Child and Adolescent Mental Health, 14*(2), 81-88. doi:10.1111/j.1475-3588.2008.00499.x

Storer, H. L., Barkan, S. E., Stenhouse, L. L., Eichenlaub, C., Mallillin, A., & Haggerty, K. P. (2014). In search of connection: The foster youth and caregiver relationship. *Children and Youth Services Review, 42*, 110-117. doi:https://doi.org/10.1016/j.childyouth.2014.04.008

Sullivan, K. M., Murray, K. J., & Ake, G. S., III. (2016). Trauma-Informed Care for Children in the Child Welfare System: An Initial Evaluation of a Trauma-Informed Parenting Workshop. *Child Maltreatment, 21*(2), 147.

Tarren-Sweeney, M. (2017). Rates of meaningful change in the mental health of children in long-term out-of-home care: a seven-to nine-year prospective study. *Child abuse & neglect, 72*, 1-9.

Thoemmes, F. (2012). Propensity score matching in SPSS. *arXiv preprint arXiv:1201.6385*.

Vanderfaeillie, J., Van Holen, F., Vanschoonlandt, F., Robberechts, M., & Stroobants, T. (2013). Children placed in long-term family foster care: A longitudinal study into the

development of problem behavior and associated factors. *Children and Youth Services Review, 35*(4), 587-593. doi:http://dx.doi.org/10.1016/j.childyouth.2012.12.012

Vanderwert, R. E., Zeanah, C. H., Fox, N. A., & Nelson Iii, C. A. (2016). Normalization of EEG activity among previously institutionalized children placed into foster care: A 12-year follow-up of the Bucharest Early Intervention Project. *Developmental cognitive neuroscience, 17*, 68-75.

Vasileva, M., & Petermann, F. (2016). Attachment, development, and mental health in abused and neglected preschool children in foster care: A meta-analysis. *Trauma, Violence, & Abuse*, 1524838016669503.

Vostanis, P. (2010). Mental health services for children in public care and other vulnerable groups: Implications for international collaboration. *Clinical child psychology and psychiatry, 15*(4), 555-571.

Whenan, R., Oxlad, M., & Lushington, K. (2009). Factors associated with foster carer well-being, satisfaction and intention to continue providing out-of-home care. *Children and Youth Services Review, 31*(7), 752-760. doi:http://dx.doi.org/10.1016/j.childyouth.2009.02.001

Wojciak, A. S., Thompson, H. M., & Cooley, M. E. (2017). The Relationship Between Caregivers and Youth in Foster Care: Examining the Relationship for Mediation and Moderation Effects on Youth Behaviors. *Journal of Emotional and Behavioral Disorders, 25*(2), 96-106. doi:10.1177/1063426616628816

Woolgar, M. (2013). The practical implications of the emerging findings in the neurobiology of maltreatment for looked after and adopted children: recognising the diversity of outcomes. *Adoption & Fostering, 37*(3), 237-252. doi:http://dx.doi.org/10.1177/0308575913500021

Wretham, A. E., & Woolgar, M. (2017). Do children adopted from British foster care show difficulties in executive functioning and social communication? *Adoption & Fostering, 41*(4), 331-345. doi:http://dx.doi.org/10.1177/0308575917730295

Zorc, C. S., O'Reilly, A. L. R., Matone, M., Long, J., Watts, C. L., & Rubin, D. (2013). The relationship of placement experience to school absenteeism and changing schools in young, school-aged children in foster care. *Children and youth services review, 35*(5), 826-833.

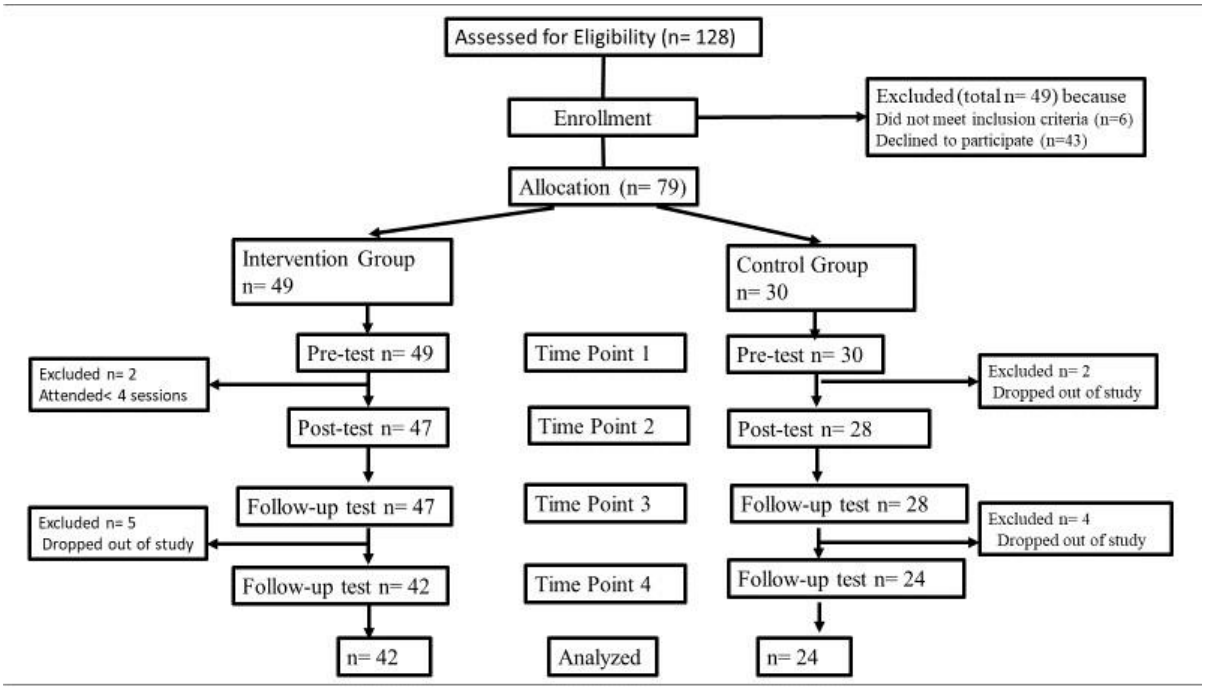


Figure 1. Flow chart for study participation

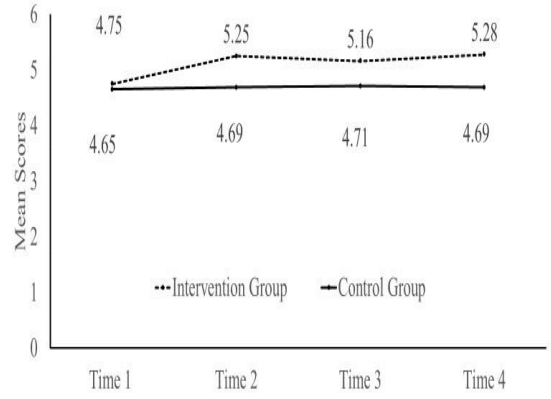


Figure 2. Trauma-informed Fostering Scale results of means

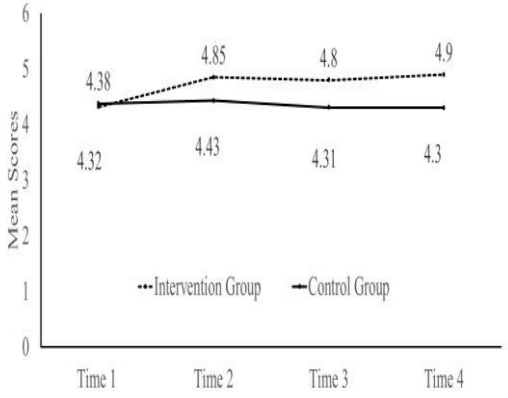


Figure 3. Tolerance of Misbehaviour Scale results of means

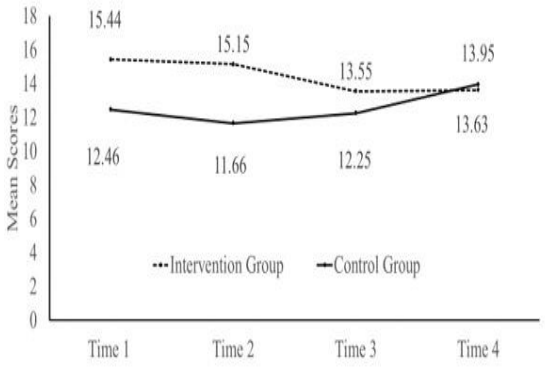


Figure 5. Total Difficulties Scale results of means

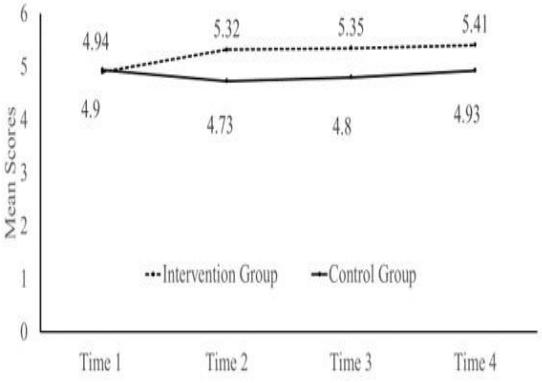


Figure 4. Fostering Efficacy Scale results of means