



PROGRAM DEVELOPERS

Kelly, J., Zuckerman, T., Sandoval, D. & Buehlman, K. (2003, 2008, 2016).

Promoting First Relationships: A curriculum for service providers to help parents and caregivers meet the social and emotional needs of young children. Seattle, WA. Parent-Child Relationship Programs at the Barnard Center. pcrprograms.org



Summary of Research Results for Promoting First Relationships®

The results below are from our randomized clinical trials in several different settings and populations. Participants were randomly assigned to receive the 10-week home visiting model or resource and referral (or in one case, Beginning Relationships Program in a tribal setting, where we used a randomized wait-list control design). In this document we have outlined the main findings.

What is PFR?

- PFR is an evidence-based home visiting program for parents and young children, birth to five.
- We use a reflective parenting strategy that supports parents in their unique relationship with their child.
- PFR is NOT a traditional parenting program. We are a “transformative relationship program.”

PFR is a reflective parenting program.

How Does PFR Work?

- We use video observations to provide positive feedback and support parents’ reflective capacity.
- Video observation helps parents and caregivers become careful observers of their child’s nonverbal language. Video observation also helps them see themselves from their child’s point of view.

“Learning PFR has given me so much more insight into my own practice, and even with my own children. What I didn’t prepare for was the profound effect that it has had on me as a human being, the internal insight and the compassion that it has ignited has been more empowering than first anticipated”—from a provider

- We create non-judgmental space to explore and reflect with parents and support them in finding their own insights and wisdom.
- We use engaging handouts and activities to help parents see how they can support their child’s emotional health.

PFR Research Summary

Below you will find a brief description of the Randomized Clinical Trials (RCT) studies used to evaluate PFR. We first report the main effects of the RCT using an Intent-to-Treat approach. The main effect study results are followed by studies of mediation and moderation. In addition, below is a table providing a summary of the range of effect sizes across studies.

Summary of PFR Main Effects Across Studies Listed Below	
Outcome	Cohen's <i>d</i> effect size
Observed Caregiver Sensitive and Responsive Parenting	.21–.1.02
Caregiver Understanding of Social and Emotional Development	.35 - .58
Child Externalizing Behavior	.12–1.18
Child Emotional Development	.19–.42
Child Sleep	.34
Child Cortisol Pattern	1.2
Child Respiratory Sinus Arrhythmia (RSA)	.35
Child Foster Care Placement Stability with Foster or Kin Caregivers—Two Years Post Intervention	.74
Prevention of Child Removal from Birth Family into Foster Care—One Year Post Intervention	.50

Study #1: Child Welfare System



Randomized Clinical Trial in the Foster Care System: Fostering Families Project (FFP) 2005–2010

PI: Susan Spieker, NIH—National Institute on Mental Health R01

POPULATION: Enrolled 210 caregivers who were caring for a child age 1 to 2.5 years old. The main eligibility requirement was that the child needed to have experienced a foster care separation from a caregiver in the last 60 days. Caregivers included foster parents ($n = 89$), kin caregivers ($n = 65$), and reunified birth families ($n = 56$).

Main Effect Results: Spieker et al., 2012

- Significantly improved dyadically observed caregiver sensitivity¹ post-test, Cohen's $d = .41$, ($N = 210$), six-month Cohen's d was $.29$ ($N = 129$) but was not statistically significant because our sample size dropped by six months post intervention as many children changed caregivers and were in new placements. Our measure was based on observations of the dyad's interaction.
- Significantly improved parents' knowledge of child social and emotional development; Cohen's $d = .42$ post-test and $d = .39$ six-months post-test.
- Significantly improved child competence, Cohen's $d = .42$ post-test.

“This program [PFR] helped me understand my child's emotions & needs & the videos helped me step “outside” the moment & gives me a chance to see room for improvement.”

¹ All of the Spieker, Oxford, or Booth-LaForce RCT's used a measure of observed caregiver sensitive and responsive care (Nursing Child Assessment- Parent-Child Interaction Teaching Scale). Caregivers were asked to teach the child something they did not yet know how to do (e.g. string beads) and were video recorded during the teaching episode. Trained and reliable coders were blinded to treatment condition coded all caregiver-child interactions.

Child Welfare Outcomes: Spieker et al., 2014

Two years post intervention, PFR showed improved placement stability (stable, uninterrupted care and were eventually more likely to be adopted by the caregiver who received PFR if the child became available for adoption). In other words, if a foster/kin caregiver received PFR, the child experienced greater placement stability relative to the control group, Cohen's $d = .74$, see Spieker et al., 2014.

Moderation/Mediation and Subgroup Analysis

- Reunified birth parents and their children experienced larger effect sizes on all dyadic (observed sensitivity), parent, and child outcomes, see Oxford & Marcenko et al., 2016.
- Reunified birth children experienced lower levels of sleep problems than controls; this effect was mediated by improved confidence in caregiver's availability (via a measure of child reduced separation distress), see Oxford et al., 2014.
- In the full sample, children, who experienced multiple foster care removals from their birth parent since birth, were protected from a reduction in their attachment security scores relative to the control group; this effect led to a reduction in externalizing behavior at six-months follow up, see Pasalich et al., 2016.

“The PFR program was really nice. It connected me to my daughter in more ways than I thought I could be connected to her. I feel like I understand her more.”

Stress Physiology: Nelson & Spieker, 2013

PFR normalized stimulated cortisol response; pretest the predominant pattern was a flat cortisol response to a stressor; post-intervention the PFR group showed an increase in stimulated cortisol response, a more normative pattern, Cohen's $d = 1.2$.

STUDY #1 REFERENCES

- Nelson, E. M., & Spieker, S. J. (2013). Intervention effects on morning and stimulated cortisol responses among toddlers in foster care. *Infant Mental Health Journal*, *34*(3), 211–221.
- Oxford, M., Fleming, C., Nelson, E., Kelly, J., & Spieker, S. (2013). Randomized trial of Promoting First Relationships: Effects on maltreated toddlers' separation distress and sleep regulation after reunification. *Children and Youth Services Review*, *35*(12), 1988–1992. <https://doi.org/10.1016/j.childyouth.2013.09.021>. PMID: PMC3864747
- Oxford, M.L., Marcenko, M., Fleming, C. B., Lohr, M.J., & Spieker, S.J. (2016). Promoting birth parents' relationships with their toddlers upon reunification: Results from Promoting First Relationships® home visiting program. *Children and Youth Services Review*, *61*, 109–116.
- Pasalich, D.S., Fleming, C.B., Oxford, M.L., Zheng, Y., & Spieker, S.J. (2016). Can parenting intervention prevent cascading effects from placement instability to insecure attachment to externalizing problems in maltreated toddlers? *Child Maltreatment*, *21*(1), 175–185.
- Spieker, S., Oxford, M., Kelly, J., Nelson, E., & Fleming, C. (2012). Promoting First Relationships: Randomized trial of a relationship-based intervention for toddlers in child welfare. *Child Maltreatment*, *17*(4), 271–286. <https://doi.org/10.1177/1077559512458176>
- Spieker, S., Oxford, M., Kelly, J., Nelson, E., & Fleming, C. (2012). Promoting First Relationships randomized trial of a relationship-based intervention for toddlers in child welfare. *Child Maltreatment*, *17*(4), 271–286.
- Spieker, S., Oxford, M.L., & Fleming, C.B. (2014). Permanency outcomes for toddlers in child welfare two years after a randomized trial of a parenting intervention. *Children and Youth Services Review*. <https://doi.org/10.1016/j.childyouth.2014.06.017>. PMID in process.

Study #2: Child Protective System



Randomized Clinical Trial in the Child Protective System: Supporting Parents Program (SPP) 2010–2015

PI: Monica Oxford, NIH—National Institute of Child Health and Human Development, R01

POPULATION: Enrolled 247 caregivers who were under investigation for maltreatment and had a child aged 1 to 2.5 years old. The main eligibility requirement was that the family with an open investigation of maltreatment.

Main Effect Results: Oxford et al., 2016

- Significantly improved dyadically observed caregiver sensitivity, overall Cohen’s d was .21 ($N = 247$). Follow up timepoints: immediate post-test and six-month post-test.
- Significantly improved parents’ knowledge of child social and emotional development, overall Cohen’s $d = .35$.
- Significantly improved child’s observed affective communication errors, Cohen’s $d = .19$.

Child Welfare Outcomes: Oxford et al., 2016

One-year post intervention children in the control group were 2.5 times more likely to be removed from their caregivers’ home and placed into foster care relative to those in the PFR group. In other words, PFR reduced foster care placements by 2.5 times one-year post intervention, Cohen’s $d = .50$.

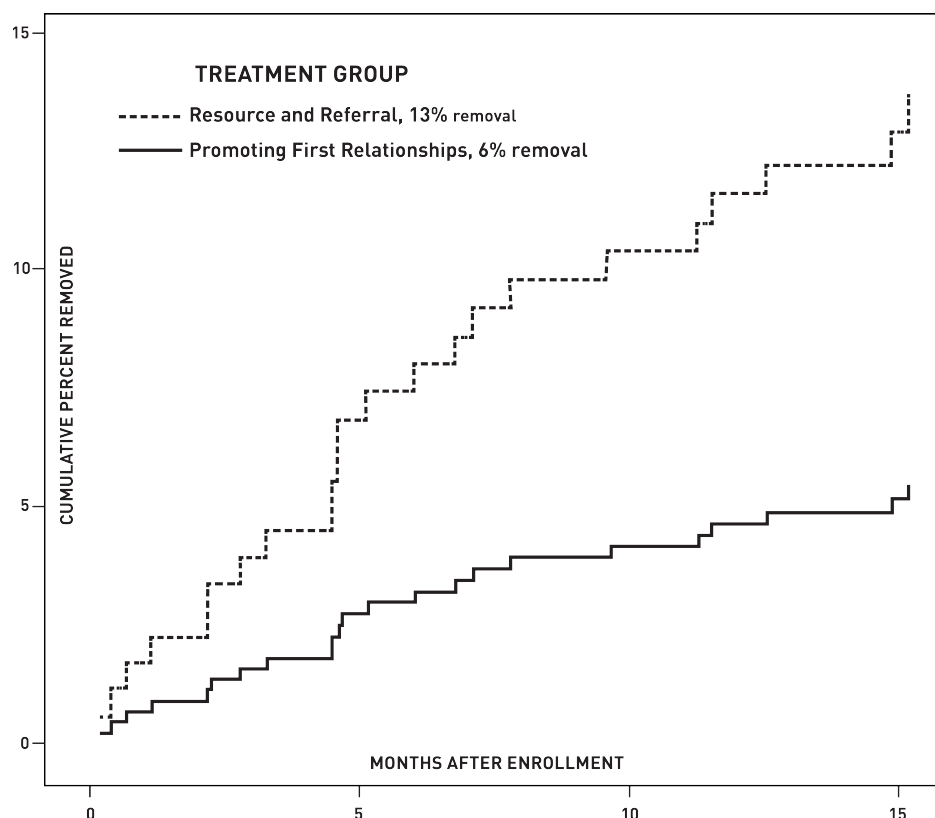


Figure 1. Cumulative percent of children removed from their birth home one-year post-intervention

Moderation/Mediation and Subgroup Analysis

- PFR was more effective at improving sensitivity for birth parents who reported they were physically abused as children, and this effect moderated the relationship between parental sensitivity and child sense of security with the parent, see Pasalich et al., 2018.
- PFR buffered children from developing sleep problems as they were increasingly exposed to Adverse Childhood Experiences (ACEs). In other words, as ACEs increased in a toddler's life, those children who received PFR did not go on to develop sleep problems. However, the control group went on to develop sleep problems as their ACEs increased, see Hash et al., 2019b.

“I think this program helped build my relationship with my child for the better. It has helped me understand him more as a child. I am glad I did this program.”
 —from a parent in the CPS study

Stress Physiology: Hastings et al., 2019

Children whose caregivers received PFR improved their parasympathetic reactivity to a series of difficult tasks using an electrocardiogram to measure respiratory sinus arrhythmia. In other words, children in the PFR group showed improved parasympathetic regulation relative to the control group, six months post intervention, Cohen's $d = .35$.

STUDY #2 REFERENCES

- Hash, J.B., Oxford, M.L., Fleming, C.B., Ward, T.M., & Spieker, S.J. (2019a). Sleep problems, daily napping behavior, and social-emotional functioning among young children from families referred to Child Protective Services. *Behavioral Sleep Medicine*, 1–13.
- Hash, J.B., Oxford, M.L., Fleming, C.B., Ward, T.M., Spieker, S.J., & Lohr, M.J. (2019b). Impact of a home visiting program on sleep problems among young children experiencing adversity. *Child Abuse & Neglect*, 89, 143–154.
- Hash, J.B., Oxford, M.L., Ward, T.M., Fleming, C.B., & Spieker, S.J. (2020). Sleep patterns, problems and ecology among toddlers in families with a Child Protective Services maltreatment referral. *Journal of Pediatric Nursing*, 51, 85–91.
- Hastings, P.D., Kahle, S., Fleming, C.B., Lohr, M.J., Katz, L.F., & Oxford, M.L. (2019). An intervention that increases parental sensitivity in families referred to Child Protective Services also changes toddlers' parasympathetic regulation. *Developmental Science*, 22(1), e12725.
- Oxford, M.L., Spieker, S.J., Lohr, M.J., & Fleming, C.B. (2016). Promoting First Relationships® Randomized trial of a 10-week home visiting program with Families Referred to Child Protective Services. *Child Maltreatment*, 21(4), 267–277.
- Oxford, M.L., Spieker, S.J., Lohr, M.J., Fleming, C.B., Dillon, C., & Rees, J. (2018). Ensuring implementation fidelity of a 10-week home visiting program in two randomized clinical trials. *Maternal and Child Health Journal*, 22(3), 376–383.
- Pasalich, D.S., Fleming, C.B., Spieker, S.J., Lohr, M.J., & Oxford, M.L. (2018) Does parents' own history of child abuse moderate the effectiveness of the Promoting First Relationships® intervention in Child Welfare? *Child Maltreatment*, 24(1), 56–65. <https://doi.org/10.1177/1077559518809217>.
- Spieker, S.J., Oxford, M.L., Fleming, C.B., & Lohr, M.J. (2018). Parental childhood adversity, depressive symptoms, and parenting quality: Effects on toddler self-regulation in child welfare services involved families. *Infant Mental Health Journal*, 39(1), 5–16.

Study #3: Native American Community



Randomized Clinical Trial in a Native American Setting: Beginning Relationships 2012–2017

PI: Cathryn Booth-LaForce, NIH—National Institute on Minority Health and Health Disparities R01

POPULATION: Enrolled 34 caregivers of Native American children aged 1 to 3 years of age living in a rural tribal setting.

Main Effect Results: Booth-LaForce et al., 2020

- Significantly improved dyadically observed caregiver sensitivity, overall Cohen’s d was 1.02, post-test.
- Significant improvements in caregiver-child contingency Cohen’s d was 1.21, post-test.
- Significantly improved parents’ knowledge of child social and emotional development, Cohen’s $d = .58$.
- Showed very strong Cohen’s d on all behavior measures and parenting stress, but the study was underpowered, and the effects were not statistically significant: externalizing Cohen’s $d = 1.18$; internalizing $d = .29$; child competence $d = 1.09$; and parenting stress $d = 1.04$.

“Well, I felt that the program really helped my relationship with my daughter. You know, get more close to her. It seems that I am really there for my daughter now, when she feels upset and I know how to deal with her when she is having a bad day.”

—from a parent in the Native American study

STUDY #3 REFERENCES

- Booth-LaForce, C., Oxford, M.L., Barbosa-Leiker, C., Burduli, E., & Buchwald, D.S. (2020). Randomized controlled trial of the Promoting First Relationships® preventive intervention for primary caregivers and toddlers in an American Indian community. *Prevention Science, 21*(1), 98–108.
- Oxford, M., Booth-LaForce, C., Echo-Hawk, A., Madesclaire, O., Parrish, L., Widner, M., ... & CATCH Project Team. (2020). Promoting First Relationships®: Implementing a home visiting research program in two American Indian communities. *Canadian Journal of Nursing Research, 52*(2), 149–156. <https://doi.org/10.1177/0844562120914424>

Study #4: Children at Risk for Autism Spectrum Disorder



Randomized Clinical Trial in a sample of Children at Risk for Autism Spectrum Disorder as Younger Siblings of a Child on the Spectrum: SIBS Study

PI: Dawson & Webb. NIH—National Institute of Child Health and Human Development, P50–R01

POPULATION: Enrolled 33 children who were infant siblings of an older child who had been diagnosed with autism spectrum disorder (ASD). Infants were randomly assigned to receive PFR between 9 and 11 months of age and followed up at 12 and 18 months of age.

Main Effect Results: Jones et al., 2017

Children assigned to the PFR intervention showed more normative social attention patterns relative to the usual care control group. Electrophysiological and habituation measures were collected over time. Children in the PFR condition showed improvements in neurocognitive measures of social attention at 12 months; these results were maintained at 18 months of age.

STUDY #4 REFERENCES

Jones, E.J., Dawson, G., Kelly, J., Estes, A., & Webb, S.J. (2017). Parent-delivered early intervention in infants at risk for ASD: Effects on electrophysiological and habituation measures of social attention. *Autism Research, 10*(5), 961–972.

Study #5: Native American Community



Randomized Clinical Trial in a Native American Setting: Thiwáhe Patítan Project 2013–2021

MPI: Cathryn Booth-LaForce, Dedra Buchwald, Monica Oxford, NIH—National Institute of Nursing Research R01

POPULATION: Enrolled 161 caregivers of American Indian children aged 1 to 3 years of age living in a rural tribal setting.

“The program got me a lot closer to my son. It showed me emotions that I did not think he would have, our bond together is closer than it was before and I feel like through the program I got to be with my son a lot more than just being his mom.”
—from a parent in the Native American study

Main Effects Results: Booth-LaForce et al., 2022

- Significantly improved dyadically observed sensitivity, Cohen’s $d = .50$.
- Significantly improved parents’ knowledge of child social and emotional development, Cohen’s $d = .60$.
- Significantly improved caregivers depressive symptoms, Cohen’s $d = .40$.

Moderation/Mediation and Subgroup Analysis

- PFR was moderated by caregiver depressive symptoms at baseline, such that PFR had a greater effect for those with lower initial levels of symptoms (Booth-La Force et al., 2022).

STUDY #5 REFERENCES

Booth-LaForce, C., Oxford, M. L., O’Leary, R., & Buchwald, D. S. (2023). Promoting First Relationships® for Primary Caregivers and Toddlers in a Native Community: A Randomized Controlled Trial. *Prevention Science, 24*(1), 39–49.

Booth-LaForce, C., Oxford, M. L., O’Leary, R., Rees, J., Petras, A., & Buchwald, D. S. (2023). Implementation Fidelity of the Promoting First Relationships® Intervention Program in a Native Community. *Translational Behavioral Medicine, 13*(1), 34–41.

O’Leary, R., Oxford, M. L., Booth-LaForce, C., London, S., & Buchwald, D. S. (2022). Experiences of Native Participants in the Promoting First Relationships® Intervention: Focus Group Findings. *Maternal and Child Health Journal, 26*(11), 2263–2270.

Study #6: Mothers With Mental Health Needs and Their Infants (English and Spanish)



Randomized Clinical Trial in a Sample of English and Spanish Speaking, Lower Income Mothers Diagnosed with a Mental Illness During Pregnancy 2015–2022.

PI: Susan Spieker, NIH—National Institute of Child Health and Human Development R01

POPULATION: Enrolling 254 mothers of young infants aged 2–4 months. Mothers were eligible if they spoke either English or Spanish (research and intervention delivered in both languages), and if they received mental health treatment through the Mental Health Integration Program (MHIP) during pregnancy.

Main Effects Results: Oxford et al., 2021

- Significantly improved dyadically observed sensitivity, Cohen’s $d = .26$.
- Significantly improved parents’ knowledge of child social and emotional development, Cohen’s $d = .45$.
- Significantly improved child externalizing behavior at one year of age; Cohen’s $d = .28$.
- Trending effect, mothers in the PFR group had lower severity scores on both measures at both time points. Differences trended toward significance at 6 months for the GAD, Cohen’s $d = .19$ ($p = .054$), and at 12 months for the PHQ 9 Cohen’s $d = .18$ ($p = .089$).

“I loved the information, the visits, and how much they listened to me. This program has changed me for the better and in how to recognize better my baby’s needs. Thanks” —from a Spanish speaking mother in the perinatal mental health study

“This was the most awesome eye opening experience ever, and I learned a lot not only about me but also about the way I raise my kids. The way I am, I felt that I and [provider name] touched and reached a past side of me that I locked a long time ago and it helped me understand and repair a lot of things in my present and probably in my future. I loved the program.”—from an English speaking mother in the perinatal mental health study

Moderation/Mediation and Subgroup Analysis

- PFR produced stronger positive effects on dyadically observed caregiver sensitivity for those with very high scores on depression, anxiety, post-traumatic stress disorder (PTSD), anger and interpersonal sensitivity when they started the study (Oxford et al., 2023).
- PFR demonstrated a greater positive effect among mothers who preferred Spanish, $d = .69$, than English, $d = .40$, in their understanding of infant social and emotional development (Hash et al., 2023).

STUDY #6 REFERENCES

- Oxford, M. L., Hash, J. B., Lohr, M. J., Bleil, M. E., Fleming, C. B., Unützer, J., & Spieker, S. J. (2021). Randomized trial of promoting first relationships for new mothers who received community mental health services in pregnancy. *Developmental Psychology*, 57(8), 1228.
- Oxford, M. L., Hash, J. B., Lohr, M. J., Fleming, C. B., Dow-Smith, C., & Spieker, S. J. (2023). What works for whom? Mother’s psychological distress as a moderator of the effectiveness of a home visiting intervention. *Infant Mental Health Journal*, 44(3), 301-318.
- Hash, J.B., Oxford, M.L., Nelson, D.C., Lohr, M.J., Fleming, C.B., de Castro, B.A., Spieker, S.J., (2023). Efficacy of *Promoting First Relationships*® for English and Spanish Speakers: A Randomized Controlled Trial. Manuscript under review.

Study #7: Child Welfare Reunified Birth Parents



Randomized Clinical Trial in a Sample of Reunified Birth Parents with their Birth Child after a Foster Care Separation

PI: Monica Oxford, NIH-National Institute of Child Health and Human Development R01

POPULATION: Enrolled 240 caregivers of children aged 1–5 who were being reunified with their birth parent after being in foster care.

Enrollment is complete; intervention and evaluation visits ongoing.

[PFR] helped me understand my son's cues and needs. I get it now! I get him! I want to think about him in a different way. It helped me to step back, take a breath, evaluate the situation and understand the situation, why is he acting this way? Is he scared? Is he stressed? Does he need me? It makes it a little more comforting in the situation—and for him, he is more happy and secure, knowing that mom gets what I'm saying or why I'm acting this way. I get him now.”
—from a reunified Birth parent

Study #8: Promoting First Relationships by Telehealth within Child Protective Services System



Delivering Evidence-Based Parenting Services to Families in Child Welfare Using Telehealth

PI: Monica Oxford, NIH- National Institute of Child Health and Human Development R01

POPULATION: Enrolling 357 biological caregivers who are currently under investigation by child protective services for a report of maltreatment.

Study is ongoing: 2023–2028

Study #9: Growing Together: Promoting First Relationships and Cellular Aging



The impact of stress and caregiver sensitivity on infant cellular aging in a population of under-resourced families: A randomized controlled trial.

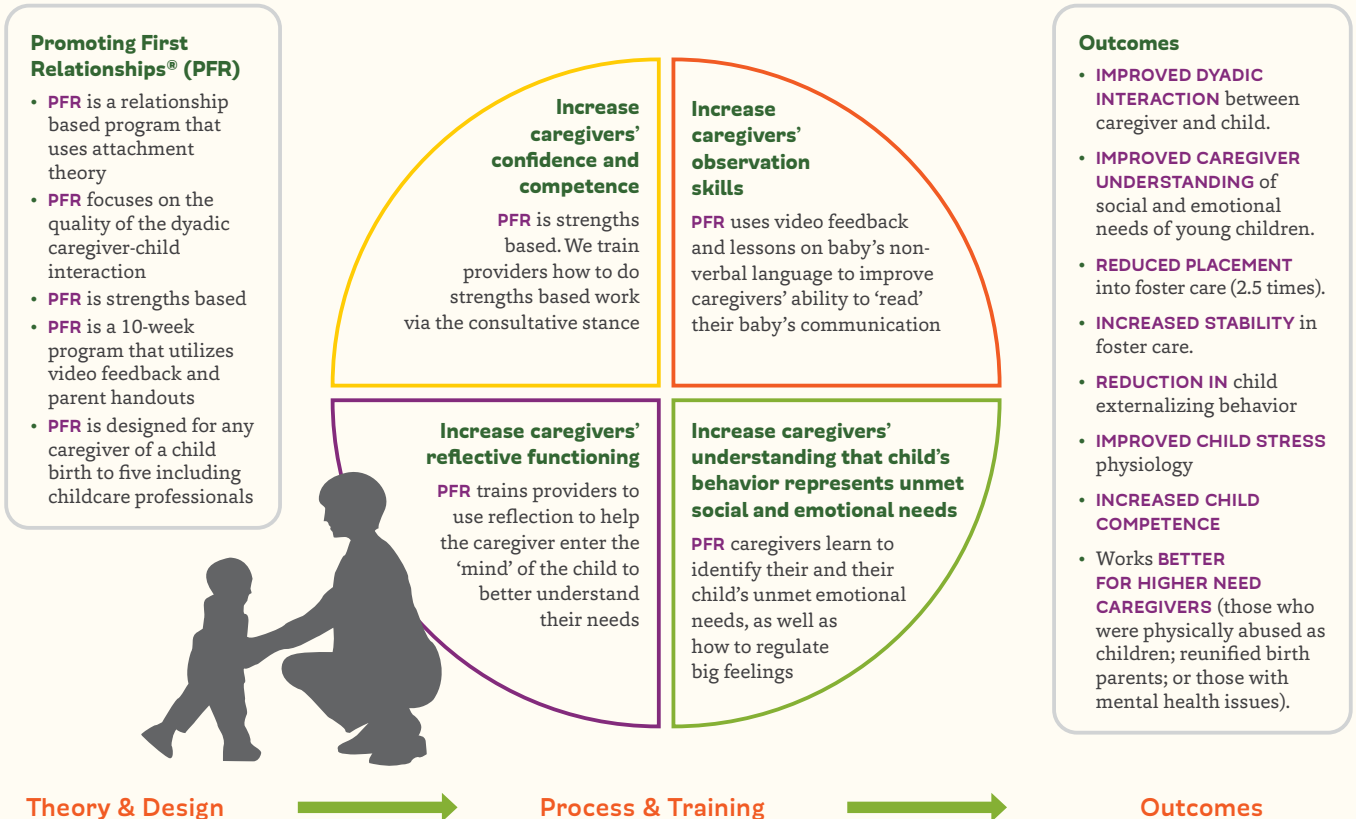
MPI: Monica Oxford (UW), Idan Shalev (Penn State), and Carrie Dow-Smith (WakeMed) NIH- National Institute of Nursing Research, R01

POPULATION: Enrolling 250 biological caregivers of infants 3 to 11 months of age who are receiving pediatric care at WakeMed in North Carolina. Participants randomized to the treatment condition will receive PFR home visiting and two sessions of PFR in Primary Care. We will measure infant and caregiver cellular aging pre-test, and infant cellular aging post-test to assess the protective effect of PFR and improved caregiver sensitivity.

Study is ongoing: 2024–2029



Logic Model



For more information:

- For training information visit pfrprogram.org or email Jennifer Rees at rees@uw.edu
- For research related questions contact Dr. Monica Oxford at mloxford@uw.edu
- To request copies of the listed publications contact us at the Parent-Child Relationship Programs pcrp@uw.edu

Program Developers

Kelly, J., Zuckerman, T., Sandoval, D. & Buehlman, K. (2003, 2008, 2016). Promoting First Relationships: A curriculum for service providers to help parents and caregivers meet the social and emotional needs of young children. Seattle, WA. Parent-Child Relationship Programs at the Barnard Center.
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