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SUMMARY OF RESEARCH RESULTS FOR PROMOTING FIRST RELATIONSHIPS®

Promoting First Relationships® (PFR) is an infant and early childhood mental health program that helps parents and other caregivers nurture young children's social and emotional development (Kelly, Zuckerman, Sandoval, & Buehlman, 2003, 2008, 2016). Designed for caregivers with children birth-to-five, PFR is a strengths-based home visiting program that uses video feedback and is theoretically based on attachment theory. PFR can be used in programs for universal promotion, prevention, and targeted intervention.

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). Below we have outlined the main findings.

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

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.

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 development (Cohen's $d = .42$ post-test and $d = .39$ six-months post-test).
- Significantly improved child competence (Cohen's $d = .42$ post-test).

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, 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.

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.

STUDY #1 REFERENCES

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- 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
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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 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.

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. In other words, as ACE's 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 ACE's increased, see Hash et al., 2019b.

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.

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.
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STUDY #3

American Indian Community



Randomized Clinical Trial in an American Indian Tribal Setting: Beginning Relationships 2012-2017

PI: Cathryn Booth-LaForce, NIH—National Institute on Minority Health and Health Disparities R01
Population: Enrolled 34 caregivers of American Indian 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 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.

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.
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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

American Indian Community



Randomized Clinical Trial in an American Indian Tribal Setting: 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.

Main Effects Results: Booth-LaForce et al., 2021

- Significantly improved dyadically observed caregiver sensitivity.
- Significantly improved parents' knowledge of child development.

STUDY #5 REFERENCES

Booth-LaForce, C., Oxford, M., O'Leary, R., Buchwald, D., (under review) Promoting First Relationships® for Primary Caregivers and Toddlers in a Native Community: A Randomized Controlled Trial.

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 development, Cohen's $d = .45$.
- Significantly improved child externalizing behavior at one year of age, Cohen's $d = .28$.

Moderation/Mediation and Subgroup Analysis

- Trending effect, mothers in the PFR group had lower severity scores on both measures of anxiety and depression at both time points. Differences trended toward significance at 6 months for the GAD (anxiety), $d = 0.19$, $p = .054$, and at 12 months for the PHQ-9 (depression), $d = 0.18$, $p = .089$.
- PFR was more effective at improving sensitivity for birth mothers in this sample who showed high symptom load at baseline. Women who reported high baseline depression, anxiety, anger, interpersonal sensitivity, and PTS symptoms had greater improvement in their sensitive caregiving by time three and greater maternal confidence at time two and time three. Findings suggest that mothers with the greatest need, as indicated by high psychological distress, benefitted the most from PFR. For details see Oxford et al., 2022.

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., & Spieker, S.J. (in press). What works for whom? Mother's psychological distress as a moderator of the effectiveness of a home visiting intervention.

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 2017–ongoing

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

Population: Enrolling 255 caregivers of children aged 1–5 who are being reunified with their birth parent after being in foster care.

Study is ongoing.

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

Promoting First Relationships®: A Program for Service Providers to Help Parents and Other Caregivers Nurture Young Children's Social and Emotional Development by Kelly, Zuckerman, Sandoval and Buehlman (2003, 2008, 2016)

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