

# *Comprehensive Community Mental Health Services for Children and Their Families Program*

## **Implementing Parent Child Interaction Therapy (PCIT) in Systems of Care: Treatment Outcomes and Lessons Learned from Real World Settings**

**Paper Presentation at  
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# Background and Overview



# ***Background and Overview***

## **Goal of the Treatment Effectiveness Study:**

- To examine whether children who receive an EBT delivered within a system of care experience better outcomes than children who do not receive the EBT

## **Research question:**

- To what extent does an evidence-based treatment increase the effectiveness of the system of care?



# ***Background and Overview***

## ***Treatment Intervention***

### **Parent-Child Interaction Therapy (PCIT)**

- Modular (12 therapy sessions)
- Emphasis on restructuring parent-child patterns, not modifying target behaviors
- Involves children and their parents
- Designed to address disruptive behavior disorders (use DISC for screening)
- Designed for children 3 to 7 years of age (targeting those 5 to 10 years of age)
- Built-in fidelity measures
- Outcome-specific measures
- School component (in Kentucky)



# ***Background and Overview*** ***Communities***

## **Participating Communities**

- **Clackamas County, Oregon**
  - Suburban and Rural
  - Community-based clinics
- **Kentucky**
  - Rural
  - School-based



# ***Background and Overview***

## ***Participants***

### **Eligibility Criteria**

- Children who are new to services or who have had 6-months pass since their prior service episode.
- Children between the ages of 6-weeks prior to their 5<sup>th</sup> birthday, and prior to their 10<sup>th</sup> birthday.
- Children having a disruptive behavior diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD) or Conduct Disorder as determined through assessment using the Diagnostic Interview Schedule for Children (DISC).



# ***TES Enrollment and Follow Up***

|  | <b>Kentucky</b> | <b>Clackamas</b> |
|--|-----------------|------------------|
| <b>Children screened for the treatment effectiveness study using DISC.</b> | <b>90</b>       | <b>103</b>       |
| <b>Total children enrolled in the treatment effectiveness study.</b>       | <b>72</b>       | <b>91</b>        |
| <b>Children enrolled in the TES (treatment condition).</b>                 | <b>39</b>       | <b>45</b>        |
| <b>Children enrolled in the TES (control condition).</b>                   | <b>33</b>       | <b>46</b>        |
| <b>Children with completed baseline interviews.</b>                        | <b>72</b>       | <b>91</b>        |
| <b>Children with completed 3-month follow-up interviews.</b>               | <b>56 (78%)</b> | <b>89 (98%)</b>  |
| <b>Children with completed 6-month follow-up interviews.</b>               | <b>58 (81%)</b> | <b>85 (93%)</b>  |
| <b>Children with completed 9-month follow-up interviews.</b>               | <b>51 (71%)</b> | <b>83 (91%)</b>  |
| <b>Children with completed 12-month follow-up interviews.</b>              | <b>52 (72%)</b> | <b>84 (92%)</b>  |
| <b>Children with completed 18-month follow-up interviews.</b>              | <b>N/A</b>      | <b>77 (85%)</b>  |



# Characteristics of Children and Families at Baseline

| Demographic Variables               | Site 1    |           |                            | Site 2    |           |                            |
|-------------------------------------|-----------|-----------|----------------------------|-----------|-----------|----------------------------|
|                                     | Treatment | Control   | Chi-Square                 | Treatment | Control   | Chi-Square                 |
| Gender                              | (n = 45)  | (n = 46)  | $\chi^2 = 0.267, p > 0.05$ | (n = 39)  | (n = 33)  | $\chi^2 = 0.204, p > 0.05$ |
| Male                                | 62.2%     | 67.4%     |                            | 61.5%     | 66.7%     |                            |
| Female                              | 37.8%     | 32.6%     |                            | 38.5%     | 33.3%     |                            |
| Age                                 | (n = 45)  | (n = 46)  | $\chi^2 = 0.642, p > 0.05$ | (n = 38)  | (n = 33)  | $\chi^2 = 7.469, p < 0.01$ |
| Mean                                | 7.1 years | 7.0 years | Average age =              | 5.8 years | 7.3 years | Average age =              |
| 0–5 Years                           | 13.3%     | 19.6%     | $F(1,90) = .086, p >$      | 36.8%     | 9.1%      | $F(1,70) = 8.05, p < 0.05$ |
| 6–11 Years                          | 86.7%     | 80.4%     | 0.05                       | 63.2%     | 90.9%     |                            |
| Race and Ethnicity                  | (n = 45)  | (n = 46)  | $\chi^2 = 0.189, p > 0.05$ | (n = 38)  | (n = 33)  | $\chi^2 = 1.386, p > 0.05$ |
| African American                    | 4.4%      | 6.5%      | $\chi^2 = 0.501, p > 0.05$ | 2.6%      | 9.1%      | n/a                        |
| American Indian                     | 6.7%      | 10.9%     | $\chi^2 = 0.00, p > 0.05$  | 0.0%      | 0.0%      | n/a                        |
| Asian                               | 2.2%      | 2.2%      | $\chi^2 = 0.100, p > 0.05$ | 0.0%      | 0.0%      | n/a                        |
| Hispanic Ethnicity                  | 11.1%     | 9.1%      | n/a                        | 0.0%      | 0.0%      | n/a                        |
| Native Hawaiian or Pacific Islander | 0.0%      | 0.0%      |                            | 0.0%      | 0.0%      |                            |
| White                               | 95.6%     | 89.1%     | $\chi^2 = 1.323, p > 0.05$ | 97.4%     | 97.0%     | $\chi^2 = 0.010, p > 0.05$ |
| Biracial or Multiracial             | 15.6%     | 17.4%     | $\chi^2 = 0.056, p > 0.05$ | 5.3%      | 6.1%      | $\chi^2 = 0.021, p > 0.05$ |
| Other                               | 0.0%      | 0.0%      | n/a                        | 2.6%      | 0.0%      | $\chi^2 = 0.881, p > 0.05$ |

# Characteristics of Children and Families at Baseline

| Demographic Variables | Site 1    |          |                                 | Site 2    |          |                                 |
|-----------------------|-----------|----------|---------------------------------|-----------|----------|---------------------------------|
|                       | Treatment | Control  | Chi-Square                      | Treatment | Control  | Chi-Square                      |
| Custody               | (n = 45)  | (n = 46) | $\chi^2 = 2.452,$<br>$p > 0.05$ | (n = 38)  | (n = 33) | $\chi^2 = 4.569,$<br>$p > 0.05$ |
| Two Parents           | 13.3%     | 15.2%    |                                 | 36.8%     | 30.3%    |                                 |
| Mother                | 51.1%     | 45.7%    |                                 | 42.1%     | 45.5%    |                                 |
| Father                | 4.4%      | 4.3%     |                                 | 5.3%      | 0.0%     |                                 |
| Adoptive Parents      | 6.7%      | 8.7%     |                                 | 5.3%      | 6.1%     |                                 |
| Foster Parents        | 2.2%      | 0.0%     |                                 | 0.0%      | 0.0%     |                                 |
| Ward of State         | 8.9%      | 15.2%    |                                 | 0.0%      | 3.0%     |                                 |
| Grandparents          | 8.9%      | 8.7%     |                                 | 7.9%      | 6.1%     |                                 |
| Other                 | 4.4%      | 2.2%     | 2.6%                            | 9.1%      |          |                                 |
| Family Income         | (n = 43)  | (n = 46) | $\chi^2 = 5.347,$<br>$p > 0.05$ | (n = 38)  | (n = 33) | $\chi^2 = 2.832,$<br>$p > 0.05$ |
| Less than \$10,000    | 37.2%     | 30.4%    |                                 | 31.6%     | 39.4%    |                                 |
| \$10,000–19,999       | 9.3%      | 28.3%    |                                 | 39.5%     | 24.2%    |                                 |
| \$20,000–34,999       | 18.6%     | 15.2%    |                                 | 23.7%     | 27.3%    |                                 |
| \$35,000–49,999       | 14.0%     | 8.7%     |                                 | 5.3%      | 6.1%     |                                 |
| \$50,000–74,999       | 16.3%     | 13.0%    |                                 | 0.0%      | 3.0%     |                                 |
| \$75,000 & Above      | 4.7%      | 4.3%     | 0.0%                            | 0.0%      |          |                                 |
| Medicaid Recipient    | (n = 45)  | (n = 46) | $\chi^2 = 1.946,$<br>$p > 0.05$ | (n = 38)  | (n = 33) | $\chi^2 = 0.058,$<br>$p > 0.05$ |
| Yes                   | 24.4%     | 13.0%    |                                 | 86.8%     | 84.8%    |                                 |



# Clinical Characteristics of Children and Families at Baseline

| Baseline Scores on Clinical Measures* | Site 1                  |                         |                                  | Site 2                  |                         |                                  |
|---------------------------------------|-------------------------|-------------------------|----------------------------------|-------------------------|-------------------------|----------------------------------|
|                                       | Treatment               | Control                 | F-Test                           | Treatment               | Control                 | F-Test                           |
| Functional Impairment (CAFAS)         | (n = 45)<br>98.9 (31.5) | (n = 46)<br>97.0 (32.0) | $F(1, 90) = 0.084$<br>$p > 0.05$ | (n = 38)<br>80.5 (41.5) | (n = 33)<br>95.8 (37.8) | $F(1, 70) = 2.580$<br>$p > 0.05$ |
| Strength Quotient (BERS)              | (n = 45)<br>86.0 (15.1) | (n = 46)<br>88.2 (15.2) | $F(1, 90) = 0.489$<br>$p > 0.05$ | (n = 38)<br>91.0 (17.3) | (n = 32)<br>92.9 (13.4) | $F(1, 69) = 0.273$<br>$p > 0.05$ |
| Total Behavioral Problems (CBCL)      | (n = 45)<br>71.8 (6.3)  | (n = 46)<br>71.2 (6.8)  | $F(1, 90) = 0.178$<br>$p > 0.05$ | (n = 39)<br>70.6 (7.0)  | (n = 33)<br>70.8 (7.8)  | $F(1, 71) = 0.027$<br>$p > 0.05$ |
| Internalizing Problems (CBCL)         | (n = 45)<br>64.8 (8.2)  | (n = 46)<br>65.6 (8.4)  | $F(1, 90) = 0.206$<br>$p > 0.05$ | (n = 39)<br>63.7 (8.8)  | (n = 33)<br>62.7 (10.5) | $F(1, 71) = 0.204$<br>$p > 0.05$ |
| Externalizing Problems (CBCL)         | (n = 45)<br>71.3 (7.3)  | (n = 46)<br>70.1 (8.0)  | $F(1, 90) = 0.539$<br>$p > 0.05$ | (n = 39)<br>70.6 (8.9)  | (n = 33)<br>70.4 (6.8)  | $F(1, 71) = 0.014$<br>$p > 0.05$ |

# ***Treatment & Control Group Baseline Characteristics Summary***

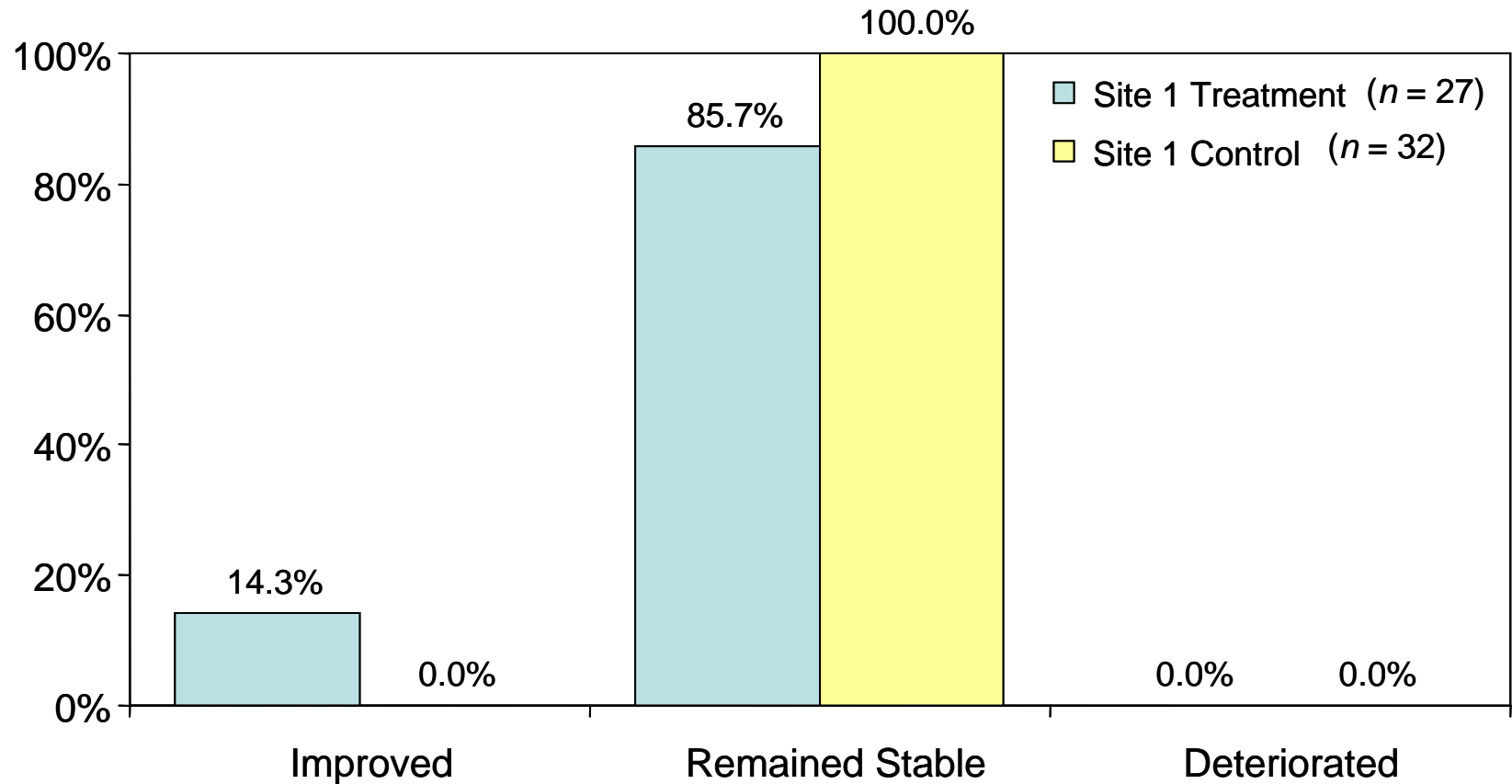
- Children must be between the ages of 6-weeks before their 5<sup>th</sup> birthday, and before their 10<sup>th</sup> birthday.
- Children must be diagnosed with a disruptive behavior diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD) or Conduct Disorder as determined by assessment using the Diagnostic Interview Schedule for Children (DISC).
- Children did not differ between treatment and control groups on demographics, behavioral and emotional problems, functioning, strengths,



# Findings



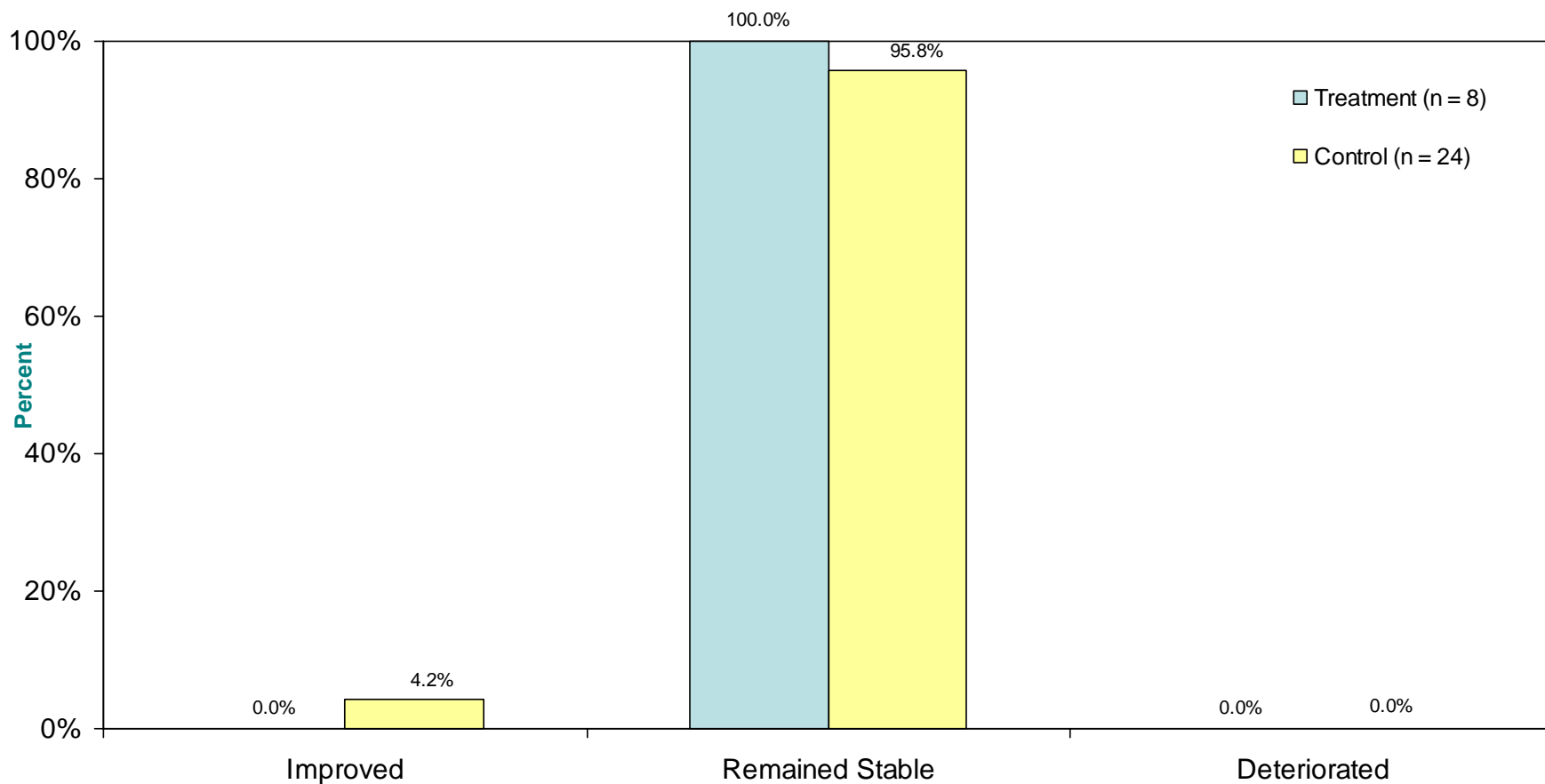
# Reliable Change in Child Competence\* from Intake to 18 Months (Clackamas County, OR)



\*The CBCL is a caregiver report to measure competencies and behavioral and emotional problems among children aged 4 through 18 years.  
( $\chi^2=4.90, p<.05$ ).



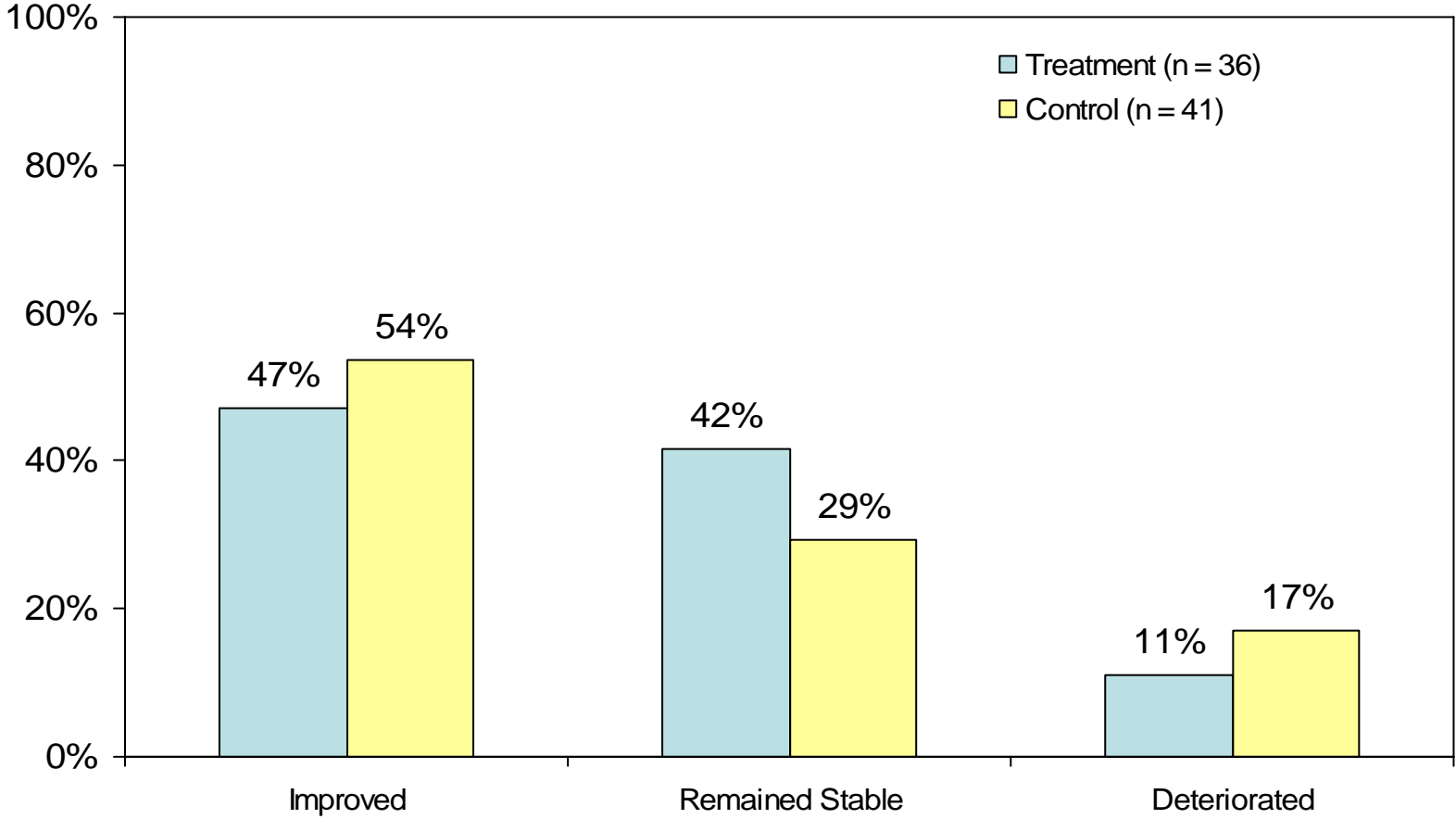
# Reliable Change in Child Competence from Intake to 12 Months (Kentucky)



( $\chi^2=.034, p>.05$ ).



# Reliable Change in Child Strengths\* from Intake to 18 Months (Clackamas County, Oregon)

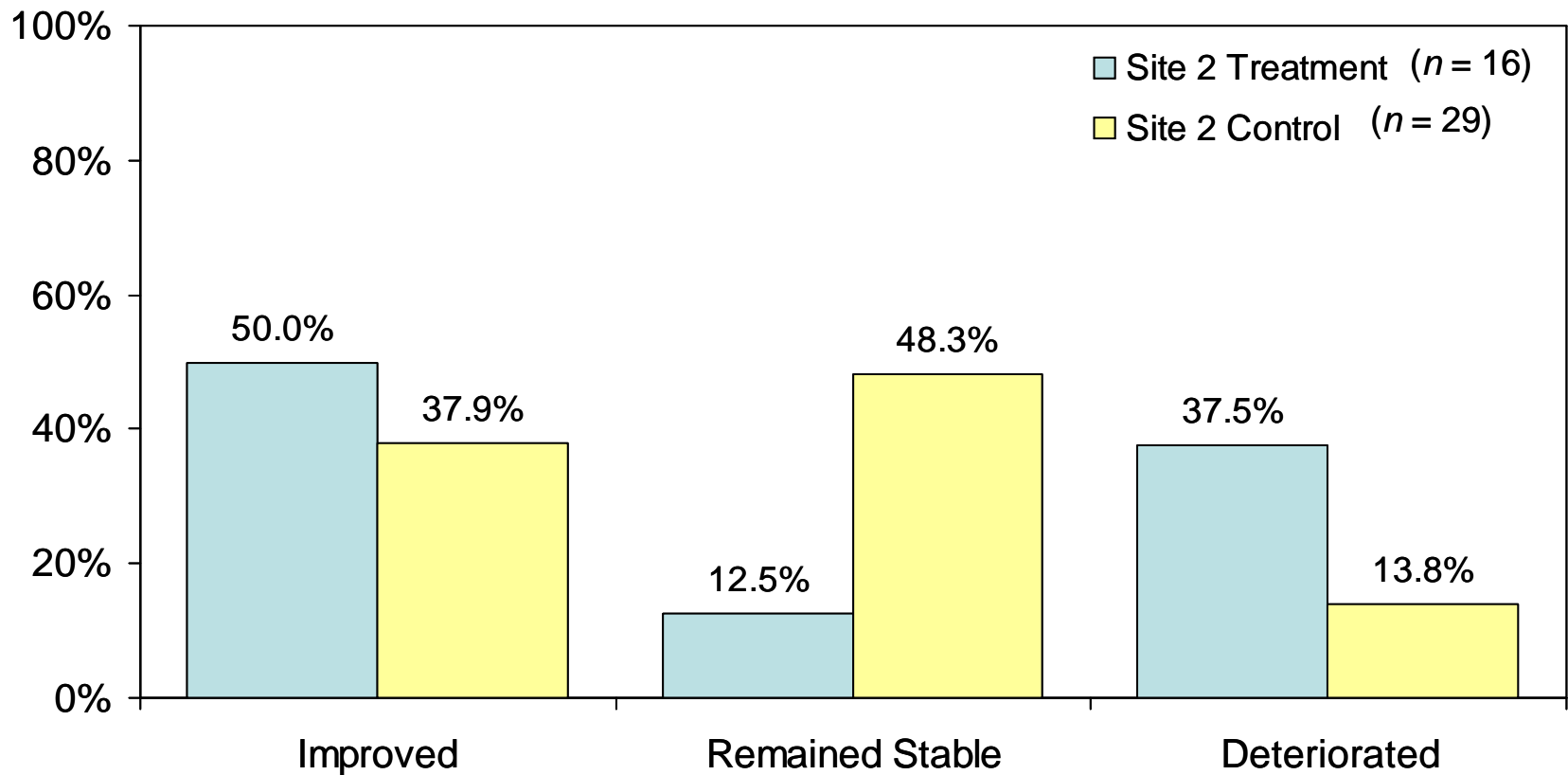


\*Child behavioral and emotional strengths were measured by the BERS (Behavioral and Emotional Rating Scale).

(Fisher's Exact,  $p > .05$ ).



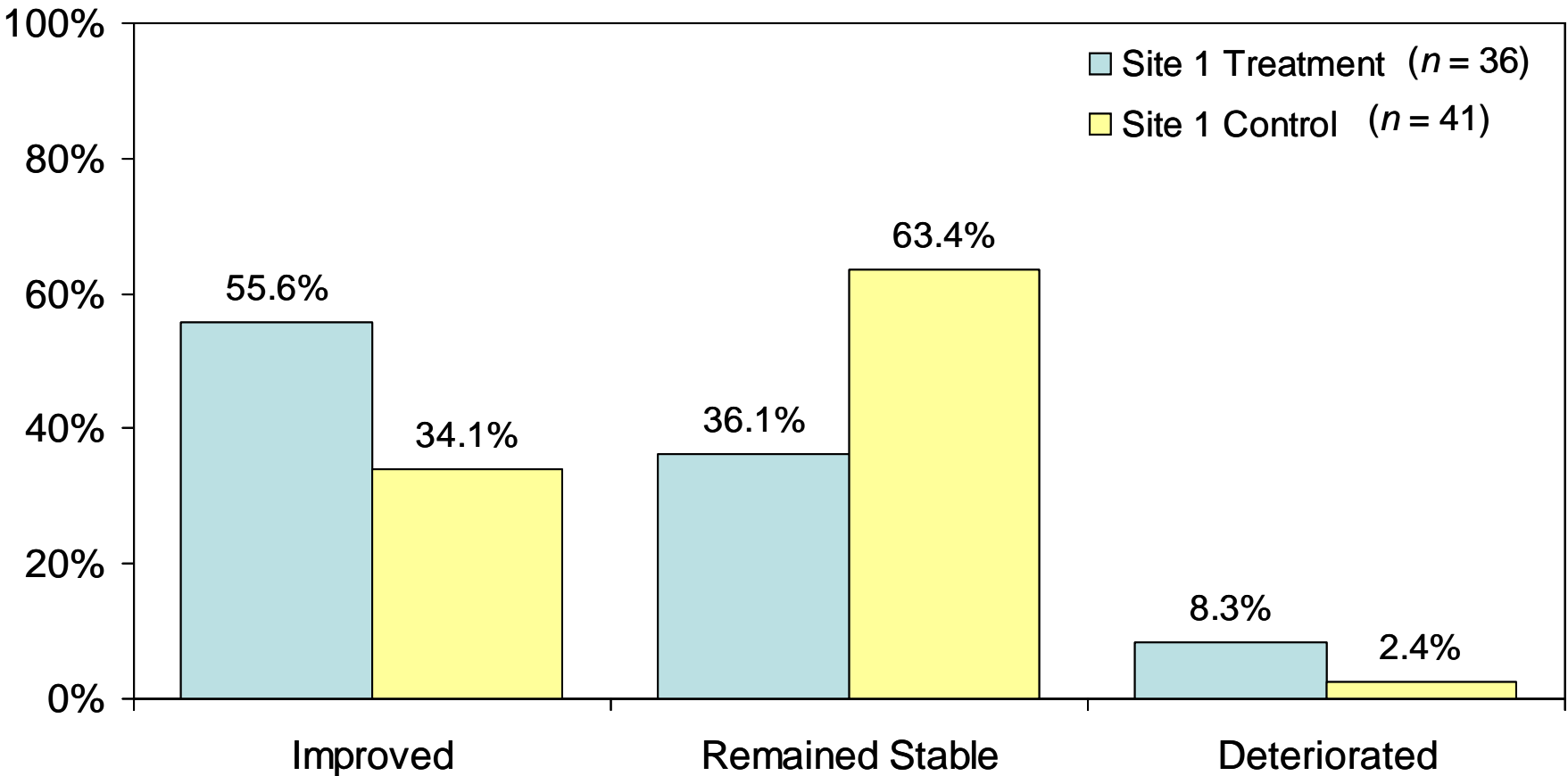
# Reliable Change in Child Strengths from Intake to 12 Months (Kentucky)



(Fisher's Exact,  $p < 0.05$ ).



# Reliable Change in Caregiver Global Strain\* from Intake to 18 Months (Clackamas County, Oregon)

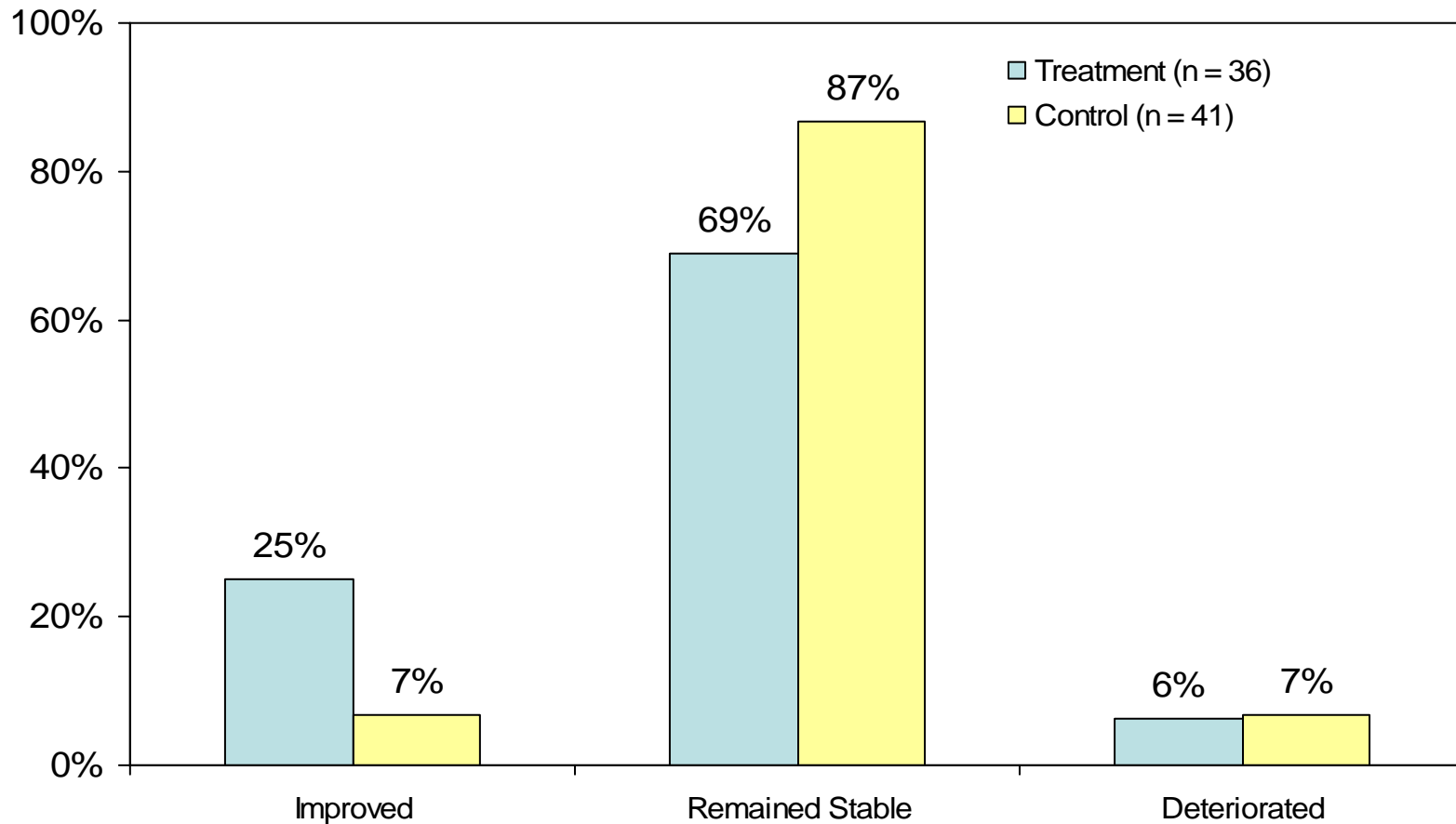


(Fisher's Exact,  $p < 0.05$ ).

\*Caregiver strain was measured by the CGSQ (Caregiver Strain Questionnaire).



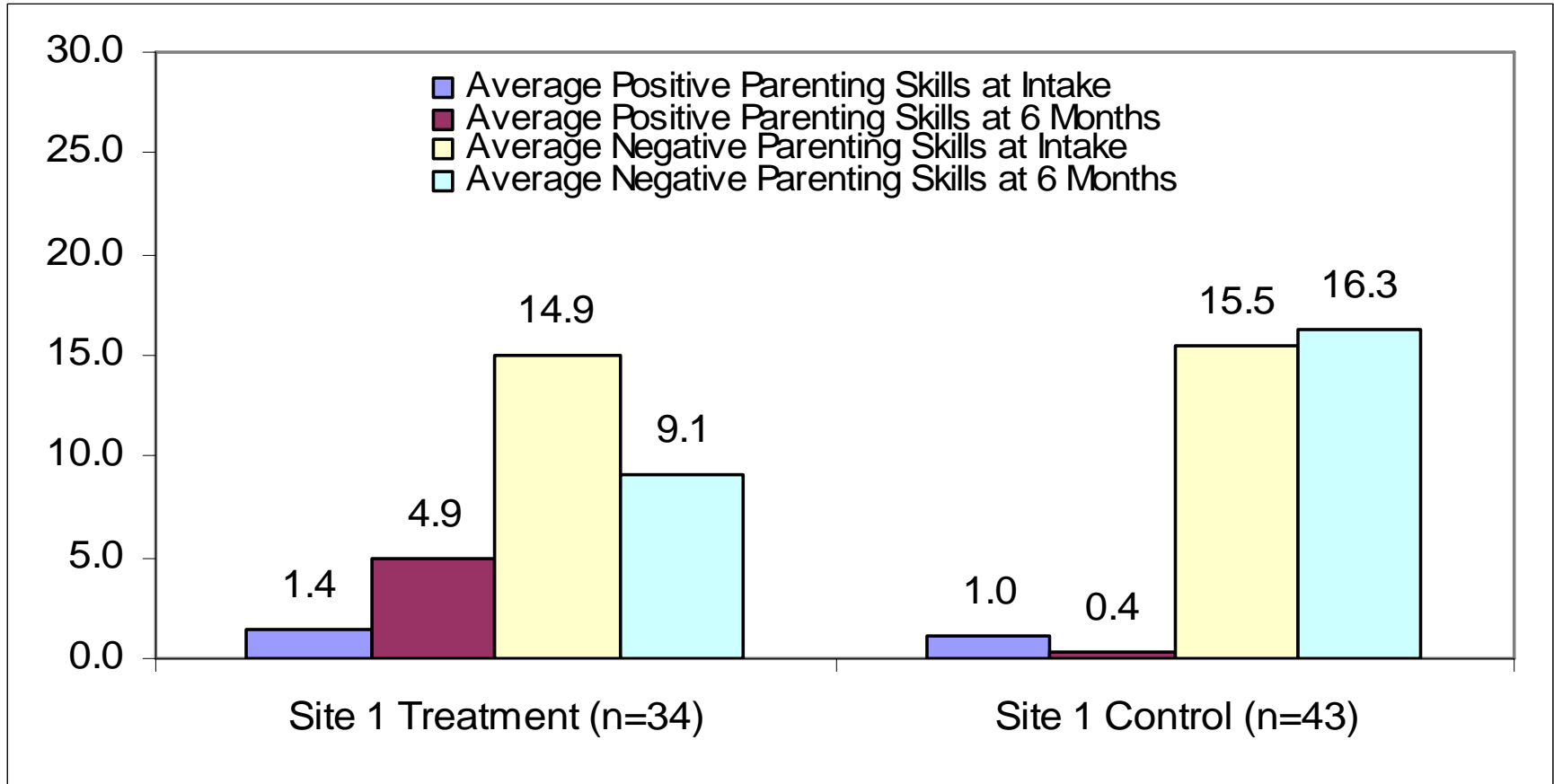
# Reliable Change in Caregiver Global Strain from Intake to 12 Months (Kentucky)



(Fisher's Exact,  $p > 0.05$ ).



# Change in Positive and Negative Parenting Skills Composite from Pre- to Post-Treatment (Clackamas County, Oregon)

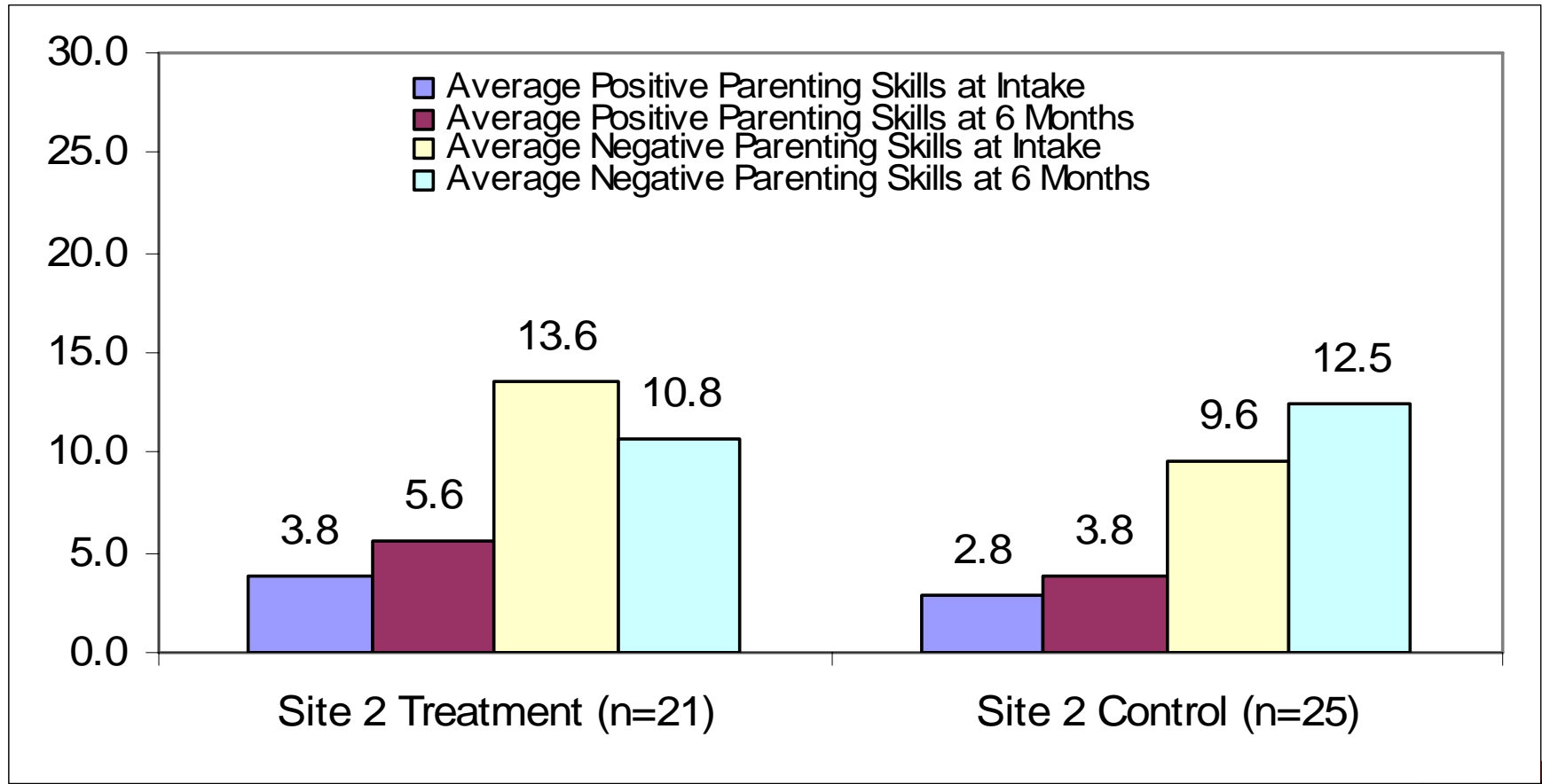


Positive Skills (Time and treatment interaction effect):  $F(1, 75)=24.1, p<.01$ .

Negative skills (Time and treatment interaction effect):  $F(1, 75)=10.5, p<.01$ .



# Change in Positive and Negative Parenting Skills Composite from Pre- to Post- Treatment (Kentucky)



Positive Skills (Time and treatment interaction effect):  $F(1, 44)=.093, p>.05$ .

Negative skills (Time and treatment interaction effect):  $F(1,44)=3.88, p>.05$ .



# Conclusion



# ***Implementation Issues***

## ***Example from Clackamas County, OR***

- **TES families had to participate in an extra appointment (DISC) before receiving services.**
- **Average of 21 days (range 8 – 49) to begin PCIT after screening appointment (other SOC services may have been provided).**
- **Average of 24 days (range 7-69) for control group families to see primary clinician after screening (other SOC services may have been provided).**
- **Three (3.3%) TES families enrolled never returned for services after screening – one in treatment group and 2 in control group.**



# ***Implementation Issues***

## ***Example from Clackamas County, OR***

- **44 Tx families attended the 1<sup>st</sup> PCIT session**
  - 9% (4 families) never returned after 1<sup>st</sup> session
  - 32% dropped out between the 2<sup>nd</sup> and 4<sup>th</sup> PCIT session
  - 59% achieved mastery in the first module
    - Took an average of 3 months to complete first module (6 sessions)
    - 4 families needed to repeat a first module session at least twice.
- **Of the 26 treatment families who mastered the first module:**
  - 19% never returned to begin the second module
  - 22% dropped out between the 2<sup>nd</sup> and 4<sup>th</sup> sessions into the second module
  - 38% (10 cases total) completed the second module, achieving mastery in all PCIT skills, and graduated from the program



# ***Lessons Learned***

## ***Transportability Issues***

### ■ **Dilution**

- Organizational culture and climate
  - Therapist Availability - appointments bi-monthly vs. weekly
  - Access to services – system went from 5 community-based locations to 2.

### ■ **Adaptation**

- Target population
- Characteristics of the setting
  - No one-way mirror
  - No bug-in-the-ear

### ■ **Stakeholder Buy-In**

- Community buy-in
- Family buy-in
- Provider resistance to change
- Agency leaders

### ■ **Staff Training and Monitoring Fidelity**

- Rigorous supervision/coaching,
- Ongoing training
- Additive paperwork



# ***Lessons Learned***

## ***Evaluability Issues***

- **Agency/System-Level Support**
- **Relationships and Coordination**
- **Accurate Documentation of Dosage and Fidelity Information**
- **Impact of additional array of services being provided**
- **Influence of provider contamination**  
(particularly in Clackamas County where the service structure changed and working environments were not controlled)



# ***Questions for Discussion***

## ***Informing Future Practice***

- **How do we make informed decisions about adaptation and dilution of evidence-based practices?**
- **What is the difference in transportability issues in group practice settings vs. individual practice settings vs. community-based settings?**

