




# Outreach Across the Community: Kindness Curriculum Impact on Young Children's Social, Emotional, & Behavioral Skills in Year Four 2021-2022

**The Kindness Project Team**

Report prepared by Kathy Immel, Beth Haines, & the Summer 2022 & 2023 Research Teams

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# 01

# Background

# Introduction to the Kindness Project

- The Kindness Project brings mindfulness training to preschoolers, their families, and teachers. We assess the impact of the Kindness Curriculum (KC) on children's social-emotional competence, empathy skills, and behavioral self-regulation skills.
- The **Kindness Curriculum** includes 24 mindfulness-based lessons spread over 12 – 14 weeks, & teachers are asked to reinforce core concepts of the lessons throughout the school day & year.
- Some **core concepts** from the Kindness Curriculum are:

  Bell Practice: listening on the outside and inside

  Belly Buddies: paying attention to breath

  Listening/Feeling: paying attention while we move

  Mind Jars: calming & taking care of stormy emotions

  Gratitude & Caring for our family, friends, & our world

# Year 4 Main Goals: Outreach & Expansion

***Objective 1***: Reach out to additional agencies in the community to bring mindfulness training to as many agencies & teachers as possible so that our preschool & 4K children learn the Kindness Curriculum to help develop their self-regulation, social-emotional, & cognitive skills. Given the pandemic strains in Year 3 (2020 – 2021), we used a two-step process:

1. In the spring of 2021, we offered two virtual leadership trainings (5 hours each) to community leaders to cultivate interest in the mindfulness-based Kindness Curriculum. We were thrilled that 22 leaders attended the sessions during this difficult pandemic year.

2. In Year 4, based on the leadership training, we provided training to three new agencies, serving 22 additional preschool & 4K classrooms. We also provided training for five teachers serving three toddler classes.

# Year 4 Main Goals: Outreach & Expansion

***Objective 2***: Measure the impact of the Kindness Curriculum by collecting data on the children's skills before & after the Curriculum. Given that we were serving a much larger number of children & classrooms (42 classrooms compared to 20 in the previous year), we focused on three primary outcomes: social competence, behavioral difficulties, & empathy skills.

- In summer 2021, three new programs: Appleton Head Start East, Kaukauna's Tanner Early Learning Center, & Kimberly 4K sent their teachers to full 26-hour training & the Kimberly principal & school psychologist attended as well.
- In Year 4, pandemic challenges persisted, but most teachers from continuing & new agencies were able to teach the Kindness Curriculum. Some teachers from one new agency, similar to our Year 3 challenge, struggled due to the pandemic. In these cases, teachers only taught a few Kindness lessons & did not complete outcome measures.

# COVID Context 2021 - 2022

During the fourth year of implementing the Kindness Curriculum, schools were still experiencing impacts from the pandemic. As one leader stated, **“I think staff are more fatigued and experiencing higher levels of stress now than when the pandemic began. As a leader, I feel like I am never caught up on my work. Contact tracing, policy changes, … staff absences, and higher needs in the classrooms (both with children and teachers needing support) have all demanded a greater amount of my time and attention.”**

Most programs, with one exception, were able to start the year in person. One program started classes later in fall due to staff shortages. Many programs experienced staffing challenges & went through temporary shutdowns due to uprising COVID-19 cases, during which some classrooms moved to virtual or hybrid instruction.

Even temporary closures were hard on children as they were not able to connect with their peers and teachers in the classroom. Transitions to virtual lessons were also challenging, as teachers found that it was harder for young children to focus on the lessons. Even when classrooms were back to in-person teaching, children’s attendance was less consistent, sometimes due to close-contact quarantines and other complications.

As one program leader stated, “**the challenges are staffing and filling in for missing/ill staff and having to deal with parents who are unhappy about the COVID policies.”** Some centers faced reduced revenue as they did not charge families if a closure was due to an ill staff member.

# COVID Context 2021 - 2022

Teachers and leaders showed resilience in face of difficulties. Despite experiencing high levels of stress, teachers adapted and continued to teach mindfulness to their students. As one leader stated, "**There is no question that stress levels were unprecedently high. Some members of the staff practiced different mindfulness techniques to mitigate this stress.**"

Teachers also made efforts to connect with children who were absent and repeatedly practice mindfulness with all children. The KC mindfulness lessons showed their importance during this phase of the pandemic as teachers reported that the KC helped them to practice self-care on a regular basis and connect with children's personal lives. One teacher stated, "**The kindness lessons did help the children. They would request the breathing in song as well as resting with beanie babies on them.**"

The mindfulness coaches were described as "uplifting" & an important source of support for the agencies. Leaders encouraged teachers to participate in weekly relaxation sessions with the coaches, & as one leader stated, "**the coach was amazing as we met monthly to reflect on practice and develop a wellness plan and or goal setting and engage in mindfulness practice.**" Perhaps the pandemic helped us all to realize the value of mindfulness skills that help us to regulate our emotions, behavior, and focus, and empathize with and help others.

# Summary of Year 1: 2018 - 2019

In Year 1 we conducted a randomized-control study:

- 10 classrooms received KC
- 6 classrooms served as a control group with regular programming

The study demonstrated the positive impact of the mindfulness-based Kindness Curriculum (KC) on children's social-emotional & cognitive skills.

## The Kindness Curriculum (KC) positively impacted children in these ways:

- **Increased sharing, empathy, & kindness toward others, as reported by both parents & teachers.**

- **Positive effects on the cognitive skills of children, including cognitive flexibility, inhibiting negative behaviors, & executive functioning skills.**

- **Children in the KC group also showed higher scores on developmental & school-readiness measures.**

# Summary of Year 2: 2019 - 2020

In Year 2, all 16 classrooms, including those in the control group in Year 1, received the 12-week Kindness Curriculum. Most classrooms completed the KC by February. Consequently, despite pandemic challenges beginning in March 2020, including some temporary classroom closures & hybrid instruction, both children continuing with & those new to the KC improved over time on most measures of social-emotional, self-regulation, cognitive & academic skills.

## The Kindness Curriculum (KC) positively impacted children in many ways:

- **At the end of 1st semester, Continuing children had significantly higher report card scores on math & social-emotional skills than those new to the KC.**
- **Continuing children had better scores on cognitive, literacy, & math skills on the school readiness measure (TS-Gold).**

- **There were positive effects on children's executive function skills including working memory, shifting attention, planning & organizing, & mental flexibility.**
- **Parents reported improved empathy skills. Parents commented on their children helping others more & asking them if they need help.**

- Teachers reported improvement in **prosocial & empathetic behavior**, and improved **emotional regulation**, especially for girls & the older (4K) students.
- **Continuing children showed significantly stronger prosocial & empathetic behavior than new children, but new children improved significantly over time.**

- **Teacher reports on a measure of behavioral strengths and difficulties showed that children continuing in the program, who also tended to be older, had significantly fewer hyperactivity problems, peer problems, & total difficulties than did new children after the KC.**

# Summary of Year 3: 2020 -2021

In Year 3, 16 classrooms received the 12-week Kindness Curriculum, & 4 toddler classrooms received modified “kindness nuggets.” Despite pandemic challenges, children of both lower & higher socioeconomic status, genders, and age (preschool & 4K) improved over time on both cognitive and social measures. The percentage of children showing gains did decrease, compared to years 1 and 2, in some areas including prosocial skills & behavioral problems, which may reflect the impact of pandemic stressors.

## The Kindness Curriculum (KC) contributed to many positive impacts:

- **Cognitive gains were seen across children on all report card areas, e.g., math, language, & literacy skills.**
- **Broad, significant gains occurred on the TS-Gold developmental measure too, e.g., in cognitive, social emotional, & physical areas.**

- **All subgroups of children showed improvement in prosocial behavior & empathy skills over time.**
- **Both lower & higher SES children improved significantly in emotional regulation skills over time.**

- **Significant improvement on the TS-Gold developmental assessment is encouraging as it measures skills & behaviors predictive of school success.**
- **However, only 49% of children showed improvement in behavioral difficulties, compared to 70% in year 2. The pandemic may have reduced behavioral self-control.**

# The Kindness Curriculum Themes: Key Features
# The Themes are Designed around these A to G Principles

- **Attention**. Children learn that what they focus on is a choice. Through focusing attention on a variety of external sensations (the sound of a bell) & internal sensations (feeling happy or sad), children learn they can direct their attention & maintain focus.

- **Breath & Body**. Children learn to use their breath to cultivate peace & quiet. The children rest on their backs with a stuffed toy on their belly. The toy provides an object to "rock to sleep" with the breath, while the breathing calms the body.

- **Caring**. Children learn to think about how others are feeling & cultivate kindness. Children experience books that teach about struggles & brainstorm ways to help – even if just offering a smile.

- **Depending on other people**. We emphasize that everyone supports & is supported by others. Children learn to see themselves as helpers & begin to develop gratitude for the kindness of others.

- **Emotions**. Teachers & children take turns pretending to be mad, sad, happy or surprised, guessing which emotion was expressed. Children learn to forgive themselves & others.

- **Gratitude**. Children learn to recognize the kind acts that other people do for them. The class talks about being thankful to those people for how they help us.

# The Mindfulness-based Kindness Curriculum for Preschoolers Healthy Minds Innovation (2017, 2023)

- The updated 2023 Curriculum is available at no cost here: https://centerhealthyminds.org/join-the-movement/sign-up-to-receive-the-kindness-curriculum
- This project trains classroom teachers to implement the Kindness Curriculum (i.e., Train the Teacher Model) and provides supports to teachers by Mindfulness Coaches.

**8 Themes (3 Lessons Each) over 12 weeks**

**Theme 1: Mindful Bodies & Planting Seeds of Kindness**

**Theme 2: I Feel Emotions on the Inside**

**Theme 3: How I Feel on the Inside, Shows on the Outside**

**Theme 4: Taking Care of Strong Emotions on the Inside & Outside**

**Theme 5: Calming & Working Out Problems**

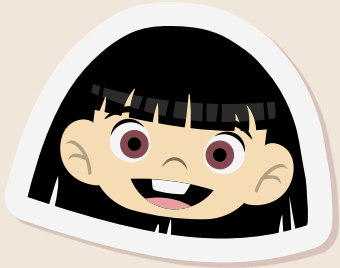
**Theme 6: Gratitude**

**Theme 7: All People Depend on Each Other & The Earth**

**Theme 8: Gratitude & Caring for Our World & Wrap Up**

02

# Project Design



# Project Design – Year 4: 2021 - 2022

**Goals:**

1. **Bring the Kindness Curriculum (KC) to all children & measure impact. In year 4, children in all 20 participating classrooms received the KC beginning in Fall 2021.**
2. **Compare the effectiveness of the mindfulness-based Kindness Curriculum across age (preschool or 4K), socioeconomic status (lower or higher), previous KC training (new to KC or continuing), & gender (girls or boys).**

**Summer (June & July) 2021**
Teacher Training on Mindfulness & Kindness Curriculum

**Fall 2021**
Children Pre-Tested on social, behavioral, empathy & school readiness skills

Kindness Curriculum Taught for 12-14 weeks; teachers encouraged to repeat key practices

**Spring 2022**
Children Post-Tested on social, behavioral, empathy & school readiness skills

## 4 Phases of the Project

# Project Design: Further Descriptions

- **Teacher Training – two training sessions, one in June & one in July**
  - Teachers who were not previously trained participated in one of the 26-hour training classes on mindfulness & the Kindness Curriculum (KC) led by local mindfulness coaches, Joy, Miriam, & Jan.
  - Following training, participants completed a 7-question class evaluation.

- **Pre-Testing of Children: Fall 2021**

  In fall, prior to KC implementation, children were assessed by teachers on social competence & behavioral strengths & difficulties. Parents reported on children's empathy skills.

- **Teachers Implement the Kindness Curriculum (KC) in classrooms: About 12-14 weeks**
  - The curriculum began in Fall 2021 including 24 lessons over about 12 weeks. Each lesson is approximately 20-30 minutes. Teachers are also encouraged to repeat key practices like the bell practice.
  - Teachers completed reflection measures about each lesson. Teachers finished the KC lessons in January or February of 2022 & were encouraged to continue using mindfulness practices from the KC regularly.

- **Post-Testing of Children: Spring 2022**
  - In Spring 2022, teachers & parents reported on children's social & cognitive skills, using the same measures from the fall.

| Continuing Agencies | | | | |
|---|---|---|---|---|
| Bridge's Child Enrichment Center | 12 Teachers<br><br>Two Preschool Classrooms & Four 4K Classrooms (Two AM & Two PM) | | UW-Oshkosh Head Start, CELC | 12 Teachers<br><br>Two Preschool Classrooms & Four 4K Classrooms (one preschool closed most of the year due to staff resignation in November 2021) |
| Appleton Even-Start Family Literacy | Two Teachers<br><br>Two Preschool Classrooms (One AM & One PM) | | Children's Center, UWO Fox Cities | Three Teachers<br><br>Two Preschool Classrooms |
| **Expansion & Outreach** | | | | |
| Kimberly 4K | Seven Teachers<br><br>13 4K Classrooms (Seven AM & Six PM) | | Kaukauna (Tanner ELC) 4K | Two Teachers<br><br>Four 4K Classrooms (Two AM & Two PM) |
| Head Start East | 11 Teachers<br><br>Two Preschool Classrooms & Three 4K Classrooms | | Kindness Nuggets for Toddlers and Infants | Five Teachers<br><br>One classroom – Children's Center<br>One classroom – Bridges<br>One classroom – Even Start |

# Participants by Agency: 681 Children from 42 classrooms

| | | Teacher Reports | | |
|---|---|---|---|---|
| Agency & # Classrooms | Children Involved | Fall | Spring | F&S |
| Appleton Even-Start Family Literacy<br>2 preschool classrooms | 39 | 22 | 9 | 7 |
| Bridge's Child Enrichment Center<br>2 preschool & 4 4K classrooms | 125 | 90 | 91 | 82 |
| Children's Center, UWO Fox Cities<br>2 preschool classrooms | 35 | 24 | 21 | 18 |
| Head Start, CELC<br>2 preschool & 4 4K classrooms | 72 | 67 | 55 | 54 |
| Head Start East<br>2 preschool & 3 4K classrooms | 63 | 59 | 52 | 48 |
| Kaukauna (Tanner ELC) 4K<br>4 4K classrooms | 69 | 62 | 64 | 61 |
| Kimberly 4K<br>13 4K classrooms | 278 | 125 | 83 | 80 |
| Total | 681 | 449 | 375 | 350 |

Note

1. Teachers reported on social skills, behavioral strengths & difficulties for preschool & 4K children.
2. Parents completed an empathy measure, but the number returned was smaller than reports returned by teachers.

| Breakdown by Groups | | Year 4: Fall 2021 - Spring 2022<br>* Estimate of Lower & Higher Income based on percentages within a school district or parent-reported data | | |
|---|---|---|---|---|
| | | Continuing Children (n = 91) | New Children (n = 590) | Total (n = 681) |
| Gender | Female | 39 | 270 | 309 |
| | Male | 52 | 319 | 371 |
| Age | Younger | 14 | 29 | 43 |
| | Preschool | 55 | 82 | 137 |
| | 4K | 22 | 479 | 501 |
| SES* | Lower Income | 52 | 297* | 349* |
| | Higher Income | 39 | 292* | 331* |
| Ethnicity | White | 55 | 357 | 412 |
| | African American/ Black | 9 | 55 | 64 |
| | Hispanic/Latinx | 14 | 56 | 70 |
| | Asian | 7 | 38 | 45 |
| | Other/ Mixed | 6 | 51 | 57 |

# Measures obtained in Fall 2021 & Spring 2022

| Measure | Reporter | What it Measures | Subscale / # of Items |
|---|---|---|---|
| Teacher Rated Social Competence (TRSC) | Teacher | Children's prosocial behavior, emotional regulation, & we identified three items that measure empathy skills for comparison of teacher & parent perceptions of children's empathy skills. | 1. Prosocial (5 items)<br>2. Emotional (7 items)<br>3. Empathy (3 items) |
| Strengths & Difficulties Questionnaire (SDQ) | Teacher | Children's social-emotional & behavioral problems, as well as prosocial behavior(see subscales) | 1. Emotional symptoms (5 items)<br>2. Conduct problems (5 items)<br>3. Hyperactivity/inattention (5 items)<br>4. Peer relationship problems (5 items)<br>5. Prosocial behavior (5 items) |
| Griffith Empathy Measure (GEM) | Parent | Child's ability to recognize & understand another's emotional state & to respond appropriately to another's emotions | 1. Cognitive empathy (6 items)<br>2. Affective empathy (9 items)<br>3. Empathic Concern (5 items) |

**Please note that in this expansion year, given a much larger number of children & classrooms, only key social & behavioral outcomes were measured.**

# 03

# Findings

# Teacher Rated Social Competence (TRSC)

**TRSC is a measure reported by teachers which focuses on children's prosocial behavior, emotion regulation, and empathy skills.**

"Does the child listen carefully to others?"

**Prosocial behavior** 1

"Does the child handle disagreements in a positive way?"

**Emotion regulation** 2

"Does the child show empathy and compassion for others' feelings?"

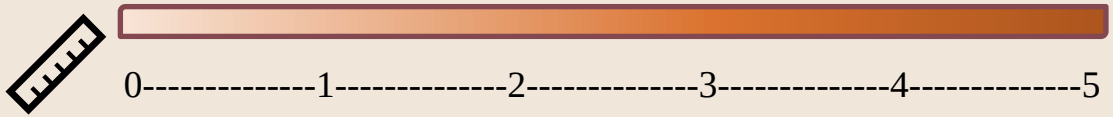
**Empathy** 3

0----------1----------2----------3----------4----------5

**Almost Never** **Rarely** **Sometimes** **Often** **Very Often** **Almost Always**

**Compared to other boys/girls of about the same age, how often does this child:**
**Please circle the number below.**

| | Almost Never | Rarely | Some Times | Often | Very Often | Almost Always |
|---|---|---|---|---|---|---|
| 1. Show empathy and compassion for others' feelings. | 0 | 1 | 2 | 3 | 4 | 5 |
| 2. Provide help, share materials, and act cooperatively with others. | 0 | 1 | 2 | 3 | 4 | 5 |
| 3. Take turns, play fair, and follow the rules of the game. | 0 | 1 | 2 | 3 | 4 | 5 |
| 4. Listen carefully to others. | 0 | 1 | 2 | 3 | 4 | 5 |
| 5. Initiate interactions and join in with others in an appropriate and positive manner. | 0 | 1 | 2 | 3 | 4 | 5 |




From 0=almost never to 5=almost always

# Overview of Findings for Teacher Rated Social Competence (TRSC)

**Please See Appendix 1 for a Summary of the Statistical Findings**

**In fall, how did children *continuing* vs. *new* to the program compare?**

- In this expansion year, there were many more new children (370) than continuing children (77) given that 22 additional classrooms joined the project. There were no significant differences between continuing and new children in TRSC social skills in fall.

**Was there improvement *over time*?**

- Across most subgroups of children, there was significant improvement over time in all TRSC areas: prosocial behavior, emotional regulation, & empathy skills. The only exception was that continuing children did not significantly improve in emotional regulation skills. Overall, 68-71% of children improved their skills & 74-82% maintained their skills in these areas.

**Was improvement over time comparable for *continuing* & *new children*?**

- Both continuing & new children improved significantly over time in prosocial behavior and empathy skills. Only new children significantly improved in emotional regulation & new children showed bigger gains in both prosocial & empathetic behavior over time. Perhaps new children responded more strongly to the Kindness Curriculum or teachers saw their gains as more striking.

# Overview of Findings for Teacher Rated Social Competence (TRSC)

**Was improvement over time comparable across *socioeconomic status* (SES)?**

- Lower SES children started the school year with lower scores on prosocial behavior & empathy skills. However, **lower SES children showed more improvement in all TRSC areas** than higher SES children over time, catching up to the higher SES children. Both lower & higher SES children significantly improved over time in all areas: prosocial behavior, emotional regulation, & empathy skills.

**Was improvement over time comparable for *preschool* & 4K *children*?**

- **Both preschool & 4K children improved significantly in all TRSC areas** over time. 4K children showed stronger skills overall and showed bigger gains in emotional regulation & empathetic behavior than preschool children.

**Was improvement over time comparable for *girls* & *boys*?**

- **Both boys and girls improved comparably & significantly in all three areas**: prosocial behavior, emotional regulation & empathetic behavior. Girls had higher scores in all three areas overall.

***Percentages of children improving over time are listed below.***
***Detailed graphs & results on selected findings follow!***

# Improvement in Teacher Rated Social Competence (TRSC)

**Given the ongoing COVID pandemic & corresponding educational challenges, we report both how many children improved, as well as the percentage of children who maintained or improved their skills over the school year.**

| Measure | Percentage of Children who *improved* their skills over 2021-2022 | Percentage of Children who ***maintained or improved*** their skills over 2021-2022 |
|---|---|---|
| **Prosocial Behavior** (n = 347) | **68%** improved (n = 236) | **78.7%** maintained or improved (n = 273) |
| **Emotional Regulation** (n = 347) | **68.6%** improved (n =238) | **73.8%** maintained or improved (n = 256) |
| **Empathy Displays** (n = 347) | **71.2%** improved (n = 247) | **81.6%** maintained or improved (n = 283) |

# TRSC: Improvement by Socioeconomic Status (SES)

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Prosocial Behavior** | **Lower SES (n = 204)** | **73.5% (150)** | Chi Square = 13.48, $p < .001$; significantly more lower SES children improved than higher SES children. | **81.9% (167)** | Chi Square = 2.96, $p = .09$; marginally significant difference: slightly more lower SES children maintained or improved. |
| | **Higher SES (n = 60)** | **48.3% (29)** | | **71.7% (43)** | |
| **Emotional Regulation** | **Lower SES (n = 204)** | **69.6% (142)** | Chi Square = 1.95, $p = .16$; not significant: low & high SES children improved comparably. | **73.5% (150)** | Chi Square = 2.35, $p = .13$; no significant differences. |
| | **Higher SES (n = 60)** | **60% (36)** | | **63.3% (38)** | |
| **Empathy Displays** | **Lower SES (n = 204)** | **74% (151)** | Chi Square = 6.66, $p = .01$; significantly more lower SES children improved than higher SES children.. | **84.8% (173)** | Chi Square = 8.19, $p = .004$; significantly more lower SES children maintained or improved than higher SES children. |
| | **Higher SES (n = 60)** | **56.7% (34)** | | **68.3% (41)** | |

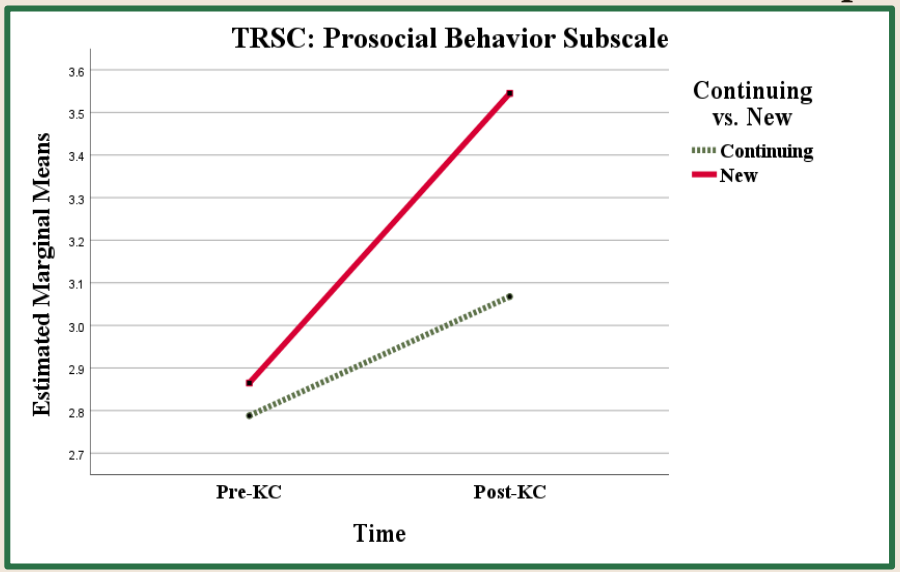
# TRSC: Improvement by Age (Preschool or 4K)

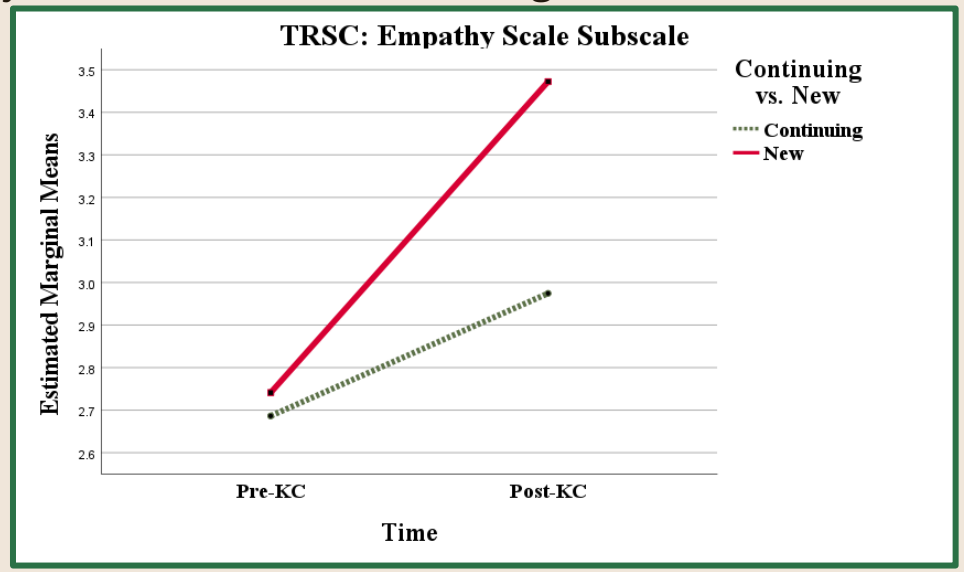
| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Prosocial Behavior** | Preschool (n = 90) | **71.1% (64)** | Chi Square = .47, $p$ = .49; no significant differences | **82.2% (74)** | Chi Square = .94, $p$ = .33; no significant differences |
| | 4K (n = 256) | **67.2% (172)** | | **77.3% (198)** | |
| **Emotional Regulation** | Preschool (n = 90) | **60% (54)** | Chi Square = 4.37, $p$ = .04; marginally significant difference: slightly more 4K children improved. | **63.3% (57)** | Chi Square = 7.18, $p$ = .007; significantly more 4K children improved or maintained than preschoolers. |
| | 4K (n = 256) | **71.9% (184)** | | **77.7% (199)** | |
| **Empathy Displays** | Preschool (n = 90) | **66.7% (60)** | Chi Square = 1.33, $p$ = .25; preschoolers improved as much as the 4K children. | **77.8% (70)** | Chi Square = 1.12, $p$ = .29; no significant differences |
| | 4K (n = 256) | **73% (187)** | | **82.8% (212)** | |

# TRSC: Improvement by Continuing vs. New

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Prosocial Behavior** | Continuing (n = 59) | 55.9% (33) | Chi Square = 4.77, *p* = .03; new students improved significantly more than continuing students. | 74.6% (44) | Chi Square = .71, *p* = .40; not significant, continuing & new children maintained or improved comparably. |
| | New (n = 288) | 70.5% (203) | | 79.5% (229) | |
| **Emotional Regulation** | Continuing (n = 59) | 57.6% (34) | Chi Square = 3.96, *p* = .05; new students improved significantly more than continuing students. | 57.6% (34) | Chi Square = 9.58, *p* = .002; new students maintained or improved significantly more than continuing students. |
| | New (n = 288) | 70.8% (204) | | 77.1% (222) | |
| **Empathy Displays** | Continuing (n = 59) | 57.6% (34) | Chi Square = 6.37, *p* = .01; new students improved significantly more than continuing students. | 71.2% (42) | Chi Square = 5.08, *p* = .02; new students maintained or improved significantly more than continuing students. |
| | New (n = 288) | 74% (213) | | 83.7% (241) | |

# Results: TRSC Prosocial Behavior & Empathy Skills Varied for Continuing & New Students



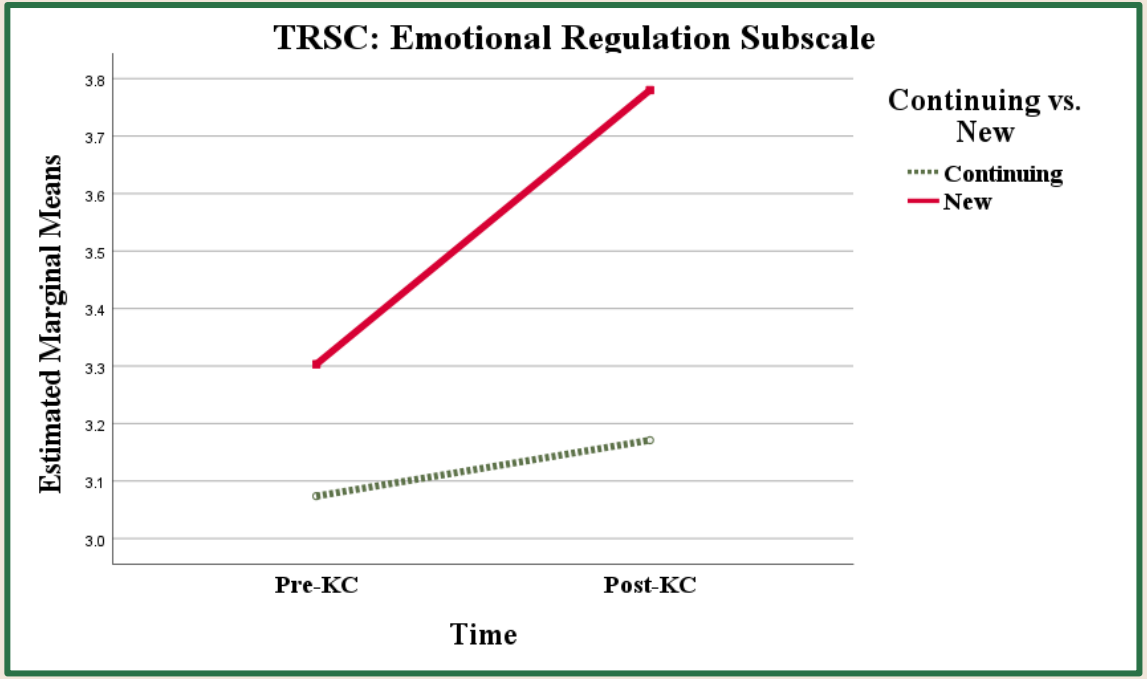

**ME Time: F(1, 345) = 41.64, p < .001, ES = .11**
**Time x Continuing/New: F(1, 345) = 7.25, p = .007, ES = .02**
**ME Continue/New: F(1, 345) = 3.55, p = .061, ES = .01**

**ME Time: F(1, 345) = 52.54, p < .001, ES = .13**
**Time x Continuing/New: F(1, 345) = 9.92, p = .002, ES = .03**
**ME Continue/New: F(1, 345) = 3.37, p = .067, ES = .01**

Though both continuing (n = 59) and new students (n = 288) were ***comparable in fall***, new students ***displayed higher prosocial behavior and empathy in spring***. Both groups ***significantly improved*** in prosocial behavior and empathy over the year, with new students showing ***greater improvement over time***.

***ES = Effect size, eta squared**

# Results: TRSC Emotional Regulation Varied for Continuing & New Students

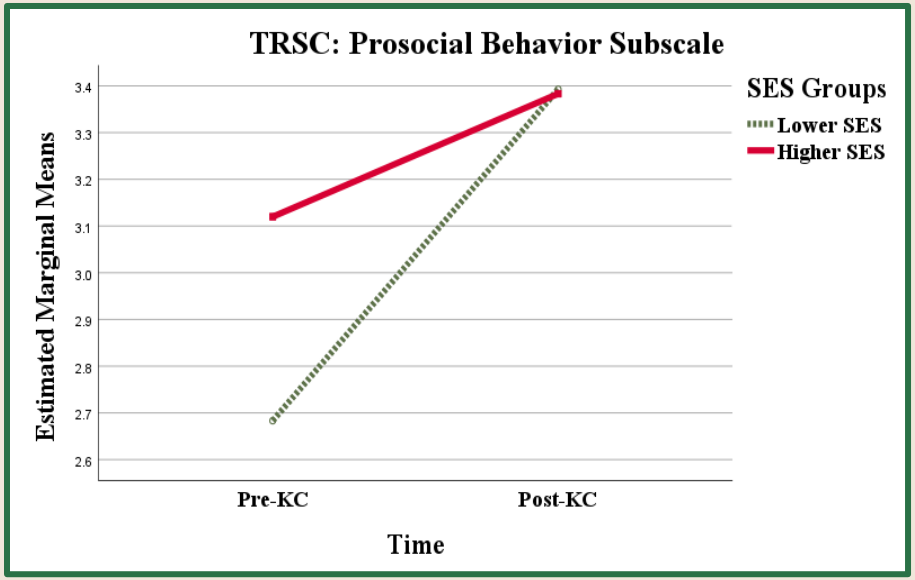


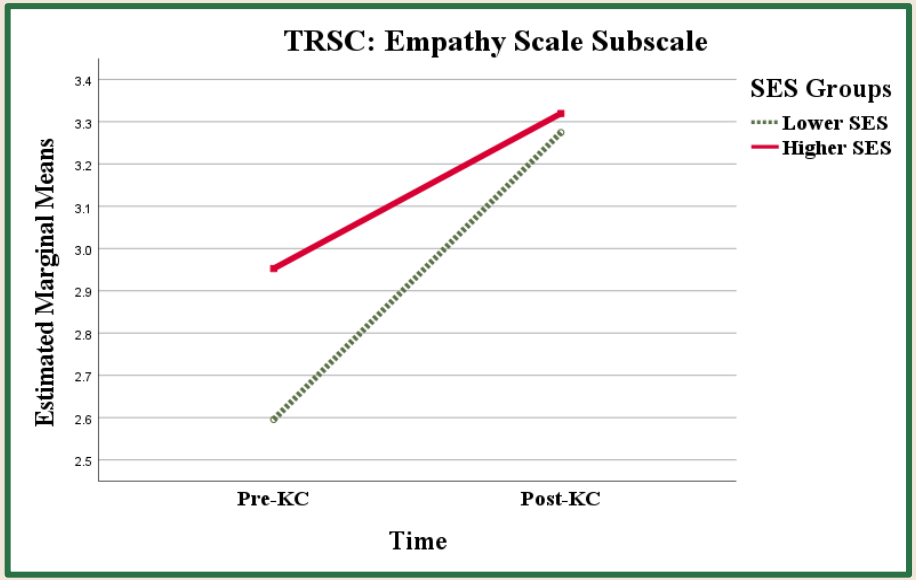

New students (n = 288) showed ***stronger emotional regulation overall & significant improvement*** over time. Continuing students (n = 59) did not significantly improve in emotional regulation.

**ME Time: F(1, 345) = 23.21, p < .001, ES = .06**
**Time x Continuing/New: F(1, 345) = 10.15, p = .002, ES = .03**
**ME Continue/New: F(1, 345) = 9.69, p = .002, ES = .03**

***ES = Effect size, eta squared**

# Results: TRSC Prosocial Behavior & Empathy Skills Varied with Socioeconomic Status



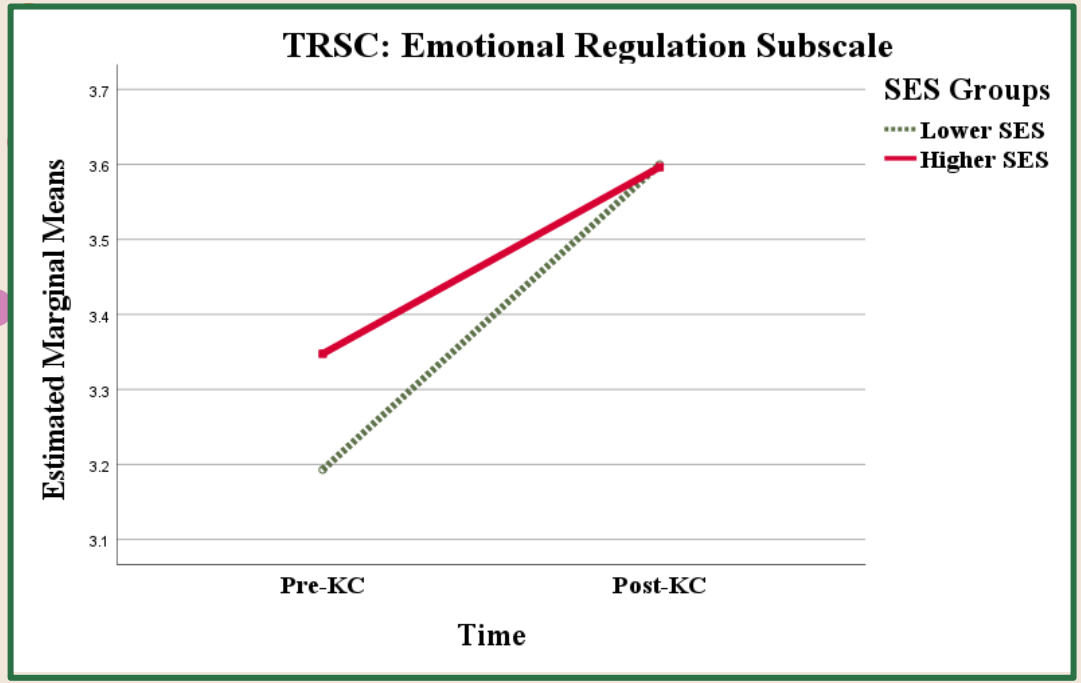

**ME Time: $F(1, 262) = 43.08$, $p < .001$, *ES = .14**
**Time x SES: $F(1, 262) = 9.06$, $p = .003$, *ES = .03**
**ME SES: $F(1, 262) = 1.91$, $p = .17$, *ES = .007**

**ME Time: $F(1, 262) = 53.25$, $p < .001$, ES = .17**
**Time x SES: $F(1, 262) = 4.75$, $p = .030$, ES = .02**
**ME SES: $F(1, 262) = 1.55$, $p = .214$, ES = .006**

Even though children from higher SES families (n = 60) ***displayed significantly higher prosocial behavior & empathy in fall***, the two groups were ***comparable in spring***. Children from lower SES families (n = 204) showed ***significantly greater improvement over time***, although both groups showed ***significant improvement*** in prosocial behavior & empathy over time.

***ES = Effect size, eta squared**

# Results: TRSC Emotional Regulation Varied with Socioeconomic Status

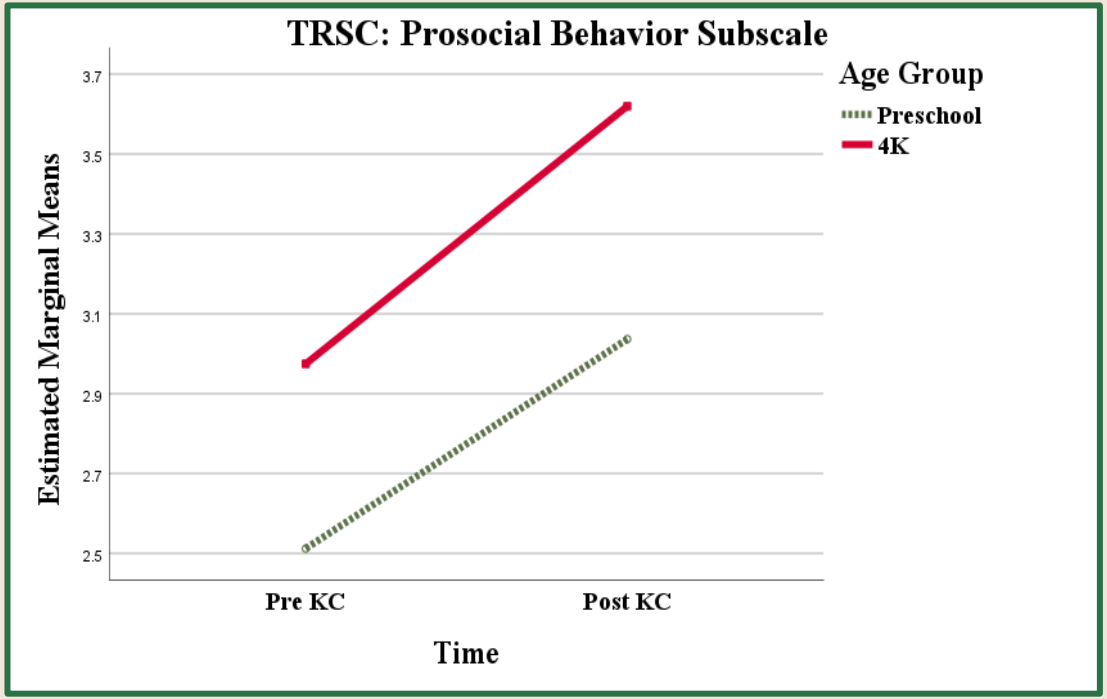



Children from both lower & higher SES families showed significant improvement over time. The groups did not differ significantly in fall.

**ME Time: $F(1, 262) = 26.93$, $p < .001$, *ES = .093**
**Time x SES: $F(1, 262) = 1.57$, $p = .212$, *ES = .006**
**ME SES: $F(1, 262) = .28$, $p = .599$, *ES = .001**

***ES = Effect size, eta squared**

# Results: TRSC Prosocial Behavior Varied with Age

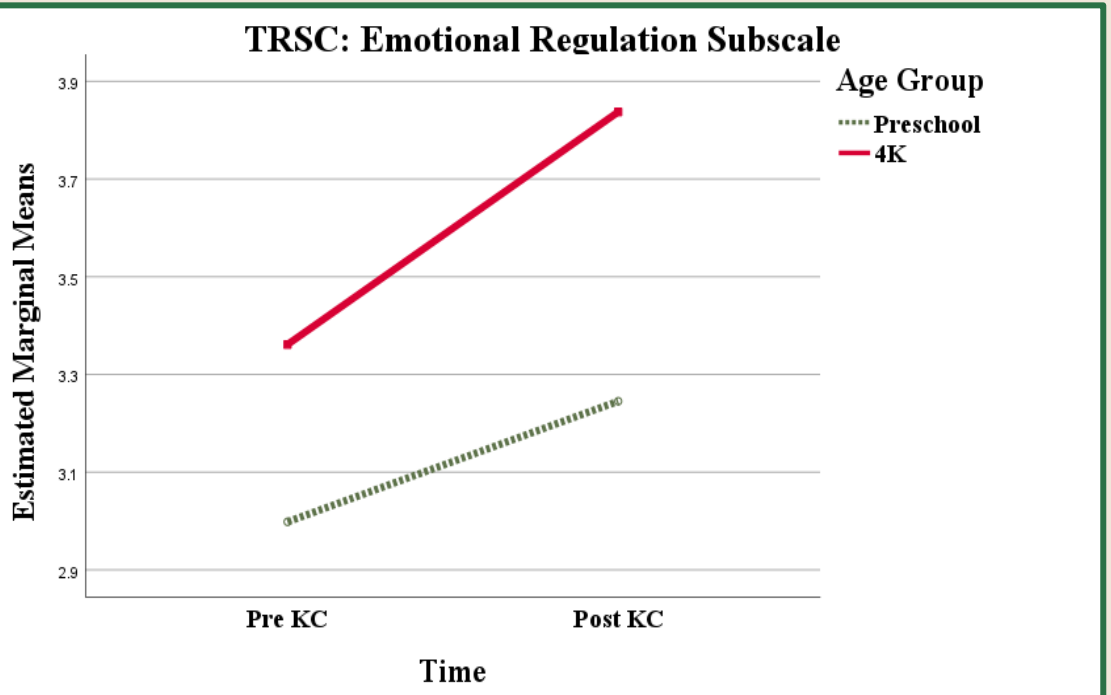



Both preschool & 4K students ***improved significantly in prosocial behavior*** over time. 4K students showed higher prosocial behavior overall.

**ME Time: F(1, 344) = 82.42, p < .001, ES = .19**
**Time x Pre/4K: F(1, 344) = .88, p = .350, ES = .003**
**ME Pre/4K: F(1, 344) = 17.89, p < .001, ES = .05**

***ES = Effect size, eta squared**

# Results: TRSC Emotional Regulation Varied with Age

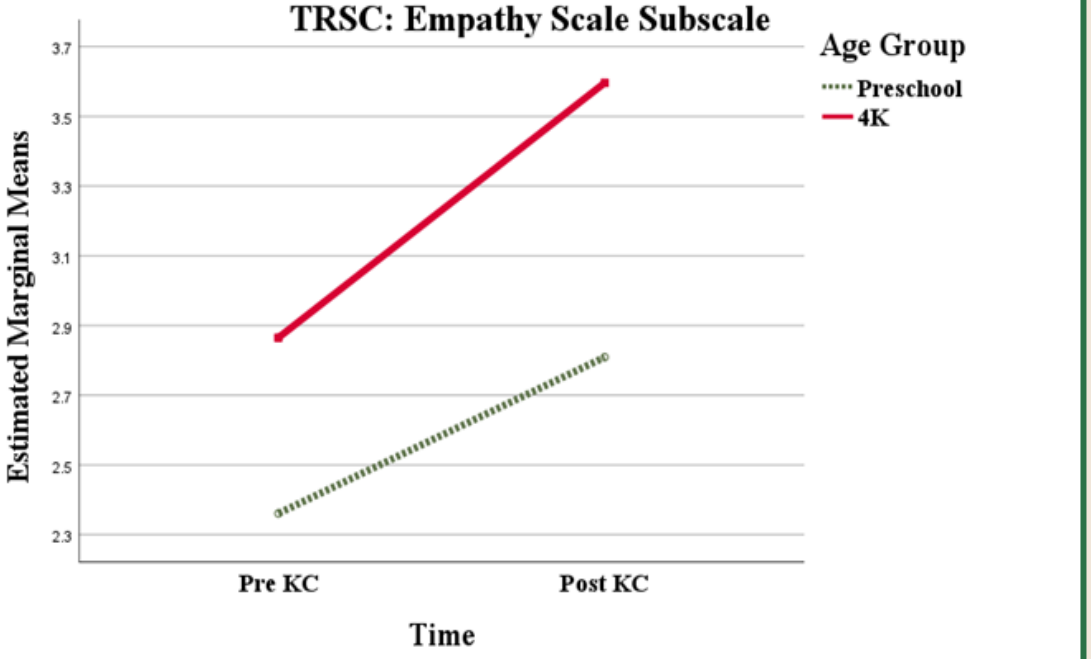



4K children showed better emotional regulation skills overall & ***stronger improvement*** over time. Preschool children did **improve significantly over time.**

**ME Time: F(1, 344) = 49.56, p < .001, ES = .13**
**Time x Pre/4K: F(1, 344) = 4.99, p = .026, ES = .01**
**ME Pre/4K: F(1, 344) = 17.61, p < .001, ES = .05**

***ES = Effect size, eta squared**

# Results: TRSC Empathy Skills Varied with Age

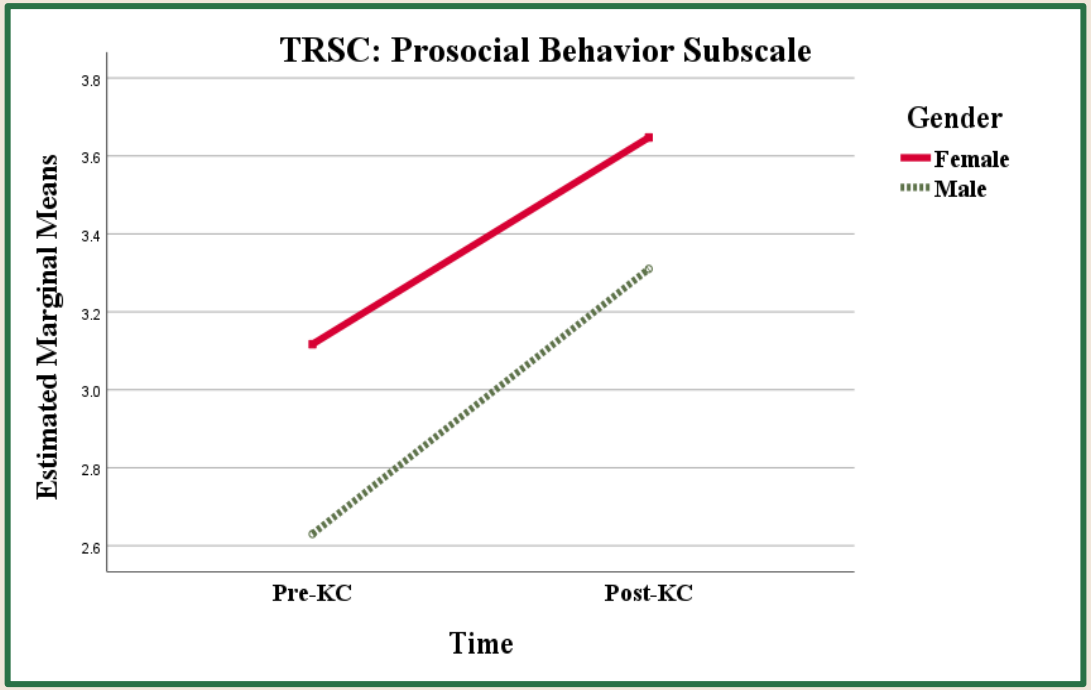



4K students showed ***better empathy skills overall & stronger improvement*** over time than preschoolers, but both groups ***improved significantly over time***.

**ME Time: F(1, 344) = 94.31, p < .001, ES = .22**
**Time x Pre/4K: F(1, 344) = 5.43, p = .020, ES = .02**
**ME Pre/4K: F(1, 344) = 26.67, p < .001, ES = .07**

***ES = Effect size, eta squared**

# Results: TRSC Prosocial Behavior Varied with Gender

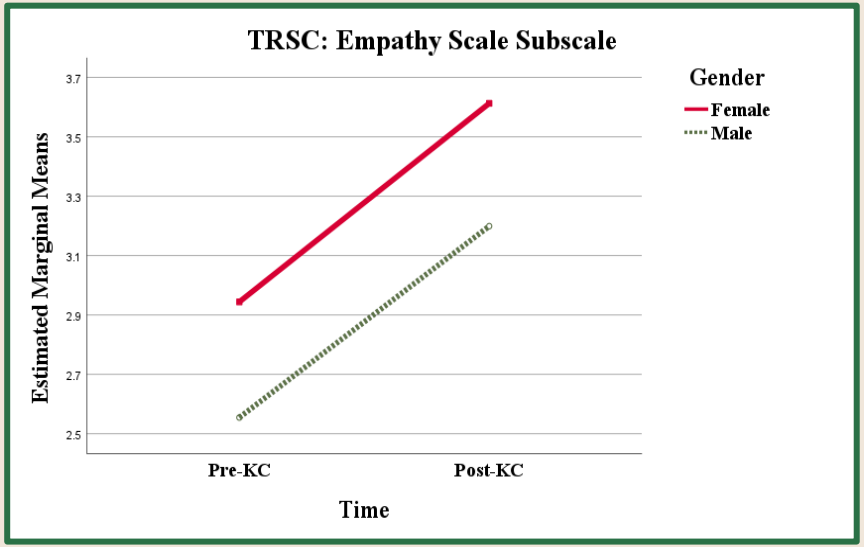



Girls showed stronger prosocial behavior than boys overall. However, both boys & girls ***improved significantly in prosocial behavior*** over time.

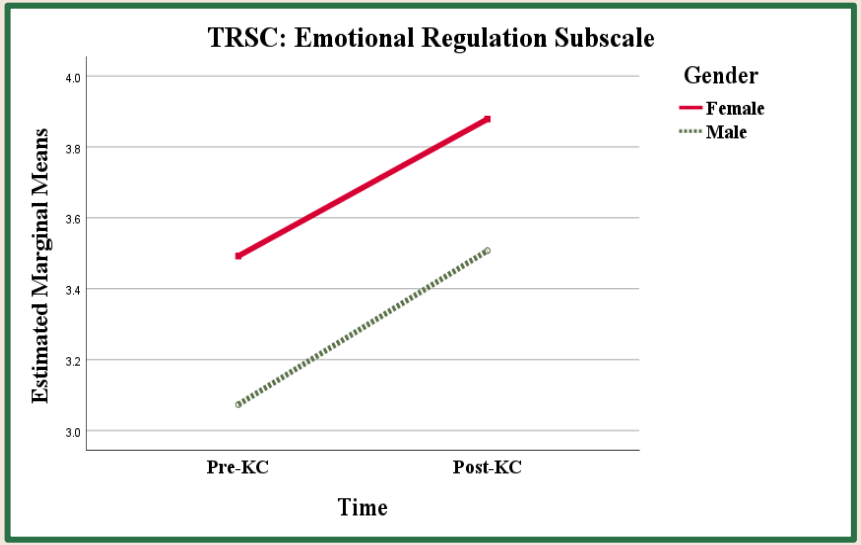
**ME Time: F(1, 345) = 114.62, p < .001, ES = .25**
**Time x Gender: F(1, 345) = 1.76, p = .186, ES = .005**
**ME Gender: F(1, 345) = 14.21, p < .001, ES = .04**

***ES = Effect size, eta squared**

# Results: TRSC Empathy & Emotional Regulation Skills Varied with Gender




ME Time: F(1, 345) = 149.10, p < .001, ES = .30
Time x Gender: F(1, 345) = .50, p = .822, ES = .00
ME Gender: F(1, 345) = 12.83, p < .001, ES = .04



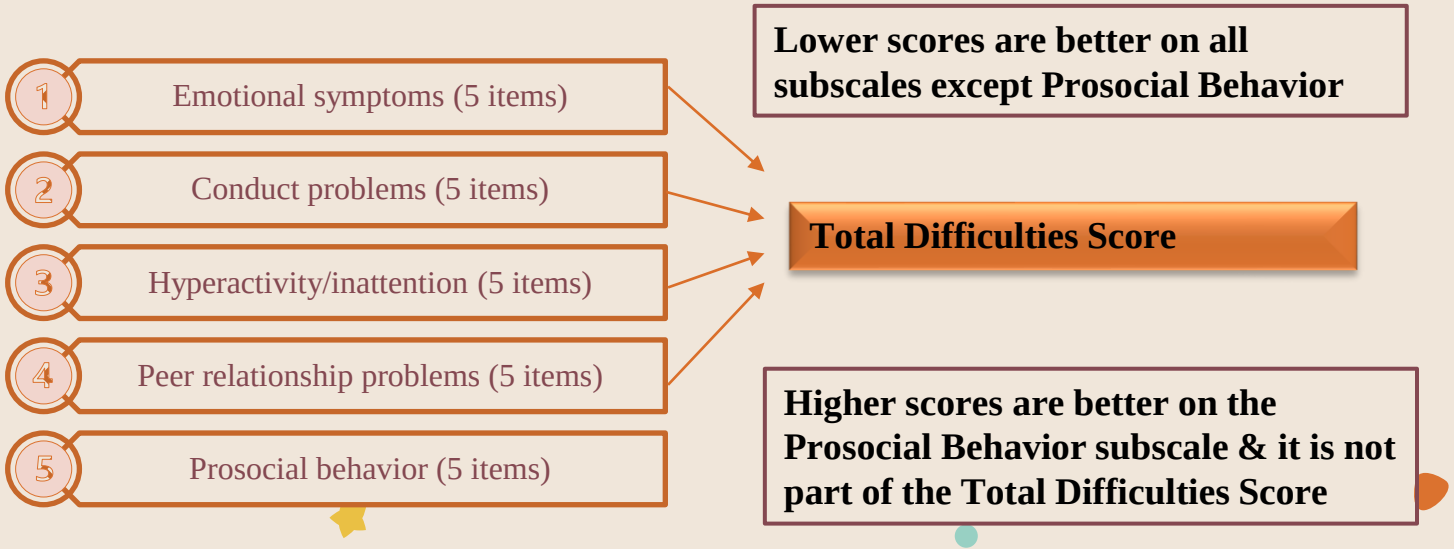

ME Time: F(1, 345) = 80.97, p < .001, ES = .19
Time x Gender: F(1, 345) = .27, p = .601, ES = .001
ME Gender: F(1, 345) = 15.37, p < .001, ES = .04

*ES = Effect size, eta squared

Girls had higher empathy & emotional regulation skills than boys overall. However, both boys and ***girls improved significantly in both areas*** over time.

# Strengths and Difficulties (SDQ)

- This measure is a brief behavioral screening questionnaire for a wide range of ages; we used the teacher version for 2 to 4-year-olds.
- The SDQ has 25 items (about both positive & negative behaviors).
- In year four, the SDQ was completed by teachers in fall & spring.



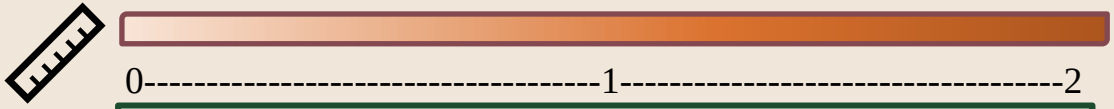
# Strengths and Difficulties (SDQ)

**Teacher (your) Name**: _____ **Age:**___ **Gender** (circle): M F **Other:**_____
**Child's Name**:_____ **Date**:_____

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

| | Not True | Somewhat True | Certainly True |
|---|---|---|---|
| Considerate of other people's feelings | ☐ | ☐ | ☐ |
| Restless, overactive, cannot stay still for long | ☐ | ☐ | ☐ |
| Often complains of headaches, stomach-aches or sickness | ☐ | ☐ | ☐ |
| Shares readily with other children, for example toys, treats, pencils | ☐ | ☐ | ☐ |
| Often loses temper | ☐ | ☐ | ☐ |
| Rather solitary, prefers to play alone | ☐ | ☐ | ☐ |
| Generally well behaved, usually does what adults request | ☐ | ☐ | ☐ |
| Many worries or often seems worried | ☐ | ☐ | ☐ |
| Helpful if someone is hurt, upset or feeling ill | ☐ | ☐ | ☐ |
| Constantly fidgeting or squirming | ☐ | ☐ | ☐ |
| Has at least one good friend | ☐ | ☐ | ☐ |
| Often fights with other children or bullies them | ☐ | ☐ | ☐ |
| Often unhappy, depressed or tearful | ☐ | ☐ | ☐ |

Teacher's version




'Somewhat True' is always scored as 1, but the scoring of 'Not True' and 'Certainly True' as 0 or 2 varies with the item

# Overview of Findings on Strengths & Difficulties (SDQ)

**Please See Appendix 2 for a Summary of the Statistical Findings**

**In fall, how did *continuing* children *vs those new* to the programs compare?**

- **There were no significant differences between continuing & new children on any SDQ subscales in fall. Note that there were many more new than continuing students.**

**In fall, how did *lower SES vs higher SES* children compare?**

- **In fall, higher SES students had fewer total difficulties than lower SES students; there were no SES differences in any other SDQ area in fall. Note that there were many more lower SES than higher SES students.**

**Was there improvement *over time*?**

- **Across most subgroups of children, there was significant improvement over time in prosocial behavior & significant reductions in total behavioral difficulties. The only exception was that continuing children did not significantly improve in behavioral difficulties. About 57% of children showed better prosocial behavior & 58% displayed fewer difficulties over time, while 83% improved in peer relationship problems. We also measured how many at least maintained their skills—almost 91% maintained or decreased in peer relationship problems suggesting recovery in this area during the return to in-person classes.**

# Overview of Findings on Strengths & Difficulties (SDQ)

**Was improvement over time comparable for continuing (n = 59) & new (n = 291) children?**

- New children improved significantly over time in most SDQ areas (Conduct Problems, Hyperactivity, Peer Problems, & Prosocial Behavior) except Emotional Problems. The smaller group of continuing children significantly improved only in Peer Problems & Prosocial Behavior.

**Was improvement over time comparable across socioeconomic status (SES)?**

- There were many more lower SES children than higher SES children. Both lower SES & higher SES children improved over time in Prosocial Behavior & showed fewer Total Behavioral Difficulties, improving significantly in Hyperactivity & Peer Problems. Only lower SES children improved over time in Conduct Problems.

**Was improvement over time comparable for preschool & 4K children?**

- There were many more older children than younger children, & older children had significantly fewer Behavioral problems & higher Prosocial skills overall. However, both younger & older children improved over time in Prosocial skills & showed fewer Total Behavioral Difficulties (reflecting significant reductions in Peer Problems for both). Only older children showed significantly fewer Conduct & Hyperactivity problems over time.

**Was improvement over time comparable for girls & boys?**

- Both girls & boys significantly improved over time in Prosocial skills & showed fewer Total Behavioral Difficulties (reflecting significant reductions in Peer Problems & Hyperactivity for both). Girls improved somewhat more over time on Peer Problems than boys, though both groups improved significantly. Girls displayed fewer Conduct Problems overall, but boys significantly improved in Conduct Problems over time.

***Percentages of children improving over time are listed below.***

***Detailed graphs & results on selected significant level of improvement findings follow!***

# Percentage of Children Improving over Time in Strengths & Difficulties (SDQ)

| Measure | Percentage improved over 2021-2022 | Percentage maintained or improved over 2021-2022 |
|---|---|---|
| **Emotional Problems** (n = 350) | **26.9%** improved (n = 94) | **75.1%** maintained or improved (n = 263) |
| **Conduct Problems** (n = 350) | **33.1%** improved (n = 116) | **79.4%** maintained or improved (n = 278) |
| **Hyperactivity/Inattention** (n = 350) | **55.4%** improved (n = 194) | **68.9%** maintained or improved (n = 241) |
| **Peer Relationship Problems** (n = 350) | **82.9%** improved (n = 290) | **90.9%** maintained or improved (n = 318) |
| **Prosocial Behavior** (n = 350) | **56.6%** improved (n = 198) | **78.9%** maintained or improved (n = 276) |
| **Total Difficulties** (n = 350) | **58.3%** improved (n = 204) | **70%** maintained or improved (n = 245) |

# SDQ: Percentage of Children Improving over Time by Continuing vs. New

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Peer Relationship Problems** | Continuing (n =59 ) | 86.4% (51) | Chi Square = .64, p = .42; no significant differences between continuing & new children. | 91.5% (54) | Chi Square = .04, p = .85; no significant differences between continuing & new children. |
| | New (n = 291) | 82.1% (239) | | 90.7% (264) | |
| **Prosocial Behavior** | Continuing (n =59 ) | 45.8% (27) | Chi Square = 3.37, p = .07; marginally significant difference: slightly higher improvement for new children. | 74.6% (44) | Chi Square = .78, p = .38; no significant differences between continuing & new children. |
| | New (n = 291) | 58.8% (171) | | 79.7% (232) | |

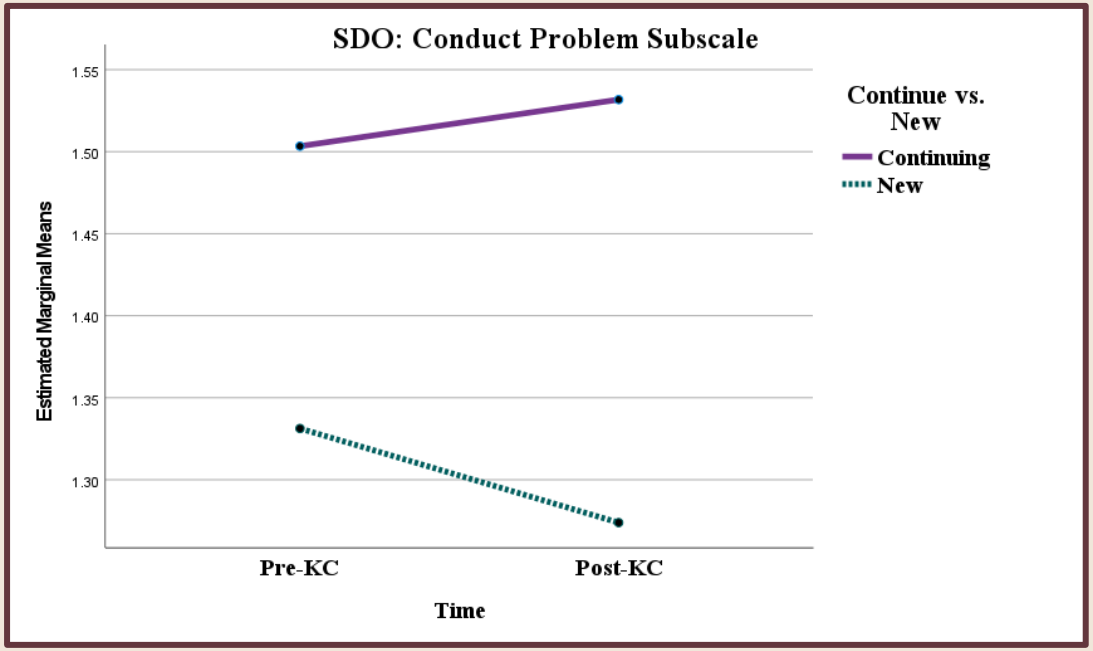
# SDQ: Improvement by Socioeconomic Status

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Emotional Problems** | Lower SES (n = 206) | 26.2% (54) | Chi Square = .16, p = .69; not significant: low & high SES children improved comparably. | 74.8% (154) | Chi Square = .3, p = .58; not significant: low & high SES children maintained or improved comparably. |
| | Higher SES (n = 59) | 28.8% (17) | | 71.2% (42) | |
| **Conduct Problems** | Lower SES (n = 206) | 32% (66) | Chi Square = .07, p = .79; not significant: low & high SES children improved comparably. | 80.1% (165) | Chi Square = 3.96, p = .05; lower SES children maintained or improved significantly more than higher SES children. |
| | Higher SES (n = 59) | 33.9% (20) | | 67.8% (40) | |
| **Hyperactivity** | Lower SES (n = 206) | 52.4% (108) | Chi Square = .06, p = .81; not significant: low & high SES children improved comparably. | 64.1% (132) | Chi Square = 2.27, p = .13; not significant: low & high SES children maintained or improved comparably. |
| | Higher SES (n = 59) | 54.2% (32) | | 74.6% (44) | |
| **Peer Relationship Problems** | Lower SES (n = 206) | 80.1% (165) | Chi Square = 1.23, p = .27; not significant: low & high SES children improved comparably. | 89.3% (184) | Chi Square = .79, p = .38; not significant: low & high SES children maintained or improved comparably. |
| | Higher SES (n = 59) | 86.4% (51) | | 93.2% (55) | |
| **Prosocial Behavior** | Lower SES (n = 206) | 56.3% (116) | Chi Square = .26, p = .61; not significant: low & high SES children improved comparably. | 77.2% (159) | Chi Square = .02, p = .88; not significant: low & high SES children maintained or improved comparably. |
| | Higher SES (n = 59) | 52.5% (31) | | 76.3% (45) | |
| **Total Difficulties** | Lower SES (n = 206) | 56.3% (116) | Chi Square = 1.24, p = .27; not significant: low & high SES children improved comparably. | 68.9% (142) | Chi Square = .34, p = .56; not significant: low & high SES children maintained or improved comparably. |
| | Higher SES (n = 59) | 64.4% (38) | | 72.9% (43) | |

# SDQ: Improvement by Age (Preschool or 4K)

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Emotional Problems** | Preschool (n = 92) | 33.7% (31) | Chi Square = 2.9, p = .09; marginally significant difference: slightly higher preschooler improvement. | 76.1% (70) | Chi Square = .07, p = .79; not significant: preschoolers maintained or improved as much as the 4K children. |
| | 4K (n = 257) | 24.5% (63) | | 74.7% (192) | |
| **Conduct Problems** | Preschool (n = 92) | 33.7% (31) | Chi Square = .01, p = .91; not significant: preschoolers improved as much as the 4K children. | 72.8% (67) | Chi Square = 3.6, p = .06; marginally significant difference: slightly higher 4K maintenance or improvement. |
| | 4K (n = 257) | 33.1% (85) | | 82.1% (211) | |
| **Hyperactivity** | Preschool (n = 92) | 41.3% (38) | Chi Square = 10.32, p = .001; 4K children improved significantly more than preschoolers. | 57.6% (53) | Chi Square = 7.66, p = .006; 4K children maintained or improved significantly more than preschoolers. |
| | 4K (n = 257) | 60.7% (156) | | 73.2% (188) | |
| **Peer Relationship Problems** | Preschool (n = 92) | 82.6% (76) | Chi Square = .02, p = .89; not significant: preschoolers improved as much as the 4K children. | 88% (81) | Chi Square = 1.46, p = .23; not significant: preschoolers maintained or improved as much as the 4K children. |
| | 4K (n = 257) | 83.3% (214) | | 92.2% (237) | |
| **Prosocial Behavior** | Preschool (n = 92) | 52.2% (48) | Chi Square = 1.06, p = .3; not significant: preschoolers improved as much as the 4K children. | 71.7% (66) | Chi Square = 3.72, p = .05; 4K children maintained or improved significantly more than preschoolers. |
| | 4K (n = 257) | 58.4% (150) | | 81.3% (209) | |
| **Total Difficulties** | Preschool (n = 92) | 55.4% (51) | Chi Square = .47, p = .49; not significant: preschoolers improved as much as the 4K children. | 69.6% (64) | Chi Square = .02, p = .88; not significant: preschoolers maintained or improved as much as the 4K children. |
| | 4K (n = 257) | 59.5% (153) | | 70.4% (181) | |

# Results: SDQ Conduct Problems Varied for Continuing or New Students



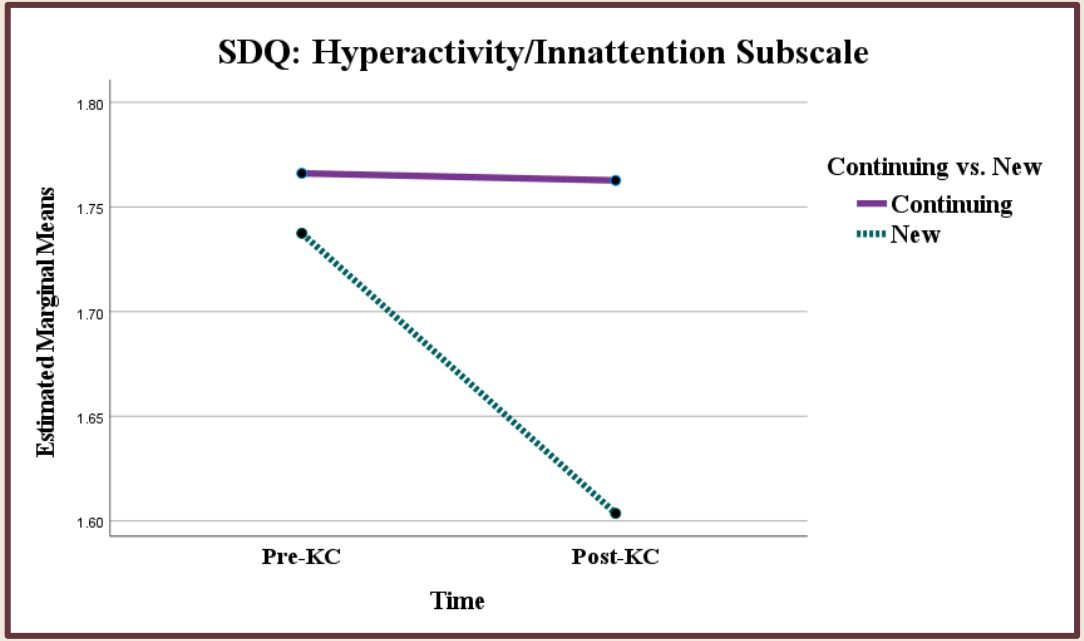

Only new students (n = 291) ***significantly decreased in conduct problems*** over time**.** Continuing students (n = 59) had more conduct problems overall.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = .31, p = .578, ES = .08**
**Time x Continuing/New: F(1, 348) = 2.71, p = .100, ES = .008**
**ME Continue/New: F(1, 348) = 11.23, p < .001, ES = .031**

***ES = Effect size, eta squared**

# Results: SDQ Hyperactivity/Inattention Varied for Continuing vs. New Students



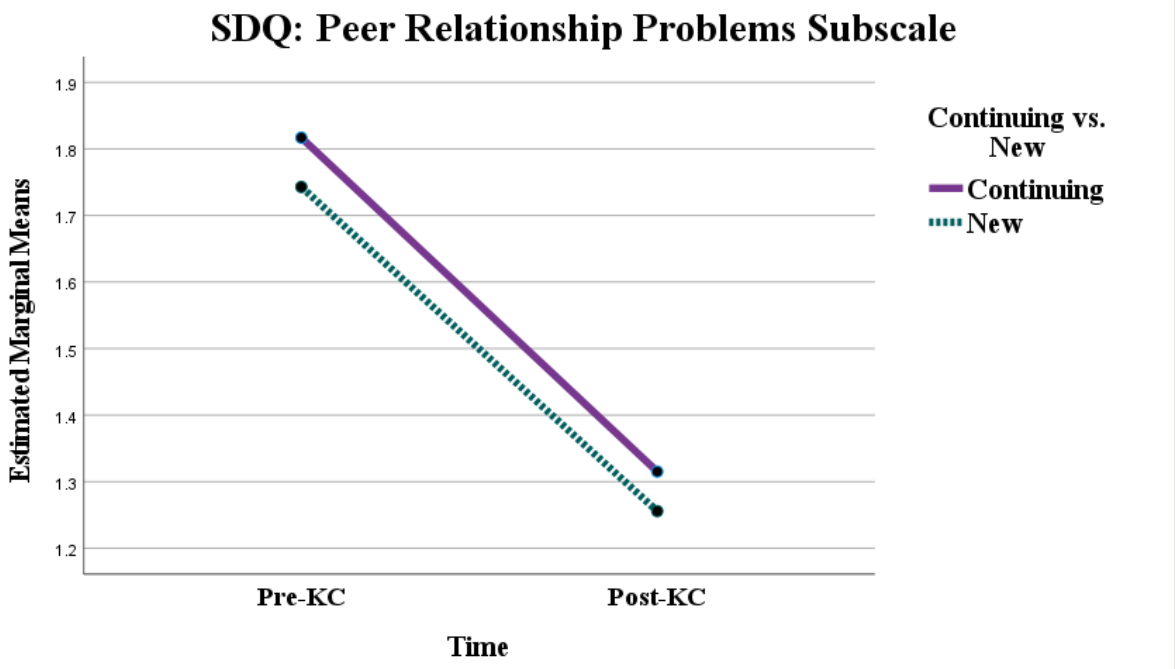

New students (n = 291) showed ***strong and significant decreases*** in hyperactivity/inattention problems after the Kindness Curriculum. Continuing students (n = 59) ***remained at the same level*** over time.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 4.07, p = .044, ES = .012**
**Time x Continuing/New: F(1, 348) = 3.68, p = .056, ES = .010**
**ME Continue/New: F(1, 348) = 1.85, p = .174, ES = .005**

***ES = Effect size, eta squared**

# Results: SDQ Peer Relationship Problems Varied for Continuing or New Students



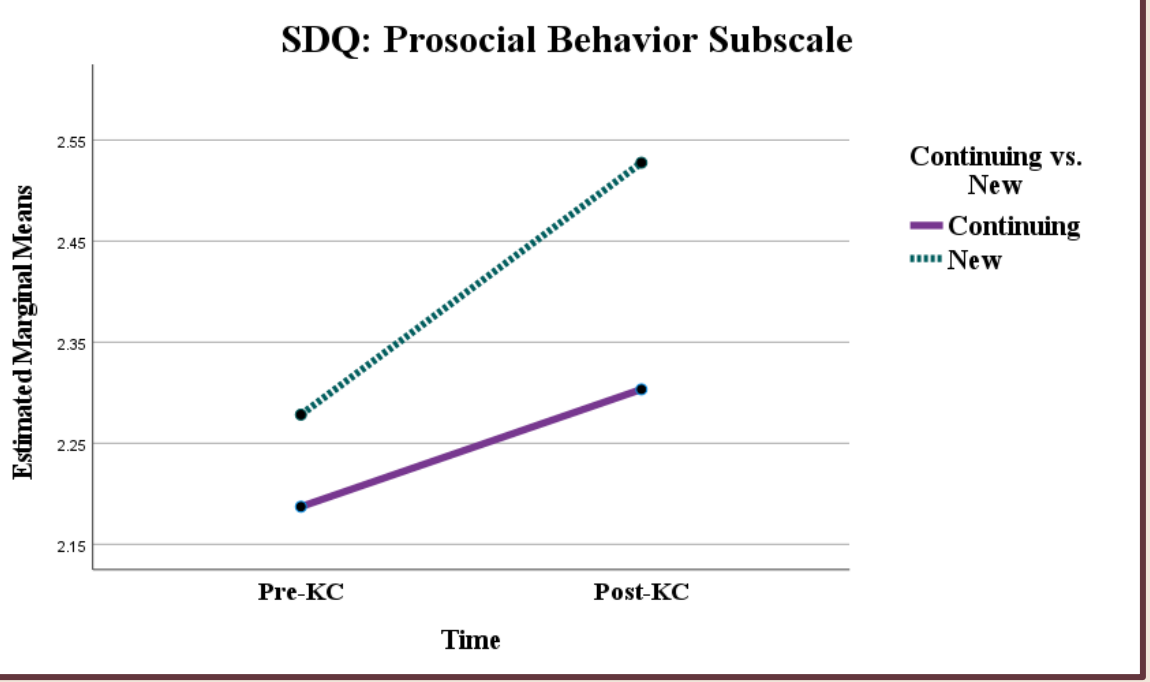

Both continuing and new students ***decreased significantly*** in peer relationship problems over time. New students had ***significantly lower*** peer relationship problems overall.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 288.85, p < .001, ES = .454**
**Time x Continue/New : F(1, 348) = .06, p = .802, ES = .00**
**ME Continue/New : F(1,348) = 4.28, p = .039, ES = .01**

***ES = Effect size, eta squared**

# Results: SDQ Prosocial Behavior Varied for Continuing or New Students



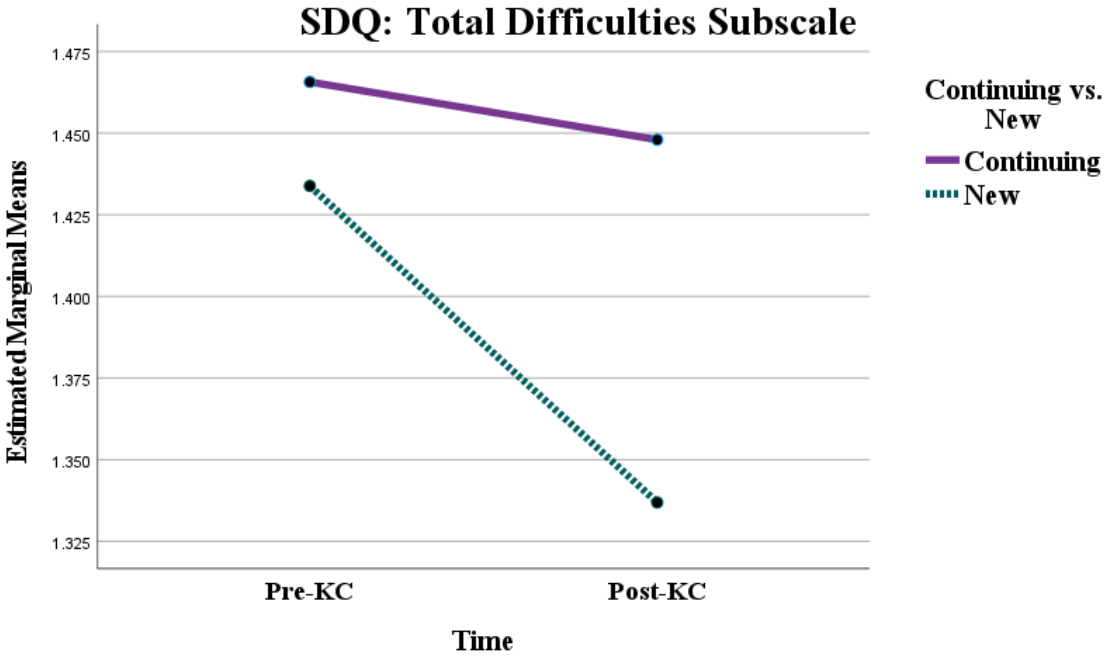

Both continuing and new students ***improved significantly*** in prosocial behavior over time. New students displayed higher prosocial behavior overall than continuing students.

**Higher scores are better on this scale.**

**ME Time: F(1, 348) = 25.75, p < .001, ES = .07**
**Time x Continuing/New: F(1, 348) = 3.42, p = .065, ES = .01**
**ME Continue/New: F(1, 348) = 5.35, p = .015, ES = .02**

***ES = Effect size, eta squared**

# Results: SDQ Total Difficulties Varied for Continuing or New Students



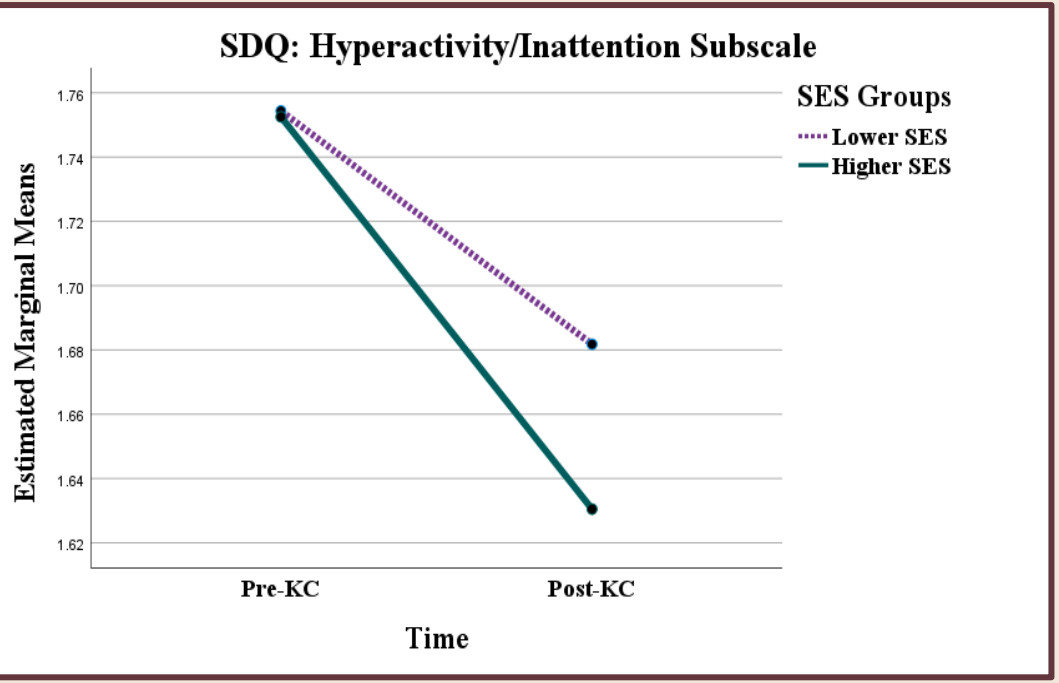

Only new students showed ***significant decreases*** in total difficulties over time. Note that there were many more new students (n = 291) than continuing students (n = 59)

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 10.77, p = .001, ES = .03**
**Time x Continuing/New: F(1, 348) = 5.15, p = .024, ES = .02**
**ME Continue/New: F(1, 348) = 2.43, p = .120, ES = .007**

***ES = Effect size, eta squared**

# Results: SDQ Hyperactivity/Inattention Problems & Socioeconomic Status




Both lower and higher SES students ***displayed comparable scores on hyperactivity/inattention problems in the Fall*** and both groups ***showed significant decreases in hyperactivity/inattention*** over time.

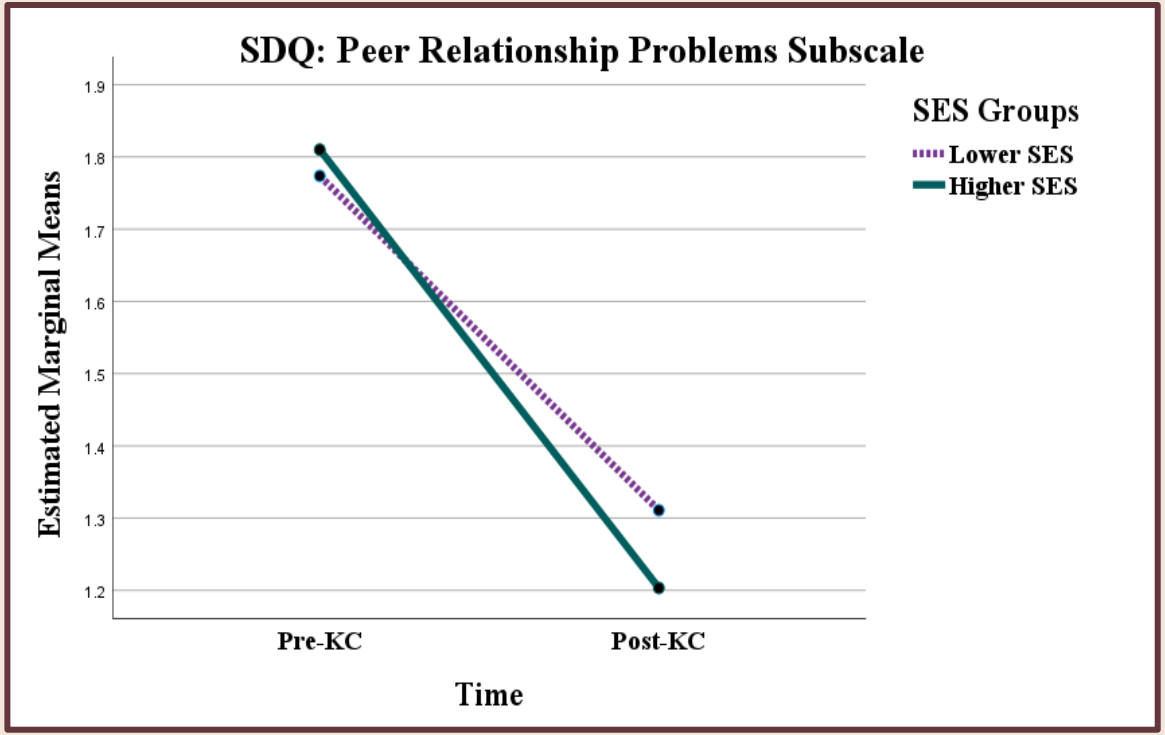
**Note**: The sample size for lower SES students (n = 206) is much larger than the sample size for higher SES students (n = 59).

**Remember: Lower scores are better.**

**ME Time: F(1, 263) = 7.43, p = .007, ES = .027**
**Time x SES: F(1, 263) = .48, p = .489, ES = .002**
**ME SES: F(1, 263) = .13, p = .718, ES = .000**

***ES = Effect size, eta squared**

# Results: SDQ Peer Relationship Problems Varied with Socioeconomic Status



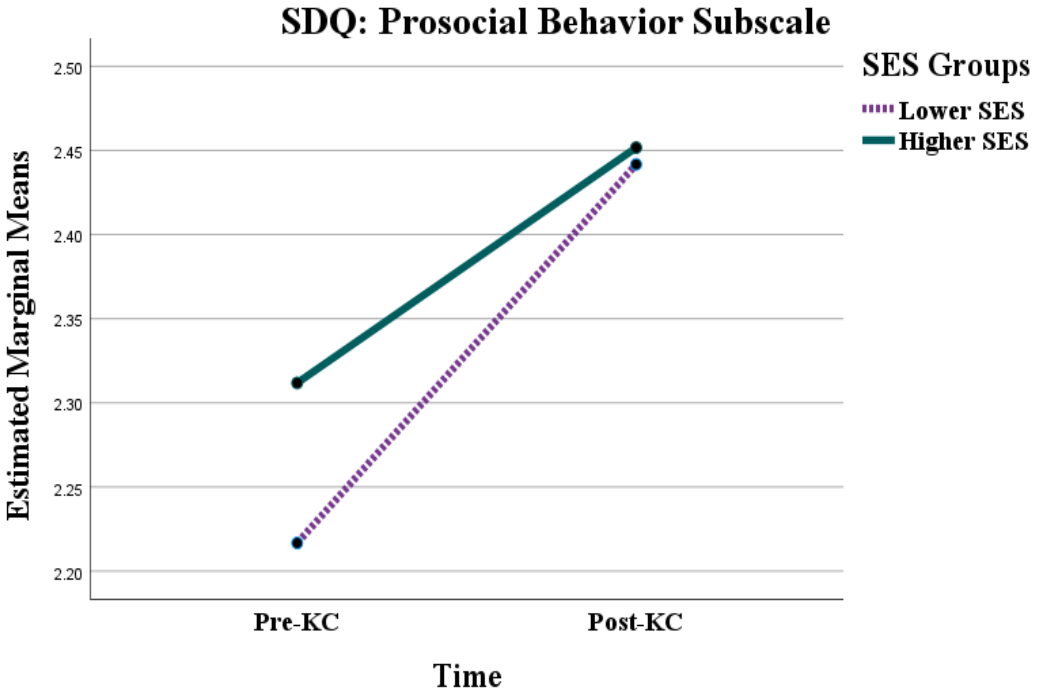

Both lower (n = 206) and higher SES (n = 59) students ***showed significant decreases*** in peer relationship problems over time. However, higher SES students ***decreased more*** in peer relationship problems over time than lower SES students.

**Remember: Lower scores are better.**

**ME Time: F(1, 263) = 296.76, p < .001, ES = .53**
**Time x SES: F(1, 263) = 5.37, p = .021, ES = .02**
**ME SES: F(1, 263) = 1.12, p = .292, ES = .004**

***ES = Effect size, eta squared**

# Results: SDQ Prosocial Behavior & Socioeconomic Status



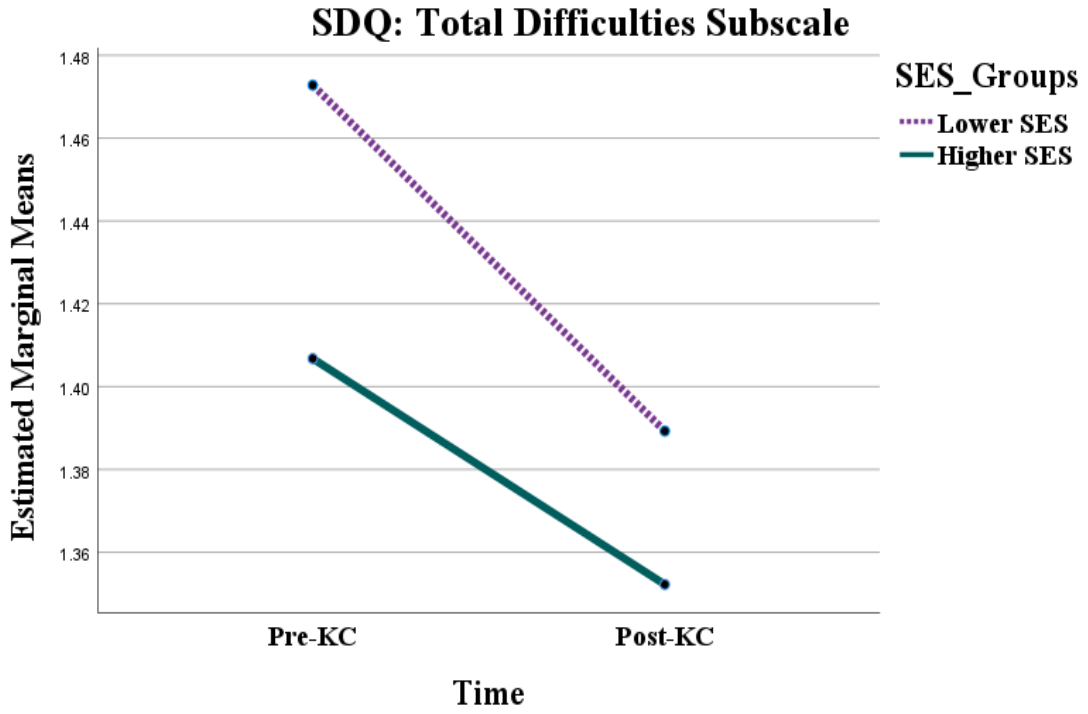

Both lower and higher SES students ***showed significant improvement*** in prosocial behavior over time.

**Higher scores are better on this scale.**

**ME Time: F(1, 263) = 24.60, p < .001, ES = .09**
**Time x SES: F(1, 263) = 1.34, p = .25, ES = .005**
**ME SES: F(1, 263) = .51, p = .474, ES = .002**

***ES = Effect size, eta squared**

# Results: SDQ Total Difficulties & Socioeconomic Status



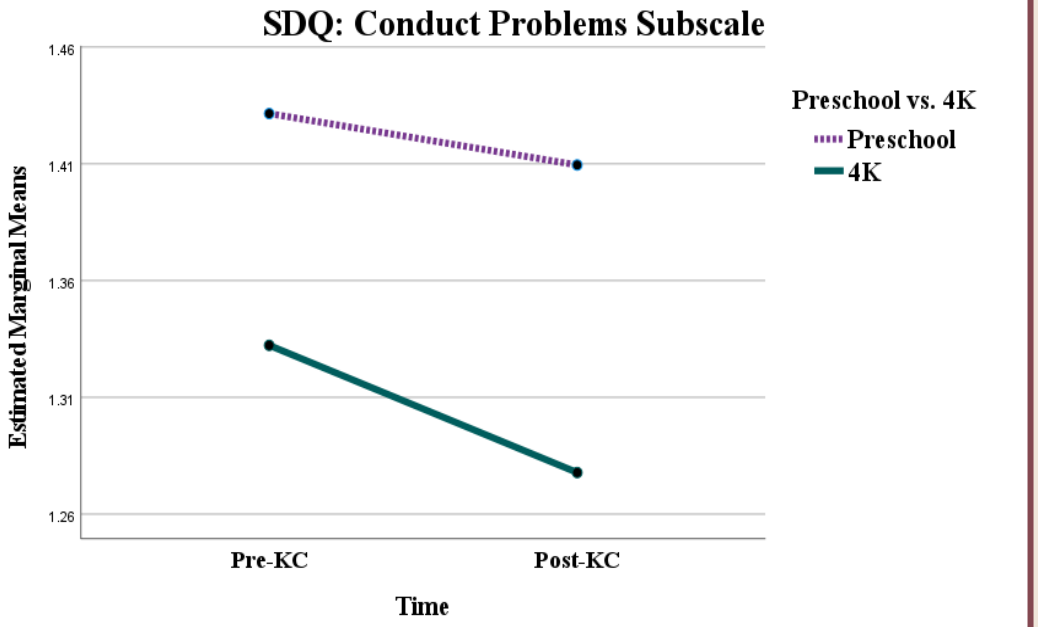

Both lower (n = 206) and higher SES (n = 59) students ***showed significant decreases*** in total difficulties over time. There were no overall differences between lower & higher SES groups.

**Remember: Lower scores are better.**

**ME Time: F(1, 263) = 14.20 p < .001, ES = .05**
**Time x SES: F(1, 263) = .63, p = .429, ES = .002**
**ME SES: F(1, 263) = 1.11, p = .292, ES = .004**

***ES = Effect size, eta squared**

# Results: SDQ Conduct Problems Varied with Age




Only 4K students ***showed significant decreases in conduct problems*** over time. 4K students showed fewer conduct problems overall.

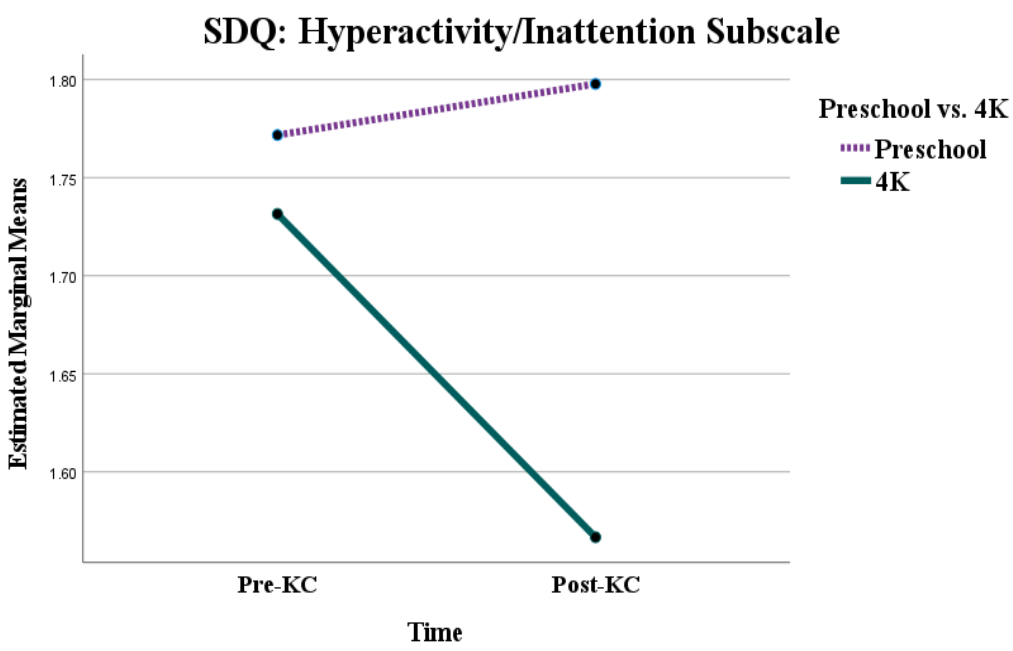
**Note**: The sample size for 4K students (n = 257) is much larger than the sample size for preschool students (n = 92).

**Remember: Lower scores are better.**

**ME Time: F(1, 347) = 3.02, p = .083, ES = .009**
**Time x Pre/4K: F(1,347) = .055, p = .46, ES= .002**
**ME Pre/4K: F(1,347) = 4.46, p = .035, ES = .013**

***ES = Effect size, eta squared**

# Results: SDQ Hyperactivity/Inattention Varied with Age



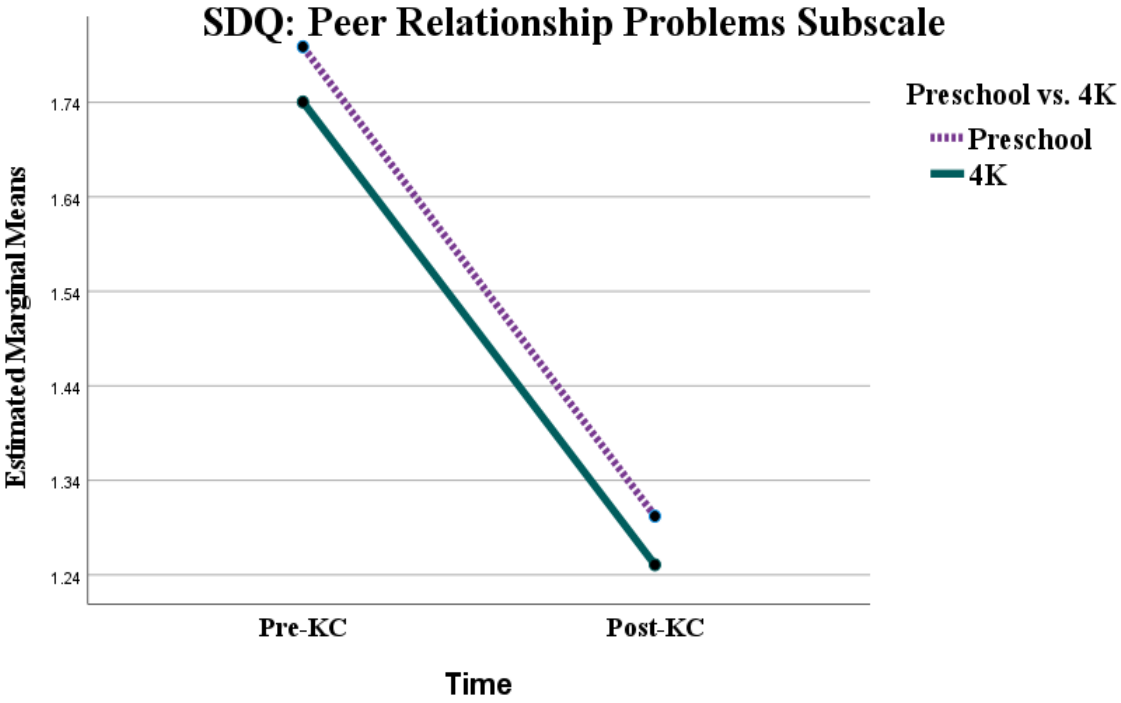

4K students ***showed significant decreases*** in hyperactivity/inattention problems over time and had fewer hyperactivity/inattention problems overall. Preschoolers showed no significant change over time.

**Remember: Lower scores are better.**

**ME Time: F(1, 347) = 5.91, p = .016, ES = .017**
**Time x Pre/4K: F(1, 347) = 11.19, p < .001, ES = .031**
**ME Pre/4K: F(1,347) = 5.40, p = .021, ES = .015**

***ES = Effect size, eta squared**

# Results: SDQ Peer Relationship Problems Varied with Age



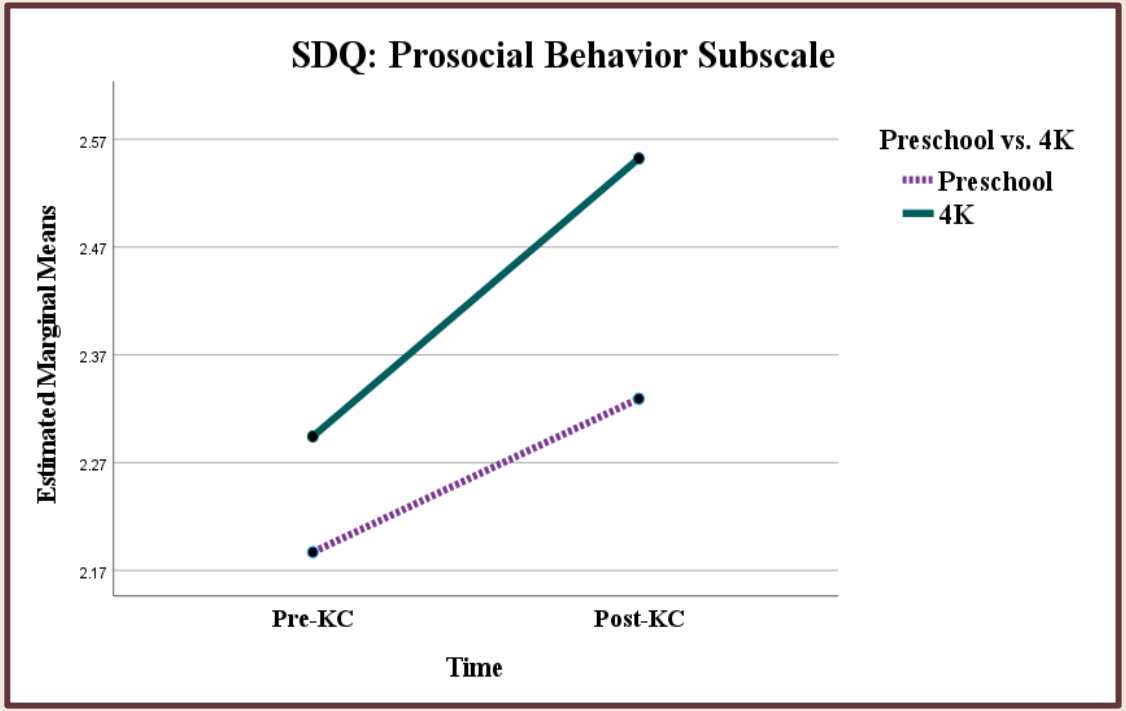

Both preschool (n = 92) and 4K students (n = 257) showed ***significant decreases*** in peer relationship problems over time. 4K students had ***significantly lower*** peer relationship problems overall.

**Remember: Lower scores are better.**

**ME Time: F(1, 347) = 399.11, p < .001, ES = .54**
**Time x Pre/4K: F(1, 347) = .02, p = .887, ES = .00**
**ME Pre/4K: F(1,347) = 4.01, p = .046, ES = .01**

***ES = Effect size, eta squared**

# Results: SDQ Prosocial Behavior Varied with Age



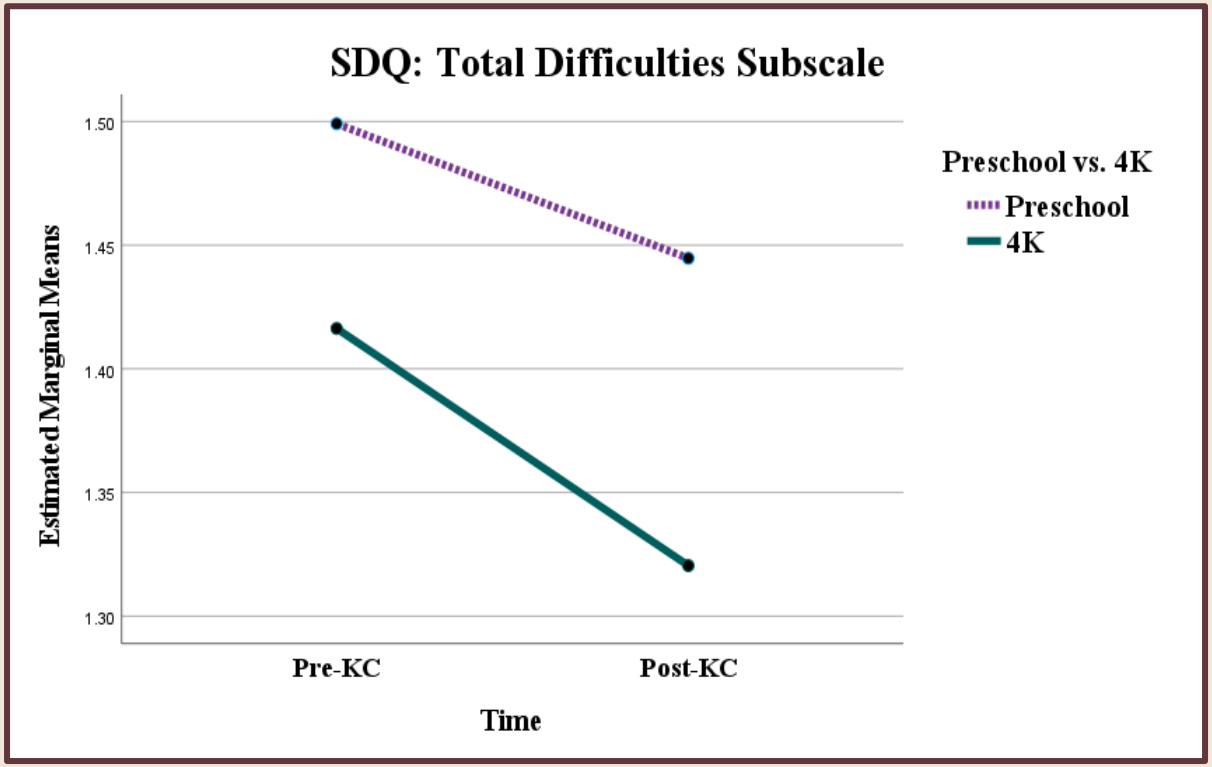

Both preschool and 4K students ***improved significantly*** in prosocial behavior over time. 4K students ***improved somewhat more*** over time and displayed ***significantly higher*** prosocial behavior overall than preschool students .

**Higher scores are better on this scale.**

**ME Time: F(1, 347) = 42.61, p < .001, ES = .11**
**Time x Pre/4K: F(1, 347)= 3.55, p = .060, ES = .01**
**ME Pre/4K: F(1, 347) = 8.29, p = .004, ES = .02**

***ES = Effect size, eta squared**

# Results: SDQ Total Difficulties Varied with Age



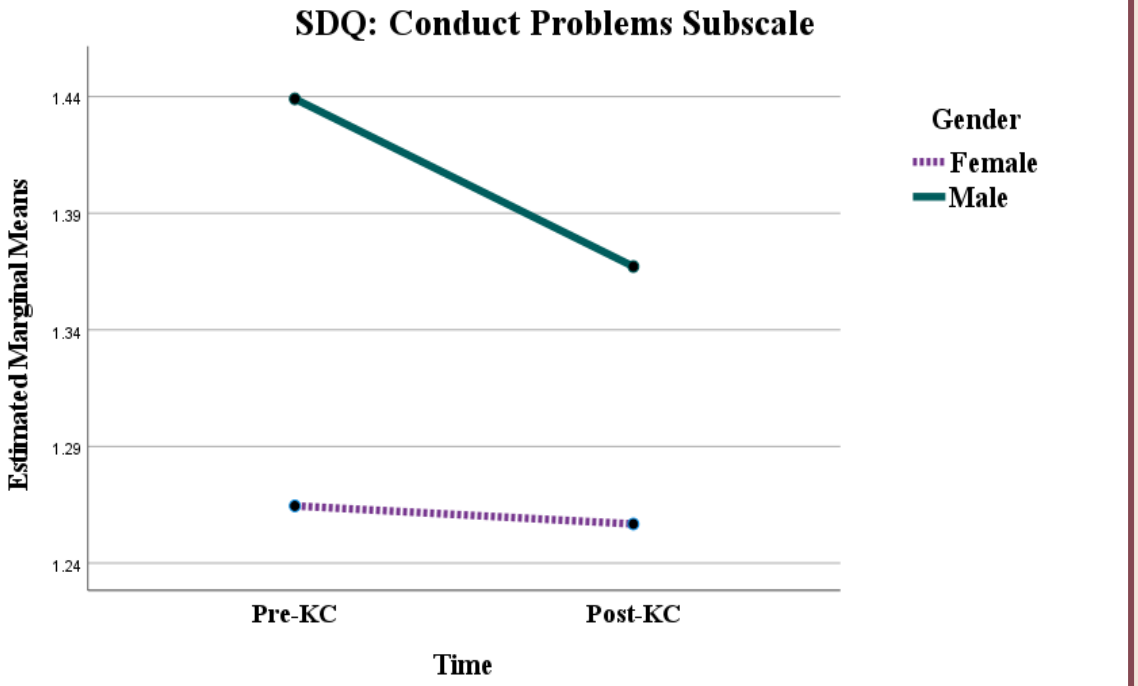

Both preschool and 4K students ***showed significant decreases*** in total difficulties over time. 4K students had ***fewer*** total difficulties overall than preschool children.

**Remember: Lower scores are better.**

**ME Time: F(1, 347) = 25.57, p = <.001, ES = .07**
**Time x Pre/4K: F(1, 347) = 1.95, p = .163, ES =.006**
**ME Pre/4K: F(1, 347) = 7.17, p = .008, ES = .02**

***ES = Effect size, eta squared**

# Results: SDQ Conduct Problems Varied with Gender



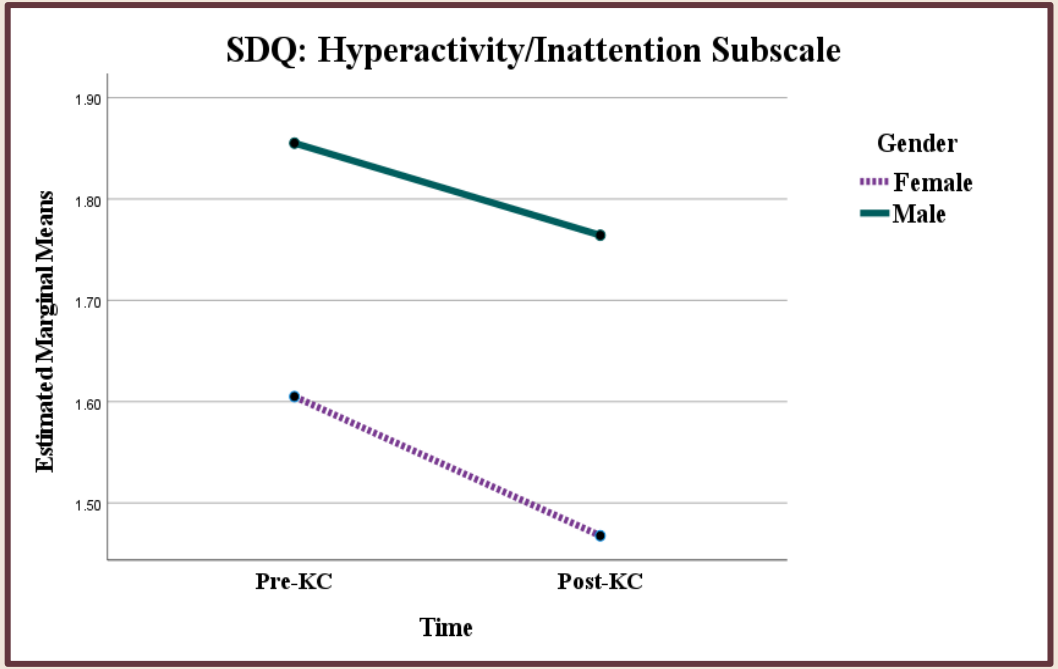

Boys showed ***significant decreases*** in conduct problems after the Kindness Curriculum. Girls ***remained at the same level*** but showed fewer conduct problems than boys overall.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 4.13, p = .043, ES = .012**
**Time x Gender: F(1, 348) = 2.68, p =.103, ES = .008**
**ME Gender: F(1, 348) = 8.65, p = .003, ES = .024**

***ES = Effect size, eta squared**

# Results: SDQ Hyperactivity/Inattention Varied with Gender



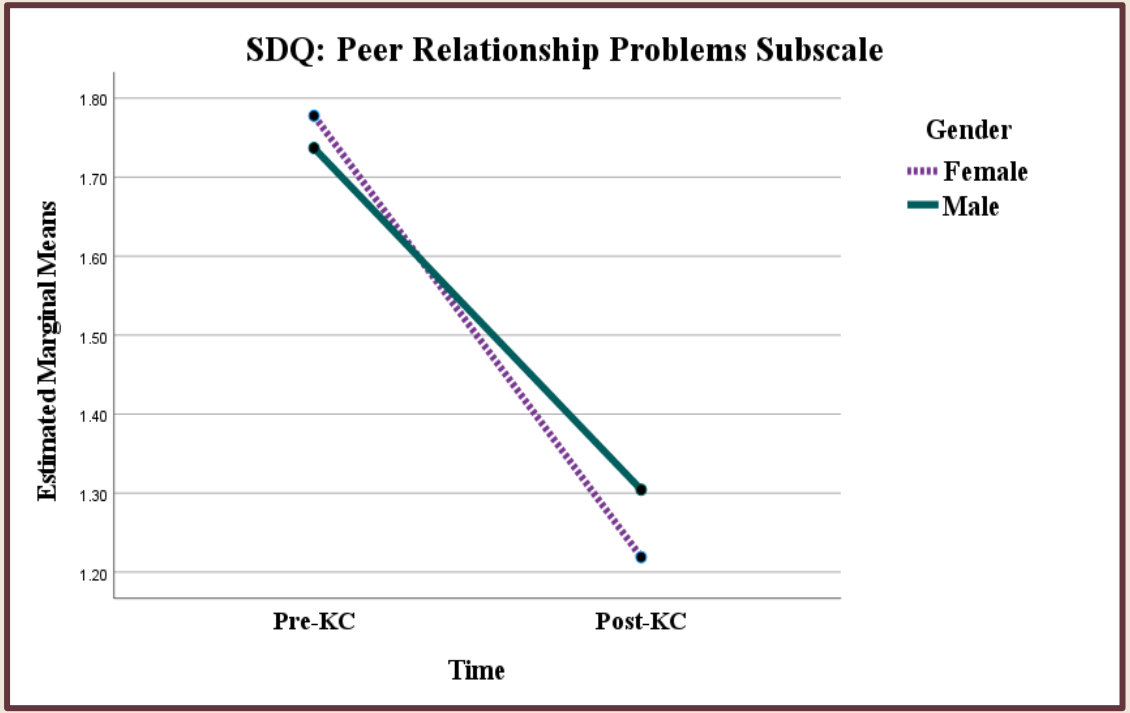

Both boys and girls ***decreased significantly*** in hyperactivity/inattention problems over time. Girls had ***fewer*** hyperactivity/inattention problems overall than boys.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 19.72, p < .001, ES = .054**
**Time x Gender: F(1, 348) = .82, p = .367, ES = .002**
**ME Gender: F(1, 348) = 30.01, p < .001, ES = .079**

***ES = Effect size, eta squared**

# Results: SDQ Peer Relationship Problems Varied with Gender



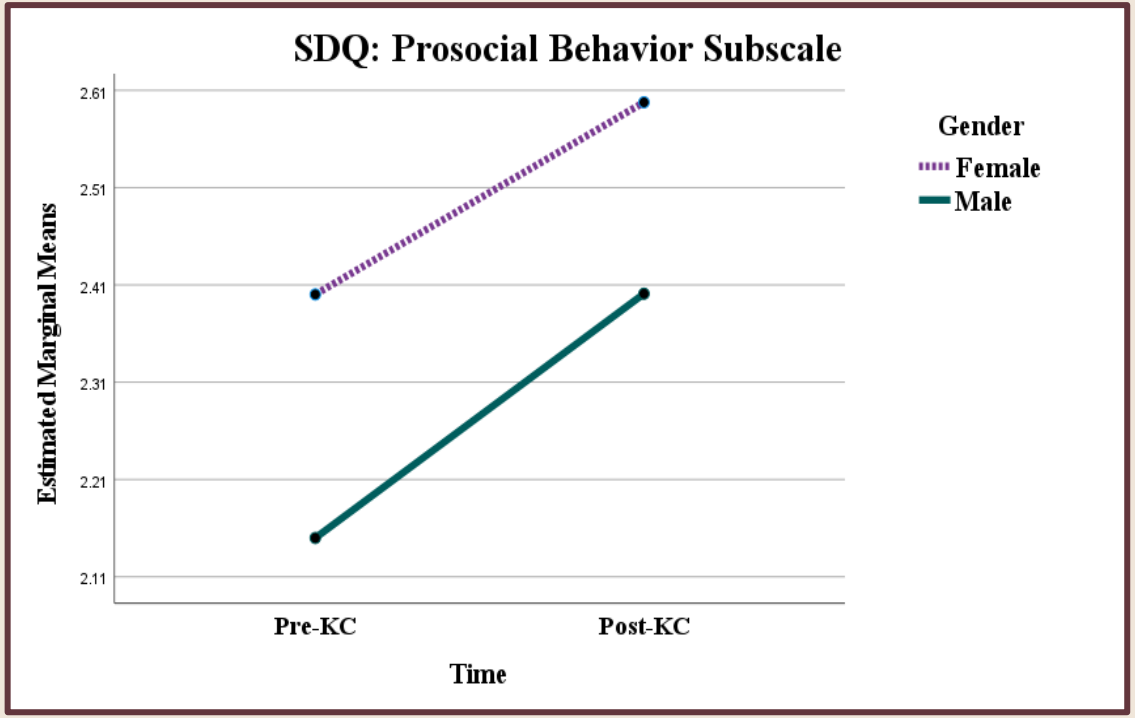

Both boys and girls ***showed significant decreases*** in peer relationship problems after the KC. Girls had ***stronger decreases over time*** in peer relationship problems than boys.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 525.55, p < .001, ES = .602**
**Time x Gender: F(1, 348) = 8.53, p = .004, ES = .024**
**ME Gender: F(1, 348) = .84, p = .361, ES = .002**

***ES = Effect size, eta squared**

# Results: SDQ Prosocial Behavior Varied with Gender



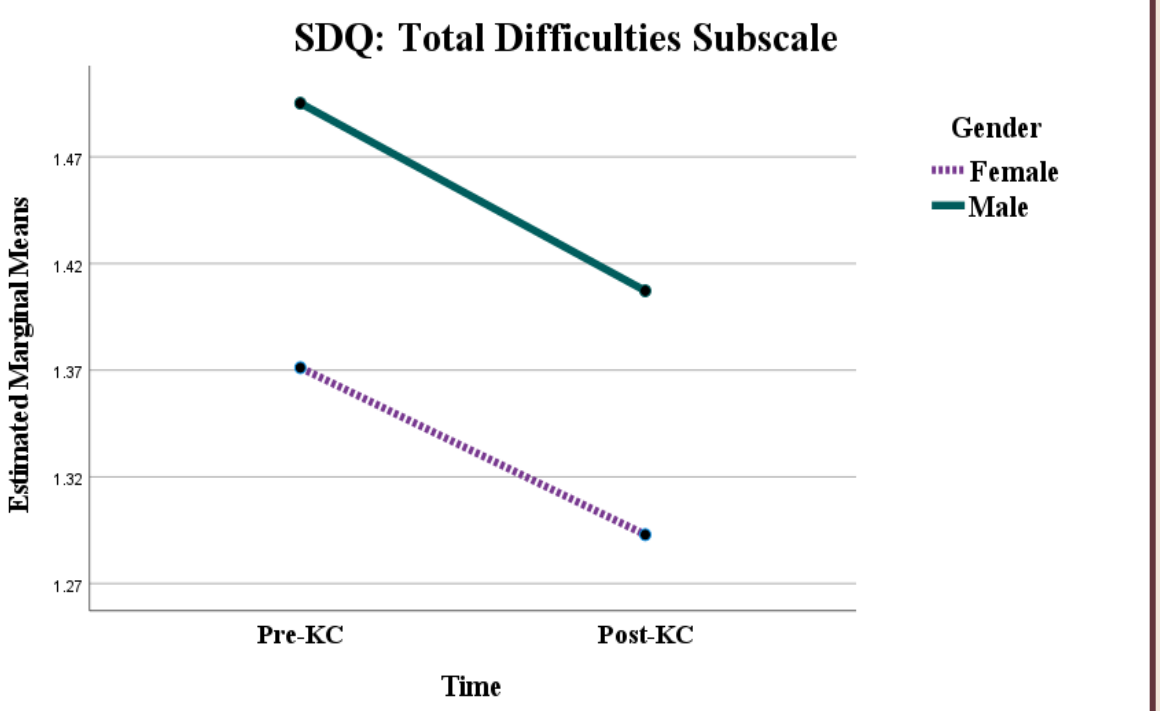

Both boys and girls ***improved significantly*** in prosocial behavior over time. Girls displayed ***higher*** prosocial behavior overall than boys.

**Higher scores are better on this scale.**

**ME Time: F(1, 348) = 68.07, p < .001, ES = .164**
**Time x Gender: F(1, 348) = .97, p = .325, ES = .003**
**ME Gender: F(1, 348) = 19.76, p < .001, ES = .05**

***ES = Effect size, eta squared**

# Results: SDQ Total Difficulties Varied with Gender




Both boys and girls ***decreased significantly*** in total difficulties over time. Girls had ***fewer*** total difficulties than boys overall.

**Remember: Lower scores are better.**

**ME Time: F(1, 348) = 39.47, p < .001, ES = .10**
**Time x Gender: F(1, 348) = .13, p = .716, ES = .00**
**ME Gender: F(1, 348) = 12.24, p < .001, ES = .03**

***ES = Effect size, eta squared**

# Parent Reported Empathy Skills: Griffith Empathy Measure

The Griffith Empathy measure asks **parents** to rate their children's empathy skills.

**Cognitive Empathy subscale**
- Measures children's ability to recognize & understand another's emotional state
- For example, "My child can't understand why other people get upset."

**Affective Empathy subscale**
- Measures children's ability to respond to another's emotions
- For example, "My child seems to react to the moods of people around them."

**Empathic Concern subscale**
- Measures children's concern for others
- For example, "My child gets upset when seeing another child being hurt."

Below are a collection of statements, think of each item in terms of your child(ren)'s behavior. Please indicate the degree to which you agree or disagree with the following items by placing the appropriate number in the space provided.

1 2 3 4 5 6 7 8 9
I----------I----------I----------I----------I----------I----------I----------I----------I
Strongly Disagree — Disagree — Neither Disagree or Agree — Agree — Strongly Agree

| | |
|---|---|
| 1. My child becomes sad when other children are sad. | |
| 2. My child gets upset seeing another child being punished for being naughty. | |
| 3. My child seems to react to the moods of people around them. | |
| 4. My child gets upset when another person is acting upset. | |
| 5. My child cries or gets upset when seeing another child cry. | |
| 6. My child gets sad when watching sad movies or TV. | |
| 7. My child becomes nervous when other children around them are nervous. | |
| 8. My child acts happy when another person is acting happy. | |
| 9. My child can continue to feel OK even if people around are upset. | |
| 10. My child can't understand why other people get upset. | |

1--------2--------3--------4--------5--------6--------7--------8--------9

From 1 = strongly disagree to 9 = strongly agree

# Overview of Findings for Griffith Empathy

**Please See Appendix 3 for a Summary of the Statistical Findings**

**In fall, how did *continuing* children *vs those new* to the programs compare?**

- **There were no significant differences between continuing & new children on any Griffith Empathy subscales in fall. Note that there were many more new (n = 187) than continuing children (n = 37).**

**In fall, how did *lower SES vs higher SES* children compare?**

- **In fall, higher SES children had significantly higher overall empathy scores, reflecting somewhat higher scores on affective and cognitive empathy, than lower SES students. There were no SES differences in empathetic concern in fall. Note that there were many more lower SES (n = 184) than higher SES (n = 31) children.**

**Was there improvement *over time*?**

- **There was significant improvement over time in affective empathy and empathetic concern for new children, younger children, lower SES children, and for girls. However, there were also significant decreases in cognitive empathy over time for new children, older children, lower SES children, and for girls. About 58% of children showed improvement in affective empathy, 60% improved in empathetic concern, and around 38% improved their cognitive empathy skills. We also measured how many at least maintained their skills—about 62% maintained or improved in overall empathy skills during this COVID recovery year.**

# Overview of Findings for Griffith Empathy

**Was improvement over time comparable for continuing (n = 16) & new (n = 104) children?**

- **Both continuing and new children improved in overall empathy skills over time. More specifically, new children improved significantly in affective empathy & empathetic concern though decreased significantly in cognitive empathy. The smaller group of continuing children had somewhat higher scores overall in affective empathy than new children.**

**Was improvement over time comparable across socioeconomic status (SES)?**

- **There were many more lower SES children (n = 101) than higher SES children (n = 18). Lower SES children significantly improved over time in affective empathy & empathetic concern though decreased significantly in cognitive empathy. Higher SES children significantly improved in overall empathy skills & received somewhat higher scores in affective & cognitive empathy than lower SES children.**

**Was improvement over time comparable for preschool (n = 29) & 4K (n = 91) children?**

- **There were more older children than younger children. Younger children showed significant improvement in overall empathy skills, reflecting improvement in affective empathy & empathetic concern over time. Older children improved somewhat in affective empathy & empathetic concern & had significantly higher empathetic concern skills overall.**

**Was improvement over time comparable for girls & boys?**

- **Girls improved significantly over time in overall empathy skills, reflecting significant improvement in affective empathy & empathetic concern. Girls had significantly higher overall empathy scores than boys, with significantly higher scores in cognitive empathy & somewhat higher scores in affective empathy.**

***Percentages of children improving over time are listed below.***

***Detailed graphs & results on selected significant level of improvement findings follow!***

# Griffith Empathy Measure: Percentage of Children Who Improved Over Time

| Measure | Percentage of Children who improved their skills over 2021-2022 | Percentage of Children who maintained or improved their skills over 2021-2022 |
|---|---|---|
| **Affective Empathy** (n = 120) | **57.5%** improved (n = 69) | **60.8%** maintained or improved (n = 73) |
| **Cognitive Empathy** (n = 120) | **37.5%** improved (n = 45) | **40.8%** maintained or improved (n = 49) |
| **Empathetic Concerns** (n = 121) | **60.3%** improved (n = 73) | **68.6%** maintained or improved (n = 83) |
| **Overall Score** (n = 121) | **61.2%** improved (n = 74) | **62%** maintained or improved (n = 75) |

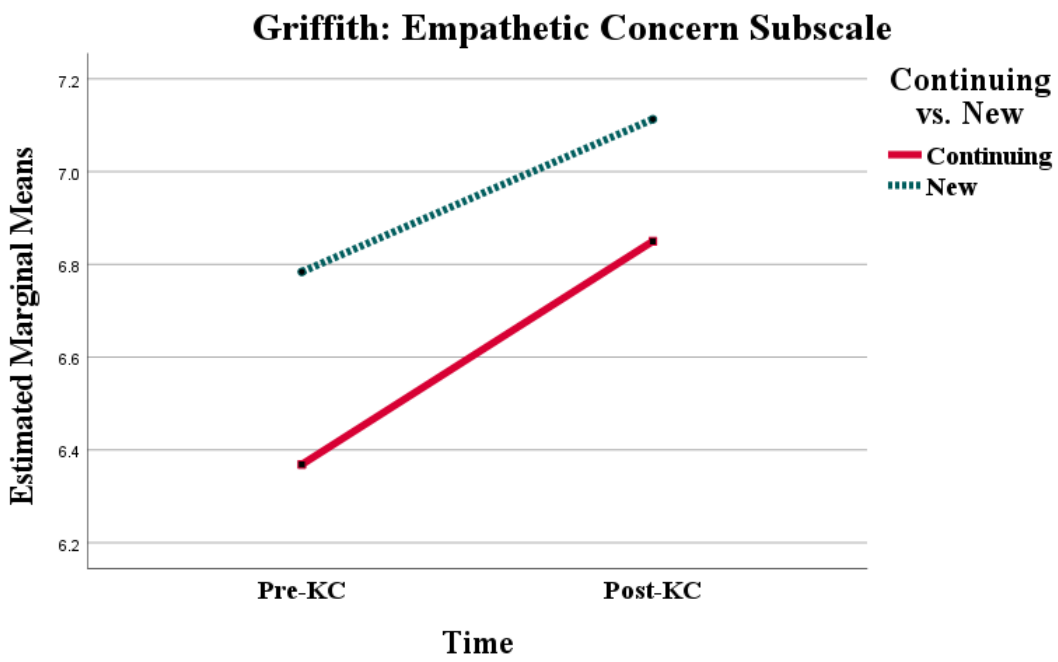
# Griffith Empathy Measure: Improvement Comparisons by Socioeconomic Status (SES)

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Affective Empathy** | Lower SES (n = 100) | 57% (57) | Chi Square = .59, *p* = .44; similar rate -- no significant differences. | 60% (60) | Chi Square = .97, *p* = .33; similar rate – no significant differences. |
| | Higher SES (n = 18) | 66.7% (12) | | 72.7% (13) | |
| **Cognitive Empathy** | Lower SES (n = 100) | 35% (35) | Chi Square = .59, *p* = .44; similar rate -- no significant differences. | 37% (37) | Chi Square = 2.19, *p* = .14; similar rate -- no significant differences. |
| | Higher SES (n = 18) | 44.4% (8) | | 55.6% (10) | |
| **Empathetic Concerns** | Lower SES (n = 101) | 60.4% (61) | Chi Square = .15, *p* = .70; similar rate -- no significant differences. | 68.3% (69) | Chi Square = .02, *p* = .89; similar rate -- no significant differences. |
| | Higher SES (n = 18) | 55.6% (10) | | 66.7% (12) | |
| **Overall Score** | Lower SES (n = 101) | 57.4% (58) | Chi Square = 2.65, *p* = .10; similar rate -- no significant differences. | 57.4% (58) | Chi Square = 4.32, *p* = .04; higher SES children maintained or improved significantly more than lower SES children. |
| | Higher SES (n = 18) | 77.8% (14) | | 83.3% (15) | |

# Griffith Empathy Measure: Improvement Comparisons by Age

| Measure | Group | Percentage improved over 2021-2022 | Chi-Square | Percentage maintained or improved over 2021-2022 | Chi-Square |
|---|---|---|---|---|---|
| **Affective Empathy** | Preschool (n = 29) | 62.1% (18) | Chi Square = .33, *p* = .57; similar rate -- no significant differences. | 65.5% (19) | Chi Square = .35, *p* = .55; similar rate -- no significant differences. |
| | 4K (n = 91) | 56% (51) | | 59.3% (54) | |
| **Cognitive Empathy** | Preschool (n = 29) | 37.9% (11) | Chi Square = .003, *p* = .96; similar rate -- no significant differences. | 44.8% (13) | Chi Square = .25, *p* = .62; similar rate -- no significant differences. |
| | 4K (n = 91) | 37.4% (34) | | 39.6% (36) | |
| **Empathetic Concerns** | Preschool (n = 29) | 69% (20) | Chi Square = 1.19, *p* = .28; similar rate -- no significant differences. | 72.4% (21) | Chi Square = .26, *p* = .61; similar rate -- no significant differences. |
| | 4K (n = 92) | 57.6% (53) | | 67.4% (62) | |
| **Overall Score** | Preschool (n = 29) | 65.5% (19) | Chi Square = .31, *p* = .58; similar rate -- no significant differences. | 69% (20) | Chi Square = .79, *p* = .37; similar rate -- no significant differences. |
| | 4K (n = 92) | 59.8% (55) | | 59.8% (55) | |

# Results: Griffith Empathetic Concern Varied with Continuing or New Students



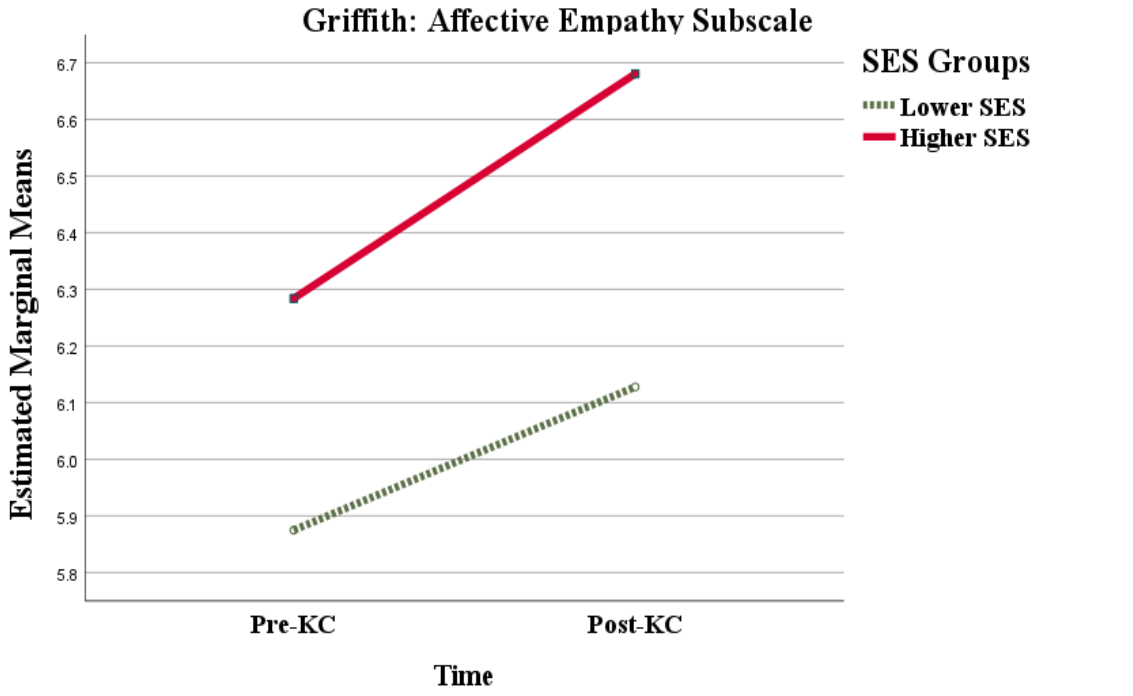

Only new students (n = 104) ***showed significant improvement in Empathetic Concern.*** Continuing students (n = 16) also showed improvement, but the change was not significant with the smaller sample size.

Similarly, new students also significantly improved in affective empathy skills over time, but decreased in cognitive empathy skills.

**ME Time: F(1, 119) = 4.29, p = .04, ES = .04**
**Time x Continuing/New: F(1, 119) = .15, p = .70, ES = .001**
**ME Continue/New: F(1, 119) = 1.21, p = .27, ES = .01**

***ES = Effect size, eta squared**

# Results: Griffith Affective & Cognitive Empathy Varied with Socioeconomic Status



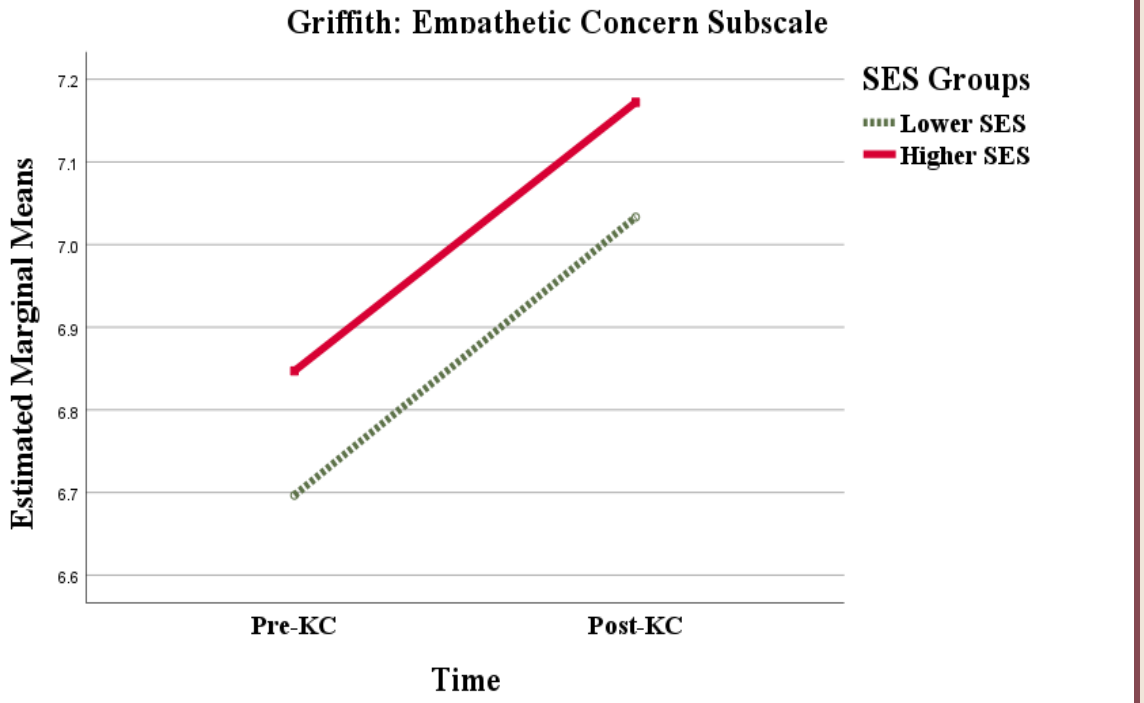

Only lower SES children (n = 100) ***significantly improved*** in affective empathy over time. Higher SES children (n = 19) showed improvement too, but the sample size is much smaller, and the change was not statistically significant.

Lower SES students significantly decreased in **cognitive empathy** skills over time, whereas higher SES students did not change over time.

**ME Time: F(1, 117) = 3.63, p = .059, ES = .030**
**Time x SES: F(1, 117) = .07, p = .791, ES = .001**
**ME SES: F(1, 117) = 2.62, p = .109, ES = .022**

***ES = Effect size, eta squared**

# Results: Griffith Empathetic Concern Varied with Socioeconomic Status

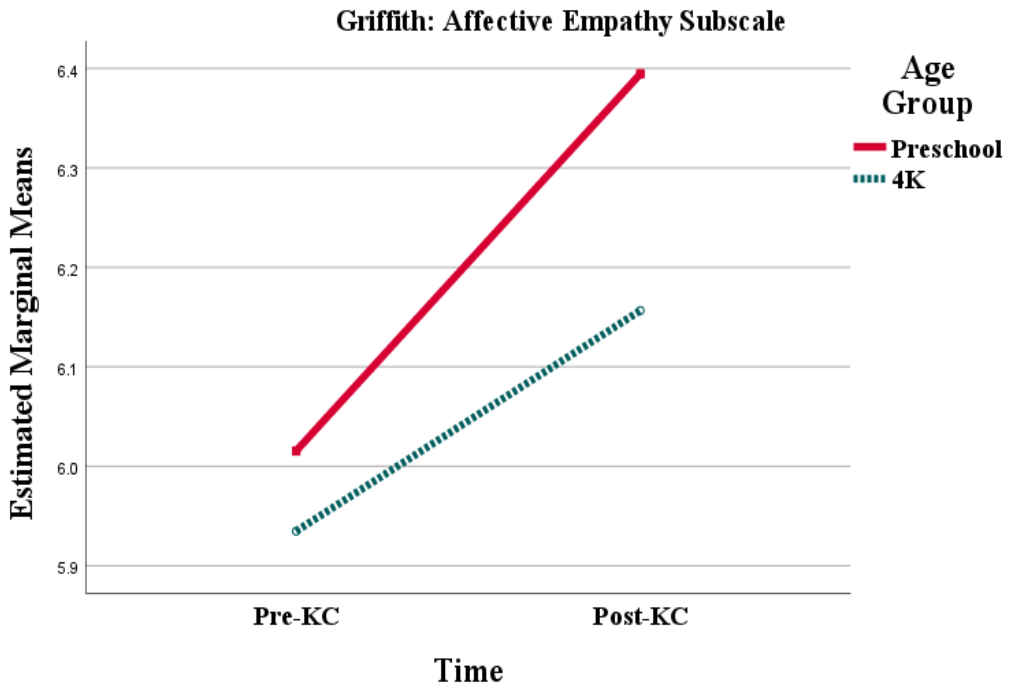



Only children (n = 101) from lower SES families ***showed significant improvement in Empathetic Concern over time***. Children (n = 19) from higher SES families showed improvement, but the sample size was much smaller & the change was only marginally significant.

**ME Time: F(1, 118) = 3.85, p = .052, ES = .032**
**Time x SES: F(1, 118) = .02, p = .903, ES = .00**
**ME SES: F(1, 118) = .31, p = .579, ES = .003**

***ES = Effect size, eta squared**

# Results: Griffith Affective & Cognitive Empathy Varied with Age



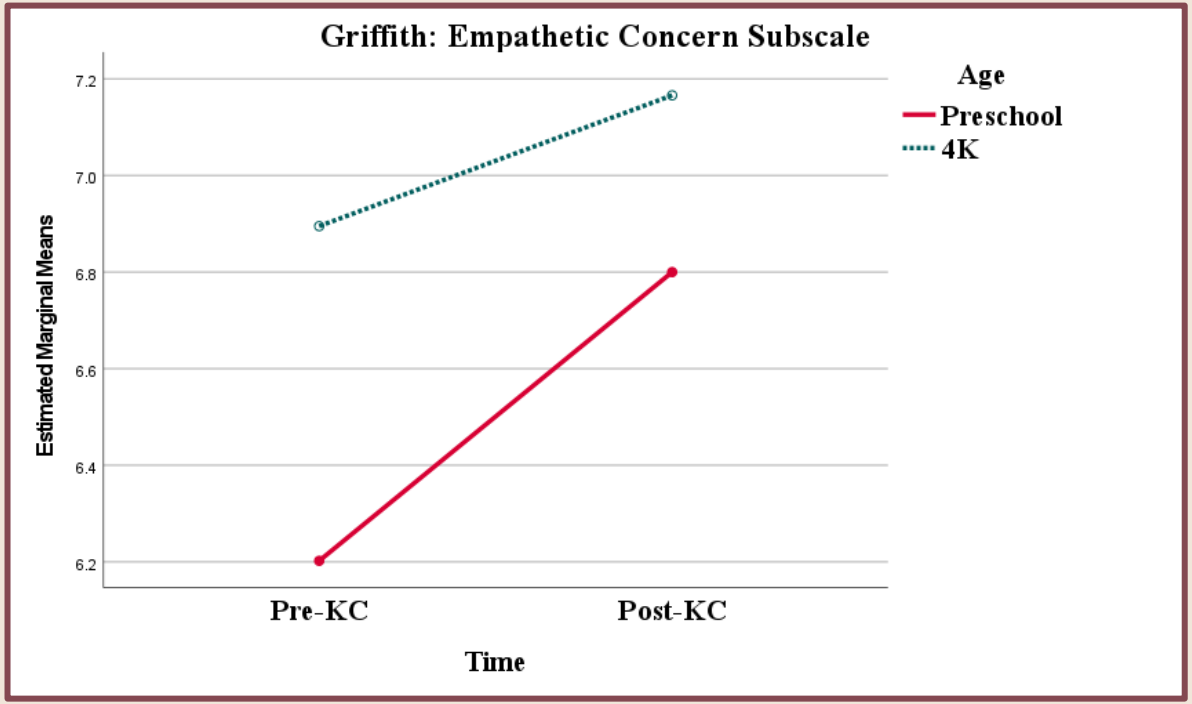

Both preschool & 4K students **improved in affective** empathy over time; Preschool students *improved more than 4K students, but improvement was marginally significant for both.*

*4K students significantly decreased in cognitive empathy whereas preschoolers did not.*

**ME Time: F(1, 118) = 4.91, p = .029, ES = .040**
**Time x Pre/4K: F(1, 118) = .17, p = .678, ES = .001**
**ME Pre/4K: F(1, 118) = .39, p = .531, ES = .003**

***ES = Effect size, eta squared**

# Results: Griffith Empathetic Concern Varied with Age

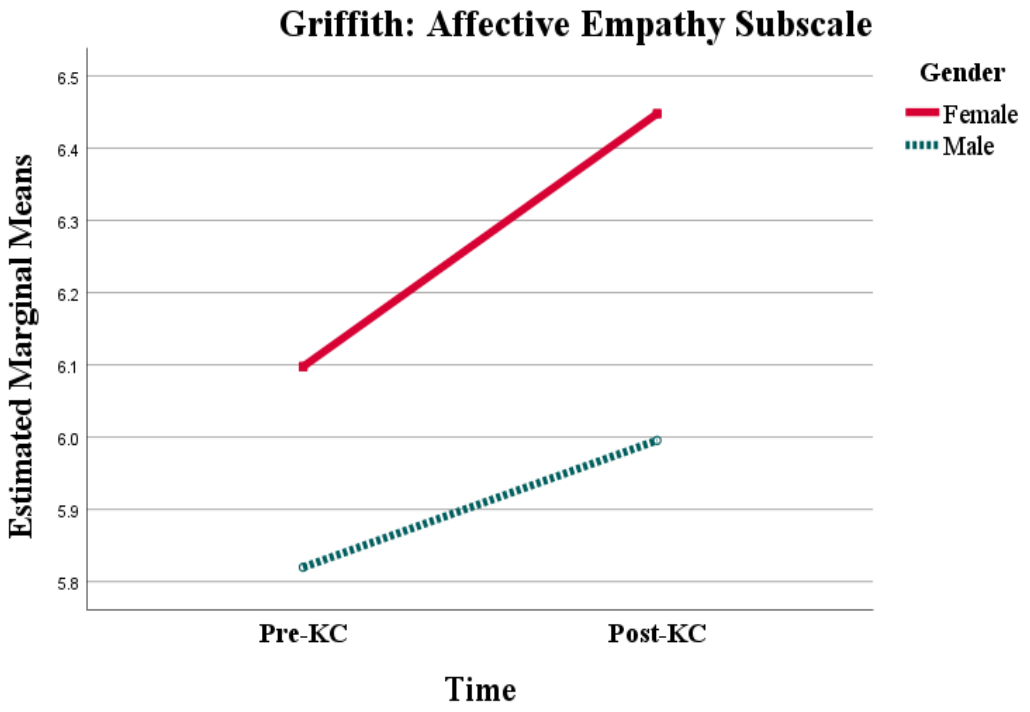



Both preschool & 4K students ***showed improvement*** in empathetic concern over time, though the improvement was only marginally significant for 4K students. However, **4K students *scored higher* overall** in empathetic concern.

**ME Time: F(1, 119) = 8.36, p = .005, ES = .066**
**Time x Pre/4K: F(1, 119) = 1.44, p = .233, ES = .012**
**ME Pre/4K: F(1, 119) = 4.37, p = .039, ES = .035**

***ES = Effect size, eta squared**

# Results: Griffith Affective Empathy Varied with Gender

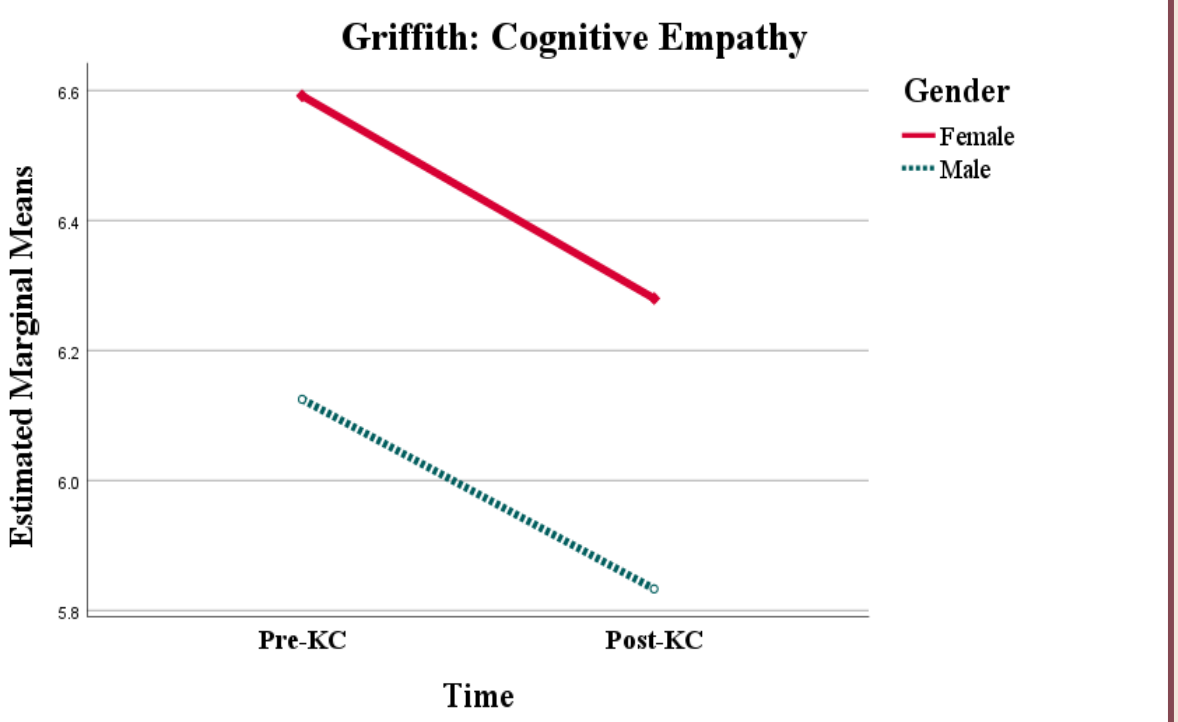



Only girls ***showed significant improvement in Affective Empathy*** **over time**. Girls also showed somewhat higher affective empathy overall.

**ME Time: F(1, 118) = 5.51, p = .02, ES = .05**
**Time x Gender: F(1, 118) = .61, p = .437, ES = .005**
**ME Gender: F(1, 118) = 3.20, p = .076, ES = .03**

***ES = Effect size, eta squared**

# Results: Griffith Cognitive Empathy Varied with Gender

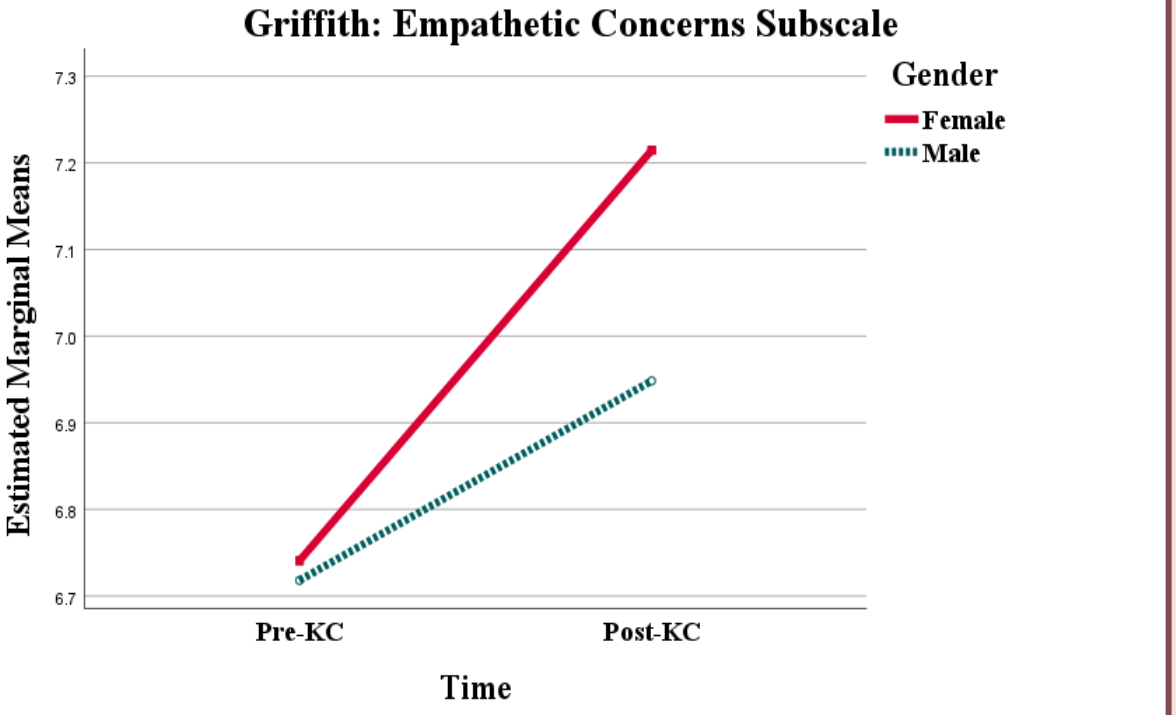



Both boys and girls ***decreased*** in cognitive empathy over time. The decrease was significant for girls but only marginally significant for boys. **Girls scored higher overall** than boys in cognitive empathy.

**ME Time: F(1, 118) = 6.82, p = .010, ES = .06**
**Time x Gender: F(1, 118) = .02, p = .882, ES = .00**
**ME Gender: F(1, 118) = 4.86, p = .029, ES = .04**

***ES = Effect size, eta squared**

# Results: Griffith Empathetic Concern Varied with Gender




Only girls ***showed significant improvement in Empathetic Concern*** **over time; boys did not improve significantly.**

**ME Time: F(1, 119) = 7.09, p = .009, ES = .06**
**Time x Gender: F(1, 119) = .85, p = .359, ES = .007**
**ME Gender: F(1, 119) = .47, p = .492, ES = .004**

***ES = Effect size, eta squared**

# Impact on Classroom (Teacher-Reported)

This measure has 8 questions (ratings & comments) to assess teachers' impressions of:

1. If the teachers found the curriculum **useful**
2. If the children **remembered** the lessons
3. If the Kindness Curriculum (KC) had a **positive impact** on the classroom
4. If KC training **prepared** the teachers for implementation of the curriculum
5. If the training helped them to **develop** their personal mindfulness practices
6. The **support** of the mindfulness coaches in the classroom & to teachers personally
7. If the teachers were **anticipated** utilizing the Kindness Curriculum in the following year

**Teacher's Name:** _____ **Date:** _____

*We value your feedback and appreciate any examples you can share regarding the impact of the Kindness Curriculum on your teaching and classroom. We also would like to know your impressions of having the mindfulness coaches available for support.*

**Please indicate your agreement with each of the statements below, using the following scale:**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

1. I found the Kindness Curriculum to be useful in my classroom. _____
   Please comment:

2. The children seemed to remember key concepts (e.g., kindness to others) from the Curriculum. _____
   Comments or examples:

3. The training helped prepare me to use the Curriculum. _____
   Any areas where more training would be useful:

4. The mindfulness training helped me to develop my own personal mindfulness practice. _____
   Comments or examples:

1----------2----------3----------4----------5

From 1 = strongly disagree to 5 = strongly agree

# Results: Teacher Impact on Classroom - Rating

| Item | Mean | Std. Dev. |
|---|---|---|
| Usefulness of KC | 4.12 | 0.70 |
| Children Remembered the Key Concepts | 3.93 | 0.66 |
| Training – Teach KC | 4.19 | 0.60 |
| Training – Develop Personal Mindfulness | 3.88 | 0.70 |
| KC – Positive Impact | 4.09 | 0.73 |
| Coaches – Support in the Class | 4.25 | 0.85 |
| Coaches – Support for the Self | 4.25 | 0.72 |
| Using the KC Next Year | 4.29 | 0.69 |

# Results: Teacher Impact on Classroom

Most teacher comments were positive or offered feedback on implementing the curriculum in the future. Here are a few of the comments that teachers provided.

**I found the Kindness Curriculum to be useful in my classroom:**

- “I think kindness gave us useful tools for kids to manage their emotions.”
- “I noticed that my children used some of the techniques from the lessons with their peers.”

**The children seemed to remember key concepts from the curriculum**:

- “They enjoyed parts of the curriculum. They really like planting the seeds of kindness.”
- “The kids would often ask/recommend the calming jar or bell to refocus when the class was getting a little ‘rowdy’.”

**The training helped prepare me to use the Curriculum:**

- “Appreciated more focus on instruction to young children.”

**The mindfulness training helped me to develop my own personal mindfulness practice:**

- “Actually, sit, think about my own self, and take time to meditate and relax.”

**The Kindness Curriculum had a positive impact on my classroom environment:**

- “Children seemed to help each other out more this year.”
- “Students expressed thoughts/feelings more.”

**The mindfulness coaches provided me with helpful support in the classroom:**

- “They're very helpful and always there to help.”

**The mindfulness coaches provided me with helpful support with my own mindfulness practice:**

- “Offered extra practice onsite in evenings.”

**I’m looking forward to using the Curriculum in my classroom again next year**:

- “I feel the training helped me realize the importance of mindfulness in the classroom as well as a mom and w/ my own kids.”

# Parents' Impressions of Kindness Curriculum Impact on Their Children

Parents were asked to share their perceptions of the impact of the Kindness Curriculum on their children.

Four open-ended questions & four rating scale questions assessed parents' perceptions of the Kindness Curriculum & use of KC materials at home.

| | Never | | | | Often |
|---|---|---|---|---|---|
| 1. How often does your child **talk about things** they learned in the Kindness Curriculum at home (e.g., kindness to others, the earth, or to the self)? | 0 | 1 | 2 | 3 | 4 |
| • If your child talks about the Kindness Curriculum, can you think of any examples of what they have talked about? | | | | | |

| | Never | | | | Often |
|---|---|---|---|---|---|
| 2. How often do you see your child **use mindfulness/kindness activities** at home (e.g., pinwheel, "mind jar", the Caring Song)? | 0 | 1 | 2 | 3 | 4 |
| • If your child uses mindfulness/kindness activities at home, what kinds of things have you seen them do? Please describe in a few words: | | | | | |

| | Never | | | | Often |
|---|---|---|---|---|---|
| 3. Since beginning the Kindness Curriculum, how often do you see your child display kindness to others or kindness to you (e.g., hold doors for others, pick up trash from the floor)? | 0 | 1 | 2 | 3 | 4 |
| • If you have seen your child display kindness to others or kindness to you, please tell us about it: | | | | | |

0----------1----------2----------3----------4

From 0 = never to 4 = often

# Results: Impact on Child – Parents' Ratings

| Item – Ratings from 132 Parents | Mean | Std. Dev. |
|---|---|---|
| **Talk about things** learned in KC | 3.33 | 1.40 |
| **Use** mindfulness/kindness activities | 3.18 | 1.41 |
| **Display** kindness | 4.01 | 1.07 |
| **Change** in **behavior** | 3.75 | 1.16 |

All means are above 3 on the 5-point rating scale, with the strongest ratings for children **displaying acts of kindness** to others after participating in the Kindness Curriculum. It is good to see that parents noticed the impact of Kindness Curriculum. We hope our online resources for families help parents to support children as they practice their mindfulness skills at home and other places.

# Parent Comments About Home Impact

**How often does your child *talk about things* they learned in the KC at home? Can you think of any examples of what they have talked about?**

- "She talks often about wanting to be kind, uses language like 'I always try to be kind.'"

**How often do you see your child *use mindfulness/kindness* activities at home? What kinds of things have you seen them do?**

- "Both [child] & his sister use their mind jars when they need to calm themselves. [Child] has taught me that when upset, put your hand on your chest & take deep breaths."

**Since beginning the KC, how often do you see your child *display kindness* to others or kindness to you? If you have seen this behavior, please tell us about it:**

- "[Child] holds doors for me and his sisters, he picks up toys without being asked and just knows when someone needs a friend or hug."
- "[Child] will share things with or explain things to his younger brother and he likes to pick up litter & throw it away."

**Have you noticed any *changes in your child's behavior* since they have been participating in the Kindness curriculum? Tell us about the things you have noticed:**

- "At home [child] seems to calm down faster in some instances. He seems to, sometimes, be able to tell when he's getting upset & will try to calm himself down faster when he recognizes it. Sometimes it works really well!"
- "[Child] is more aware of my emotions and recently knew the perfect time to give me a hug. I'm used to caring for her needs, but she is becoming more sensitive to others."

# Overall Themes: Parent Perceptions of Home Impact

### Theme A: Acts of Kindness

- “[Child] holds doors for me and his sisters, he picks up toys without being asked and just knows when someone needs a friend or hug.”
- “[Child] seems to be more willing to help with little things around the house. For example, she helps her brother find his pacifier if he needs it or helps him up when he falls down. She also likes to help with cooking and dishes.”

### Theme B: Mindfulness Practices

- “[Child] will notice if someone is upset and he will give them his mindful jar. He then explains to them what it does and how it helps them.”
- “Both [child] & his sister use their mind jars when they need to calm themselves. [Child] has taught me that when upset, put your hand on your chest & take deep breaths.”
- “[Child] is very helpful and we've noticed her ability to calm down much faster with her "safe" space & breathing exercises.”

### Theme C: General Improvement

- “We have noticed her attention span being longer for movies, watching plays, and her older sister's choir & band concerts. We also have noticed [child] not getting so upset if something doesn't go her way and she calms herself down much quicker.”
- “At home [child] seems to calm down faster in some instances. He seems to, sometimes, be able to tell when he's getting upset & will try to calm himself down faster when he recognizes it. Sometimes it works really well!”

### Theme D: Impact on Family or Others

- “[Child] is more aware of my emotions and recently knew the perfect time to give me a hug. I'm used to caring for her needs, but she is becoming more sensitive to others.”
- “[Child] has become very helpful over the last 2 years. She wants to help; she wants to talk things out and she's even good at helping other kids and on occasion her brother.”
- “[Child] will often remind me ‘it's not a big problem, it's a small problem.’”

04

# Summary & Conclusions

# Highlights & Major Findings

- In Year 4 (2021-22) our main goal was to reach out to additional agencies in our community to offer mindfulness training to more children, teachers, & families (i.e., 42 classrooms vs 20 in previous year).
- We measured the impact of the KC on children's social competence, behavioral difficulties, & empathy skills before & after implementation of the Curriculum.
- Pandemic challenges continued into Year 4: while most programs started the year in-person, many faced staffing challenges & temporary closures in which they moved to virtual or hybrid instruction.
- Despite the lingering pandemic challenges, many positive outcomes and findings emerged with the implementation of the Kindness Curriculum, such as children showing greater acts of kindness to others and the environment, & practicing mindfulness skills in a variety of ways both in & beyond the classroom.
- Teachers found ways to continue to teach the KC & also reported that personal mindfulness practices helped alleviate their own stress. They also highlighted the importance of support from the mindfulness coaches during this challenging year.

# Major Findings – Percentage Improving or Maintaining Skills

**In 2021-2022**, we looked at **three main categories of outcomes**:

1. What percentage of children ***improved or at least maintained skills*** over the school year?
2. How did the ***amount of improvement*** compare for children in various subgroups: age, socioeconomic, gender, & those continuing in or new to the agencies?
3. In what areas did we ***see differences in improvement*** between subgroups ***or note challenges*** for certain subgroups of children?

**Percentage of Children Improving or Maintaining Skills:**

- The percentage of children who maintained or improved their skills varied across measures. About **74-82%** of children maintained or improved their **social competence skills** in the areas of prosocial behavior, emotional regulation & empathy.
- Around **69-79%** of children maintained or decreased in **behavioral difficulties** (i.e., emotional, conduct, & inattention problems), while **91%** maintained or decreased in **peer relationship problems**.
- Parents' ratings of **children's empathy skills** showed **41-69%** of children maintained or improved their skills, with the low percentage (41%) for cognitive understanding of empathy—an area where gains had been common in previous years.
- **Recovery in some of these areas, such as peer relationships, may be due to the return to in-person classes,** while other areas, such as understanding how other people feel & empathizing, may have been more strongly impacted by the lingering effects of COVID stressors.

# Year 4 Overview -- Improvement by Subgroups

***Amount of Improvement* by Subgroups (i.e., were the gains statistically significant) after receiving the Kindness Curriculum (KC):**

***Note:  As noted throughout the results, there were 22 new classrooms in 2021-22, with many more lower SES than higher SES, & 4K than preschool children.***

- **Children continuing in & new to the agencies significantly improved in:  Prosocial Behavior, Empathy Skills (both parent- and teacher-reported), & Peer Problems.**
- **Children of both lower & higher socioeconomic status significantly improved in: Prosocial Behavior, Emotional Regulation, & Empathetic Behavior.  Both groups also showed significant decreases in Hyperactivity/Inattention & Peer Problems.**
- **Children in both preschool (3-4 years) & 4K (4-5 years) showed improvement in: Prosocial Behavior, Emotional Regulation, Empathetic Behavior, & Empathy Skills. Both groups also showed significant decreases in Peer Problems over time.**
- **Both boys & girls significantly improved in:  Prosocial Behavior, Emotional Regulation, & Empathetic Behavior, & showed significant decreases in Hyperactivity/Inattention & Peer Problems over time.**

# Major Findings – Subgroup Differences

## *Areas of Difference between* Subgroups—lower SES children showed impressive gains!

**In the following subgroups we noted interesting differences in some skill areas:**

- **Lower SES children started the year with lower scores in prosocial behavior & empathy skills but showed more improvement in these areas than did higher SES children, catching up to them by spring. In addition, lower SES children improved over time in conduct problems, cognitive empathy, & empathetic concern.**
  - **The fact that lower SES children caught up with higher SES children in social competence skills and improved significantly in conduct problems and empathy skills is consistent with research on mindfulness interventions that has shown larger gains for children with lower baseline scores.**

- **As expected, older children (4 to 5-year-olds) received higher scores overall in teacher-rated social competence and had bigger gains in both emotional regulation & empathetic behavior than younger children (3-year-olds). Older children showed fewer conduct & hyperactivity/inattention problems over time as well.**

# Key Takeaways & Comparisons Across Years

During the 2021-2022 school year, the results show *statistically significant gains* in many areas, including social, emotional, & behavioral skills across socioeconomic & age groups. These findings suggest that the mindfulness-based Kindness Curriculum can positively benefit children, even in challenging times.

Encouragingly, we also see some **recovery in the *percentage of children*** showing gains in 2021-22 after the very difficult 2020-21 pandemic year. As shown below, greatest improvements were in **prosocial skills** & **reduced behavioral problems.**

| Measure | Year 1 (2018-19) Percent Improved | Year 2 (2019 - 20) Percent Improved | Year 3 (2020 -21) Percent Improved | Year 4 (2021-22) Percent Improved |
|---|---|---|---|---|
| Prosocial Competency (Teacher reported) | 78.8% | 65.9% | 54.5% | 68.0% |
| Empathy Skills (Parent reported) | 78.5% | 63.0% | 63.6% | 61.2% |
| Behavioral Difficulties (Teacher reported) | Not collected Y1 | 70.3% | 49.0% | 58.3% |
| Prosocial Behavior (Teacher reported) | Not collected Y1 | 81.1% | 49.0% | 56.6% |

# Implications & COVID Impact 2021-2022

- Agencies noted that children's development was negatively impacted by the pandemic in "**all areas, but especially is evident with delays in social/emotional skills.**" Staff saw, "**difficulties interacting with peers, adapting to classroom routines & expectations, & playing independently.**"
- All agencies reported staffing challenges that led to a variety of adaptations—some programs were able to cover shortages with substitute teachers, many agency leaders helped to cover classrooms, some agencies reduced their hours or had temporary classroom closures.
- Staffing challenges & "**ever-changing protocols around COVID**" contributed to stress for all involved: children, teachers, agency leaders, & as one leader said, "**the pandemic affected the entire family …in our care.**"
- Although agencies reported concerns, **"We are finding that children are lacking in both social and academic skills more so than ever before,"** agency leaders consistently reported benefits of teaching the Kindness Curriculum. For example, one leader said, "I **absolutely believe the kindness lessons & mindfulness practices helped both our children & staff deal with stressors"** & another noted that with the use of **"the Kindness curriculum along with providing consistent environments/expectations … children seem to settle in and make progress in areas."**

# Implications & Conclusions

- **Our fourth year (2021-22) focused on outreach & expansion of the Kindness Curriculum with the addition of 22 classrooms. This COVID recovery year brought many challenges to our agencies as they dealt with staff shortages, temporary closures, & online or hybrid instruction; however, in the face of these challenges, programs continued to implement the KC in their classrooms, demonstrating flexibility in adapting lessons to different needs of the children as they returned to in-person learning.**

- **Our findings show that learning mindfulness skills through the Kindness Curriculum can be beneficial for all children, with the potential for gains in social competence, prosocial behavior & empathy skills, as well as decreases in behavioral difficulties, such as peer relationship & conduct problems.**

- **The challenges presented in this COVID recovery year seemed to have their greatest impact on behavioral challenges (i.e., emotional problems & conduct problems) & cognitive empathy (i.e., understanding what others are thinking & feeling).**

- **Mindfulness training & the Kindness Curriculum provided teachers & leaders with additional tools for dealing with the unique & novel pandemic challenges, helping to promote children's progress socially, emotionally, & academically. Mindfulness coaches were instrumental in supporting staff.**

# *Appendices Year 4: 2021-2022*

## *1. Teacher-Rated Social Competence*
## *2. Children's Strengths & Difficulties*
## *3. Children's Empathy - Parent-Rated*

***Appendices report statistical results that may be of interest to researchers and others.***

**Two types of comparisons are reported in each Appendix**

**A. Fall comparisons of children:**

- How did children new to the agencies compare to those continuing in the programs in Fall? That is, did children new to the programs or those continuing start the year with comparable skills.
- We also checked whether in fall, children from lower SES families showed comparable skills to those from higher SES families.

**B. Comparisons of children's performance over time by groups:**

- Continuing vs. New
- Age Groups: Preschool (< 48 months) vs. 4K (4 & 5-year-olds)
- SES Groups: Lower vs. Higher SES
- Gender: Girls vs. Boys

# Appendix 1 - Teacher Rated Social Competence, Year 4 (2021-2022)

## Part A - Comparisons at Time 1 (Fall 2021): How did Continuing vs. New Children, & Lower vs. Higher Socioeconomic Status Children Compare at the beginning of the School Year?

**Continuing vs. New Comparisons: No significant differences between continuing and new children in Fall**

| Subscale | Group | Mean | T-test |
|---|---|---|---|
| Prosocial | Continuing (77) | 2.84 | *t* = .08, *ns, no significant difference* |
| | New Students (370) | 2.83 | |
| Emotional Regulation | Continuing (77) | 3.04 | *t* = 1.48, *ns, no significant difference* |
| | New Students (371) | 3.24 | |
| Empathy Skills | Continuing (77) | 2.69 | *t* = .07, *ns, no significant difference* |
| | New Students (371) | 2.68 | |

**Socioeconomic Comparisons: Higher SES children started the year with higher prosocial & empathy skills**

| Subscale | Group | Mean | T-test |
|---|---|---|---|
| Prosocial | Lower SES (254) | 2.66 | *t* = 2.85, *p* = .005*, *Higher SES higher* |
| | Higher SES (65) | 3.12 | |
| Emotional Regulation | Lower SES (254) | 3.10 | *t* = 1.52, *p* = .129, *no significant difference* |
| | Higher SES (65) | 3.33 | |
| Empathy Skills | Lower SES (254) | 2.54 | *t* = 2.37, *p* = .020*, *Higher SES higher* |
| | Higher SES (65) | 2.92 | |

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Part B – Social Competence (TRSC) Performance Over Time

## Continuing vs. New: Did Continuing & New children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| **Prosocial** *F*(1,345) = 7.25, *p* = .007* *significant interaction* | Continuing (59) | 2.79 | 3.07 | *t* = 2.66, *p* = .010* | *ME Cont/new* = 3.55, *p* = .061, *New students higher* |
| | New Students (288) | 2.86 | 3.55 | *t* = 10.67, *p* < .001* | |
| **Emotional Regulation** *F*(1,345) = 10.15, *p* = .002* *significant interaction* | Continuing (59) | 3.07 | 3.17 | *t* = .92, *p* = .360 | *ME Cont/new* = 9.69, *p* = .002*, *New students higher* |
| | New Students (288) | 3.30 | 3.78 | *t* = 9.65, *p* < .001* | |
| **Empathy Skills** *F*(1,345) = 9.92, *p* = .002*, *significant interaction* | Continuing (59) | 2.69 | 2.97 | *t* = 2.61, *p* = .012* | *ME Cont/new* = = 3.37, *p* = .067, *New students higher* |
| | New Students (288) | 2.74 | 3.47 | *t* = 12.30, *p* < .001* | |

**Continuing vs. New Comparisons: Note that there is a much larger number of new students than continuing students. New students received higher scores than continuing students in all areas, though the difference is only significant for emotional regulation. New students showed more improvement over time than continuing students in all areas, though both groups improved significantly in most areas over time (i.e., continuing children did not significantly improve in emotional regulation over time).**

**Please Note:**

Green Shading: Significant difference

Yellow Shading: Marginally significant difference

# TRSC Performance Over Time: Higher vs. Lower Socioeconomic Status

## Did lower SES & higher SES children comparably improve over time?

| Subscale & Interaction time x group | Group | Fall | Spring | Paired t-test | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Prosocial $F(1,262) = 9.06$, $p = .003$*, significant *interaction* | Lower SES (204) | 2.68 | 3.39 | $t = 9.87$, $p < .001$* | *ME SES* = 1.91, $p = .168$, *ns* |
| | Higher SES (60) | 3.12 | 3.38 | $t = 2.15$, $p = .036$* | |
| Emotional Regulation $F(1,262) = 1.57$, $p = .212$, ns *interaction* | Lower SES (204) | 3.19 | 3.60 | $t = 6.71$, $p < .001$* | *ME SES* = .28, *ns* |
| | Higher SES (60) | 3.35 | 3.60 | $t = 2.29$, $p = .026$* | |
| Empathy Skills $F(1,262) = 4.75$, $p = .030$*, significant *interaction* | Lower SES (204) | 2.60 | 3.27 | $t = 9.89$, $p < .001$* | *ME SES* = 1.55, $p = .214$ *ns* |
| | Higher SES (60) | 2.95 | 3.32 | $t = 2.96$, $p = .004$* | |

**Socioeconomic (SES) Group Comparisons: Lower SES children showed more improvement in prosocial and empathy skills over time than higher SES children. Both groups significantly improved in all areas over time.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# TRSC Performance Over Time: Younger vs. Older Children

## Did younger & older children comparably improve over time?

| Subscale & Interaction time x group | Group | Fall | Spring | Paired t-test | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Prosocial *F*(1,344) = .88, *ns* | Younger (90) | 2.51 | 3.04 | *t* = 5.00, *p* < .001* | *ME Age* = 17.89, *p* < .001*, *Older students higher* |
| | Older (256) | 2.97 | 3.62 | *t* = 9.65, *p* < .001* | |
| Emotional Regulation *F*(1,344) = 4.99, *p* = .026*, *significant interaction* | Younger (90) | 3.00 | 3.25 | *t* = 2.49, *p* = .015* | *ME Age* = 17.61, *p* < .001*, *Older students higher* |
| | Older (256) | 3.36 | 3.84 | *t* = 9.54, *p* < .001* | |
| Empathy Skills *F*(1,344) = 5.43, *p* = .020*, significant *interaction* | Younger (90) | 2.36 | 2.81 | *t* = 4.48, *p* < .001* | *ME Age* = 26.67, *p* < .001*, *Older students higher* |
| | Older (256) | 2.87 | 3.60 | *t* = 11.64, *p* < .001* | |

**Age Comparisons: Older students received higher scores than younger students in all areas. Older students showed more improvement in emotional regulation and empathy skills over time than younger students. However, both groups improved significantly in all areas over time.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# TRSC Performance Over Time: Girls vs. Boys

## Did girls & boys improve comparably over time?

| Subscale & Interaction time x group | Group | Fall | Spring | Paired t-test | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Prosocial: $F(1,345) = 1.76$, $p = .186$, *ns interaction* | Girls (158) | 3.12 | 3.65 | $t = 6.13$, $p < .001$* | *ME Gender* = 14.21, $p < .001$*, *Girls higher* |
| | Boys (189) | 2.63 | 3.31 | $t = 9.21$, $p < .001$* | |
| Emotional Regulation $F(1,345) = .27$, *ns interaction* | Girls (158) | 3.49 | 3.88 | $t = 5.88$, $p < .001$* | *ME Gender* = 15.37, $p < .001$*, *Girls higher* |
| | Boys (189) | 3.07 | 3.51 | $t = 6.92$, $p < .001$* | |
| Empathy Skills $F(1,345) = .50$, *ns interaction* | Girls (158) | 2.94 | 3.61 | $t = 8.00$, $p < .001$* | *ME Gender* = 12.83, $p < .001$*, *Girls higher* |
| | Boys (189) | 2.55 | 3.20 | $t = 9.31$, $p < .001$* | |

**Gender Comparisons: Girls received significantly higher scores than boys in all areas. Both groups improved in all areas over time.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Appendix 2 - Strengths & Difficulties Questionnaire, Y4 (2021-2022)

## Part A - Comparisons at Time 1 (Fall 2021): How did Continuing vs. New Children & Lower vs. Higher Socioeconomic Status Children Compare in Fall?**

**Continuing vs. New Comparisons: No significant differences between Continuing and New children in Fall. Note that there are many more new than continuing children.**

| Subscale | Group | Mean | t-test |
|---|---|---|---|
| **Emotional Problems** (n = 361) | Continuing (47) | 1.16 | *t* = .87, *ns* |
| | New Students (314) | 1.21 | |
| **Conduct Problems** (n = 361) | Continuing (47) | 1.42 | *t* = 1.37, *ns* |
| | New Students (314) | 1.32 | |
| **Hyperactivity/Inattention** (n = 361) | Continuing (47) | 1.77 | *t* = .19, *ns* |
| | New Students (314) | 1.75 | |
| **Peer Relationship Problems** (n = 361) | Continuing (47) | 1.79 | *t* = .97, *ns* |
| | New Students (314) | 1.75 | |
| **Prosocial Behavior** (n = 361) | Continuing (47) | 2.33 | *t* = .52, *ns* |
| | New Students (314) | 2.28 | |
| **Total Difficulties** (n = 361) | Continuing (47) | 1.44 | *t* = .34, *ns* |
| | New Students (314) | 1.42 | |

**Lower vs. Higher SES Comparisons : Higher SES group had fewer "Total Difficulties" in Fall.**

| Subscale | Group | Mean | t-test |
|---|---|---|---|
| **Emotional Problems** (n = 321) | Lower SES (257) | 1.24 | *t* = .57, *ns* |
| | Higher SES (64) | 1.21 | |
| **Conduct Problems** (n = 321) | Lower SES (257) | 1.41 | *t* = 1.32, *ns* |
| | Higher SES (64) | 1.33 | |
| **Hyperactivity/Inattention** (n = 321) | Lower SES (257) | 1.81 | *t* = 1.22, *ns* |
| | Higher SES (64) | 1.73 | |
| **Peer Relationship Problems** (n = 321) | Lower SES (257) | 1.78 | *t* = .99, *ns* |
| | Higher SES (64) | 1.82 | |
| **Prosocial Behavior** (n = 321) | Lower SES (257) | 2.22 | *t* = 1.36, *ns* |
| | Higher SES (64) | 2.32 | |
| **Total Difficulties** (n = 321) | Lower SES (257) | 1.50 | *t* = 2.14, *p* = .034*, *Lower SES more problems* |
| | Higher SES (64) | 1.40 | |

****Remember lower scores are better on all subscales except Prosocial Behavior, as higher scores indicate more problems. On the Prosocial subscale, higher scores are better. Total Difficulties does not include the Prosocial subscale.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Part B – Behavioral Difficulties & Strengths (SDQ) Performance Over Time

## Continuing vs. New: Did Continuing & New children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| **Emotional Problems** *F*(1, 348) = .50, *ns* | Continuing (59) | 1.16 | 1.18 | *t* = .52, *p* = .603 | *ME Cont/new F* = 1.21, *ns* |
| | New Students (291) | 1.23 | 1.21 | *t* = .64, *p* = .525 | |
| **Conduct Problems** *F*(1, 348) = 2.71, *p* = .100* *marginal interaction* | Continuing (59) | 1.50 | 1.53 | *t* = .58, *p* = .562 | *ME Cont/new F* = 11.23, *p* < .001*, *Continuing students more problems* |
| | New Students (291) | 1.33 | 1.27 | *t* = 2.70, *p* = .007* | |
| **Hyperactivity** *F*(1, 348) = 3.68, *p* = .056 *marginal interaction* | Continuing (59) | 1.77 | 1.76 | *t* = .06, *p* = .956 | *ME Cont/new F* = 1.85, *p* = .174 *ns* |
| | New Students (291) | 1.74 | 1.60 | *t* = 4.77, *p* = < .001* | |
| **Peer Problems** *F*(1, 348) = .06, *ns* | Continuing (59) | 1.82 | 1.32 | *t* = 9.45, *p* = < .001* | *ME Cont/new* = 4.28, *p* = .039*, *Continuing students more problems* |
| | New Students (291) | 1.74 | 1.26 | *t* = 20.40, *p* = < .001* | |
| **Prosocial Behavior** *F*(1, 348) = 3.42, *p* = .065 *marginal interaction* | Continuing (59) | 2.19 | 2.30 | *t* = 2.27, *p* = .027* | *ME Cont/new F* =5.35, *p* = .021*, *New students higher* |
| | New Students (291) | 2.28 | 2.53 | *t* = 8.12, *p* = < .001* | |
| **Total Difficulties** *F*(1, 348) = 5.15, *p* = .024* *significant interaction* | Continuing (59) | 1.47 | 1.45 | *t* = .64, *p* = .525 | *ME Cont/new F* = 2.43, *p* = .120, *Continuing students more problems* |
| | New Students (291) | 1.43 | 1.34 | *t* = 6.60, *p* = < .001* | |

****Remember lower scores are better on all subscales except Prosocial Behavior, as higher scores indicate more problems. On the Prosocial subscale, higher scores are better. Total Difficulties does not include the Prosocial subscale.**

**Continuing vs. New Comparisons: Note that there are many more new children than continuing children. New children improved significantly over time in Conduct Problems, Hyperactivity, Peer Problems, Prosocial Behavior, & Total Difficulties. Continuing children significantly improved in Peer Problems & Prosocial Behavior, though the difference in rate of improvement is only significant for Total Difficulties. New children had fewer Conduct Problems & Peer Problems overall, and higher scores in Prosocial Behavior.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginal difference

# SDQ Performance Over Time: Higher vs. Lower Socioeconomic Status**

## Did lower SES & higher SES children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| **Emotional Problems** *F*(1, 263) = .03, *ns* | Lower SES (206) | 1.23 | 1.23 | *t* = .18, *p* = .855 | *ME SES F* = .27, *ns* |
| | Higher SES (59) | 1.20 | 1.20 | *t* = .10, *p* = .925 | |
| **Conduct Problems** *F*(1, 263) = 2.74, *p* = .099 *marginal interaction* | Lower SES (206) | 1.40 | 1.34 | *t* = 2.08, *p* = .039* | *ME SES F* = .04, *ns* |
| | Higher SES (59) | 1.33 | 1.37 | *t* = .81, *p* = .421 | |
| **Hyperactivity** *F*(1, 263) = .48, *ns* | Lower SES (206) | 1.75 | 1.68 | *t* = 2.06, *p* = .040* | *ME SES F* = .13, *ns* |
| | Higher SES (59) | 1.75 | 1.63 | *t* = 2.35, *p* = .022* | |
| **Peer Problems** *F*(1, 263) = 5.37, *p* = .021, *significant interaction* | Lower SES (206) | 1.77 | 1.31 | *t* = 15.57, *p* = < .001* | *ME SES F* = 1.12, *ns* |
| | Higher SES (59) | 1.81 | 1.20 | *t* = 11.70, *p* = < .001* | |
| **Prosocial Behavior** *F*(1, 263) = 1.34, *ns* | Lower SES (206) | 2.22 | 2.44 | *t* = 6.05, *p* = < .001* | *ME SES F* = .51, *ns* |
| | Higher SES (59) | 2.31 | 2.45 | *t* = 3.11, *p* = .003* | |
| **Total Difficulties** *F*(1, 263) = .63, *ns* | Lower SES (206) | 1.47 | 1.39 | *t* = 4.59, *p* = < .001* | *ME SES F* = 1.11, *ns* |
| | Higher SES (59) | 1.41 | 1.35 | *t* = 2.14, *p* = .037* | |

****Remember lower scores are better on all subscales except Prosocial Behavior, as higher scores indicate more problems. On the Prosocial subscale, higher scores are better. Total Difficulties does not include the Prosocial subscale.**

**Socioeconomic Comparisons: Note that there are many more lower SES children than higher SES children. Both lower and higher SES children improved over time in Hyperactivity, Peer Problems, Prosocial Behavior, and Total Difficulties, with higher SES children improving somewhat more (significant interaction) in peer problems. Only lower SES children showed significantly reduced conduct problems.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# SDQ Performance Over Time: Younger vs. Older Children**

## Did younger & older children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| **Emotional Problems** *F*(1, 347) = .69, *ns* | Younger (92) | 1.29 | 1.26 | *t* = .96, *p* = .342 | *ME age F* = 6.03, *p* = .015*, *Younger students more problems* |
| | Older (257) | 1.18 | 1.19 | *t* = .09, *p* = .928 | |
| **Conduct Problems** *F*(1, 347) = .55, *ns* | Younger (92) | 1.43 | 1.41 | *t* = .51, *p* = .613 | *ME age F* = 4.46, *p* = .035*, *Younger students more problems* |
| | Older (257) | 1.33 | 1.28 | *t* = 2.56, *p* = .011* | |
| **Hyperactivity** *F*(1, 347) = 11.19, *p* = < .001* *significant interaction* | Younger (92) | 1.77 | 1.80 | *t* = .52, *p* = .604 | *ME age F* = 5.40, *p* = .021*, *Younger students more problems* |
| | Older (257) | 1.73 | 1.57 | *t* = 5.67, *p* = < .001* | |
| **Peer Problems** *F*(1, 347) = .02, *ns* | Younger (92) | 1.80 | 1.30 | *t* = 11.84, *p* = < .001* | *ME age F* = 4.01, *p* = .046*, *Younger students more problems* |
| | Older (257) | 1.74 | 1.25 | *t* = 19.25, *p* = < .001* | |
| **Prosocial Behavior** *F*(1, 347) = 3.55, *p* = .060 *marginal interaction* | Younger (92) | 2.19 | 2.33 | *t* = 2.82, *p* = .006* | *ME age F* = 8.29, *p* = .004*, *Older students higher* |
| | Older (257) | 2.29 | 2.55 | *t* = 8.08, *p* = < .001* | |
| **Total Difficulties** *F*(1, 347) = 1.95, *p* = .163, *ns* | Younger (92) | 1.50 | 1.44 | *t* = 2.15, *p* = .034* | *ME age F* = 7.17, *p* = .008*, *Younger students more problems* |
| | Older (257) | 1.42 | 1.32 | *t* = 6.27, *p* = < .001* | |

****Remember lower scores are better on all subscales except Prosocial Behavior, as higher scores indicate more problems. On the Prosocial subscale, higher scores are better. Total Difficulties does not include the Prosocial subscale.**

**Age Group Comparisons: Note that there are many more older children than younger children. Older children showed significantly fewer problems/difficulties in all areas and better Prosocial Behavior. Both groups (older and younger) improved over time in Peer Problems, Total Difficulties, and Prosocial Behavior. Older children also improved over time in Conduct Problems and Hyperactivity.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# SDQ Performance Over Time: Girls vs. Boys**

## Did girls & boys comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| **Emotional Problems** *F*(1, 348) = .85, *ns* | Girls (158) | 1.25 | 1.23 | *t* = .88, *p* = .380 | *ME gender F* = 2.56, *p* = .111, *ns* |
| | Boys (192) | 1.18 | 1.19 | *t* = .35, *p* = .726 | |
| **Conduct Problems** *F*(1, 348) = 2.68, *p* = .103, *ns* | Girls (158) | 1.26 | 1.26 | *t* = .30, *p* = .764 | *ME gender F* = 8.65, *p* = .003*, *Boys more problems* |
| | Boys (192) | 1.44 | 1.37 | *t* = 2.52, *p* = .012* | |
| **Hyperactivity** *F*(1, 348) = .82, *ns* | Girls (158) | 1.61 | 1.47 | *t* = 3.78, *p* = < .001* | *ME gender F* = 30.01, *p* = < .001*, *Boys more problems* |
| | Boys (192) | 1.86 | 1.76 | *t* = 2.54, *p* = .012* | |
| **Peer Problems** *F*(1, 348) = 8.53, *p* = .004* *significant interaction* | Girls (158) | 1.78 | 1.22 | *t* = 19.78, *p* = < .001* | *ME gender F* = .837, *ns* |
| | Boys (192) | 1.74 | 1.30 | *t* = 13.70, *p* = < .001* | |
| **Prosocial Behavior** *F*(1, 348) = .97, *ns* | Girls (158) | 2.40 | 2.60 | *t* = 4.86, *p* = < .001* | *ME gender F* = 19.76, p = < .001*, *Girls higher* |
| | Boys (192) | 2.15 | 2.40 | *t* = 6.93, *p* = < .001* | |
| **Total Difficulties** *F*(1, 348) = .13, *ns* | Girls (158) | 1.37 | 1.29 | *t* = 4.03, *p* = < .001* | *ME gender F* = 12.24, *p* = < .001*, *Boys more problems* |
| | Boys (192) | 1.50 | 1.41 | *t* = 4.91, *p* = < .001* | |

****Remember lower scores are better on all subscales except Prosocial Behavior, as higher scores indicate more problems. On the Prosocial subscale, higher scores are better. Total Difficulties does not include the Prosocial subscale.**

**Gender Comparisons of Girls & Boys: Both boys and girls showed improvement in Hyperactivity, Peer Problems, Total Difficulties and Prosocial Behavior. Girls improved somewhat more over time in Peer Problems than boys (significant interaction). Girls showed fewer Conduct Problems, Hyperactivity Problems, and Total Difficulties, and higher scores in Prosocial Behavior overall. Only boys significantly improved in Conduct Problems, though girls showed fewer Conduct Problems overall.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Appendix 3 - Griffith Empathy Measure, Year 4 (2021 -2022)

## Part A - Comparisons at Time 1 (Fall 2021): How did Continuing vs. New Children, & Lower vs. Higher Socioeconomic Status Children Compare at the beginning of the School Year?

**Continuing vs. New Comparisons: No significant differences**

| Subscale | Group | Mean | t-test |
|---|---|---|---|
| Affective Empathy | Continuing (37) | 6.06 | *t* = .97, *ns* |
| | New (187) | 5.85 | |
| Cognitive Empathy | Continuing (37) | 6.22 | *t* = .67, *ns* |
| | New (187) | 6.39 | |
| Empathetic Concern | Continuing (37) | 6.48 | *t* = .80, *ns* |
| | New (187) | 6.68 | |
| Overall Score | Continuing (37) | 6.35 | *t* = .15, *ns* |
| | New (187) | 6.38 | |

**Socioeconomic Comparisons: Higher SES Groups tended to score higher in most areas**

| Subscale | Group | Mean | t-test |
|---|---|---|---|
| Affective Empathy | Lower SES (184) | 5.83 | *t* = 1.76, *p* = .080, *Higher SES higher* |
| | Higher SES (32) | 6.24 | |
| Cognitive Empathy | Lower SES (184) | 6.27 | *t* = 1.84, *p* = .067, *Higher SES higher* |
| | Higher SES (32) | 6.75 | |
| Empathetic Concern | Lower SES (184) | 6.61 | *t* = 1.02, *ns* |
| | Higher SES (32) | 6.80 | |
| Overall Score | Lower SES (184) | 6.32 | *t* = 2.86 , *p* = .006, *Higher SES higher* |
| | Higher SES (32) | 6.66 | |

**Please Note:**

Green Shading: Significant difference

Yellow Shading: Marginally significant difference

# Part B - Griffith Empathy Performance Over Time

## Continuing vs. New: Did Continuing & New children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Affective Empathy $F(1, 118) = .00$, *ns* | Continuing (16) | 6.42 | 6.66 | $t = 1.05$, *ns* | $ME_{Cont/new}$ $F = 3.05$, $p = .083$, *Continuing students higher* |
| | New (104) | 5.88 | 6.15 | $t = 2.11$, $p = .037$* | |
| Cognitive Empathy $F(1, 118) = .78$, *ns* | Continuing (16) | 6.39 | 6.34 | $t = .14$, *ns* | $ME_{Cont/new}$ $F = .37$, *ns* |
| | New (104) | 6.35 | 6.01 | $t = 2.79$, $p = .006$* | |
| Empathetic Concern $F(1, 119) = .15$, *ns* | Continuing (16) | 6.37 | 6.85 | $t = 1.45$, *ns* | $ME_{Cont/new}$ $F = 1.21$, *ns* |
| | New (105) | 6.78 | 7.11 | $t = 2.28$, $p = .024$* | |
| Overall Score $F(1, 119) = .13$, *ns* | Continuing (16) | 6.50 | 6.71 | $t = 1.71$, $p = .107$ | $ME_{Cont/new}$ $F = .47$, *ns* |
| | New (105) | 6.39 | 6.52 | $t = 1.60$, $p = .112$ | |

**Continuing vs New Comparisons: There is a much smaller sample of continuing children, so although they showed improvement, the change was not significant. Only new children showed significant improvements in affective empathy, cognitive empathy & empathetic concern.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Griffith Empathy Over Time: Higher vs. Lower Socioeconomic Status

## Did lower SES & higher SES children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Affective Empathy $F(1, 117) = .07$, *ns* | Lower SES (100) | 5.88 | 6.13 | $t = 1.99$, $p = .049$* | $ME_{SES}$ $F = 2.62$, $p = .109$, *Higher SES higher* |
| | Higher SES (19) | 6.29 | 6.62 | $t = 1.48$, *ns* | |
| Cognitive Empathy $F(1, 117) = 1.43$, *ns* | Lower SES (100) | 6.29 | 5.92 | $t = 2.87$, $p = .005$* | $ME_{SES}$ $F = 4.26$, $p = .041$, *Higher SES higher* |
| | Higher SES (19) | 6.68 | 6.68 | $t = .00$, $p =$ *ns* | |
| Empathetic Concern $F(1, 118) = .02$, *ns* | Lower SES (101) | 6.70 | 7.03 | $t = 2.20$, $p = .030$* | $ME_{SES}$ $F = .31$, *ns* |
| | Higher SES (19) | 6.83 | 7.22 | $t = 1.72$, $p = .102$ | |
| Overall Score $F(1, 118) = .65$, *ns* | Lower SES (101) | 6.35 | 6.46 | $t = 1.34$, *ns* | $ME_{SES}$ $F = 3.46$, $p = .065$, *Higher SES higher* |
| | Higher SES (19) | 6.64 | 6.92 | $t = 2.24$, $p = .038$* | |

**Socioeconomic Comparisons: Both groups improved in Empathetic Concern. Only Lower SES children significantly improved in Affective Empathy & Cognitive Empathy. Higher SES children had significantly higher cognitive empathy scores overall & improved in overall empathy scores.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Griffith Empathy Over Time: Younger vs. Older Children

## Did younger & older children comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Affective Empathy $F(1, 118) = .17$, *ns* | Younger (30) | 6.03 | 6.37 | $t = 1.99$, $p = .056$ | $ME_{Age}$ $F = .39$, *ns* |
| | Older (90) | 5.93 | 6.16 | $t = 1.69$, $p = .095$ | |
| Cognitive Empathy $F(1, 118) = 1.51$, $p = .221$, *ns* | Younger (30) | 6.32 | 6.27 | $t = .21$, *ns* | $ME_{Age}$ $F = .25$, *ns* |
| | Older (90) | 6.36 | 5.99 | $t = 3.11$, $p = .002$* | |
| Empathetic Concern $F(1, 119) = 1.44$, *ns* | Younger (30) | 6.22 | 6.84 | $t = 2.20$, $p = .036$* | $ME_{Age}$ $F = 4.37$, $p = .039$*, *Older students higher* |
| | Older (91) | 6.90 | 7.16 | $t = 1.74$, $p = .085$ | |
| Overall Score $F(1, 119) = 1.33$, *ns* | Younger (30) | 6.27 | 6.57 | $t = 2.51$, $p = .018$* | $ME_{Age}$ $F = .17$, *ns* |
| | Older (91) | 6.44 | 6.54 | $t = 1.05$, *ns* | |

**Age Comparisons: Both groups showed improvements in Affective Empathy & Empathetic Concern. Older children had higher overall scores in empathic concern, but their scores decreased significantly in cognitive empathy. Younger children improved significantly in empathic concern & overall scores.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference

# Griffith Empathy Over Time: Girls vs. Boys

## Did girls & boys comparably improve over time?

| Subscale & Interaction time x group | Groups compared | Fall Mean | Spring Mean | Paired t-test: change within each group over time | ANOVA: Main Effect—groups differ? |
|---|---|---|---|---|---|
| Affective Empathy $F(1, 118) = .61$, *ns* | Girls (58) | 6.10 | 6.45 | $t = 2.35$, $p = .022$* | $ME_{Gender}$ $F = 3.20$, $p = .076$, *Girls higher* |
| | Boys (62) | 5.82 | 6.00 | $t = 1.06$, *ns* | |
| Cognitive Empathy $F(1, 118) = .02$, *ns* | Girls (58) | 6.59 | 6.28 | $t = 2.30$, $p = .025$* | $ME_{Gender}$ $F = 4.86$, $p = .029$*, *Girls higher* |
| | Boys (62) | 6.13 | 5.85 | $t = 1.56$, $p = .123$ | |
| Empathetic Concern $F(1, 119) = .85$, *ns* | Girls (59) | 6.74 | 7.21 | $t = 2.90$, $p = .005$* | $ME_{Gender}$ $F = .47$, *ns* |
| | Boys (62) | 6.72 | 6.95 | $t = 1.12$, *ns* | |
| Overall Score $F(1, 119) = .75$, *ns* | Girls (59) | 6.53 | 6.74 | $t = 2.18$, $p = .033$* | $ME_{Gender}$ $F = 4.57$, $p = .035$*, *Girls higher* |
| | Boys (62) | 6.28 | 6.36 | $t = .73$, *ns* | |

**Gender Comparisons: Only Girls significantly improved in Affective Empathy & Empathetic Concern, but showed decreases in Cognitive Empathy. However, girls were significantly higher in cognitive empathy overall. Boys did not show significant improvement in any empathy areas.**

**Please Note:**
Green Shading: Significant difference
Yellow Shading: Marginally significant difference