

Early Reading Intervention: A Preliminary Analysis of a State Initiative's Impact on Special Education Outcomes

Jose' Castillo
George Batsche
Larry Porter
J.C. Smith
School Psychology Program
University of South Florida

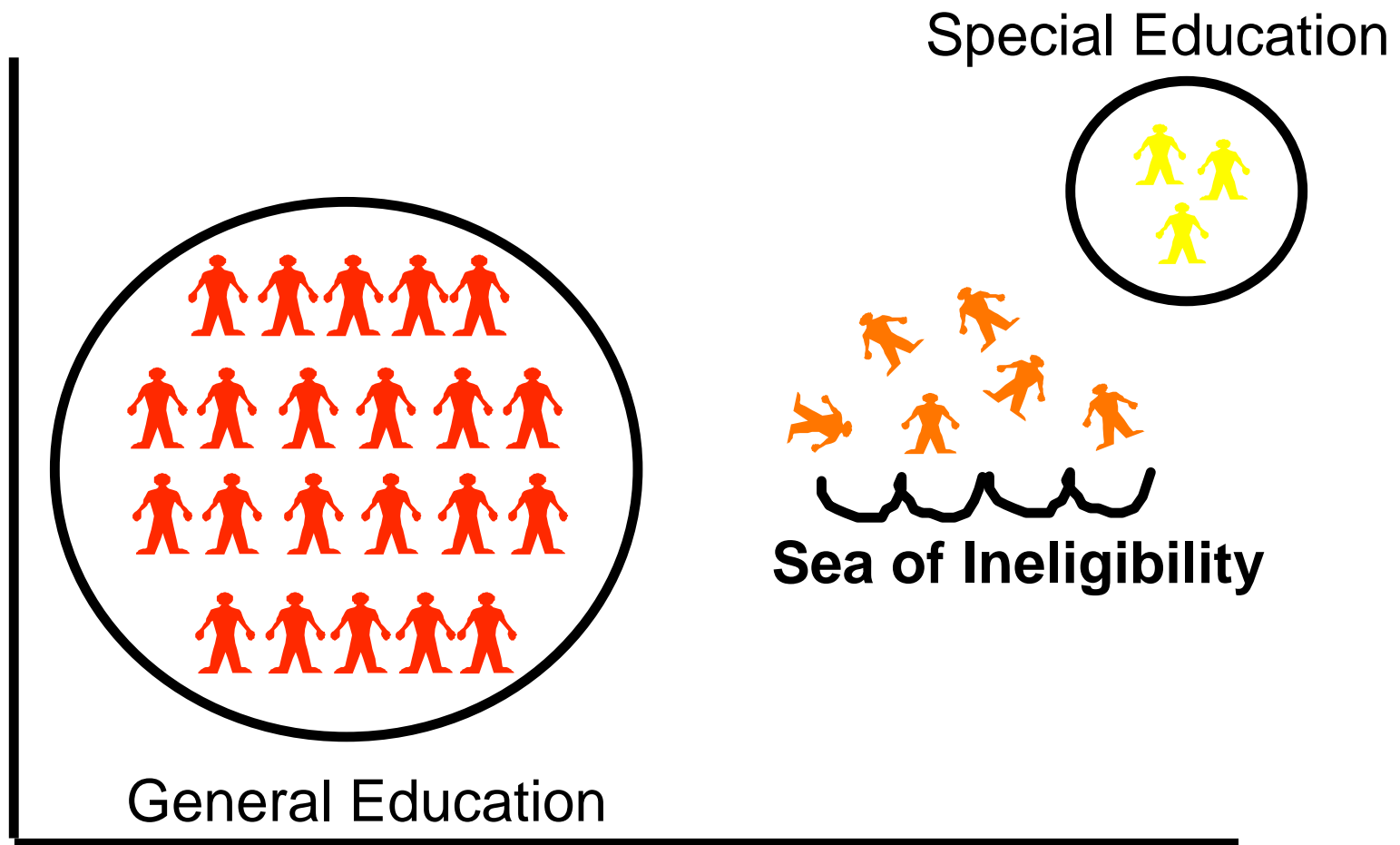
NASP Annual Convention
March, 2006



Current Special Education Practices

- The Vision of IDEA was to provide effective services to students with disabilities
- Unfortunately, special education too often becomes an endpoint rather than a means for providing effective services (PCESE, 2002)

Wait-to-Fail Service Delivery

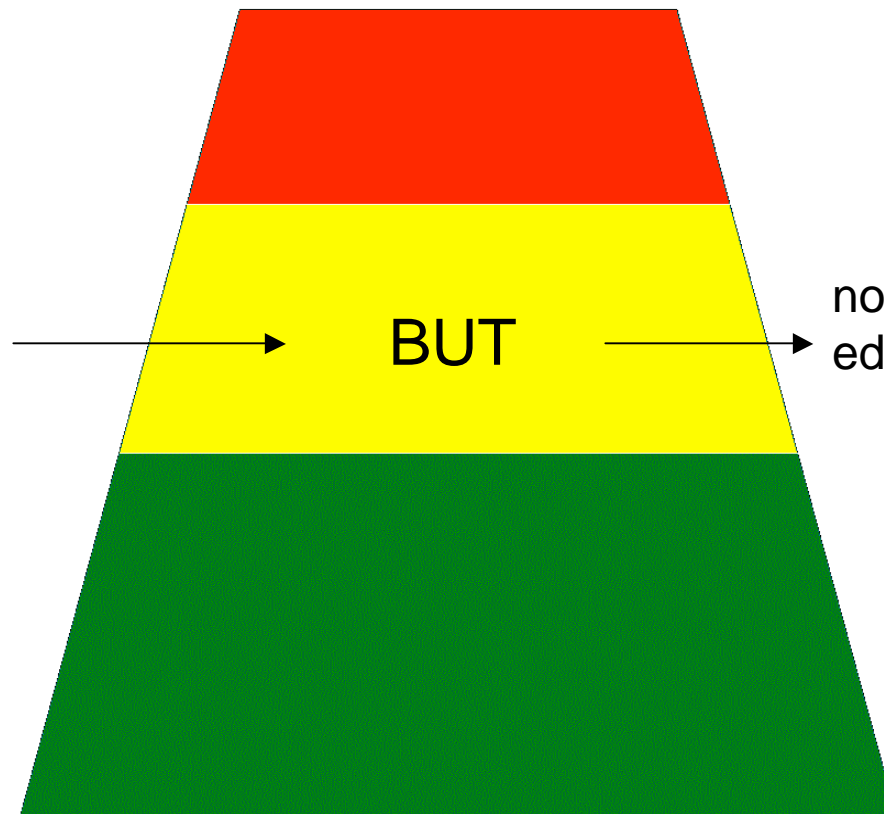


Current Service Delivery System Results in:

Students receiving
special education
services

Students not
successful in
general education

Students
successful in
general
education



not eligible for special
education services

Effective Schools Model

Tier 3: Intensive, Individual Interventions

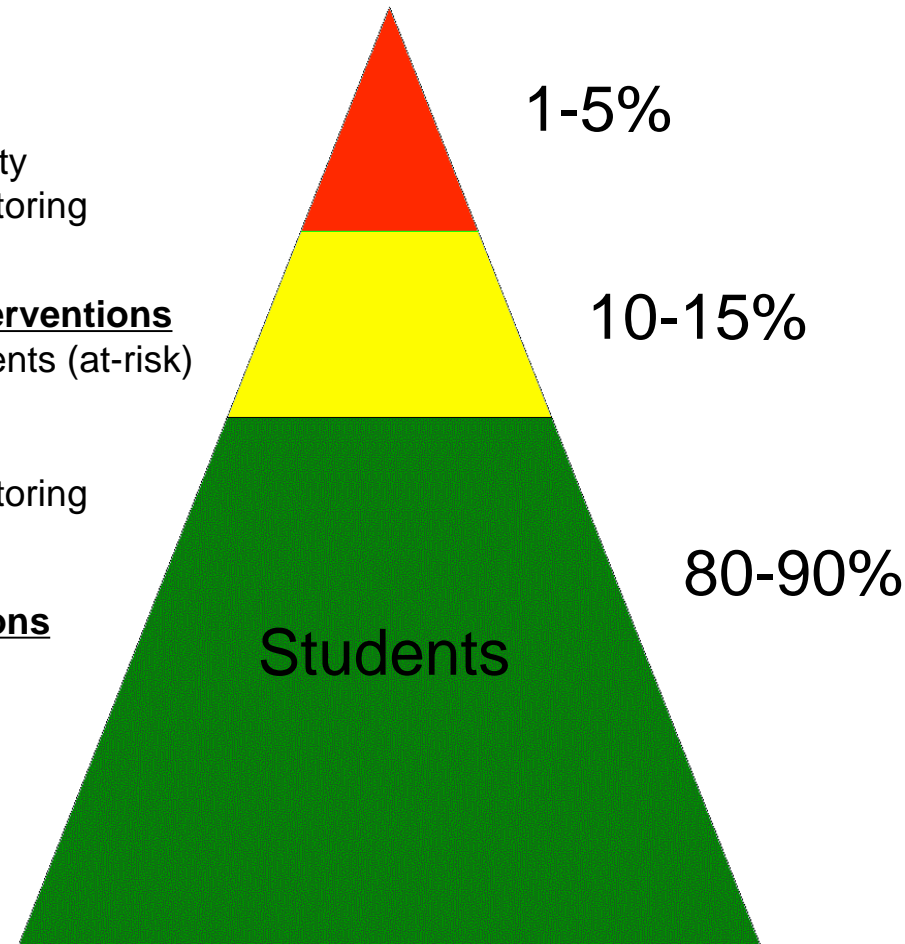
Targets individual students
Diagnostic assessments
Idiosyncratic interventions
Increased time, focus, intensity
More frequent progress monitoring

Tier 2: Targeted Group Interventions

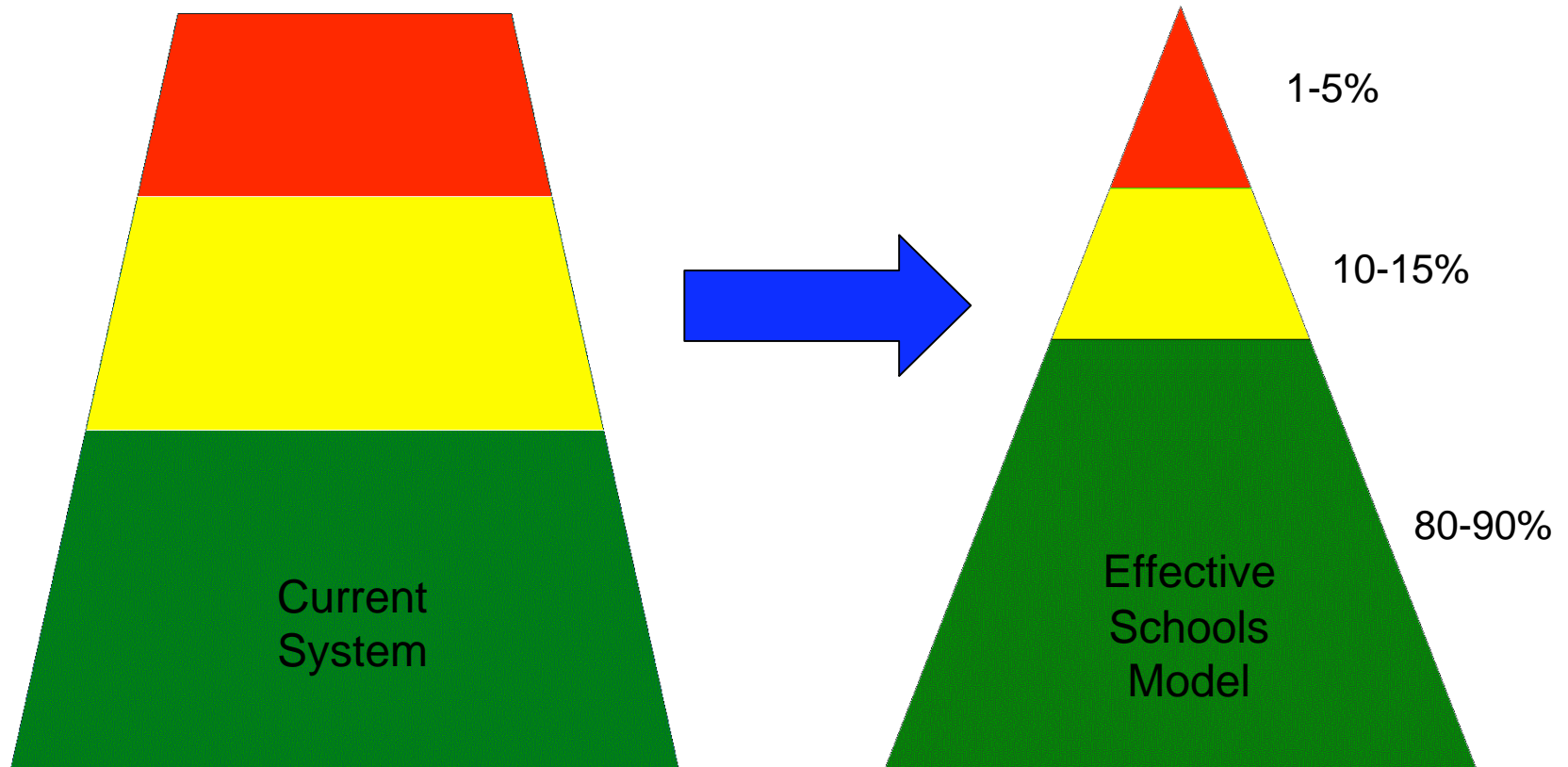
Targets small groups of students (at-risk)
High probability interventions
Increased time and/or focus
More frequent progress monitoring

Tier 1: Universal Interventions

Targets all students
Universal screenings
Preventive, proactive



How Can We Improve Student Outcomes?





It's All About Reading

- Reading and Learning Disabilities:
 - 52% of IDEA \$\$ go to LD Programs
 - 70% +/- of special education “activities” (e.g., evaluations, staffings, IEPs) related to LD cases
 - 85% of students identified as LD referred for reading difficulties
 - 44% of IDEA \$\$ allocated for students with reading difficulties
- 61.2% of children with ED score in the bottom quartile in reading



How Do We Improve Reading Outcomes?

- By improving:
 - Tier I instruction (i.e., universal intervention, the core curriculum, initial instruction)
 - Tier II instruction (i.e., supplemental intervention, secondary intervention, strategic instruction)
 - Tier III instruction (i.e., tertiary intervention, intensive instruction)
- NCLB, *Reading First*, & IDEA '04

Effective Schools Model

Tier 3: Intensive, Individual Interventions

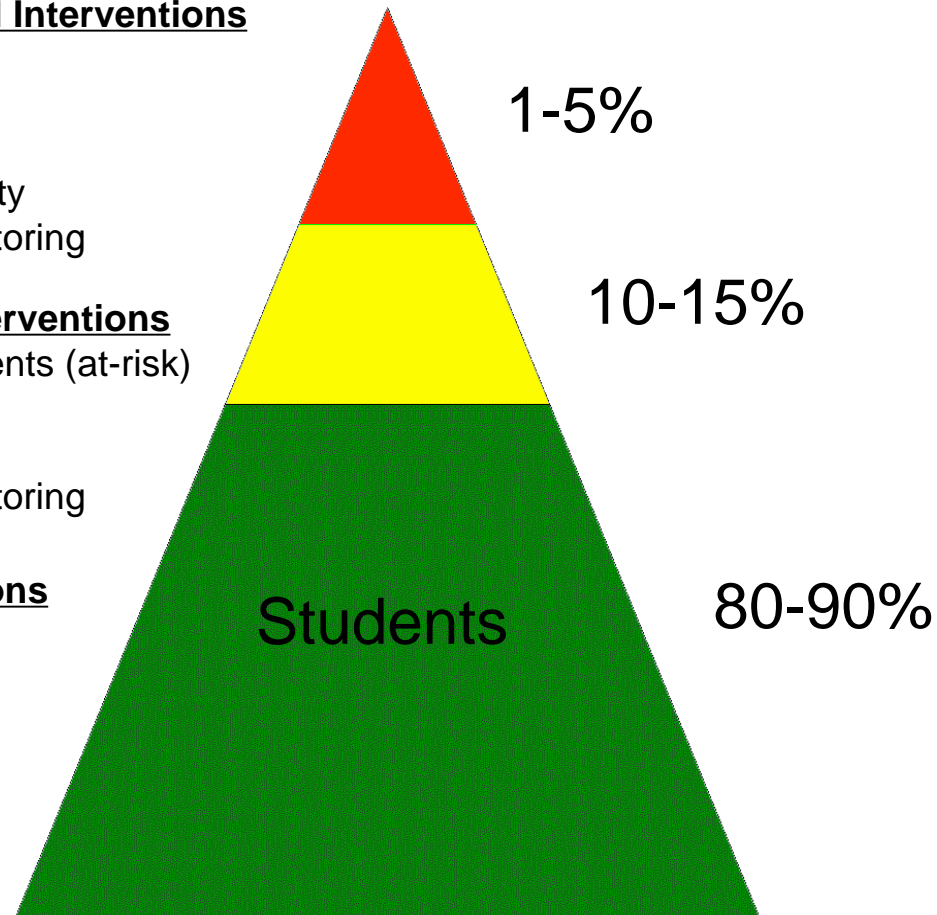
Targets individual students
Diagnostic assessments
Idiosyncratic interventions
Increased time, focus, intensity
More frequent progress monitoring

Tier 2: Targeted Group Interventions

Targets small groups of students (at-risk)
High probability interventions
Increased time and/or focus
More frequent progress monitoring

Tier 1: Universal Interventions

Targets all students
Universal screenings
Preventive, proactive





Example of Tiered Reading Interventions

	Tier 1	Tier 2	Tier 3
Time	90	120	180
Curricular Focus	5 areas	Less than 5	2 or less
Curricular Breadth	Core	Core + Supplemental	Core + Supplemental + Intensive
Frequency of Progress Monitoring	Yearly or greater	Monthly or greater	Weekly



What Does Research on Early Intervention Have to Say?

- Improved reading outcomes (Torgesen, 2001; VanDerHeyden & Jimerson, 2005)
- Reductions in the number of students requiring intensive intervention (Marston et al., 2003)
- Reductions in the number of special education (Marston et al., 2003; O'Connor, Fulmer, & Harty, 2005; VanDerHeyden, Witt, & Gilbertson, 2005; Tilly, 2003, December):
 - Referrals
 - Evaluations
 - Placements
- Reductions in disproportional representation of minority groups in special education (Marston et al., 2003; VanDerHeyden et al., 2005)



What Does Research on Early Intervention Have to Say?

- **Decreases in mental health problems** (Kellam, Rebok, Mayer, & Hawkins, 1998)
 - Aggressive symptoms
 - Depressive symptoms
 - Shy behaviors
- **Reduction in false positive identifications** (VanDerHeyden et al., 2003)
- **Decreased latency of services** (the “early” in early intervention)



Rationale

- Current research at the building & district levels suggests that early intervention:
 - decreases risk of being referred for special education
 - decreases risk of being identified with a high-incidence disability
 - decreases disproportional representation
 - increases referral accuracy
- What about outcomes when early intervention is implemented on a larger scale?



Research Questions

- How does implementing a state-level early intervention initiative affect the risk of being referred for special education services?
 - By:
 - Race/ethnicity?
 - Gender?
 - SES?
- How does implementing a state-level early intervention initiative affect the risk of being placed in special education?
 - By:
 - Race/ethnicity?
 - Gender?
 - SES?



Method



Reading First

- One way to address the research questions is to examine a state's *Reading First* data

- *Reading First* overview:
 - LEA's apply to state agencies for sub-grants
 - Priority given to LEA's with high proportions of students from low-SES backgrounds
 - Funding provided to improve the quality of universal, supplemental, and tertiary interventions
 - Focuses on grades K-3
 - Targets instruction in 5 big ideas in reading (National Reading Panel, 2000)



Florida's *Reading First* Population

- *Reading First* implementation began in 2003-04
- **317** elementary schools have participated during the first two years (Torgesen, 2005, August)
- District size varied (measured by student enrollment):
 - Small = 510-3,630
 - Medium Small = 3,635-7,308
 - Medium = 15,208-17,621
 - Large = 17,970-39,573
 - Very Large = 49,748-128,176



Study Sample

- Random sample stratified by condition and district size
- Condition:
 - *Reading First* schools
 - Comparison schools
- District Size
 - Small
 - Medium Small
 - Medium
 - Large
 - Very Large



Number of Schools by Condition in Population & Sample

Condition	Small	Medium Small	Medium	Large	Very Large
<u>Population</u>					
<i>Reading First</i>	26	28	26	113	135
Comparison	23	12	51	88	172
<u>Sample</u>					
<i>Reading First</i>	20	20	20	20	20
Comparison	20	12	20	20	20



Measures

- Survey administered by the Florida DOE at the end of each school year
- Entered into a state management information system electronically by schools
- Data reported at the individual student level
- Relevant elements reported include:
 - Demographics
 - Special education status
 - Primary exceptionality
 - Referral reason



Procedure

- Requested permission to access data from the management information system

- Data set was provided with student level information including:
 - Year
 - District
 - School
 - Demographic information
 - Special education status
 - Primary exceptionality
 - Other exceptionality
 - Referral reason
 - Promotion status



What Outcomes Were Examined

- 4 years of data received
 - 2 baseline (2001-02 & 2002-03)
 - 2 implementation (2003-04 & 2004-05)
- 3 years examined (2001-02 data excluded)
- Wanted to investigate referrals initially




How Outcomes Were Measured

- Special education status variable on survey contains 6 elements:
 - Referred & Evaluation Pending**
 - Evaluated & Ineligible**
 - Determined Eligible & Not Placed
 - Determined Eligible & Placed
 - Temporarily Placed
 - Not Applicable
- Examined risk indices as method for examining data (Donovan & Cross, 2002)
 - Odds ratio**
 - Composition index
 - Risk index**
- Risk indices calculated for:
 - All students
 - Disaggregated by:
 - Demographic data




Results



First, Some Reading Outcomes (Torgesen, 2005, August)

- Data for the first two years suggest:
 - Improvements in end of the year DIBELS scores in grades K-2
 - A decline in the number of students failing the statewide assessment relative to NCLB
 - An increase in the number of students performing at grade level on the statewide assessment relative to NCLB



Instructional Effectiveness Data (Torgesen, 2005, August)

- Core curriculum

- Over 80% of students meeting grade level objectives in grades K and 3
- Improvements in percentage of students in grades 1 and 2 meeting grade level objectives

- Intervention

- 45-55% responded to intervention in K
- Only 5-16% responded in grades 1-3

Sample Size by Year, Condition, & Demographics

Year	Gender % (<i>n</i>)		Race/Ethnicity % (<i>n</i>)				SES % (<i>n</i>)		Total <i>n</i>
	M	F	W	B	H	O	FRL	No FRL	
2002-03									
<i>RF</i>	51.58% (30,584)	48.10% (28,522)	48.00% (28,460)	30.07% (17,830)	17.33% (10,277)	4.28% (2,539)	60.13% (35,654)	39.55% (23,452)	59,297
<i>C</i>	52.02% (24,049)	47.74% (22,069)	43.09% (19,920)	35.77% (16,536)	16.70% (7,719)	4.20% (1,943)	61.02% (28,212)	38.73% (17,906)	46,232
2003-04									
<i>RF</i>	50.58% (30,990)	46.61% (28,561)	45.83% (28,081)	28.47% (17,444)	18.31% (11,218)	4.58% (2,808)	63.55% (38,937)	33.39% (20,458)	61,270
<i>C</i>	50.89% (23,248)	46.39% (21,189)	41.17% (18,806)	34.49% (15,754)	17.15% (7,834)	4.47% (2,043)	66.65% (30,444)	29.60% (13,521)	45,680
2004-05									
<i>RF</i>	51.94% (30,549)	47.76% (28,093)	45.91% (27,004)	28.67% (16,864)	19.91% (11,710)	5.21% (3,064)	66.63% (39,191)	32.72% (19,246)	58,816
<i>C</i>	52.40% (22,978)	47.39% (20,781)	41.72% (18,293)	34.74% (15,235)	18.53% (8,125)	4.80% (2,106)	64.15% (28,130)	32.29% (14,162)	43,852



Some Initial Findings for Referrals Across Years:

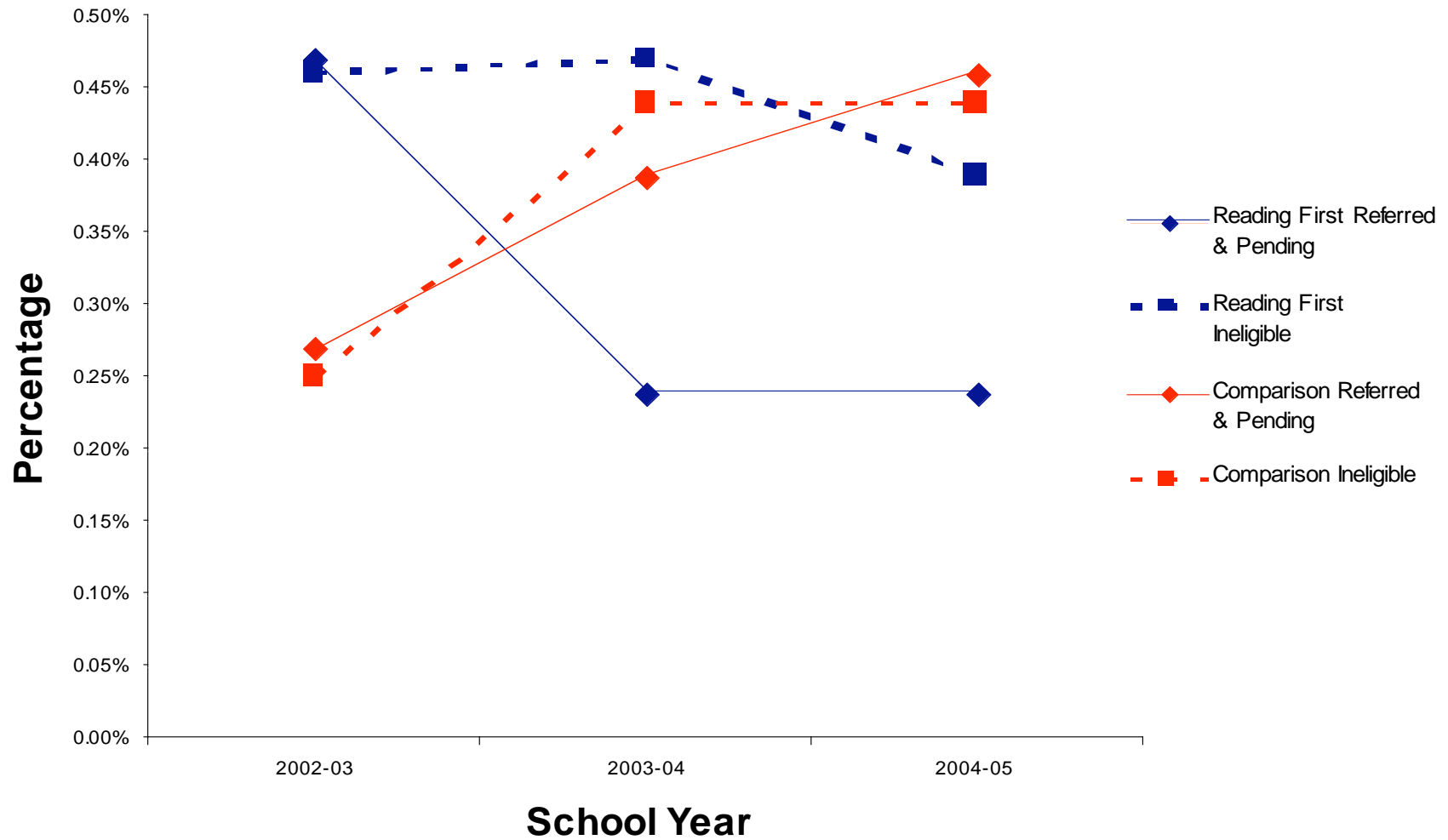
- Referred & Pending
 - *Reading First*: 49% decrease
 - Comparison: 70% increase
- Evaluated & Ineligible
 - *Reading First*: 4% decrease
 - Comparison: 76% increase



Some Overall Referral Trends

School Year	Referred & Evaluation Pending	Evaluated & Ineligible
2002-03		
<i>Reading First</i>	.47% (<i>n</i> = 278)	.46% (<i>n</i> = 275)
Comparison	.27% (<i>n</i> = 126)	.25% (<i>n</i> = 116)
2003-04		
<i>Reading First</i>	.24% (<i>n</i> = 149)	.47% (<i>n</i> = 287)
Comparison	.39% (<i>n</i> = 177)	.44% (<i>n</i> = 201)
2004-05		
<i>Reading First</i>	.24% (<i>n</i> = 143)	.39% (<i>n</i> = 232)
Comparison	.46% (<i>n</i> = 201)	.44% (<i>n</i> = 195)

Some Overall Referral Trends





Some Initial Findings for Demographic Variables

■ Referred & Pending

- *Reading First*: decreased across gender and racial groups as well as low-SES students
- Comparison: increased across gender, racial, and SES groups

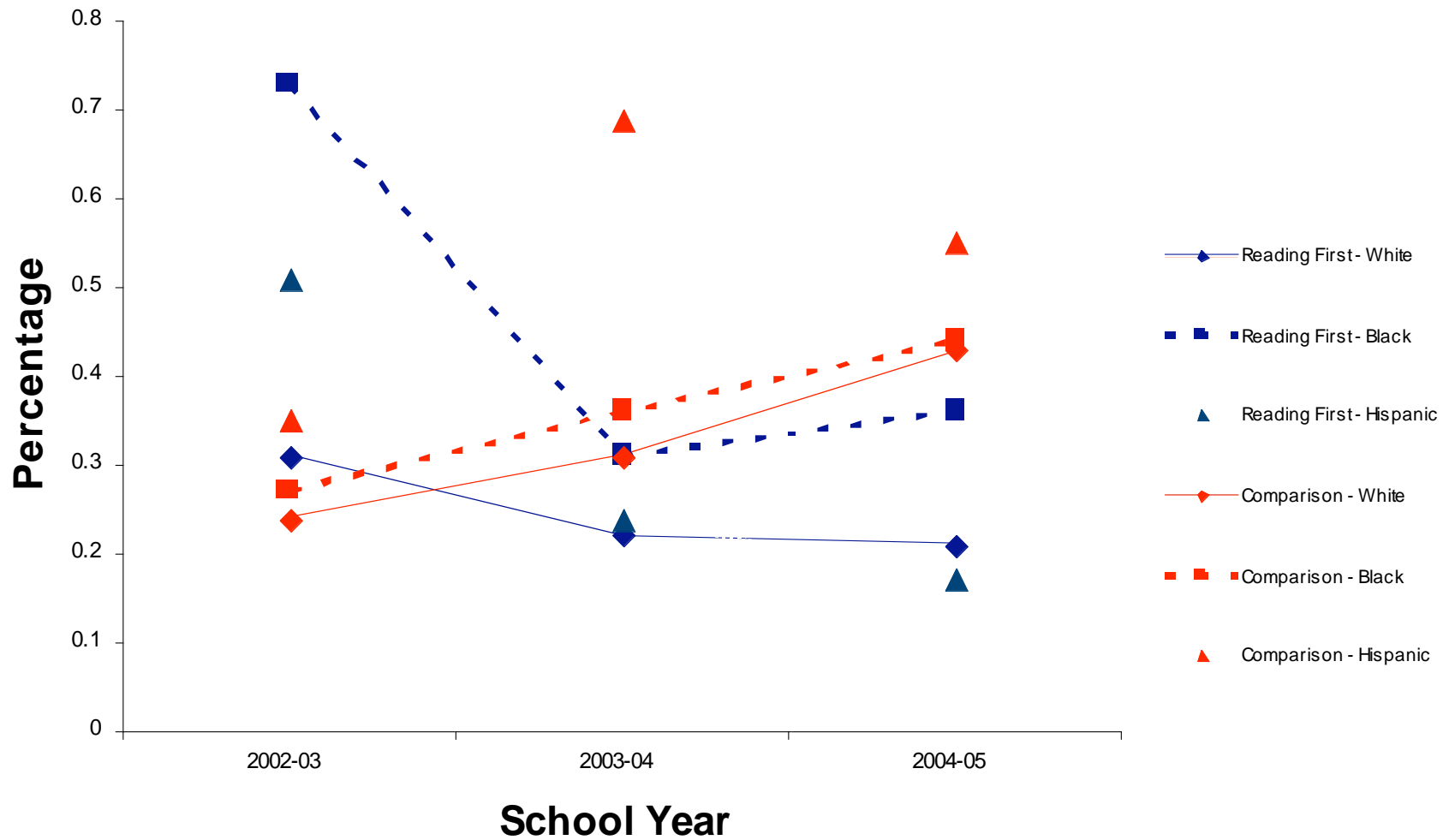
■ Evaluated & Ineligible

- *Reading First*: decreased across gender as well as for some racial groups and low-SES students
- Comparison: increased across gender and SES as well as most racial groups

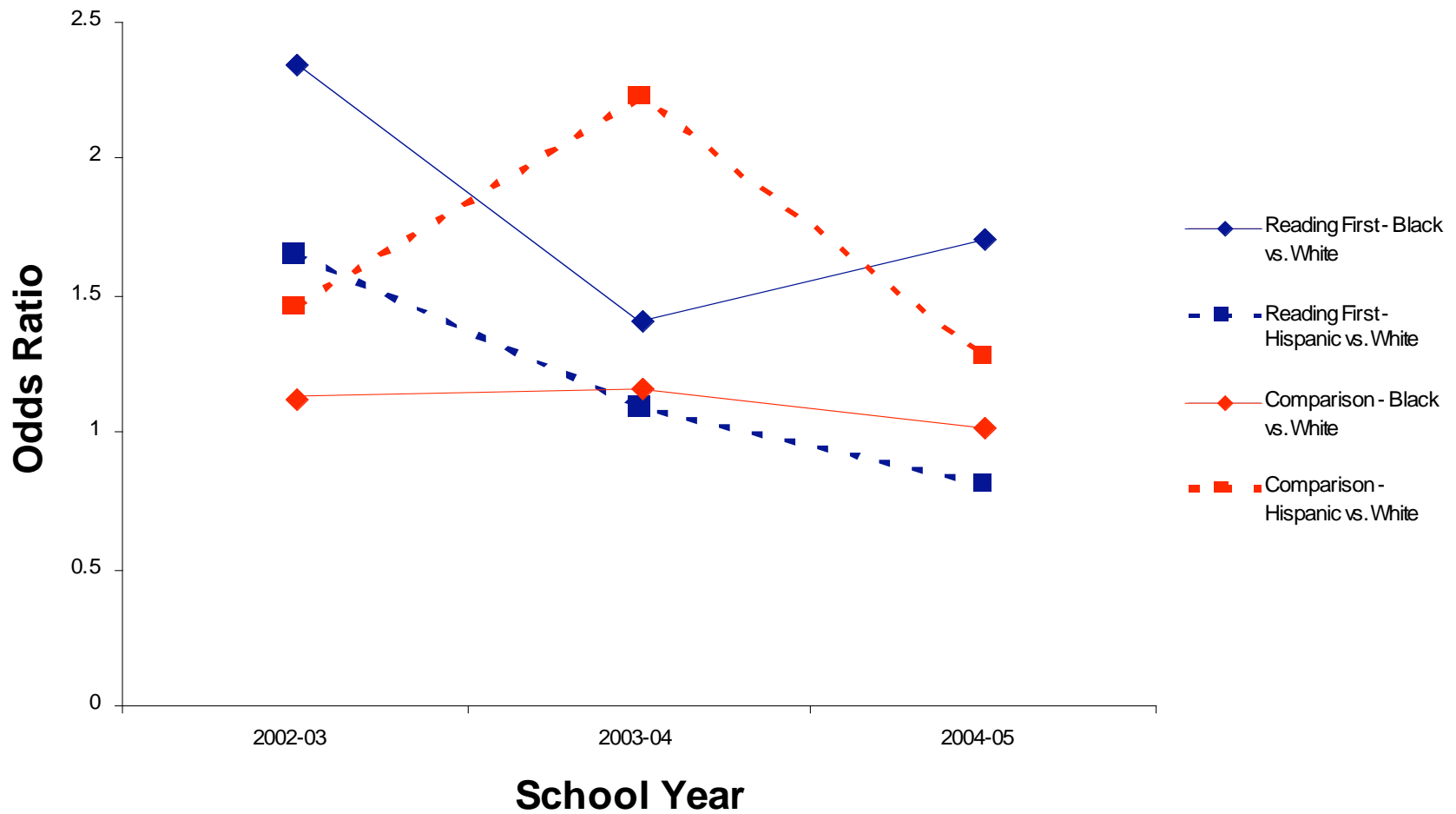
Risk Indices for Referred & Pending Category by Year & Demographics

Year	Gender		Race				SES	
	M	F	W	B	H	O	FRL	No-FRL
2002-03								
<i>RF</i>	.60% (n=185)	.33% (n=93)	.31% (n=88)	.73% (n=131)	.51% (n=52)	.28% (n=7)	.65% (n=231)	.20% (n=47)
C	.34% (n=81)	.20% (n=45)	.24% (n=47)	.27% (n=45)	.35% (n=27)	.36% (n=7)	.38% (n=108)	.10% (n=18)
2003-04								
<i>RF</i>	.26% (n=81)	.24% (n=68)	.22% (n=63)	.31% (n=54)	.24% (n=27)	.18% (n=5)	.26% (n=101)	.20% (n=41)
C	.50% (n=116)	.29% (n=61)	.31% (n=58)	.36% (n=56)	.69% (n=54)	.44% (n=5)	.49% (n=150)	.14% (n=19)
2004-05								
<i>RF</i>	.29% (n=88)	.20% (n=55)	.21% (n=56)	.36% (n=61)	.17% (n=20)	.20% (n=6)	.23% (n=92)	.25% (n=48)
C	.53% (n=121)	.38% (n=80)	.43% (n=79)	.44% (n=67)	.55% (n=45)	.47% (n=10)	.43% (n=121)	.50% (n=71)

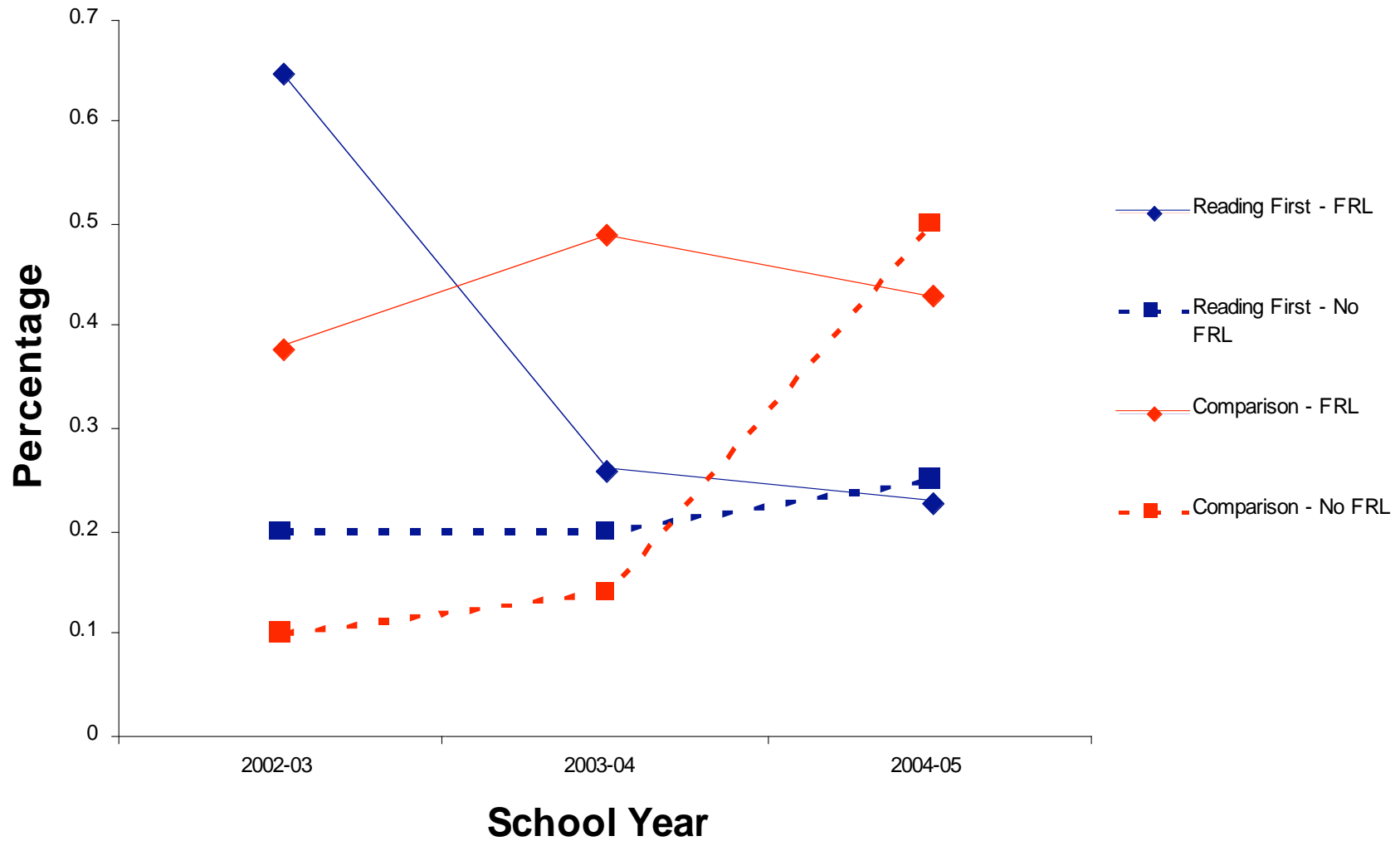
Risk Indices by Year & Race/Ethnicity



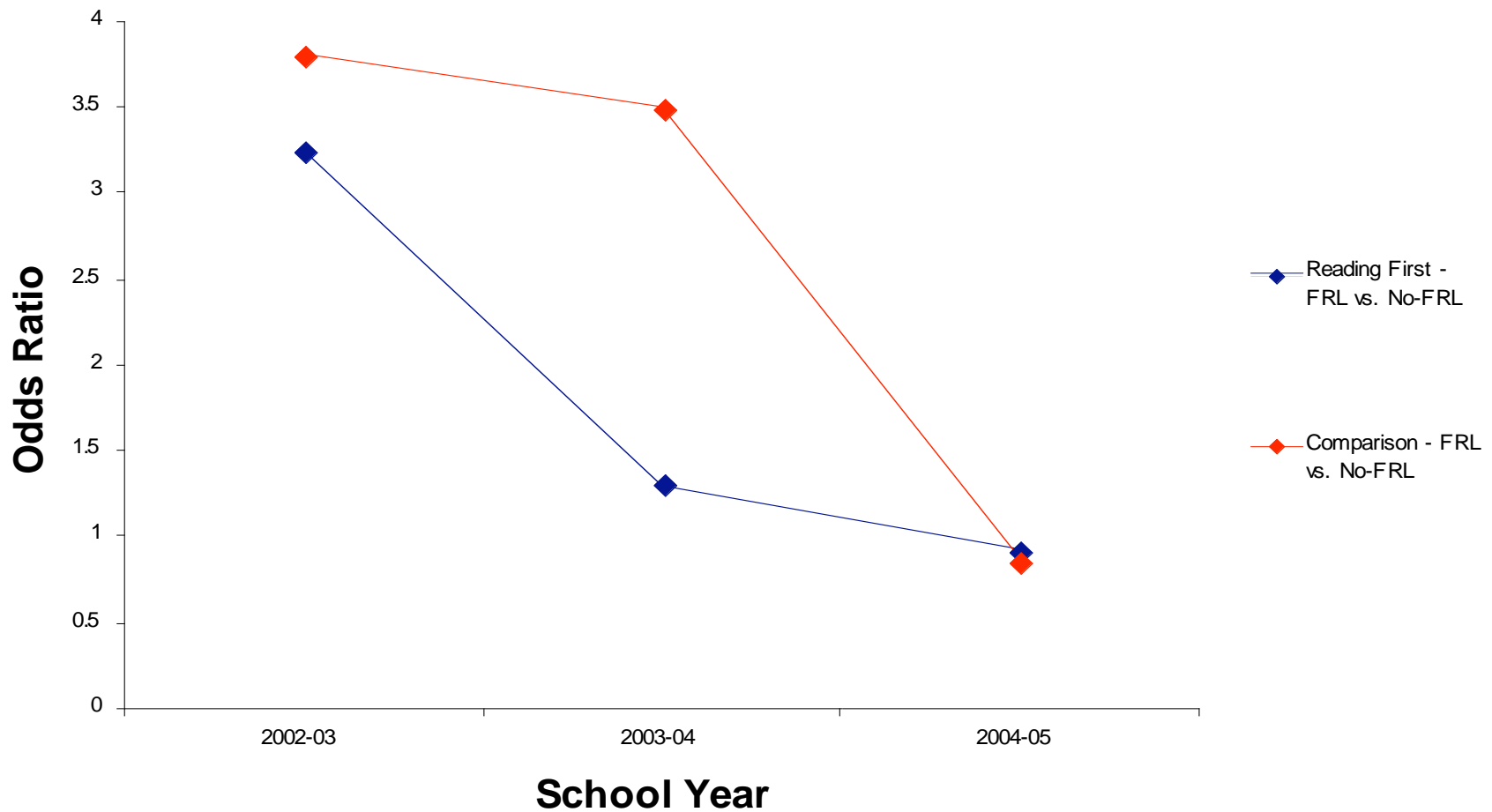
Odds Ratios for Black & Hispanic Students vs. White Students by Year



Risk Indices for SES by Year



Odds Ratios for FRL vs. No FRL by Year



Risk Indices for Evaluated & Ineligible by Year & Demographics

Year	Gender			Race			SES	
	M	F	W	B	H	O	FRL	No-FRL
2002-03								
<i>RF</i>	.48% (n=146)	.45% (n=129)	.37% (n=106)	.73% (n=131)	.26% (n=27)	.43% (n=11)	.55% (n=197)	.33% (n=78)
C	.27% (n=65)	.23% (n=51)	.24% (n=47)	.28% (n=47)	.26% (n=20)	.10% (n=2)	.28% (n=80)	.20% (n=36)
2003-04								
<i>RF</i>	.50% (n=154)	.47% (n=133)	.37% (n=103)	.78% (n=136)	.33% (n=37)	.39% (n=11)	.55% (n=215)	.35% (n=72)
C	.51% (n=118)	.39% (n=83)	.46% (n=87)	.45% (n=71)	.37% (n=29)	.69% (n=14)	.35% (n=108)	.67% (n=91)
2004-05								
<i>RF</i>	.39% (n=119)	.40% (n=113)	.38% (n=102)	.41% (n=69)	.44% (n=51)	.33% (n=10)	.40% (n=156)	.39% (n=76)
C	.48% (n=110)	.41% (n=85)	.58% (n=107)	.40% (n=61)	.18% (n=15)	.57% (n=12)	.37% (n=105)	.63% (n=89)



Discussion



Summary

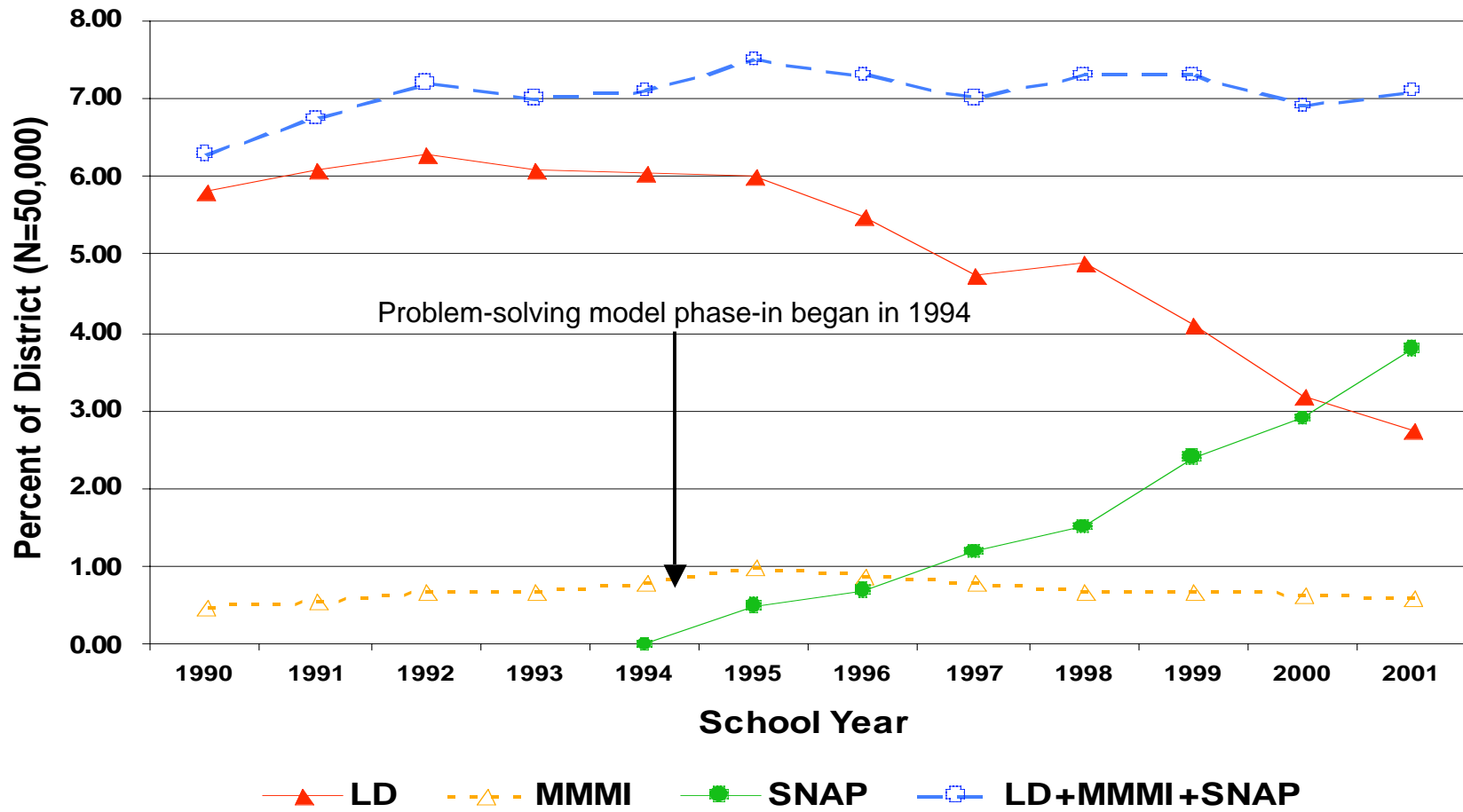
- Preliminary data analysis suggests improved referral outcomes for *Reading First* schools over first 2 years of implementation
- Students in *Reading First* schools demonstrated reductions in:
 - Risk across demographic variables
 - Disproportional representation
 - Miss rate for evaluated students



Previous Research

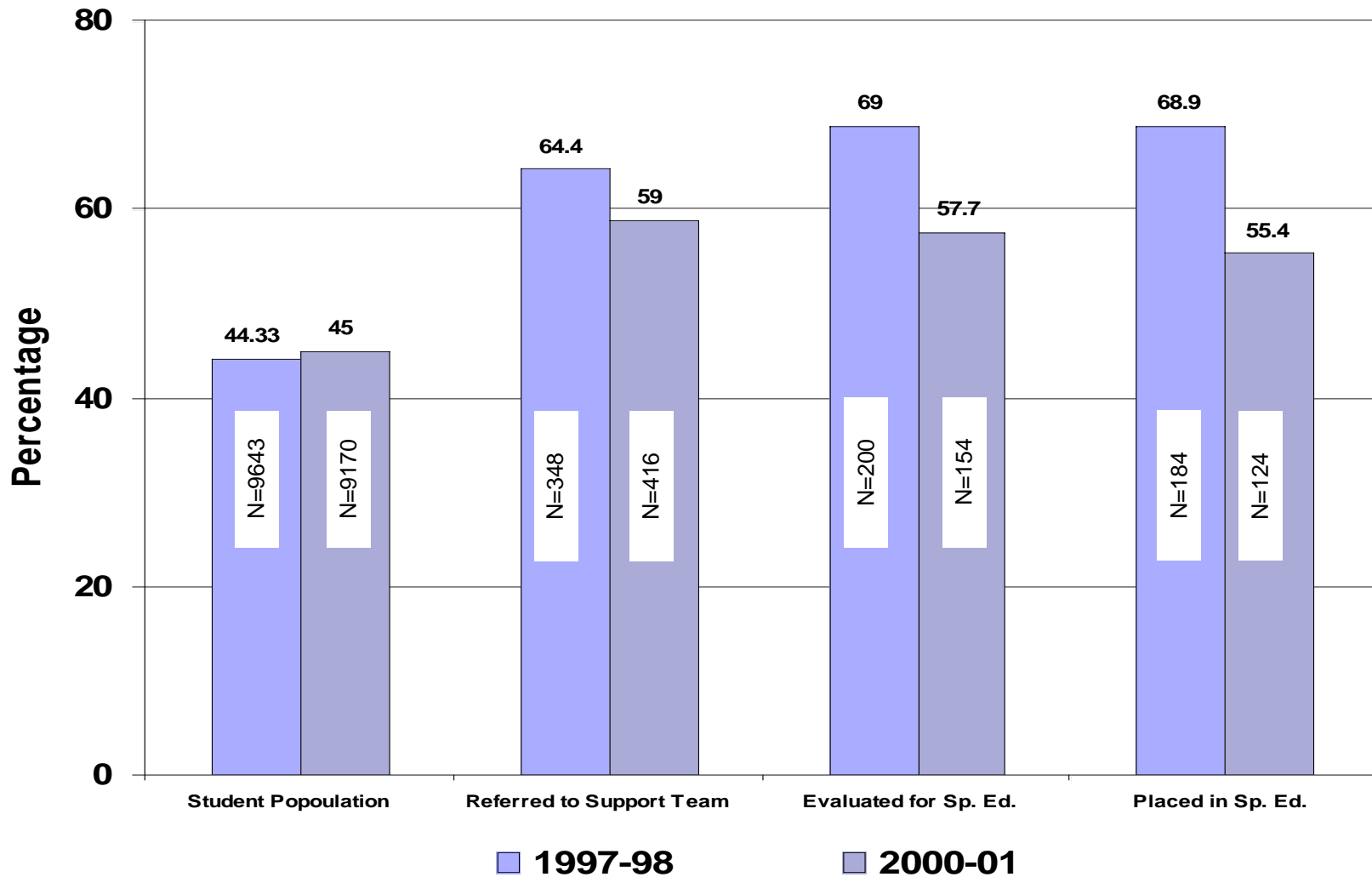
- Initial outcomes are consistent with previous research at the building & district levels demonstrating:
 - Reductions in referrals
 - Reductions in disproportional representation
 - Increased referral accuracy

Child-count percentages for students with high-incidence disabilities (1990-2001): Minneapolis Public Schools



Adapted from Marston (2001).

Percentage of African-American students at each stage of referral process at 41 schools





Vail School District Data

RtI and Traditional Discrepancy Comparison

Amanda VanDerHeyden (2005)

	QUALIFY			Total
	Yes	No	Pending	
Poor RtI-Refer	15	2	4	21
Good RtI-Do Not Refer	9	15	1	25
Total	24	17	5	46



Implications for Research & Practice

- Data suggest that early intervention leads to a reduction in students referred for reasons other than a disability
- Reductions in referrals allow schools to use their limited resources (i.e., time, money, personnel) more efficiently to improve student outcomes
- Early intervention is needed for schools, districts, & states to meet the requirements set forth by NCLB & IDEA '04



Examples of Early Intervention

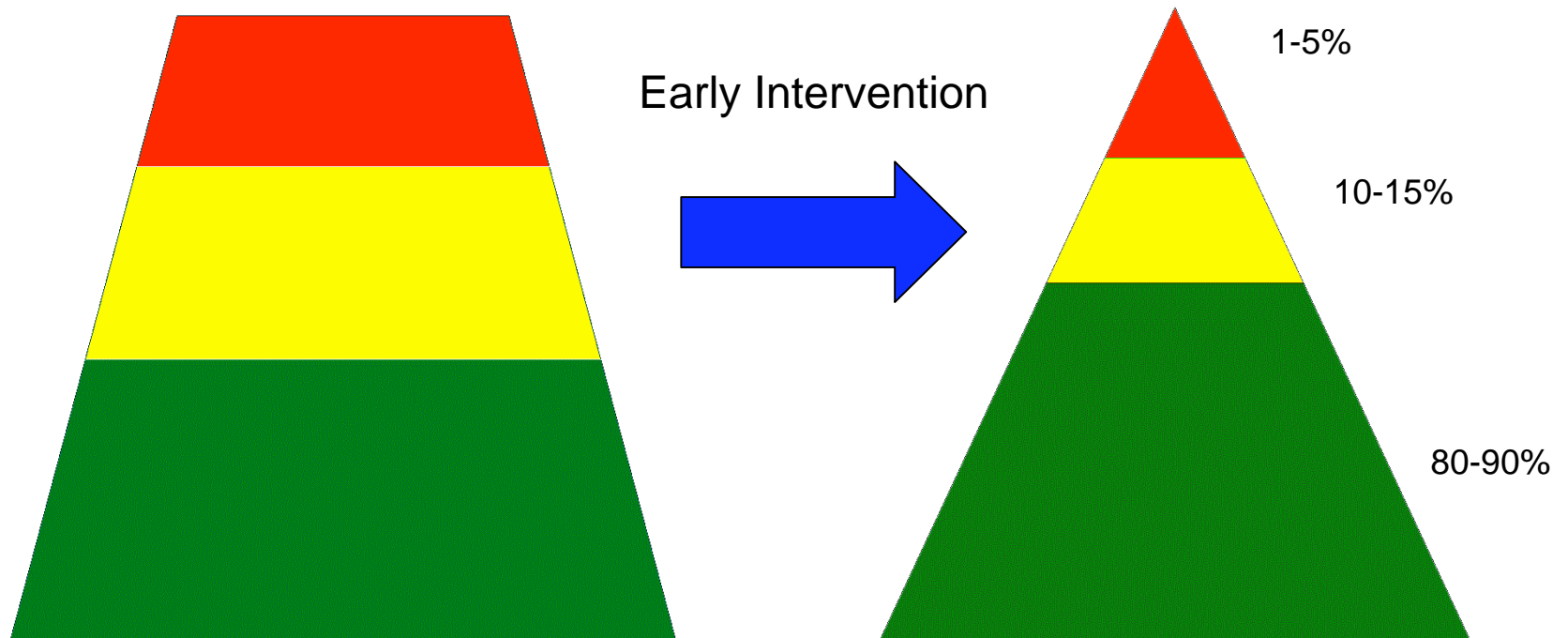
- *Reading First*
- *Peer Assisted Learning Strategies*
- *Positive Behavior Support*
- *Project ACHIEVE*
- *Problem-Solving Method/Rtl*



Conclusions

- The discrepancy model has resulted in a wait-to-fail service delivery system
- Data suggest that early academic, behavioral, & social-emotional interventions improve student outcomes
- Recent federal legislation and initiatives provide schools, districts, & states with greater opportunity to adopt early intervention procedures to improve their students' outcomes

The Vision of IDEA:





Questions





References

- See back of handout