The Relationship between Reading Difficulties and Problem Behaviour

Center on Instruction
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Grateful acknowledgements to:

- Rob Horner
- David Chard
- Celeste Dickey
- Carol Sadler
- Student data collectors (U. of Oregon)
- Staff and administrators at the school districts studied

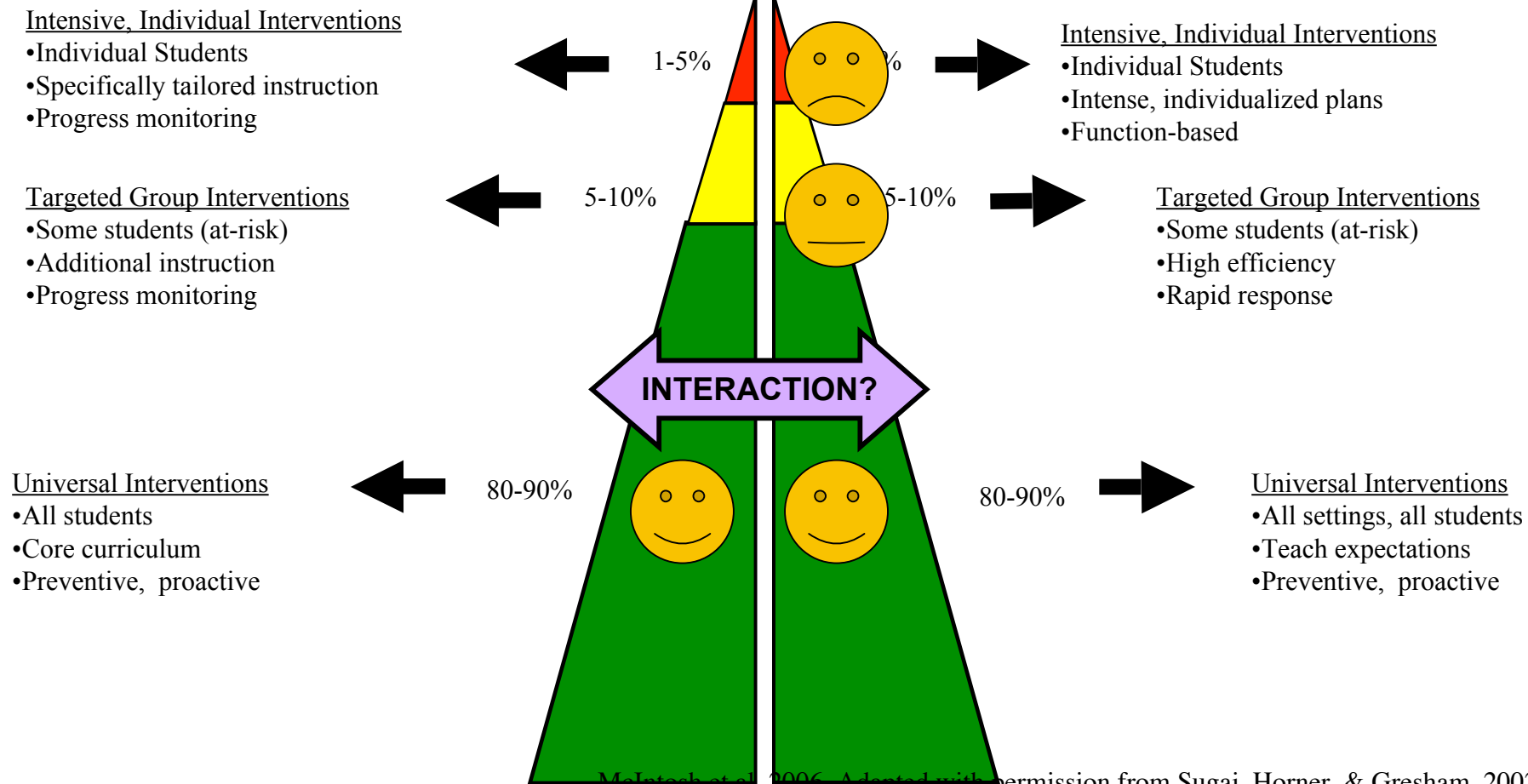# This Webinar's Focus:

Four Questions about Reading and Behaviour

#1: What is the link between reading and behaviour?

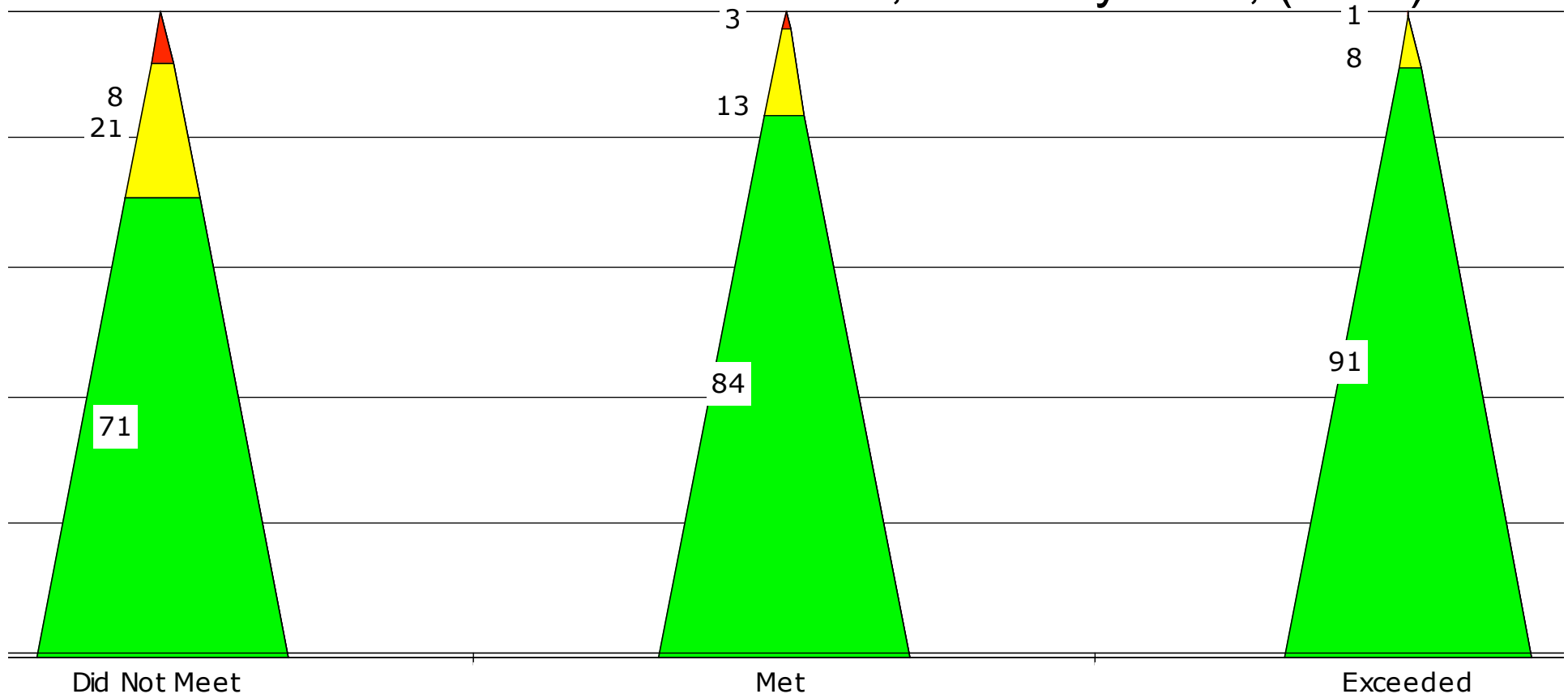# The Link Between Reading and Behaviour

- The relationship increases as students progress through school
  - (Fleming et al., 2004; Morrison et al., 2001; Nelson et al., 2004; Roeser & Eccles, 2000)

Relation between grade 8 reading test and grade 9 ODRs

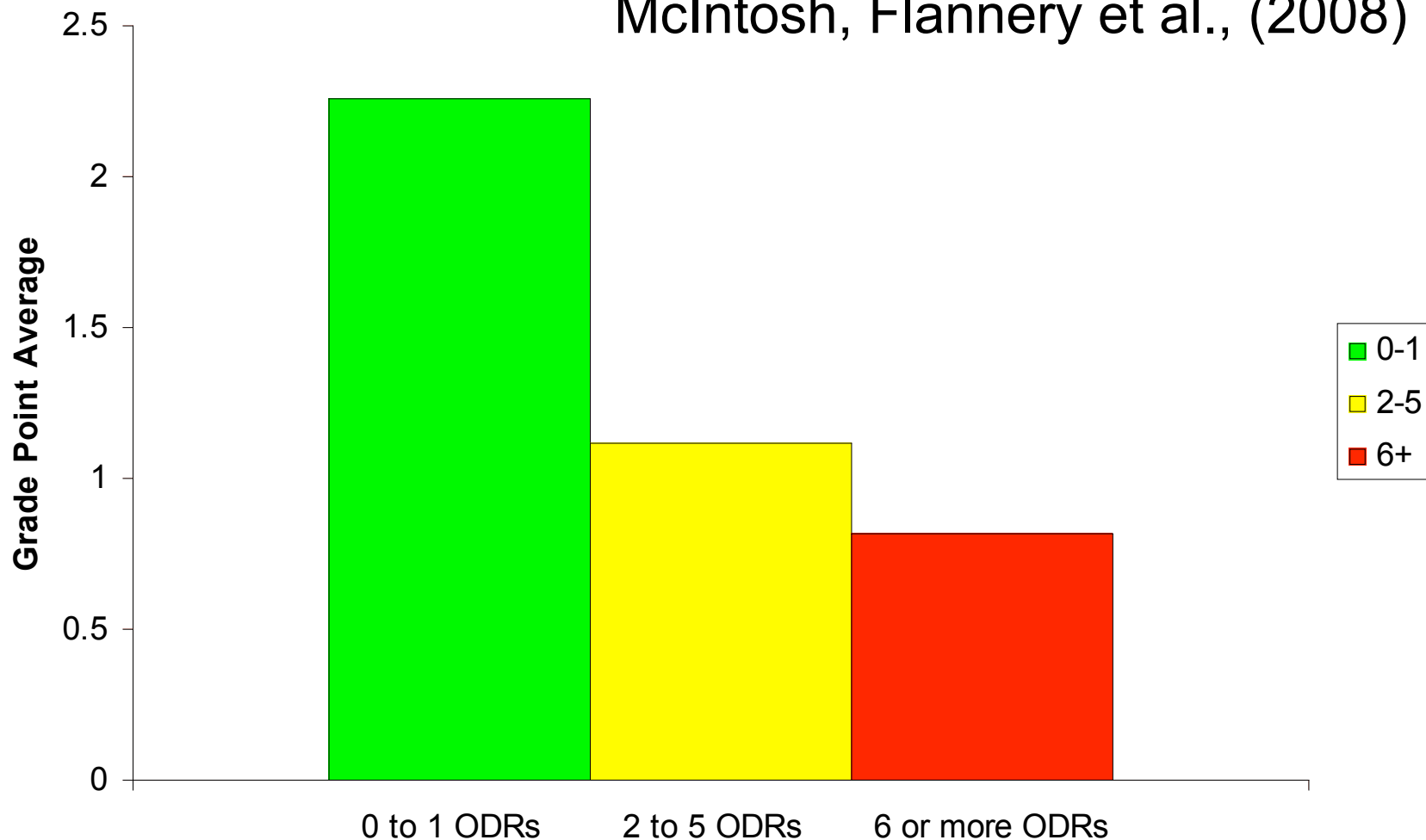**Proportions of Grade 9 Office Discipline Referrals by Grade 8 OSA Reading**

McIntosh, Flannery et al., (2008)

Relation between grade 8 ODRs and grade 9 academic marks

McIntosh, Flannery et al., (2008)

The Link Between Reading and Behaviour

- The relationship increases as students progress through school
  - □ (Fleming et al., 2004; Morrison et al., 2001; Nelson et al., 2004; Roeser & Eccles, 2000)
- The relationship is strongest for students with externalizing behaviour
  - □ (Kellam et al., 1998; Nelson et al., 2004)
- Students who experience problems in both areas have worst outcomes
  - □ (McKinney, 1989; Reinke, 2007)

OUTCOMES FOR STUDENTS ENTERING SCHOOL

	HIGH READING SKILLS	**LOW READING SKILLS**
HIGH SOCIAL SKILLS	**POSITIVE SOCIAL OUTCOMES**	**AT RISK: READING (AND SOCIAL)**
LOW SOCIAL SKILLS	**AT RISK: SOCIAL (AND READING)**	**NEGATIVE SOCIAL OUTCOMES**

Which came first?

- Do problems in academics
  lead to problems in behaviour?

- Do problems in behaviour
 lead to problems in academics?

Pathways to Multiple Problems

- **Social behaviour deficit model**
  - ☐ Social skills problems may lead to academic problems (Dishion, French, & Patterson, 1995; Hinshaw, 1992; Reid and Patterson, 1991; Wehby, Lane, & Falk, 2003)

- **Academic skill deficit model**
  - ☐ Academic problems may lead to behaviour problems (Lee et al., 1999; Roberts et al. 2001)

Pathways to Problem Behaviour
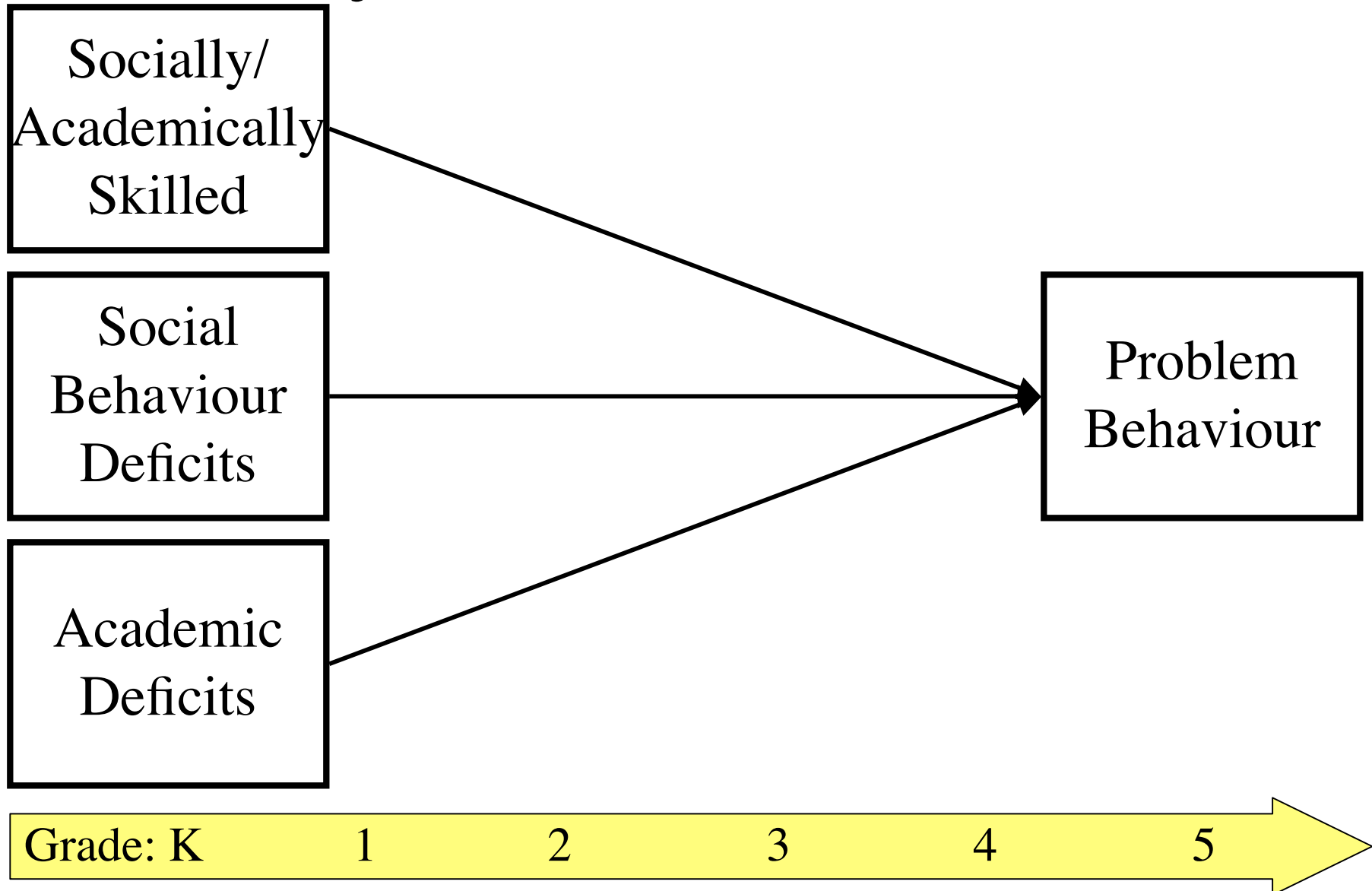
Pathways to Behaviour Study

(McIntosh, Horner et al., 2006)

- 6-year longitudinal study exploring prediction of problem behaviour in grade five

- Primary Research Question
    1. What reading and behaviour screening measures predict multiple office discipline referrals in grade five?

Why is two or more office discipline referrals an important outcome?

- Signals need for additional support beyond typical behaviour support

- Effective discriminator based on standardized behaviour rating scales

  - *SSRS: Social Skills Rating Scale* (Walker et al., 2005)

  - *BASC-2: Behavior Assessment Scale for Children* (McIntosh, Campbell, Carter, & Zumbo, 2008)

Pathways to Behaviour Study
Method

- Setting
  - Small school district (5,542) in a mid-sized city
  - District-wide behaviour and reading support programs
- Participants
  - All K-5 students enrolled in the district from 1998-2004
  - Grade 4 n = 425, Grade 2 n = 279, Grade K n = 194
- Measures
  - Office Discipline Referrals (ODRs)
  - *Dynamic Indicators of Basic Early Literacy Skills (DIBELS)*
  - Curriculum-Based Measurement: Oral Reading Fluency (ORF)
- Data Analysis
  - Binary Logistic Regression

Data Analysis

- **Binary Logistic Regression**
  - Backward Likelihood Ratio (LR) Method
    - α = .01 for significance, .05 for inclusion in model
  - Dependent Variable
    - Receiving 2 or more major ODRs in grade 5
  - Predictor Variables
    - Grade 4: ODRs and Oral Reading Fluency
    - Grade 2: ODRs and Oral Reading Fluency
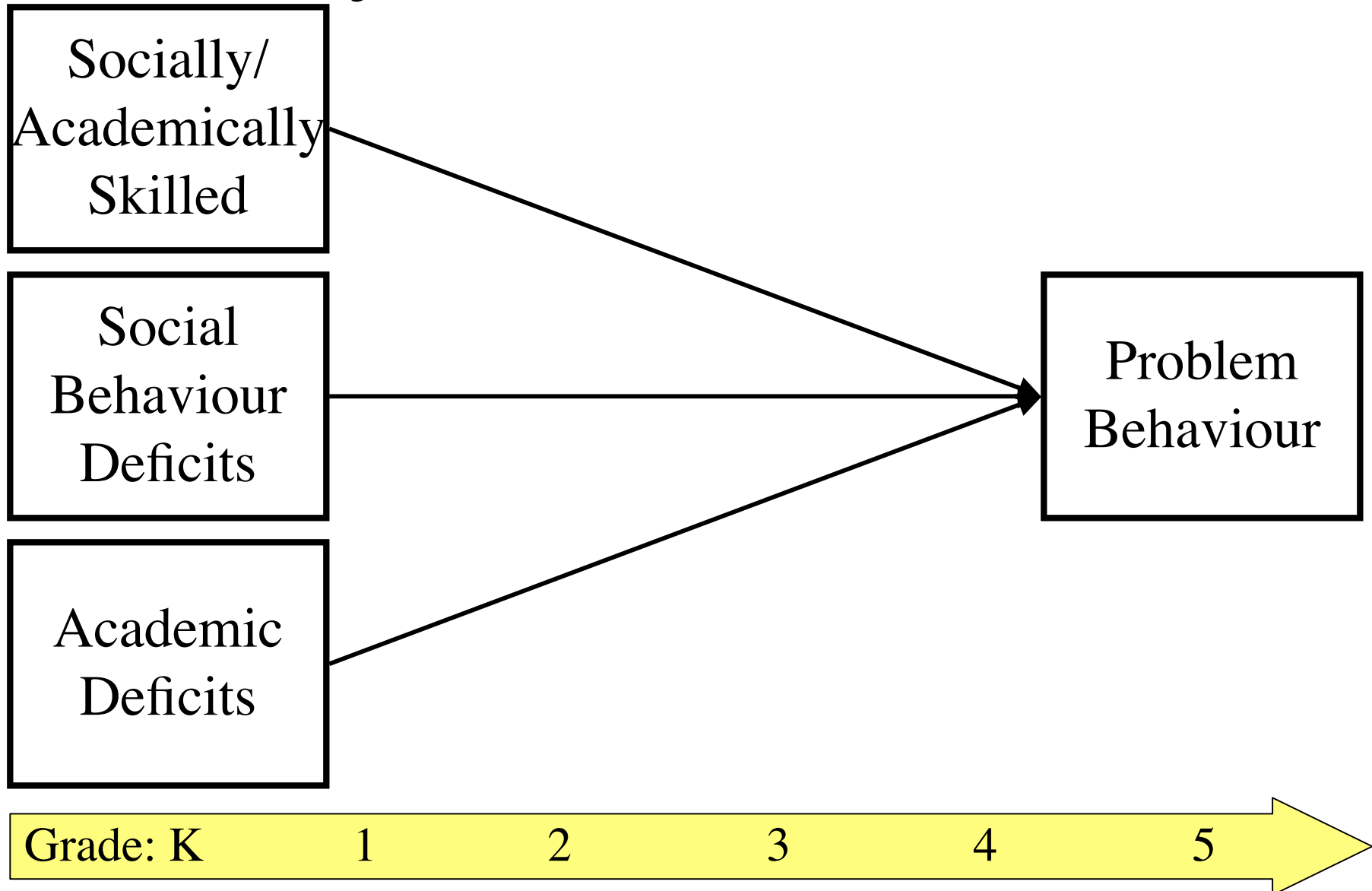   - Grade K: ODRs and DIBELS measures

Pathways to Behaviour Study
Results: Significant Predictors

- Grade 4
  - ODRs ($p < .001$)
  - Oral Reading Fluency in winter ($p < .001$)
- Grade 2
  - Oral Reading Fluency in spring ($p < .001$)
  - ODRs ($p = .01$)
- Grade K
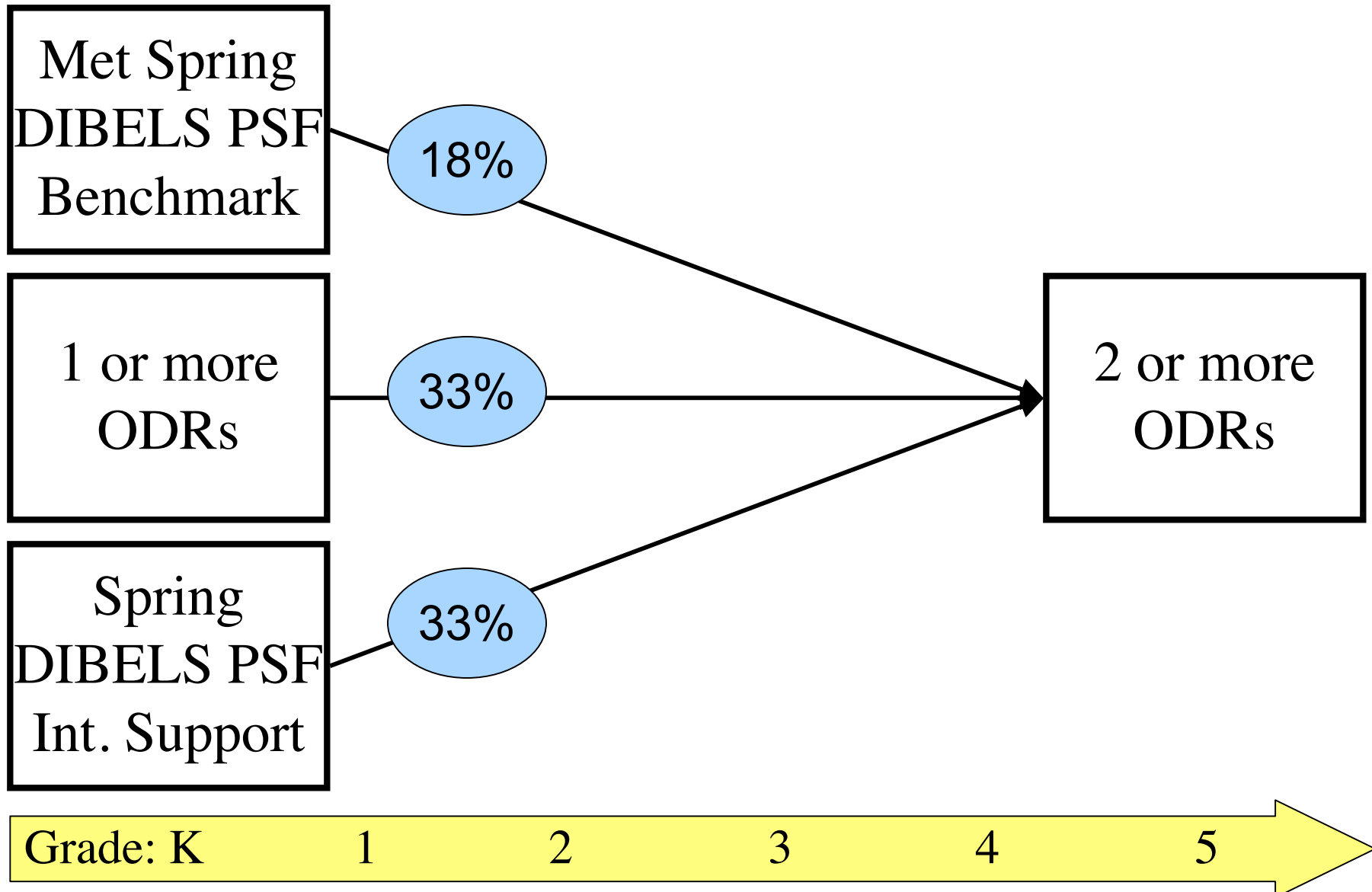 - *DIBELS Phoneme Segmentation Fluency* in spring ($p < .001$)

Pathways to Problem Behaviour
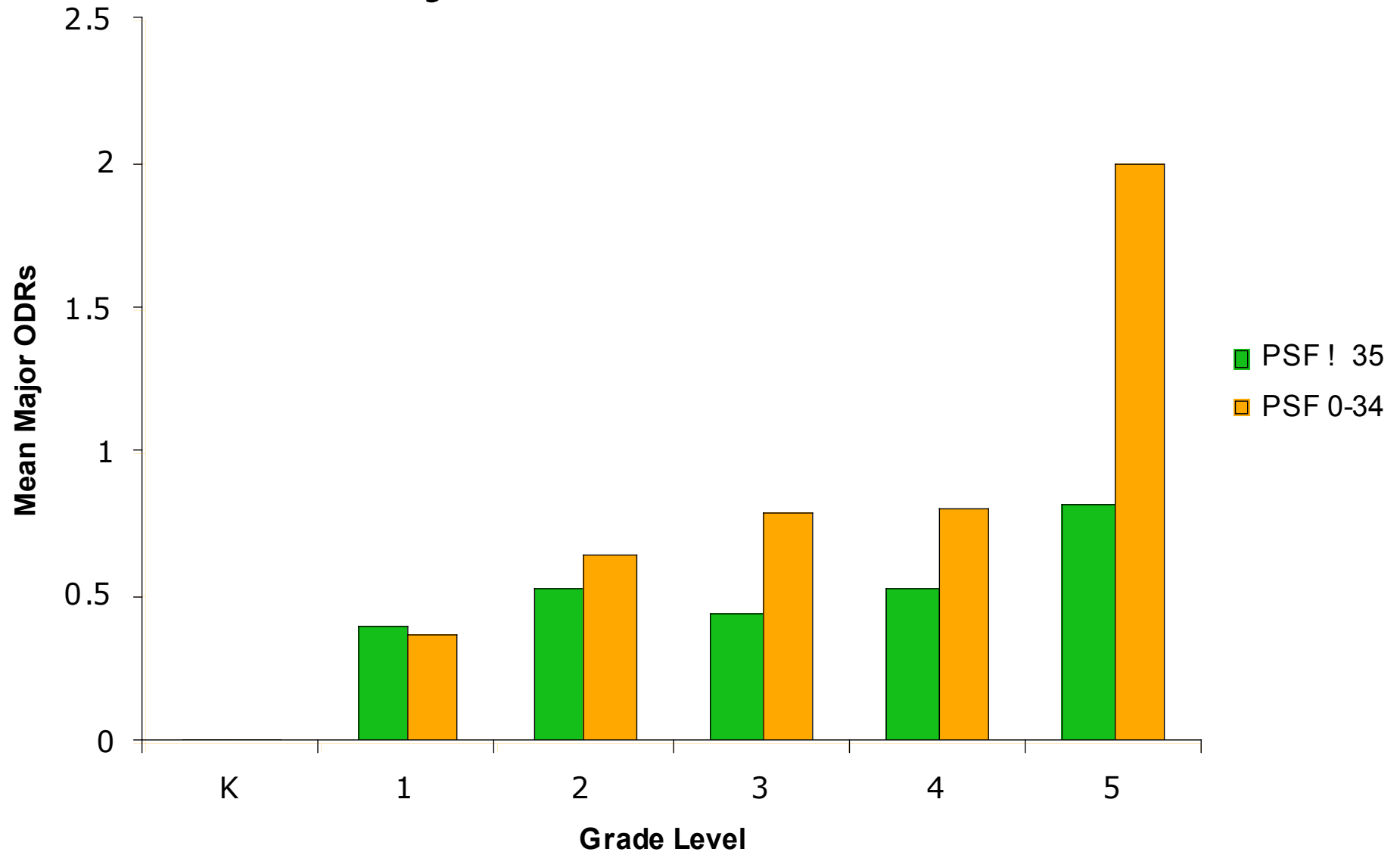
Conditional Probabilities

Pathways to Behaviour Study Results

- Conditional Probabilities: *DIBELS Phoneme Segmentation Fluency* (spring) on ODRs

  - Probability when **established** (35+): 18%

  - Probability when **emerging** (10-34): 25%

  - Probability when **deficit** (0-9): 33%

ODRs by K *DIBELS PSF* Score

Pathways to Behaviour Study Discussion

- Deficits in either area were independent risk factors
  - Provides support for both pathways
  - Problems in academics preceded problems in behaviour
- Skill deficits at the end of kindergarten accounted for more variance than skills at the start of kindergarten

Reading and Behaviour Lesson #2

- It is the chicken **and** the egg!
  - Academic problems often precede behaviour problems
  - Behaviour problems often precede academic problems

What are the mechanisms?
Two Explanations

- "Chaotic Classroom" Theory
  - ☐ Access to instruction (Levy & Chard, 2001)

MEAP – Grade 4 Reading Assessment	
29 Elementary schools in Michigan (reading and behaviour support)	
Over 55% of major ODRs from classroom	**Under 55%** of major ODRs from classroom
Probability of scoring below 75% proficiency: .78	Probability of scoring above 75% proficiency: .75

(Goodman, 2005)

What are the mechanisms? Two Explanations

- "Chaotic Classroom" Theory
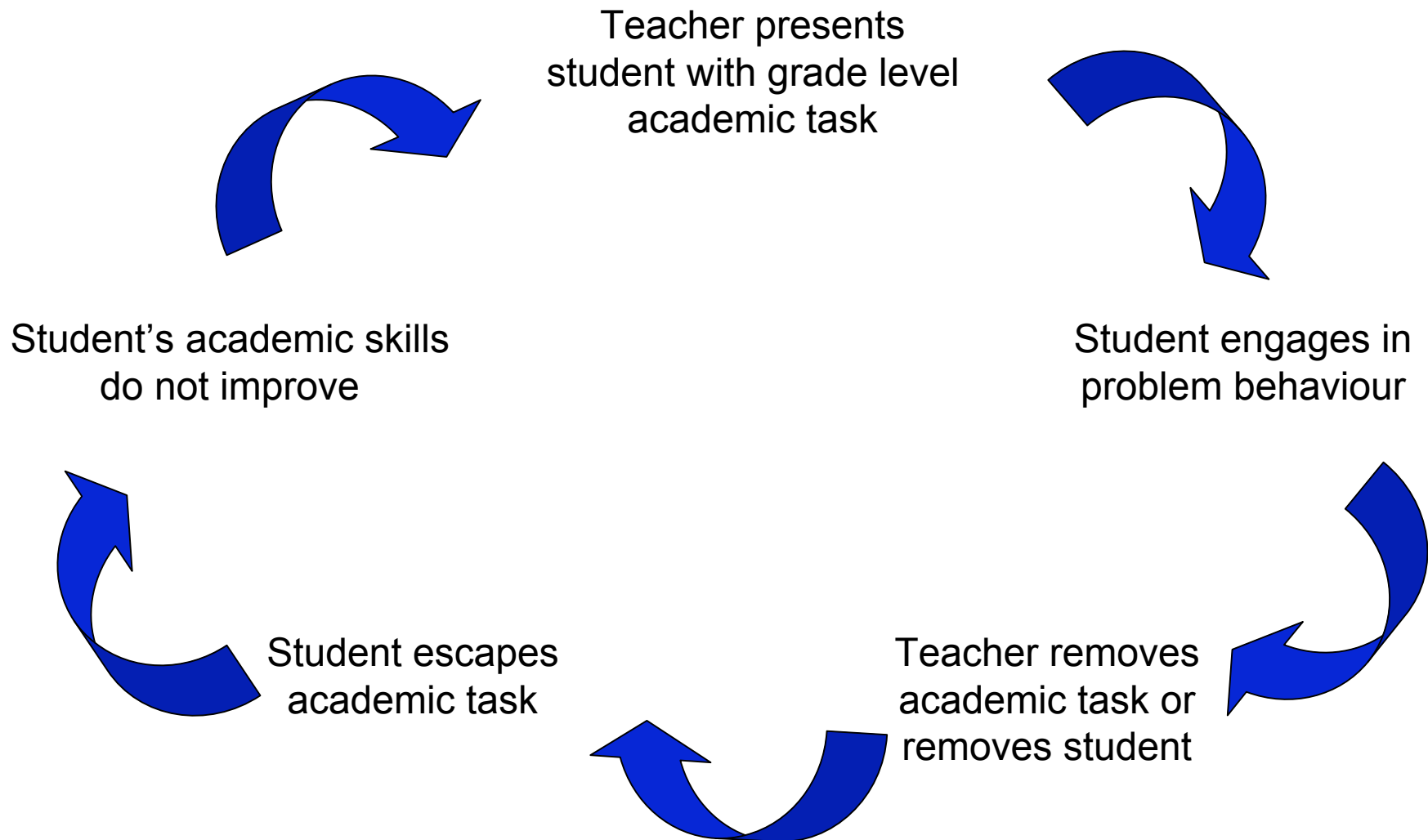 - ☐ Access to instruction (Levy & Chard, 2001)
- Response to Intervention Theory
  - ☐ Repeated failure (McIntosh, Sadler, & Brown, 2008)
  - ☐ Two responses (Merton, 1968)
    - ■ Aggression
    - ■ Withdrawal
  - ☐ Coercive Cycle of Teacher-Student Interaction (Patterson, 1982; McIntosh, Horner et al., in press)

Cycle of Academic and Behavioural Failure: Aggressive Response
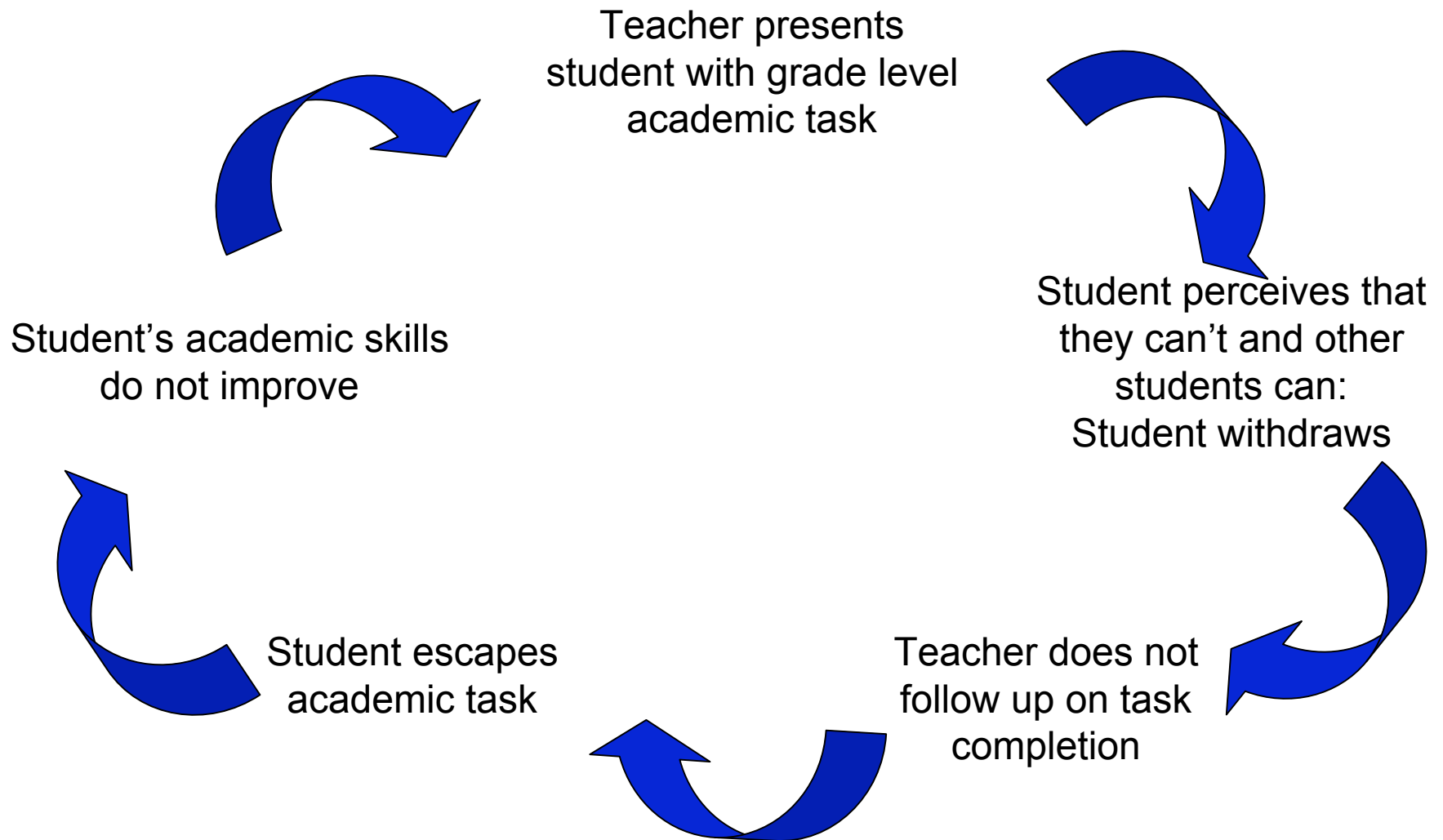
Teacher presents student with grade level academic task

Student engages in problem behaviour

Teacher removes academic task or removes student

Student escapes academic task

Student's academic skills do not improve

Cycle of Academic and Behavioural Failure: Withdrawal Response

Teacher presents student with grade level academic task

Student perceives that they can't and other students can: Student withdraws

Student's academic skills do not improve

Teacher does not follow up on task completion

Student escapes academic task

Reading and Function Study
(McIntosh, Horner et al., in press)

- Identifying function of problem behaviour for students with challenges in behaviour or behavior and reading

- Primary Research Question:

  Are there significant differences in reading skills based on the indicated function of problem behaviour?

Reading and Function Study

Method

- **Settings**
  - Small school district (5,542) in a mid sized city
  - Medium school district (17,878) in a mid sized city

- **Participants**
  - 47 students in grades 4, 5, or 6 with 2 or more ODRs in 2003-2004
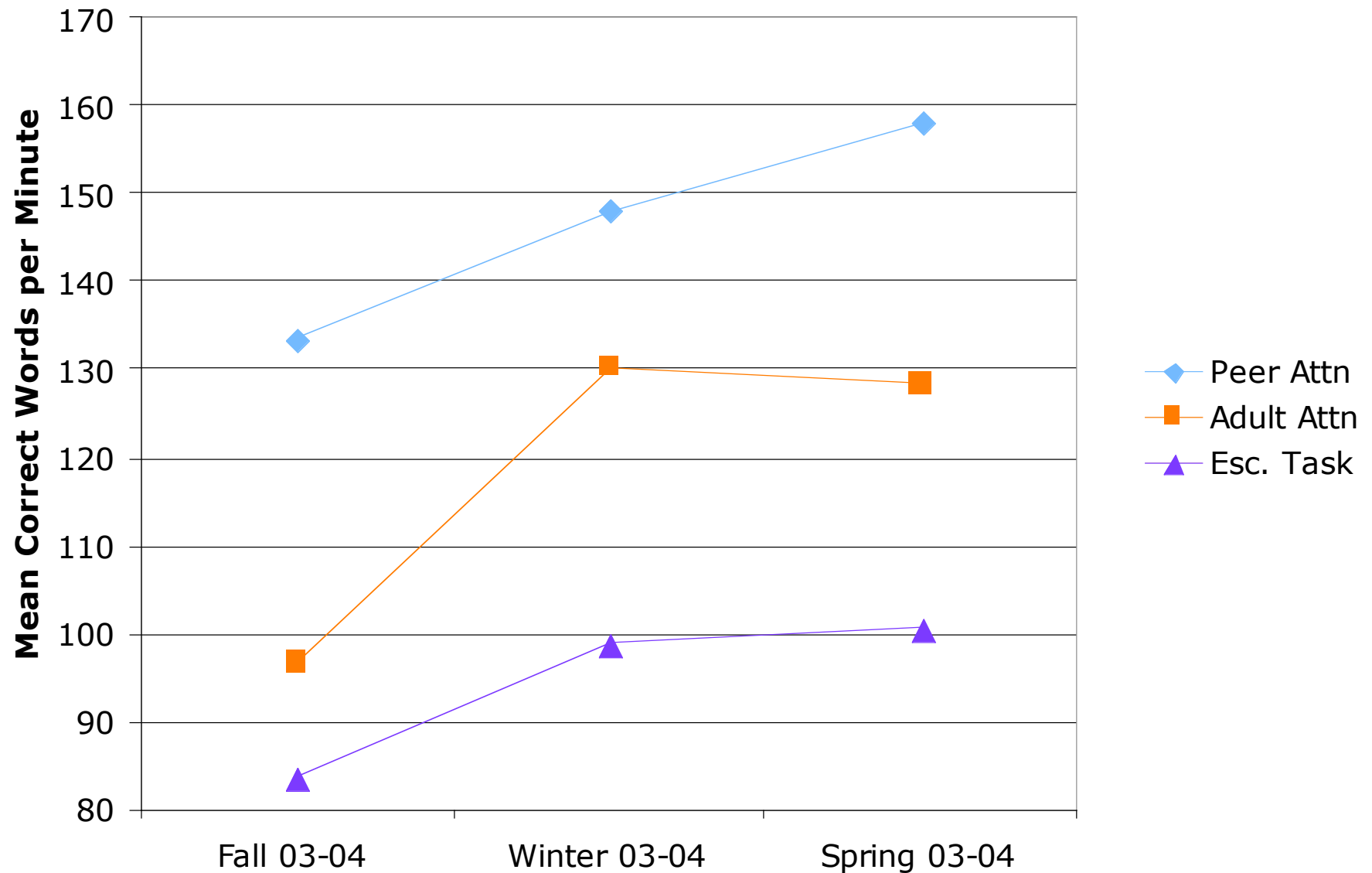
- **Measures**
  - Office Discipline Referrals (ODRs)
  - Curriculum-based Measurement: Oral Reading Fluency (ORF)

- **Sources of Function Information**
  - Teacher FBA interview
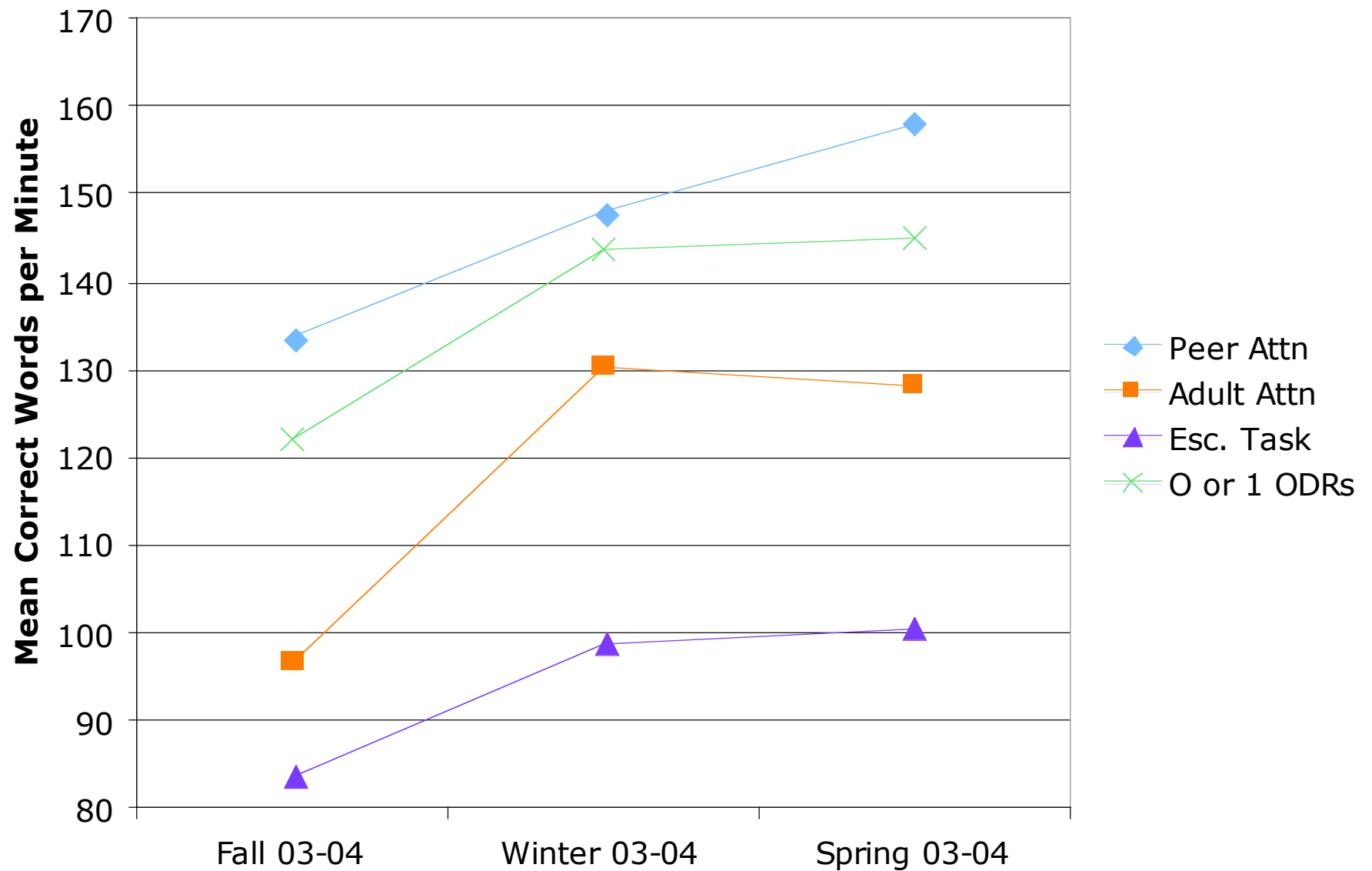 - School-based FBA
  - Trends in "motivation" provided in ODRs

ORF Trajectories by Function Grade 5 (n = 24)

ORF Trajectories by Function Grade 5 (n = 24)

Reading and Function Study

Discussion

- Quantitative differences in reading skills based on function of problem behaviour

- Reading skills (for escape/avoid academic task) became more discrepant over time

- Indicates function is a critical variable in:
  - understanding the academic-behaviour link
  - selecting appropriate interventions

- Mechanism involved may be access to instruction

A Second Walk along the Pathways to Behaviour Study

(McIntosh, Sadler, & Brown, 2008)

(see webinar to view results)

Implications: Student Level

- Teach and monitor phonological awareness (PA) skills early!
  - 90% of poor readers have PA deficits (Sindelar et al., 2002)
  - PA skills are the best predictors of reading development
    - For native English speakers (Stanovich et al., 1997)
    - For students learning English in school (Chiappe et al., 2007; Lesaux & Siegel, 2003)
  - PA skills are transferable across languages (Chiappe et al., 2002)

Implications: Systems Level

- Continued support for integrating reading and behaviour support systems
  - Evidence-based **reading instruction** can help prevent **problem behaviour**
  - School-wide **behaviour support** can allow quality **reading instruction** to take place
  - Outcomes are shared by both systems

#4: So…how can we use this information to help students?

Improve Support by Addressing Both Mechanisms

- "Chaotic Classroom" Theory
  - ☐ Create safe, positive classroom environments where instruction can take place
- Response to Intervention Theory
  - ☐ Provide evidence-based reading instruction to encourage success and prevent cycles of failure

Integrating Reading and Behaviour Systems

- **Combining teams**
  - □ school-wide and individual support (Stollar et al., 2008)
- **Screening with both types of data**
  - □ Students at risk in both areas receive more intensive intervention (Sadler & Sugai, 2008)
- **Identifying and working toward shared, valued outcomes** (McIntosh, Horner, & Sugai, in press)

Shared Features of Reading and Behaviour Support Systems

- Commitment to evidence-based practice
- Approach based on principles of effective instruction
- Data-based decision making
- Regular screening
- Universal core curriculum
- Continuum of support beyond universal systems
- Access to reinforcement for desired behaviours

Combined Approach Study
(McIntosh, Chard, Boland, & Horner, 2006)

- Descriptive study exploring effects of a combined approach to reading and behaviour support

- Primary Research Question:

- When effective three tier reading and behaviour support systems are in place, how many students need additional reading and/or behaviour support?

Combined Approach Study

Method

- **Setting**
  - ☐ Small school district (5,246) in a mid-sized city
  - ☐ District-wide behaviour and reading support programs
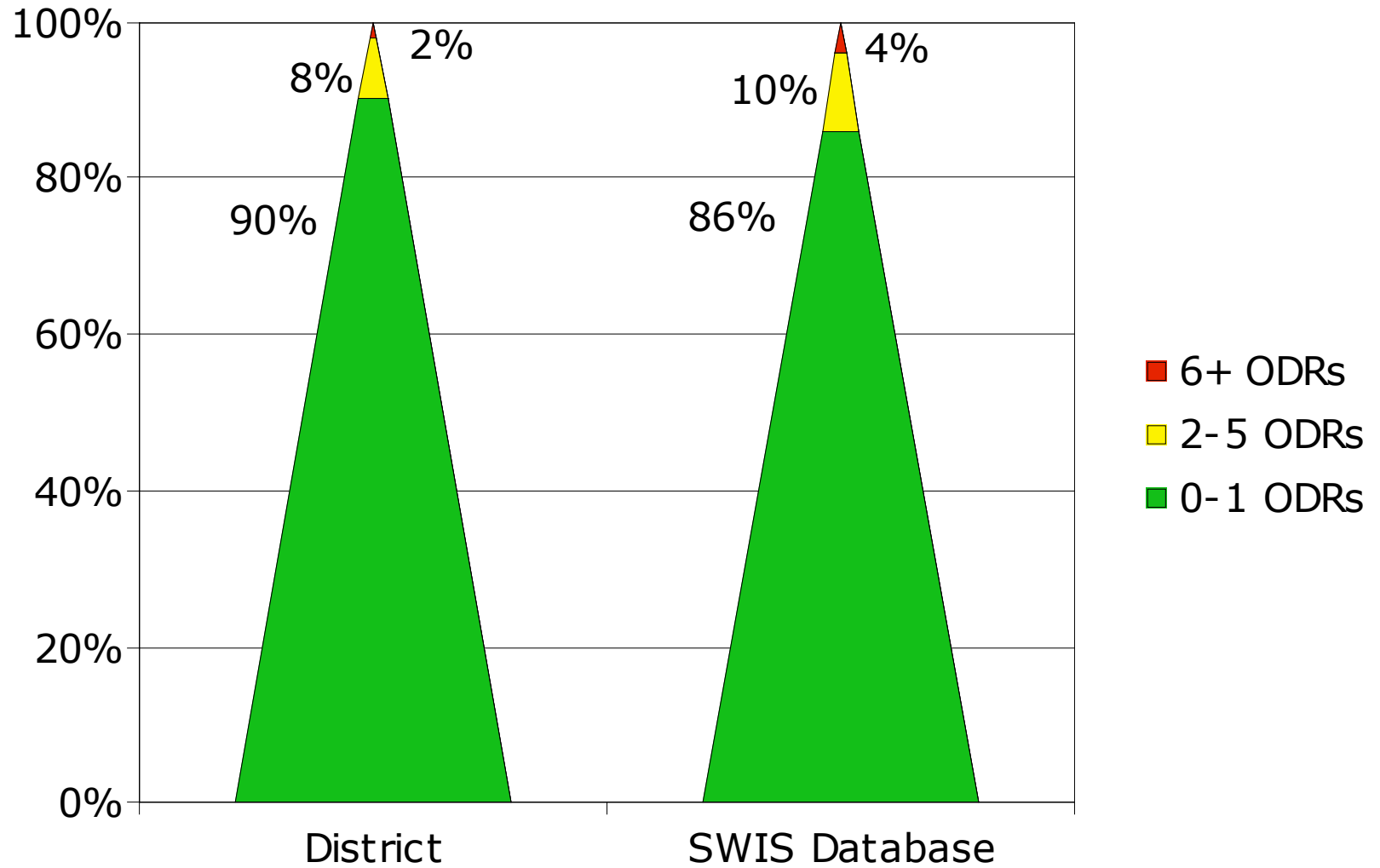- **Participants**
  - ☐ All third grade students in 2001-2002 (n = 442)
- **Measures**
  - ☐ Office Discipline Referrals (ODRs)
    - ▪ Total number of major ODRs per year
  - ☐ Curriculum-Based Measurement: Oral Reading Fluency (ORF)
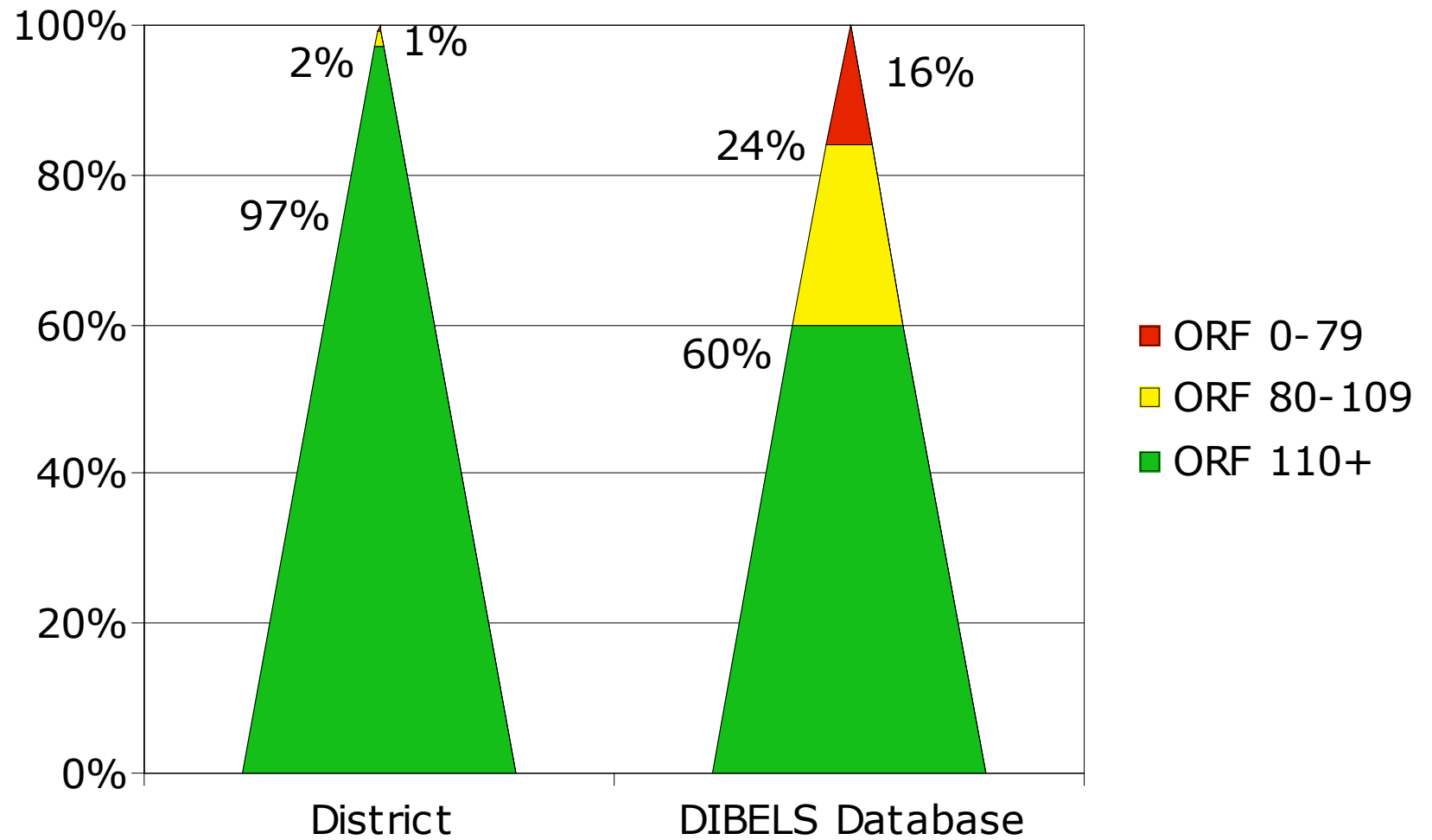   - ▪ *DIBELS* instructional recommendation in Spring

Proportions of K-5 Students
by Number of ODRs (2001-2002)

(McIntosh, Chard, Boland, & Horner, 2006)

Proportions of Grade 3 Students
by Oral Reading Fluency (2001-2002)

(McIntosh, Chard, Boland, & Horner, 2006)

Combined Approach Study Results

- With school-wide reading and behaviour support programs in place, challenges in grade 3 were reduced to a manageable level.

  ☐ Behaviour: 11% (10% compared to 14%)

  ☐ Reading: 2.5% (compared to 40% nationally)

Integrating Three-Tier Reading and Behaviour Systems

- **California**
  - ☐ Lane & Menzies (2003)
- **Michigan**
  - ☐ Ervin, Schaughency, Goodman, McGlinchey, & Matthews (2006)
- **Ohio**
  - ☐ Stollar, Poth, Curtis, & Cohen (2006)
- **Oregon**
  - ☐ Sadler & Sugai (2008)

Supporting Students in Academics and Behaviour

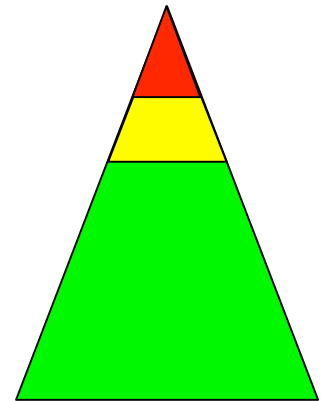Provide quality universal support for all students in reading and behaviour

Provide combined academic and behaviour support for students who need additional support

- Functional Behaviour Assessment
  - Consider academic skills
- Monitor progress in both areas

Contact Information

- Kent McIntosh: kent.mcintosh@ubc.ca

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Stollar, S. A., Schaeffer, K. R., Skelton, S. M., Stine, K. C., Lateer-Huhn, A., & Poth, R. L. (2008). Best practices in professional development: An integrated three-tier model of academic and behavior supports. In A. Thomas & J. P. Grimes (Eds.), *Best practices in school psychology V* (pp. 875-886). Bethesda, MD: National Association of School Psychologists.