Better Marks

Academic Outcomes of Children in Care

OARTY data repository

Describe the Data

And the Data Repository

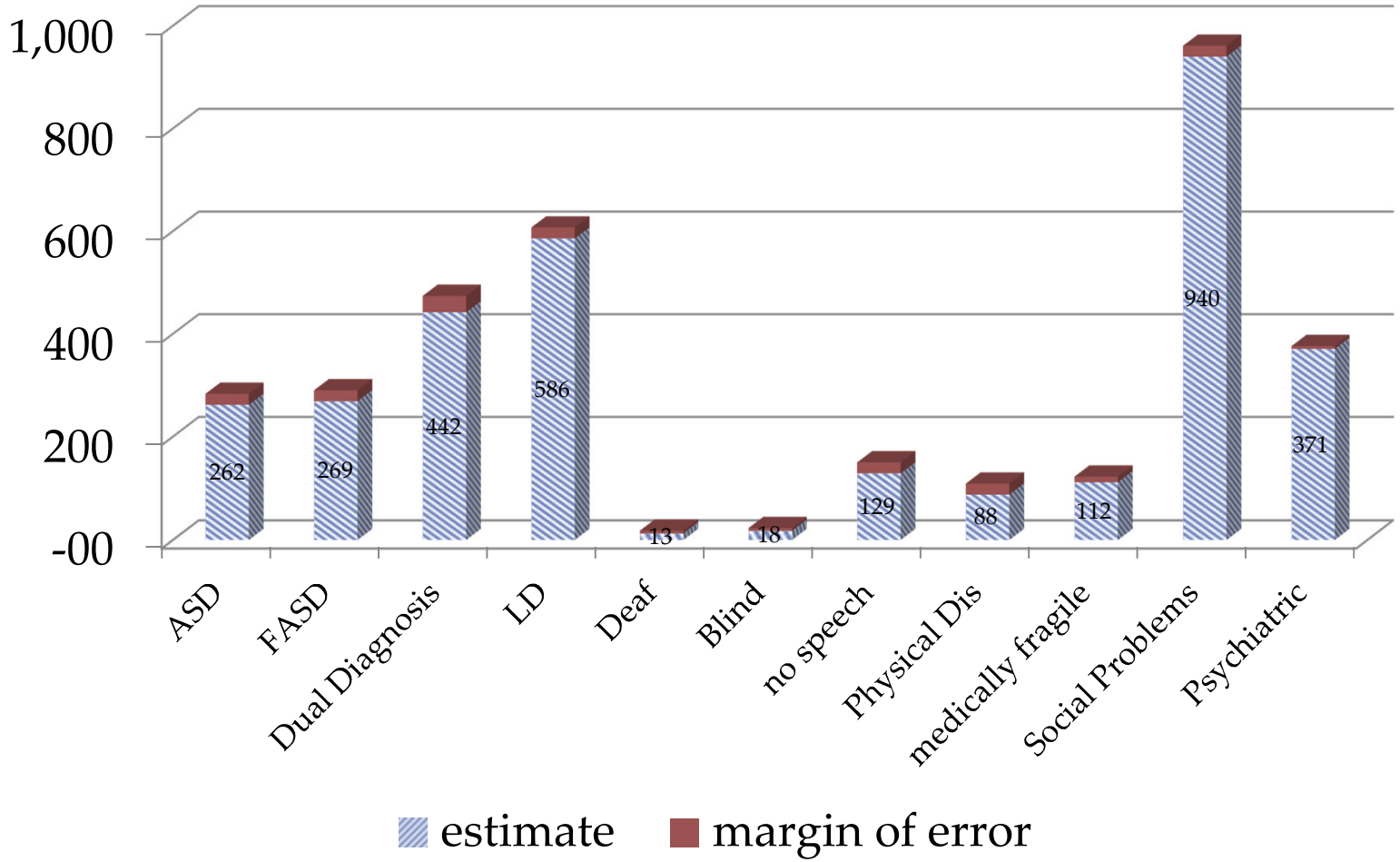
OARTY (225 members)

- 52 member agencies currently
  - Clinical profile data on 99% of children served
- 92 former members have closed
  - We have clinical profile data on 40 of these
- 81 former members are still providing residential care
  - We have clinical profile data on 24 of these

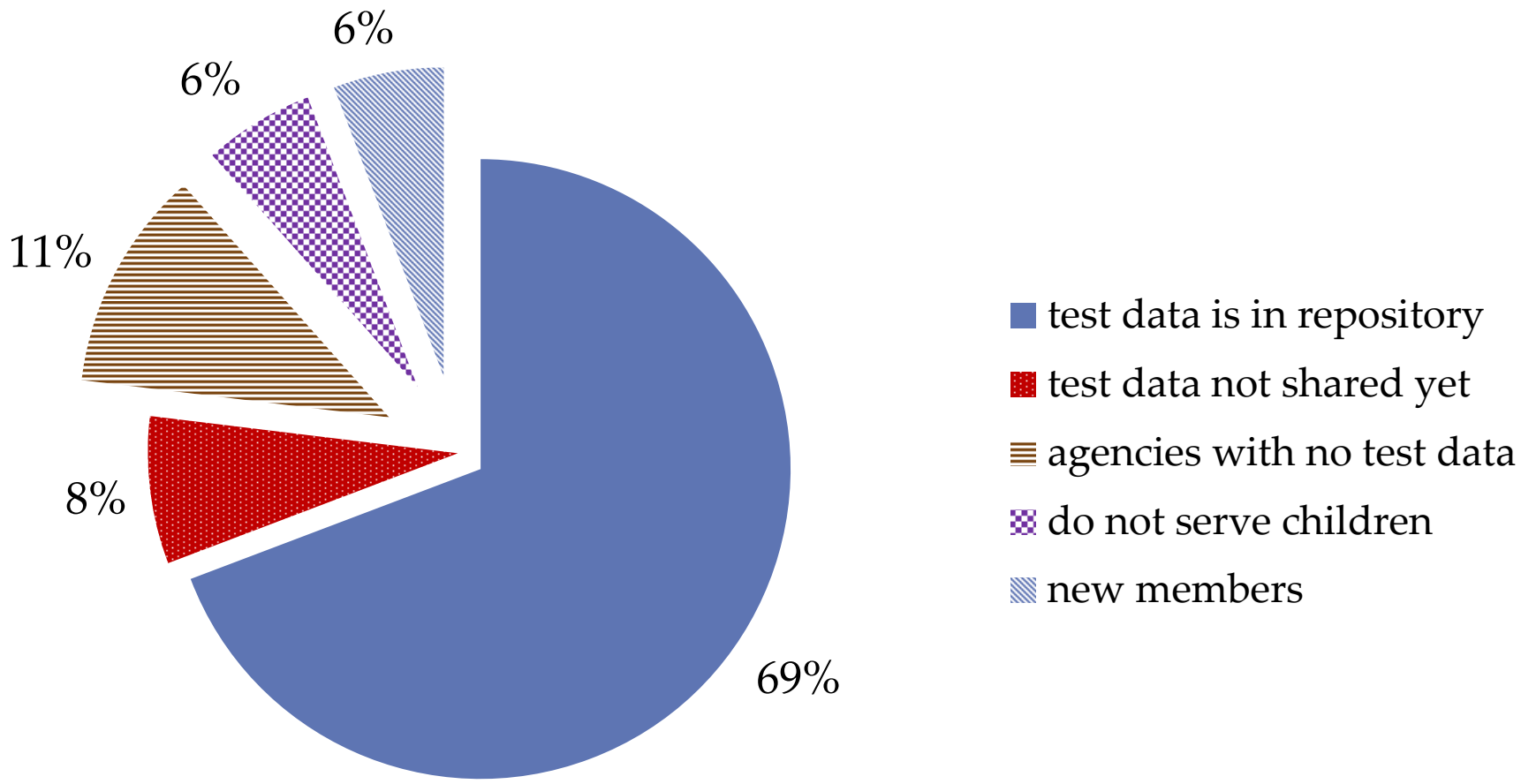
Data collected

- 4,616 unique individuals
- Linked to
  - 10,902 baseline data points
  - 10s of thousands of repeated measures
- Historical data on programs, costs, case flow, staffing

Children by Target Group
In 2014 (2,500 children served)



Use of Outcome Instruments



Children with results

- Positives = 845 unique individuals
- Functioning = 1,228
- Risk of Mental Illness = 1,187
- Severity of Impairment = 154
- Degree of Nursing Care = 95
- Family Functioning of foster parents = 78
- Dynamic Needs of Specific Populations

Data Repository

- The Outcome Data is primarily administered, stored and applied at the agency level
  1. Summarized by the individual agency
  2. Effectiveness of their programs assessed
  3. Leading to changes in program design, treatments used, staffing levels
  4. Data for each child is shared with placing agencies and used in plans of care

- OARTY repository = Secondary use data
  1. Copies of Anonymous data is sent by members agencies to OARTY
  2. Data is at least one year old when sent
  3. OARTY analyzes data, writes report, disseminates information

Research Committee

- Writes Policies on Ethical practices of testing, disseminated to members
- Writes Policies for independent researchers to access the data repository
- Reviews data, edits and approves of OARTY research reports

Data on School Outcomes

How far are children behind in school

Critical Factors associated with the variation

Staying in School

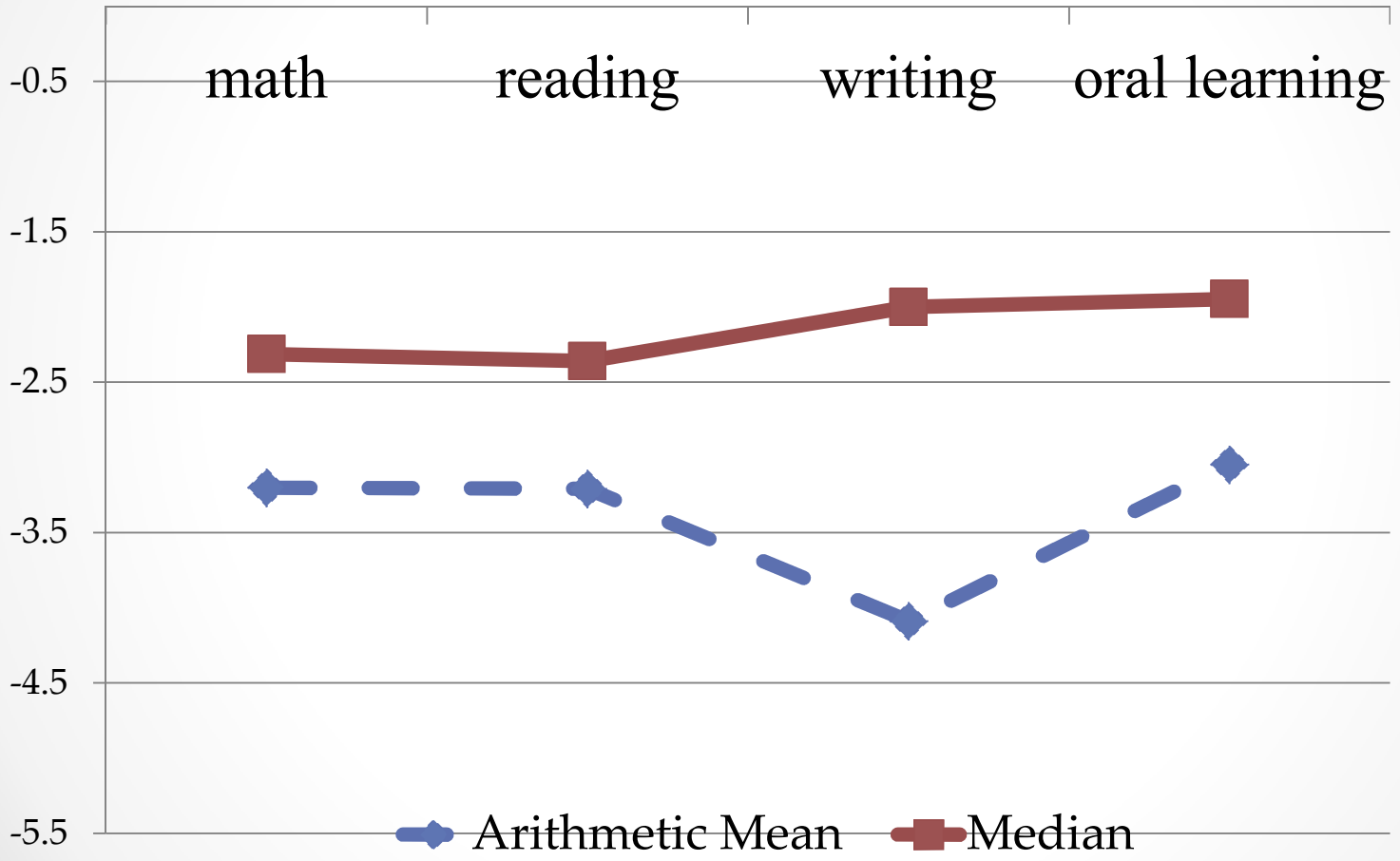
- For adolescents from low socio economic groups, not being in school at ages 17-23 increases the risk of depression by 2.5

- Korhonen K.; Remes H. & Martikainen P. (2016), "Education as a social pathway from parental socioeconomic position to depression in late adolescence and early adulthood: a Finnish population-based register study", *Social Psychiatry and Psychiatric Epidemiology,* Epub ahead of print

Evidence from OARTY

- The OARTY data repository has data on school performance for 872 children (i.e.) 19% of children in the data repository
- We have outcome data (i.e.) multiple waves for 315 children (i.e.) 36% of children with school data
- The outcome data is based on valid and reliable instruments, including the WIAT, ACES and the IEP

Years Behind Peers on admission



Clinical Profile

Aboriginal	18%
Long term school failure	69%
Autism	8%
FASD	10%
Dual Diagnosis	22%
Medically Fragile	7%
Normal Metrics	4%
DSM	28%
Complex Needs	41%
Normal neurodevelopment	59%

Impact on Baseline

- **Children in Group significantly more impaired**

Variable	placement	N	Mean	Standard Dev	t	p-Value
MATH norms	TFC	314	-2.499	3.341	4.44	0
	Group	561	-3.596	3.784		
READ NORM	TFC	310	-2.402	3.542	4.74	0
	Group	550	-3.674	4.163		
WRITING NORM	TFC	246	-2.913	3.637	6.46	0
	Group	223	-5.408	4.613		
ORAL NORM	TFC	297	-2.501	3.492	3.171	0.002
	Group	488	-3.39	4.279		

Impact on Baseline

- **Medically Fragile children severely impaired**

Variable	Medically Fragile	N	Mean	Standard Dev	t	p-Value
MATH NORM	NO	822	-2.932	3.369	5.888	0
	Yes	58	-7.021	5.211		
READ NORM	NO	807	-2.935	3.744	5.909	0
	Yes	58	-7.038	5.192		
WRITING NORM	NO	419	-3.555	3.996	7.443	0
	Yes	55	-8.164	4.358		
ORAL NORM	NO	733	-2.731	3.729	6.286	0
	Yes	57	-7.134	5.185		

Impact on Baseline

- **Autism next most impaired**

Variable	AUTISM	N	Mean	Standard Deviation	t	p-Value
MATH NORM	no	810	-2.915	3.442	6.628	0
	Yes	70	-6.515	4.43		
READ NORM	no	796	-2.924	3.817	6.466	0
	Yes	69	-6.506	4.462		
WRITING NORM	no	411	-3.593	4.088	6.543	0
	Yes	63	-7.333	4.246		
ORAL NORM	no	722	-2.721	3.808	6.777	0
	Yes	68	-6.535	4.491		

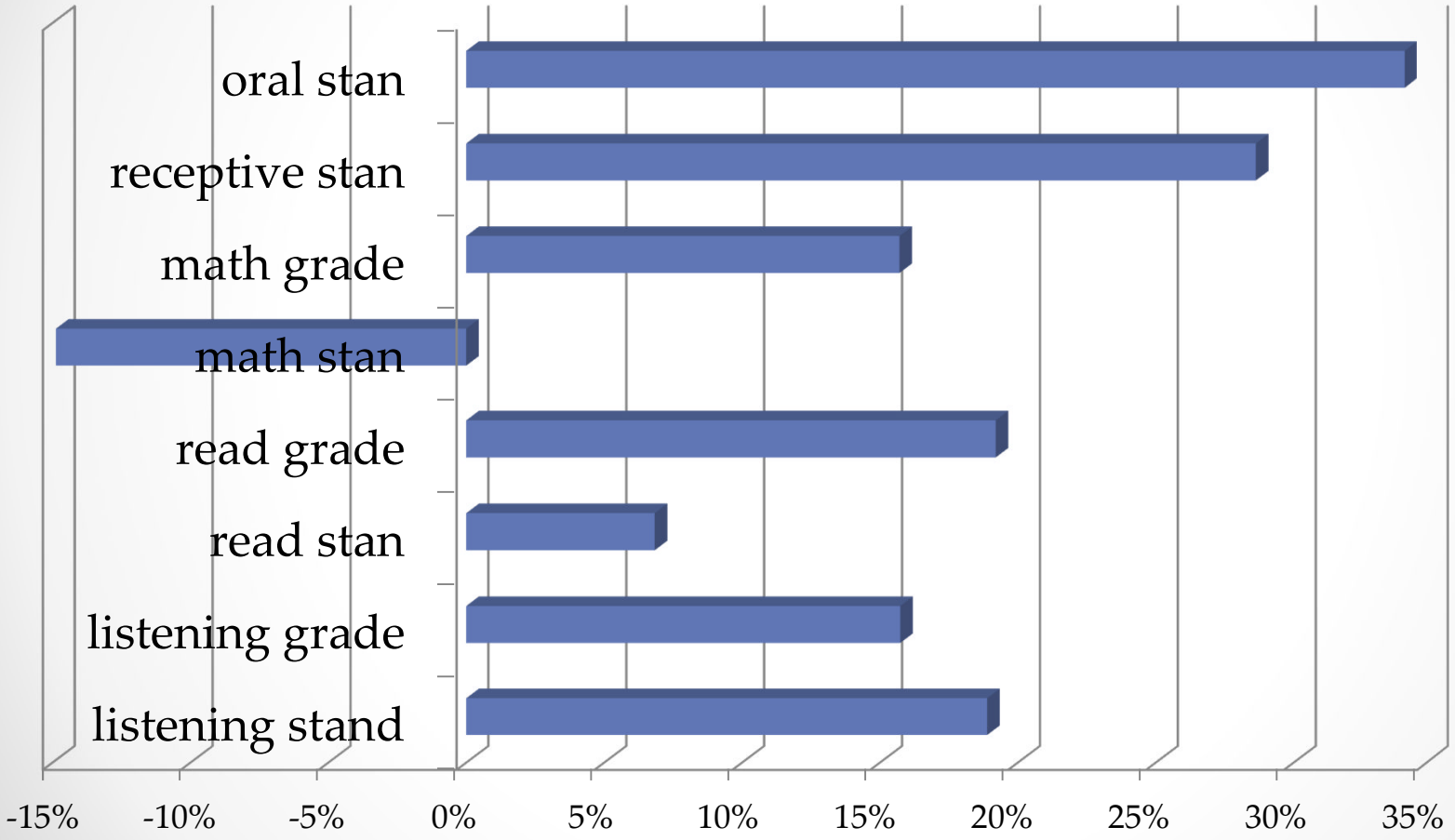
Patterns

1. Children with normal metrics on clinical testing are about one year behind
   - This appears to be the impact of environmental factors, such as lack of attendance, school changes, poor modelling
2. Children with a DSM diagnosis are from 2.8 to 3.1 years behind in school on admission
3. Children with complex neuro-developmental disorders (i.e.) ASD, FASD, dual diagnosis from 4.8 to 5.7 years behind their peers

Educational Outcomes

From the WIAT sample

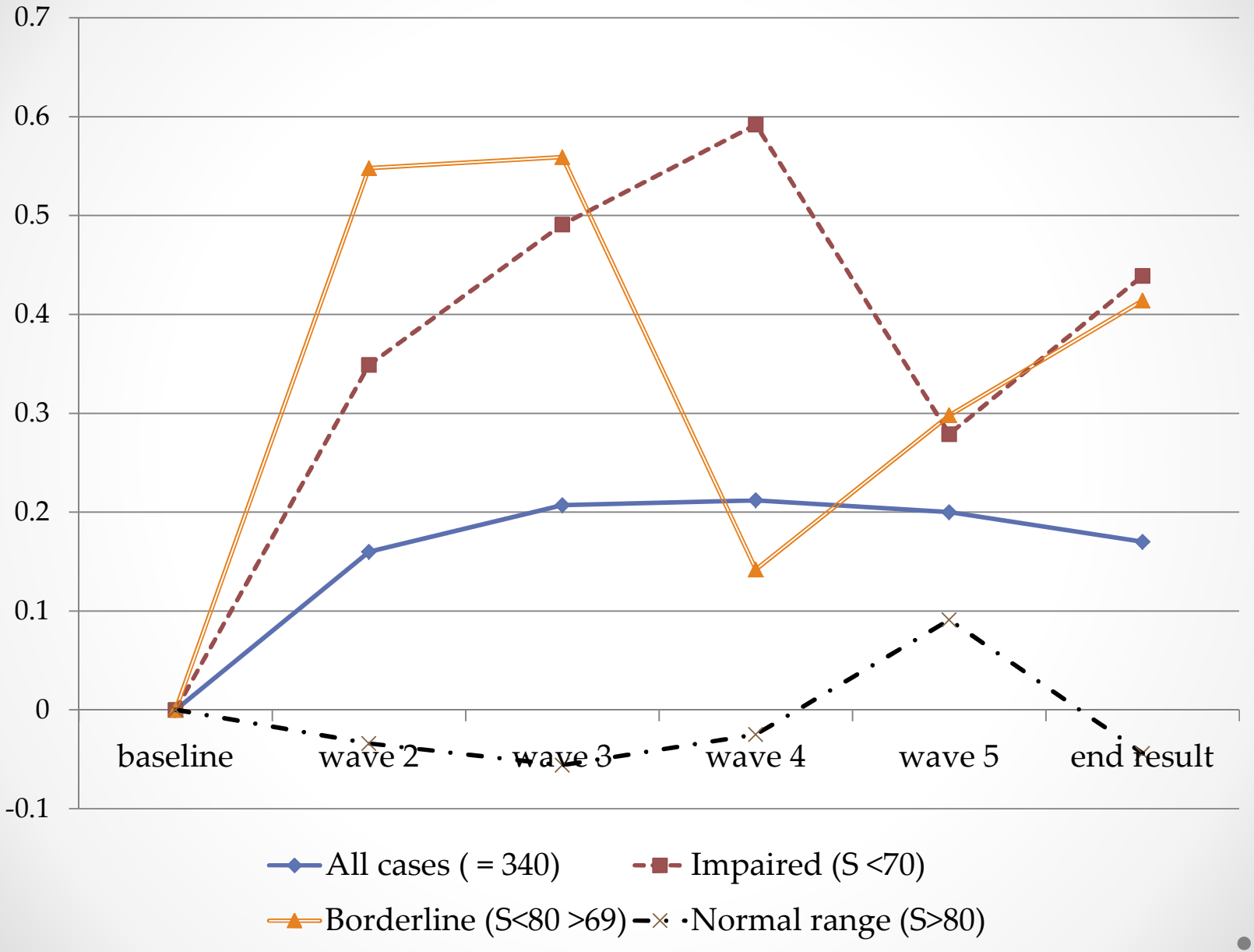
Advantage of Admissions in last 5 years over earlier placements



Key Message

- In the last five years, several agencies have adopted academic performance as a program priority
- We can see the impact over time in the data
- Educational outcomes improve with attention and diligence on classroom methods

Changes in Reading Comprehension



Key Message

- Each wave = 9 months
- Children improve over time
- The Impaired group improves along a significantly different path compared to
  - the borderline cases and
  - the normally developing group
- Both the impaired group, (i.e.) below the 2nd percentile, and the borderline group end up at the same level of reading skills after three years

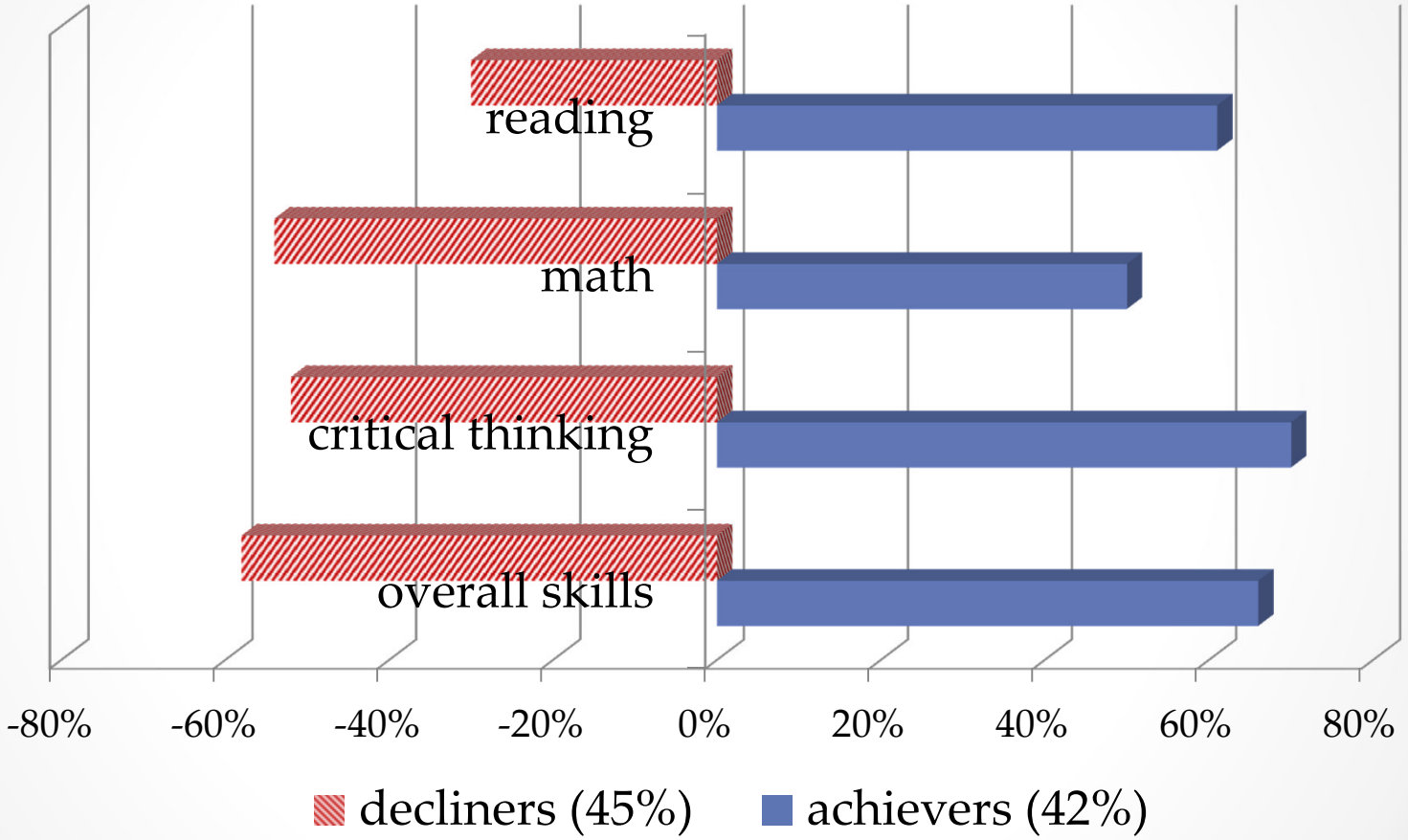
Educational Outcomes

From the ACES sample

ACES

- The academic competency evaluation scales (ACES) are completed by the teacher (as is the WIAT)
- Multi wave data on 69% of children
- 42% of children made clinically significant improvement in a two year period
- 45% declined
- 13% remained stable, relative to their standard score

Success and Failure




Path of success and failure
150%
100%
50%
0%
-50%
-100%
-150%
start
9 months
18 months
27 months
36 months
achievers
decliners

Achievers

- Achievers attended the same schools as the Decliners. This means that the individual teacher is not associated with success or failure.
- Longitudinal studies: children who do poorly in school due to lack of exposure to the curriculum, (i.e.) being withdrawn from school frequently or changing schools frequently, catch up quickly when they receive consistent education.

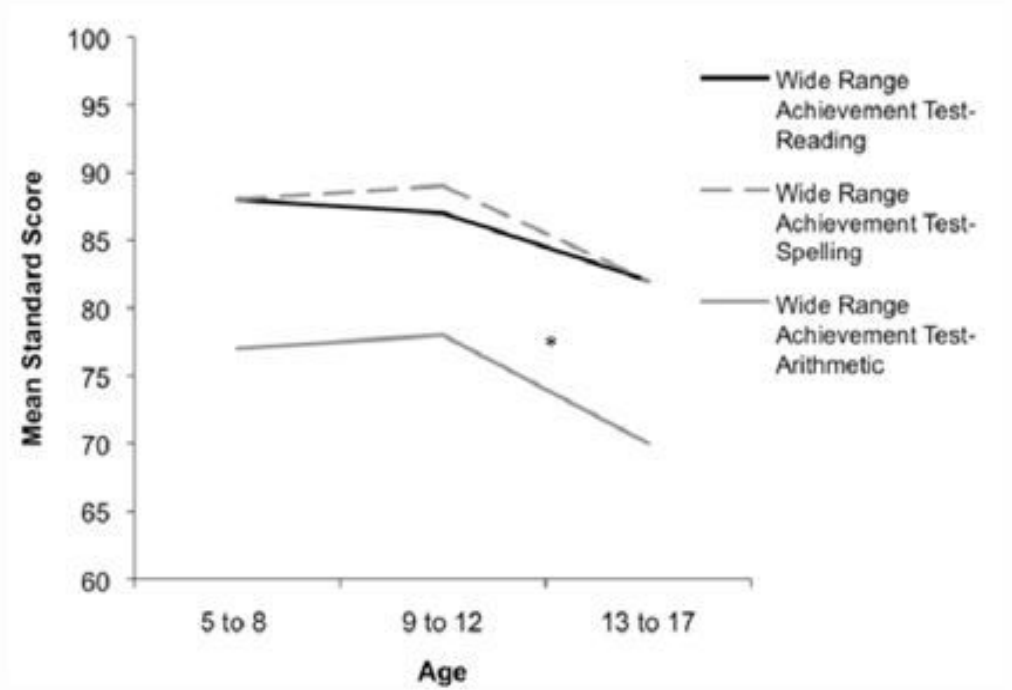
Program Logic

- The Longitudinal Studies were completed by James Diperna and Stephen Elliot
- They developed an evidence based treatment to improve academic performance (ACES)
- Manual, forms and protocols available from Pearson Education, Inc
- The agency adopted this EBT and fully implemented
- An experimental group was formed to receive the program intensively.
- The normative reference group for the ACES was of normal intelligence with no apparent NDD

Decliners

- 45% of children declined despite the ACES treatment. Anecdotal evidence suggests that decliners often had diagnosed NDD
- Longitudinal studies have found that children with neurodevelopmental disorders (i.e.) FASD, autism and dual diagnosis tend to decline in academics over time. This is illustrated by the graph of children with FASD on the next page.

FIG. 1 Mean Differences Across Age Group on Academic Achievement



* = P < .05

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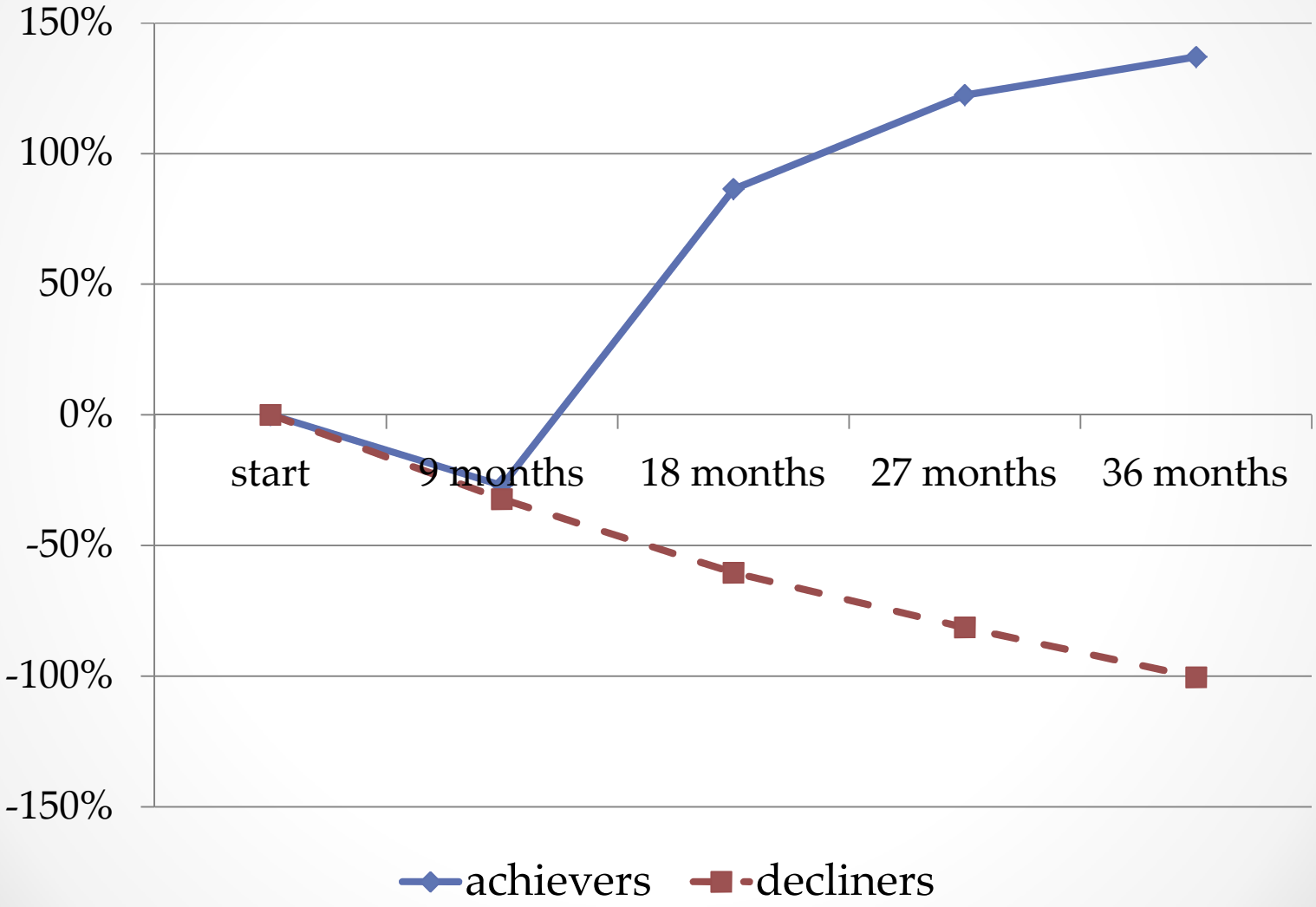
Path of success and failure



ACES Treatment

- Motivation:
  - feelings, thoughts and behaviour about school and classroom
- School Bonding
  - Trust, communication, mutual respect and classroom culture
- Engagement
  - *writing, task participation, reading aloud, asking questions, and providing answers to others' questions*
- Learner Empowerment
  - Taking responsibility for his own learning – opposite of passive participation
- Home work and Study Skills
  - Getting organized, taking notes, breaking down assignment into steps, finishing the work

Success of ACES

- The evidence based treatment made a large improvement in the standard scores for 42% of the children
- But did not affect the "decliners"
- The decliners needed a different educational treatment.
- Going forward, we hope to improve outcome for this group with the following guidelines taken from best practice with children who have autism and FASD

Best Practice with NDD

- Focus on the words, not the meaning
  - managing the words per se is the challenge.
- Spend more time and offer more memory aides in order to improve performance in math.
- Employ a special communication protocol:
- Before you speak:
  - Make sure that you have the child's attention
  - Face the child at a level that they can see your facial expression and gestures
  - Have all necessary visual aids in view either on the desk or attached to the child
- When you speak:
  - Say the child's name at the beginning of an instruction
  - Only give on instruction at a time .. etc

Lessons Learned

- Collecting Outcome Data is useful for plan of care to assess the individual response to the goals and actions embedded in our individual treatment
- Analysing the data for the whole group of children exposes patterns that set parameters for the adoption of evidence based treatment and best practice assumptions
- Group analysis shows us who are the responders and decliners
- Linking back to the literature for explanations lead to the adoption of different methods for different groups

Academic Outcomes

Thank You