

Hiring Effective Teachers

Issues and Research Findings

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Some Historical Perspective

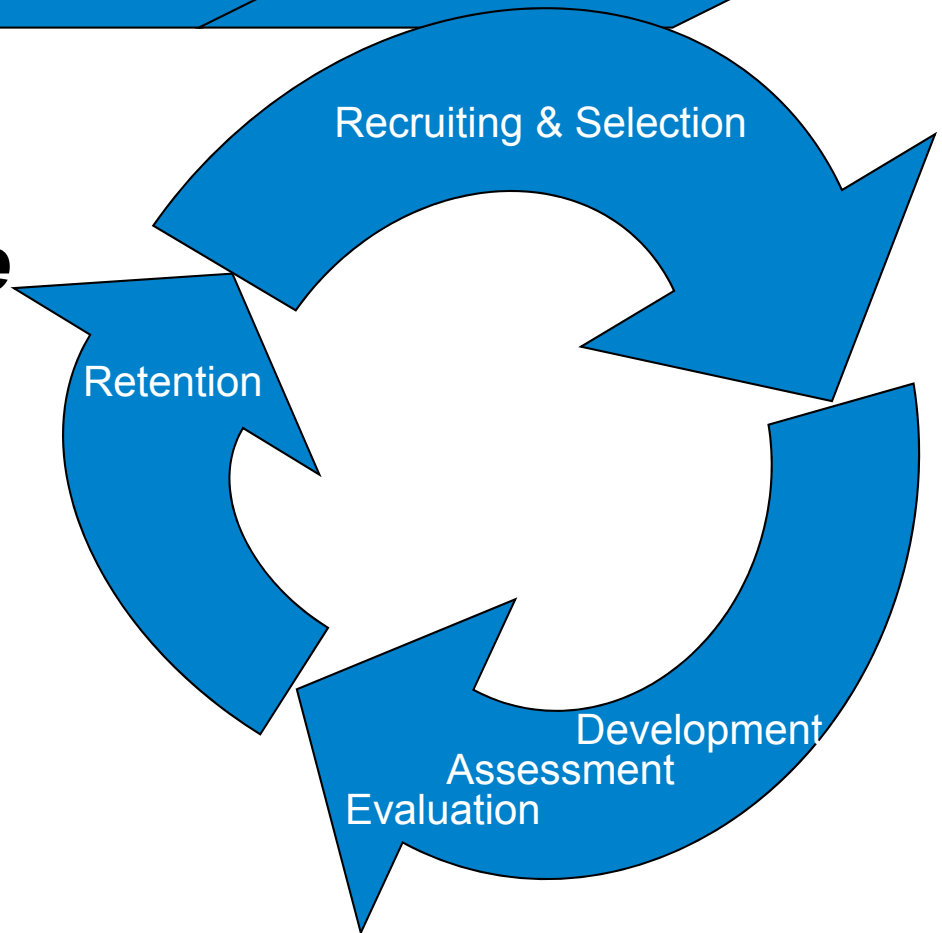
- *Wise selection is the best means of improving the school system, and the greatest lack of economy exists wherever teachers have been poorly chosen.*
 - Frank Pierrepont Graves, NYS Commissioner, 1932
- This is, unfortunately, easier said than done
 - Research goes back over 100 years:
J.L. Meriam “Normal School Education and Efficiency in Teaching,” Teachers College, 1906
- Progress is being driven by two factors
 - Data, data, data, and more data
 - Methods: research is becoming more strategic

The Importance of the Pipeline

- First stage in building an effective teacher workforce



- ***Performing each stage well makes the next stage easier!***



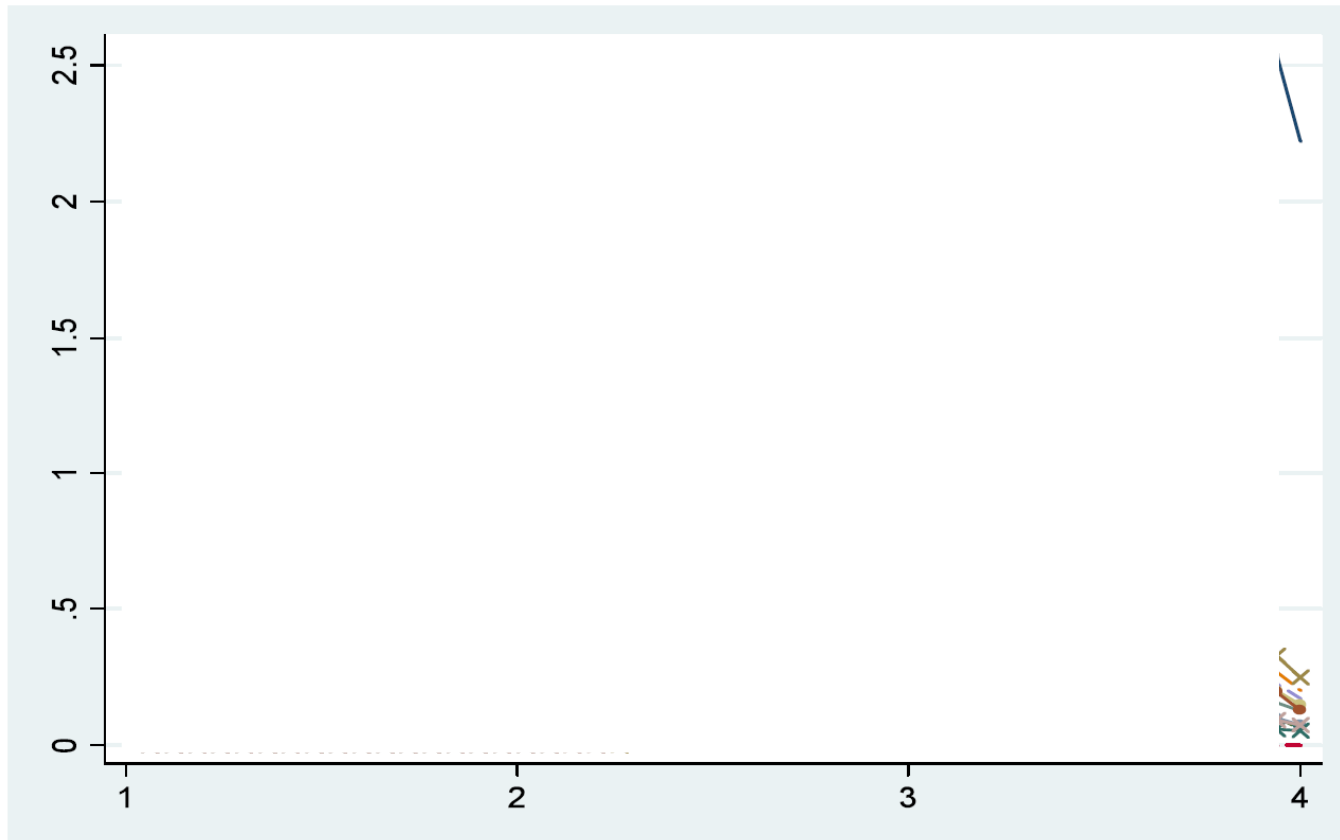
Who Enters Teaching?

- Achievement of those entering the teaching profession has declined in many nations
- Potential explanations for this phenomenon:
 - Greater labor market opportunities for women
 - And, consequentially, spillovers onto men's choices
 - Decreases in the earnings in teaching relative to other occupations for college graduates
 - Decline likely more severe for high achieving college graduates, given increased returns to skill

Other Possible Culprit: Easy Grading

- Distribution of class grades by department
 - Which academic department is the solid line?

University of Missouri



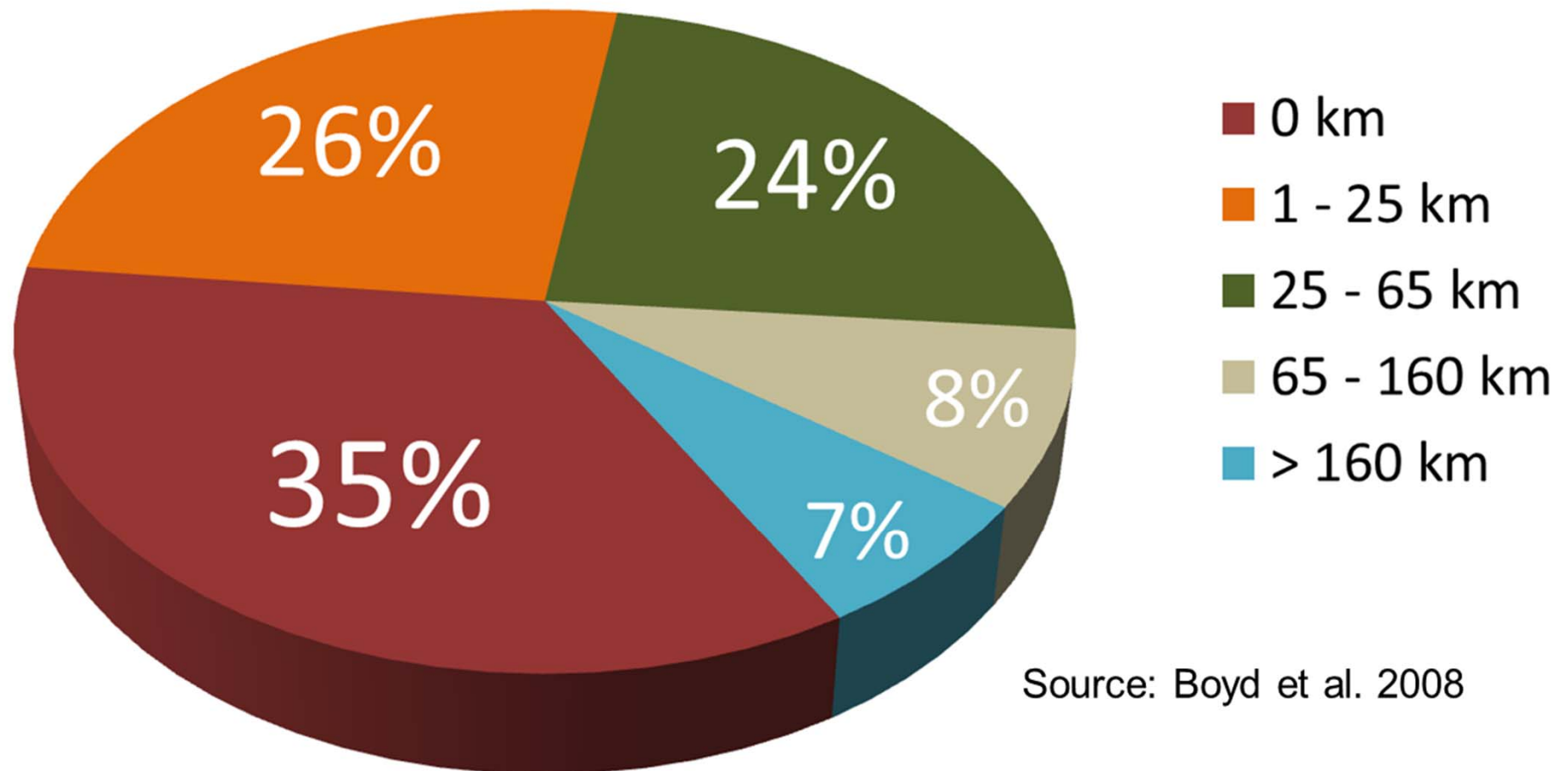
Source: Koedel (2011)

What Do Teachers Want?

- Research on the impact of salary/benefits on entry into teaching is quite mixed
 - Difficult to find very clear (natural) experiments to disentangle salary from other factors
 - Evidence from Massachusetts signing bonus program is somewhat discouraging
- Evidence is much clearer regarding the importance of geography and student characteristics to teachers in job search

“The Draw of Home”

**Distance from Home Town to First Job
New York State Teachers 1999-2002**



Teachers Care About Whom They Teach



“Researchers have found that high-poverty schools tend to have teachers with lower qualifications than low-poverty schools and that teachers tend to leave schools with low-achieving,

poor, minority students, particularly when there are vacancies at schools with higher-achieving, affluent students.”

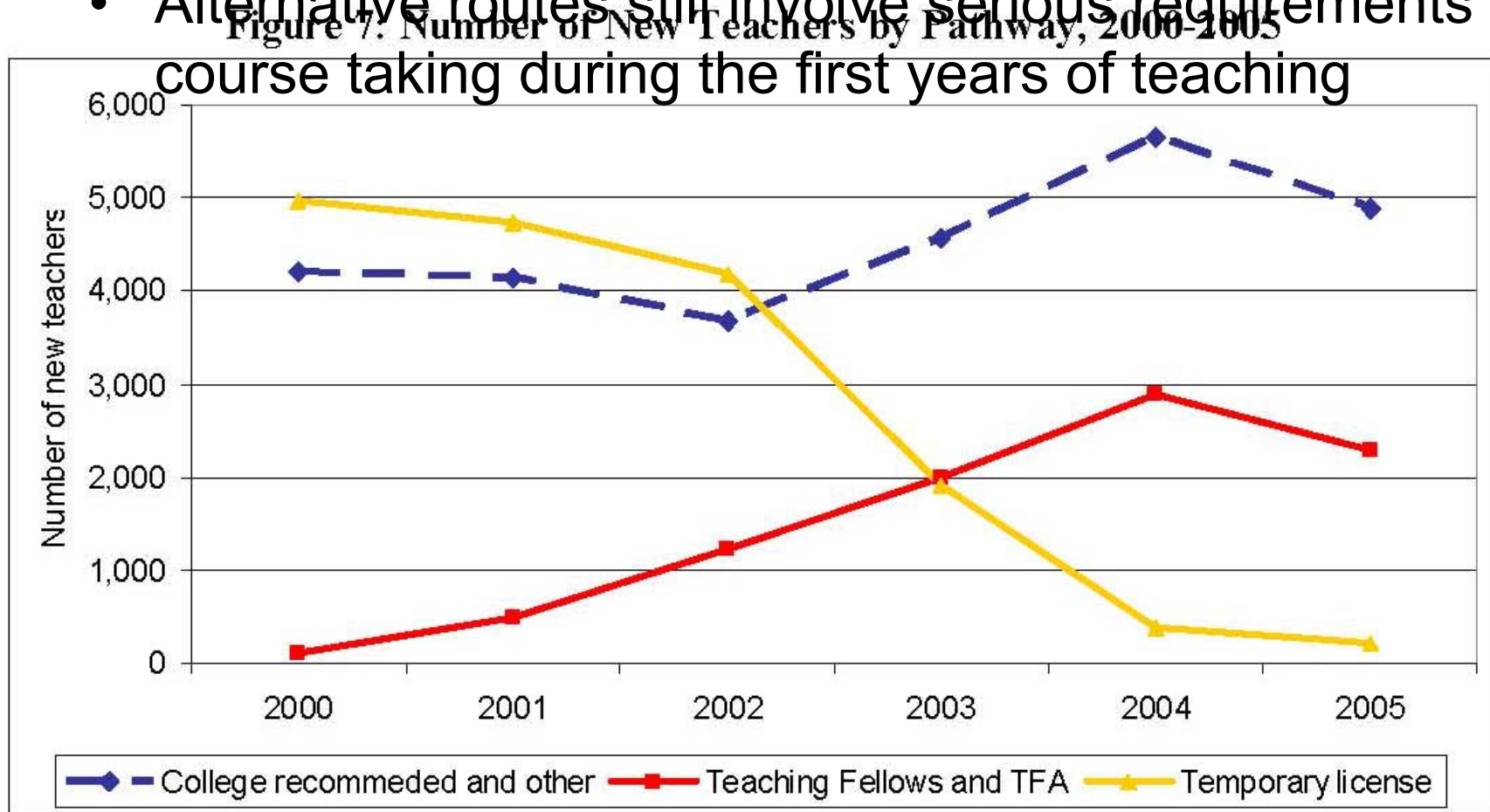
“...decreases in the average quality of both black and white teachers”

“...experienced, high-scoring, and high-value added teachers were relatively more likely to leave these schools.”

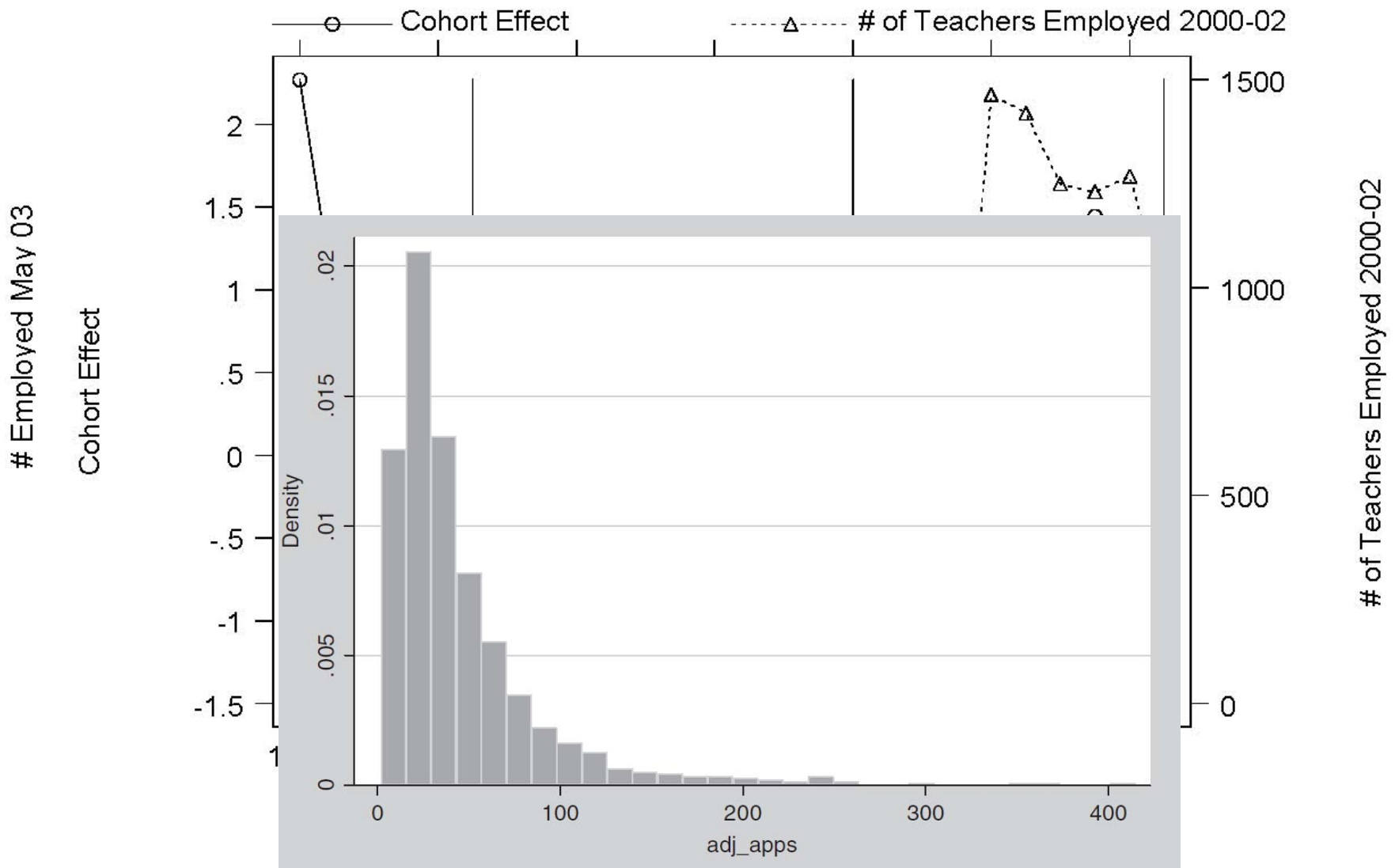
“...the first compelling evidence that the relationship between student demographics and teacher quality may be causal.”

Opening New Doors to Applicants

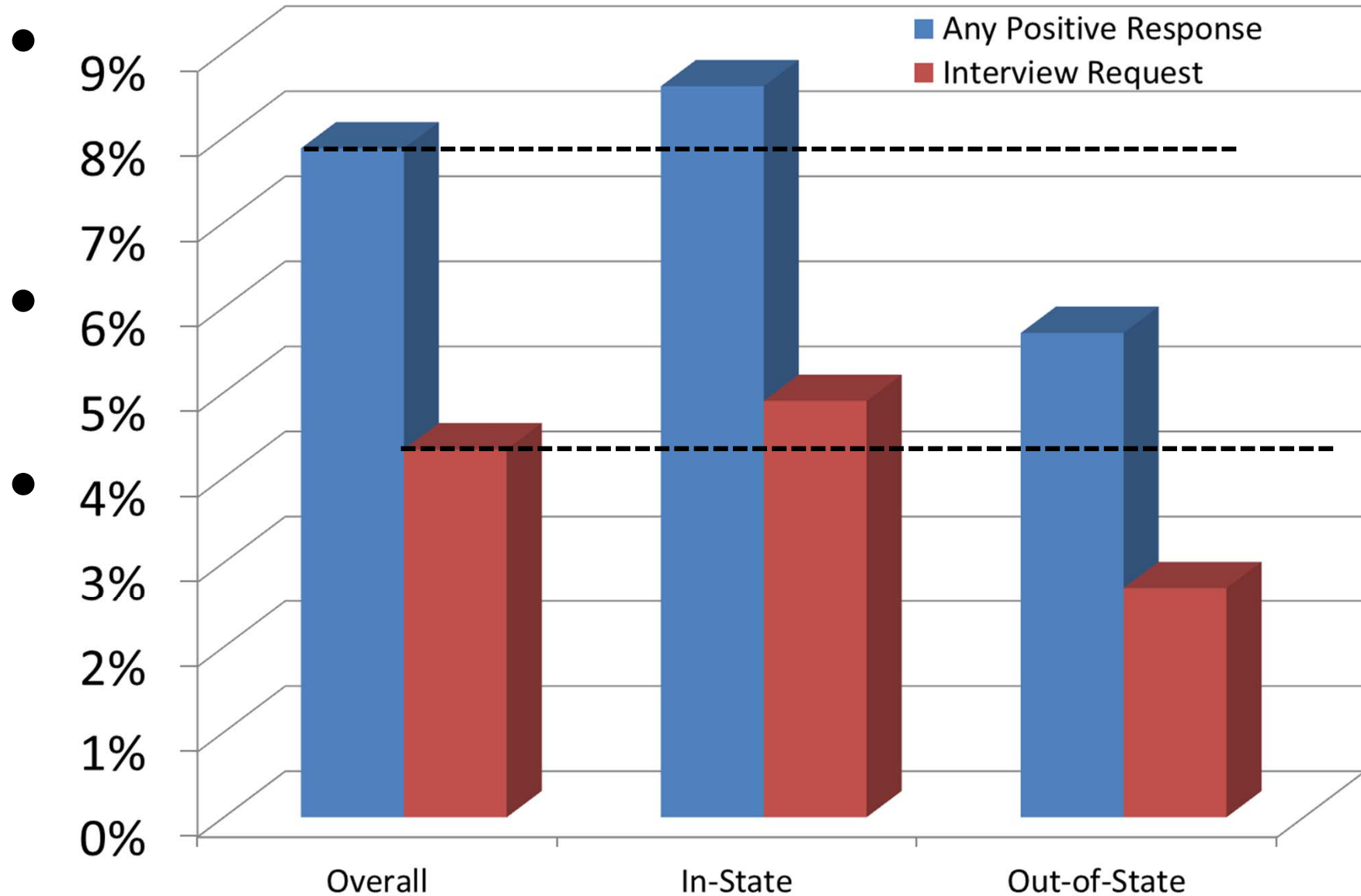
- Alternative certification has played a major role in expanding entry to teaching in the U.S.
- Alternative routes still involve serious requirements for course taking during the first years of teaching



Enough Applicants or Best Applicants?



What Do Schools Want?



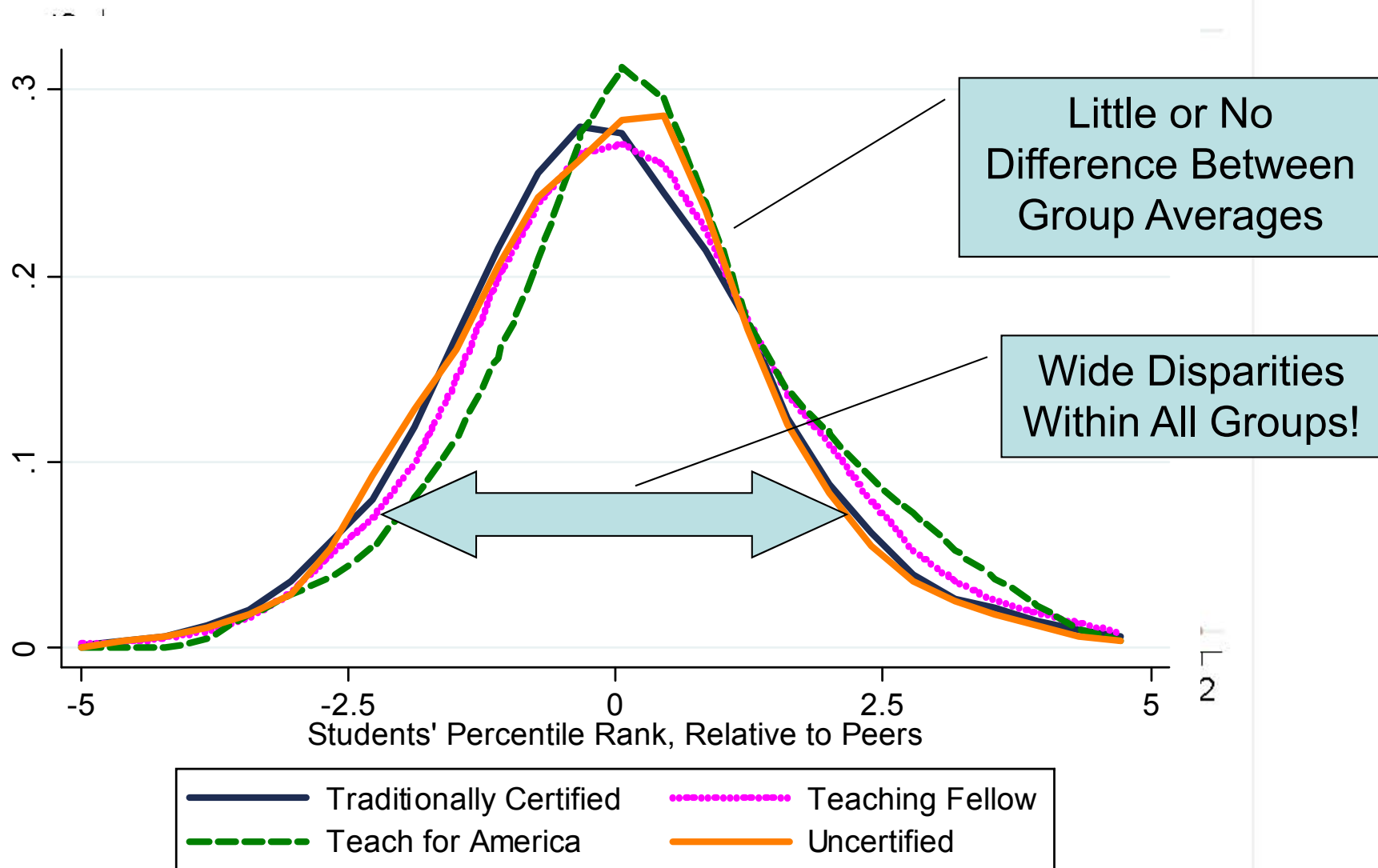
How Do Schools Make Hiring Decisions?

- Few systematic studies of how different school districts make hiring decisions
 - Strauss (2000), Balter & Duncombe (2005), Liu & Kardos (2002), Liu & Moore-Johnson (2007)
- Personal interview is most common element
 - >90% of teachers report being interviewed
 - Multiple interviews often conducted
- Sample lessons are far less common
 - Typically only 10-20% of teachers asked to teach a sample lesson as part of hiring process

Who Should Schools Hire?

- There is no easy answer, no magic formula to tell which individuals make great teachers

Research on Traditional Credentials



Source: Wyckoff et al. 2008

Non-traditional Predictors

- Typically available measures of “highly qualified” teachers do not predict teacher effectiveness well
- Recall the man who lost his keys in the dark and looks for them in the lamplight...
- Rockoff et al. (2008) – systematic look at non-traditional predictors of teacher effectiveness
 - Survey of new math teachers in NYC (G4-8)
 - Result: no key single measure, but moderate power to distinguish teachers when pool measures into an index

Rockoff et al. 2008: Survey Elements

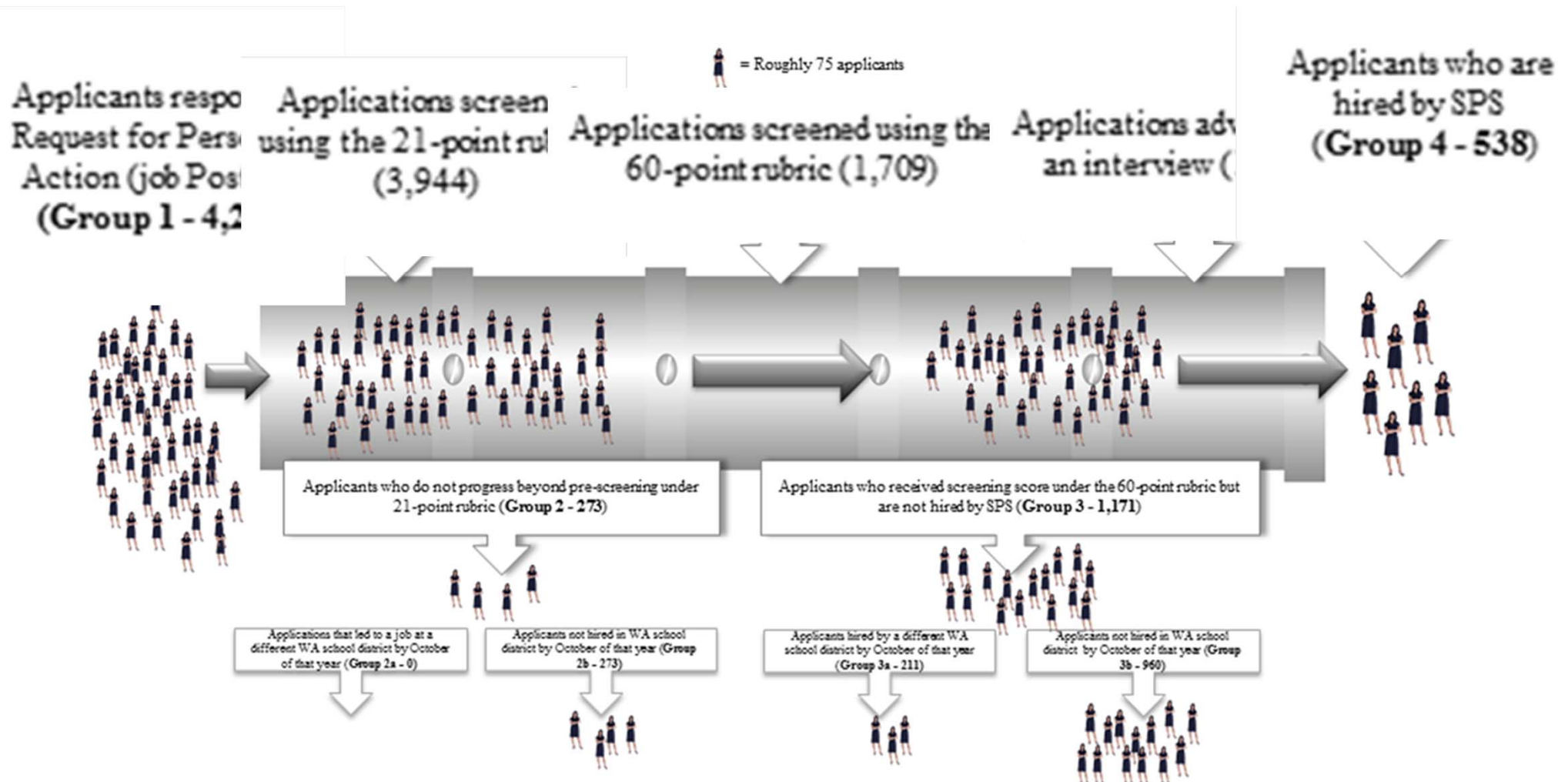
- Academic Success and Cognitive Ability
 - SAT/ACT scores, undergraduate institution and major, graduate education (if any), [IQ](#)
- Content Knowledge (Math)
 - [Test](#) developed by Hill and Ball (2005)
- Personality (Big Five Inventory)
 - Focus on conscientiousness and extraversion
- Self-efficacy (in teaching)
 - Both general and personal beliefs
- Teacher Selection Instrument Score
 - Haberman Star Teacher Evaluation PreScreenener

Rockoff et al. (2008): Main Results

Item	Factor 1: Cognitive Skills	Factor 2: Non-Cognitive Skills
	Math Achievement	Subjective Evaluation
Factor 1: Cognitive Skills (s.d.=1)	0.024 (0.010)**	0.021 (0.055)
Factor 2: Non-Cognitive Skills (s.d.=1)	0.025 (0.010)**	0.220 (0.052)**
Observations	82,977	1,117
Teacher Total Score (s.d.=1)	0.0025	0.0071
Education Major	-0.3422	0.234
Math or Science Major	0.0413	-0.2703
Teaching Fellow	0.12	-0.4366
Has a Graduate Degree	-0.183	0.1301
Extraversion (s.d.=1)	0.0595	0.3655
Conscientiousness (s.d.=1)	-0.1289	0.4398
Personal Efficacy (s.d.=1)	-0.1154	0.518

New Evidence on Screening for Hires

- Spokane public schools recruitment pipeline



Source: Goldhaber et al. 2014

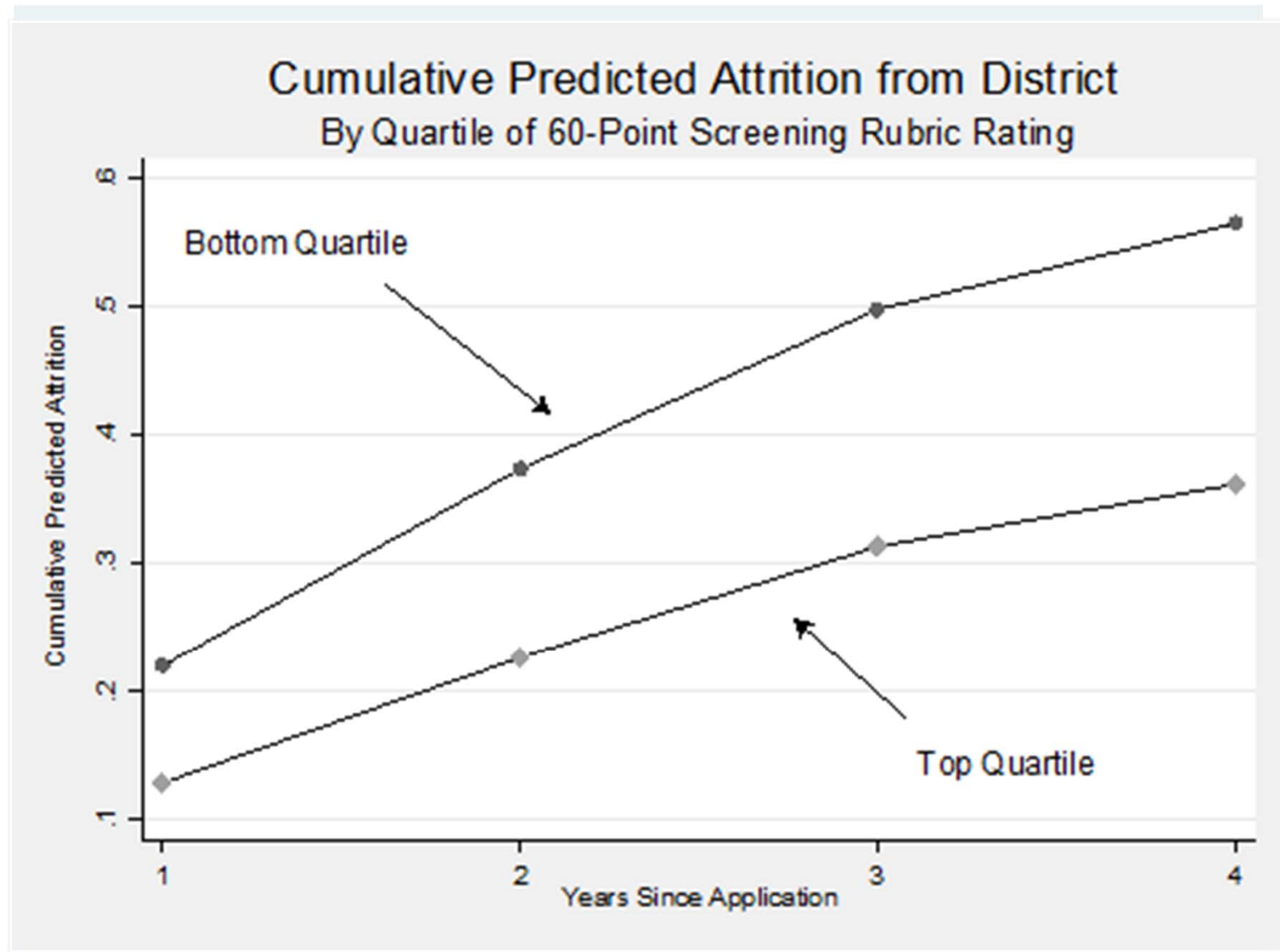
Two Screens, One Cutoff

- Application essays,
 - Submit
- First screening scale that
 - Experience
 - Recommendation
- Schools set cutoff level for applicant
 - 10 categories
 - Highest

CERTIFICATED APPLICANT - PRINCIPAL / SUPERVISOR SCREENING	
DATE:	SCREENER:
Job # / Position Title:	
APPLICANT NAME:	
SCREENING CRITERIA	RATING (1-6) 5 - 6 Strong evidence to support this as an area of strength 3 - 4 Satisfactory evidence to support this as an area of strength 1 - 3 Some evidence to support this as an area of strength
CERTIFICATE AND EDUCATION	Note completion of course of study; certificate held (current or pending); education
Washington State Certificate	Yes / No
Required Endorsement	Yes / No
Rating (1 - 6)	4
TRAINING	Look for quality, depth and level of candidates additional training relating to the position.
Rating (1 - 6)	4
EXPERIENCE	Note degree to which experience supports the prediction of success not just the number of years. A beginning candidate could be rated highly
Rating (1 - 6)	4
CLASSROOM MANAGEMENT	Look for specific references to successful strategies. This may not mean quiet and orderly but planned and directed. Effectively handles large /small or ethnically/socioeconomic ally diverse groups; develops routines and procedures to increase learning, establishes clear parameters, and responds appropriately.
Rating (1 - 6)	4
FLEXIBILITY	Note multiple endorsements, activity, coaching interests, student, building or district, or community support. Willing to learn new concepts and procedures, successfully teaches a variety of assignments, effectively uses various teaching styles.
Rating (1 - 6)	4
INSTRUCTIONAL SKILLS	Look for specific references in support of skill in this area - plans, implements, evaluates, relates to students, creative, multiple approaches, monitors and adjusts, uses culturally responsive strategies appropriate to age, background and intended learning of students.
Rating (1 - 6)	4
INTERPERSONAL SKILLS	Develops and maintains effective working relationships with diverse staff, students, parents/guardians, and community.
Rating (1 - 6)	4
CULTURAL COMPETENCY	Look for specific references to successful strategies for building and maintaining a relationship with each student and their family. This may not be explicitly mentioned, but the following strategies offer some evidence of cultural competency: specific instructional strategies providing each student access to a rigorous curriculum, inclusive/respectful language about students and families, a belief that all children can achieve at high levels, mention of conflict resolution/restorative practices, specific instructional strategies for integrating culturally responsive materials which are also rigorous, and appropriate statements about their work with diverse populations. Note relevant training, course work, authors/book titles listed.
Rating (1 - 6)	4
PREFERRED QUALIFICATIONS AS INDICATED ON POSTING	
Rating (1 - 6)	4
LETTERS OF RECOMMENDATION	Look for current letters of recommendation from most the most recent supervisor(s). Your score should reflect the quality and recency of the recommendation as well as the author of the letter. (Example: Are the letters from peers or current supervisors?)
Rating (1 - 6)	4
TOTAL SCREENING SCORE	40

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Top Recruits Outlast, Outperform



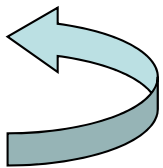
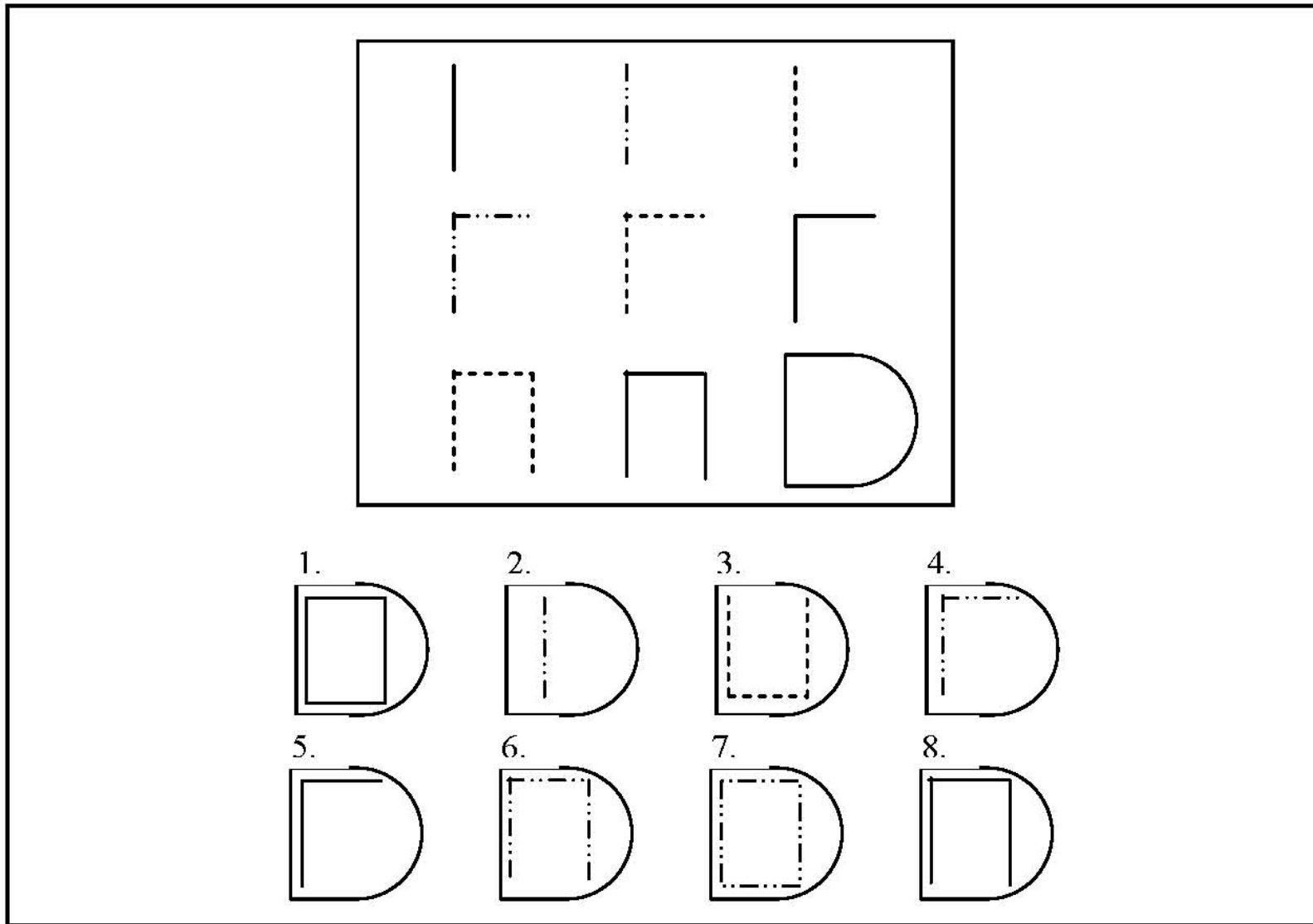
Source: Goldhaber et al. 2014

Summing Up

- It is unlikely that any silver bullet exists for predicting teacher quality at the hiring stage
- Best approach: gather detailed data and regularly re-evaluate how to weigh different factors based on predictive performance
- There is still a lot we do not know!
 - What does it take to shift the applicant pool?
 - What would it take to get the best candidates into the schools that need them the most?
 - How much would this all cost?

Thank You!

Raven's Progressive Matrices



Math Content Knowledge Test

Imagine that you are working with your class on subtracting large numbers. Among your students' papers, you notice that some have displayed their work in the following ways:

$\begin{array}{r} 932 \\ -356 \\ \hline \end{array}$ $\begin{array}{r} 356 \\ 360 \leftarrow +4 \\ 400 \leftarrow +40 \\ 900 \leftarrow +500 \\ \hline 932 \end{array}$ $\begin{array}{r} +32 \\ \hline 576 \end{array}$ <p>Method A</p>	$\begin{array}{r} 932 \\ -356 \\ \hline \end{array}$ $\begin{array}{r} 932 \\ -300 \\ \hline 632 \\ -50 \\ \hline 582 \\ -6 \\ \hline 576 \end{array}$ <p>Method B</p>	$\begin{array}{r} 932 \\ -356 \\ \hline \end{array}$ $\begin{array}{r} 936 \\ -360 \\ \hline \end{array}$ $\begin{array}{r} 976 \\ -400 \\ \hline 576 \end{array}$ <p>Method C</p>
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Which of these students is using a method that could be used to subtract any two whole numbers? (Select ONE answer.)

- a) A only
- b) B only
- c) A and B
- d) B and C
- e) A, B, and C

Note: This item is taken from the Elementary Math section of the Math Content Knowledge Test. The correct response is (e).

