



Center for Education Policy Research

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Building Blocks for Effective Data Use in Classrooms

**2014 Reidy Interactive Lecture Series:
Assessment in the Classroom – Bringing it all Together**

September 18, 2014

Data

Data come from an ongoing, multi-year CEPR evaluation of a data-based instructional program.

Data collection included:

- school leader surveys
- teacher surveys
- student demographic and performance information (including prior achievement)
- site visit data from a subset of schools



Sample

We are presenting results from 55 schools in five urban districts from three states.

- 512 teachers
- about 8200 students

All of the schools administer interim assessments in some grades and subjects, and receive varying levels of support from their district and/or an external provider.



Analyses

We seek to describe teachers' beliefs and practices around instructional data use, and show how these relate to school performance in raising student achievement.

Categories:

- teacher practices
- barriers to data use
- program components

Cross-sectional analyses:

- survey item frequencies
- multilevel regressions
- scale variance decomposition (appendix)



Teacher Practices



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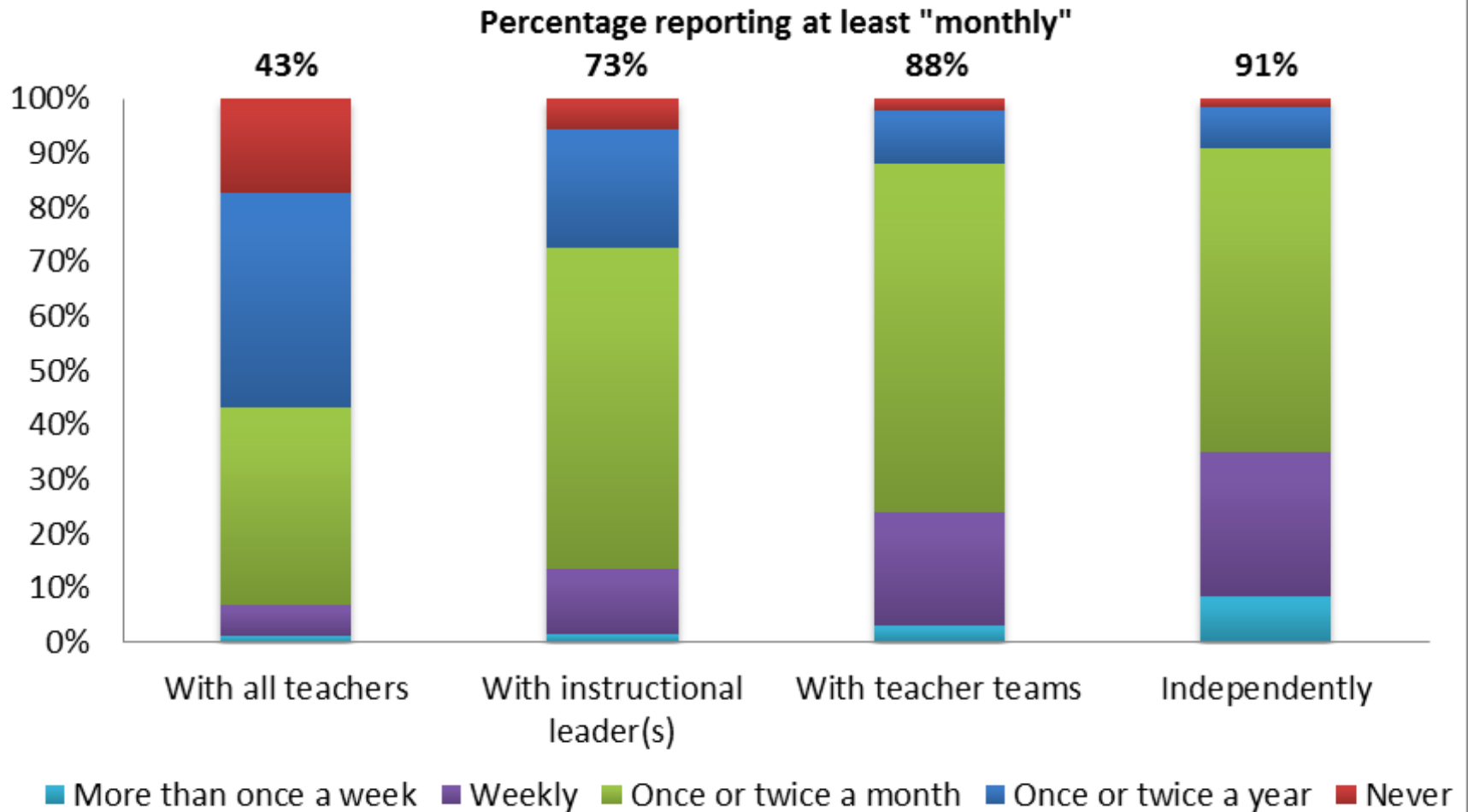
Teacher Practices

- High frequency of many data-use and instructional practices
- Relatively strong, positive bivariate correlations with student achievement, especially 1) data use and 2) instructional practices
 - Students in schools where teachers use data and various instructional practices more frequently also show larger math achievement gains.
- However, conditional on the frequency that teachers use data in various ways, more frequent data review may be counterproductive.



Teachers' Review of Data

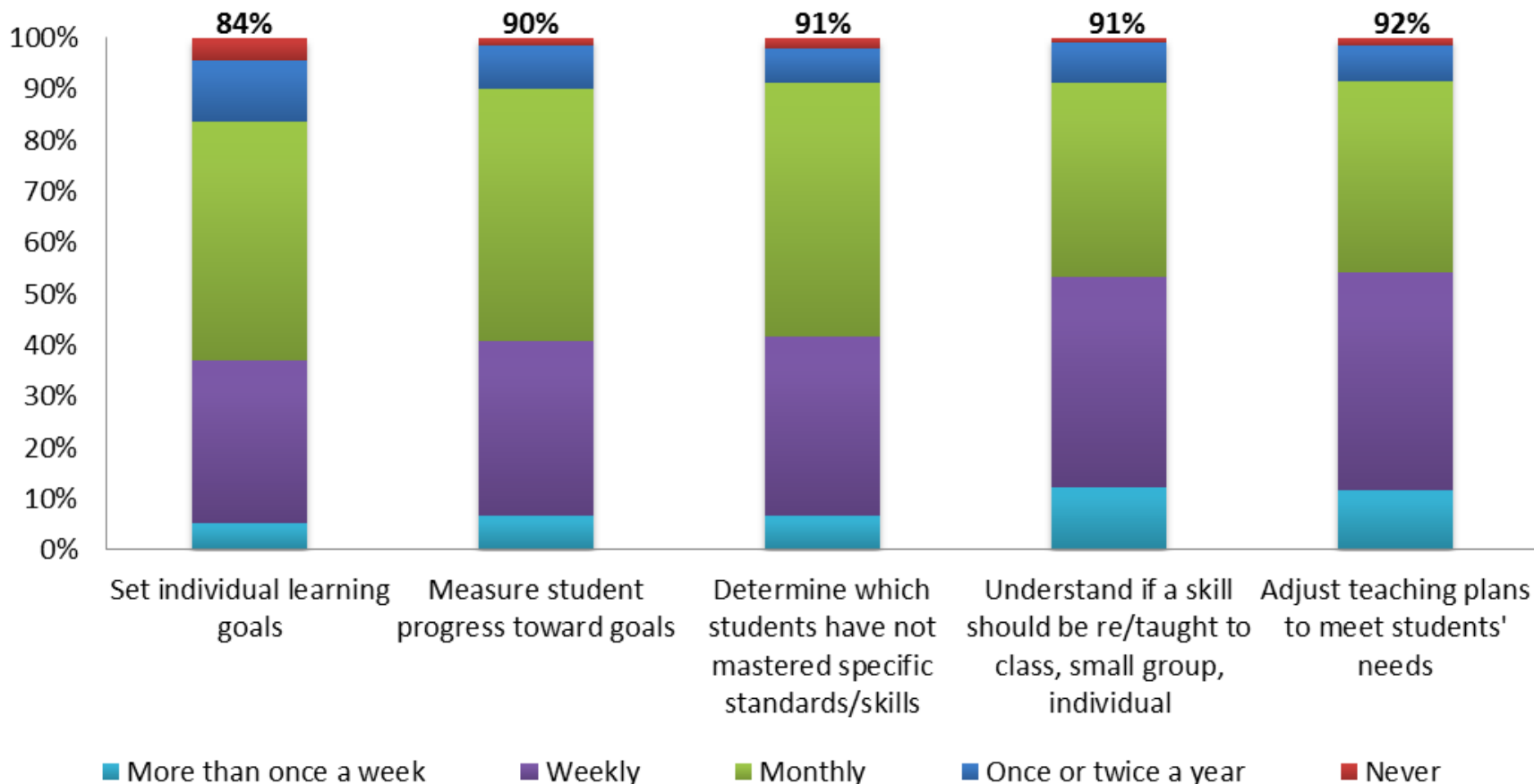
How often have you reviewed interim assessment data...



Teachers' Uses of Data

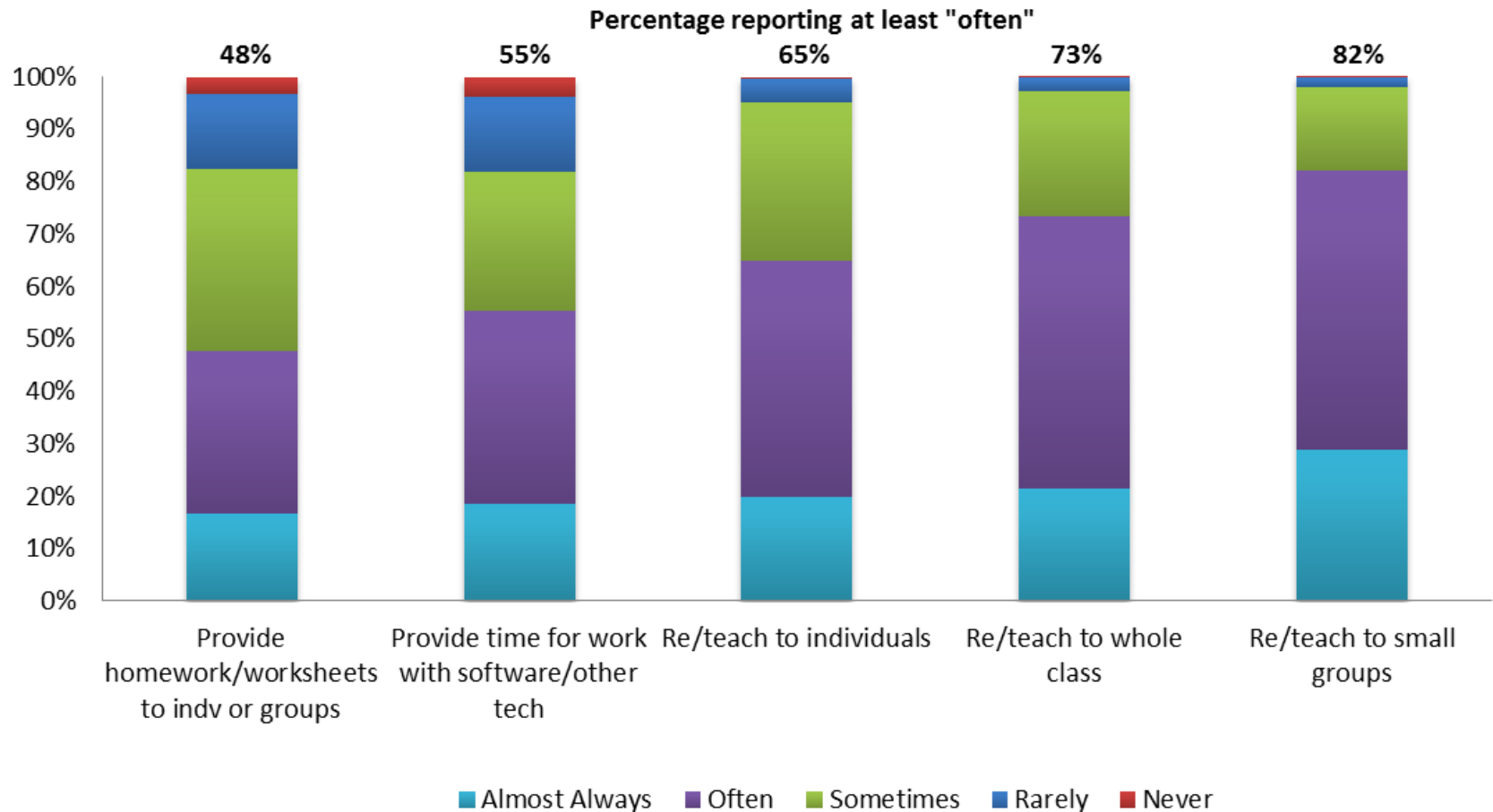
How often have you used interim assessment data to...

Percentage reporting at least "monthly"

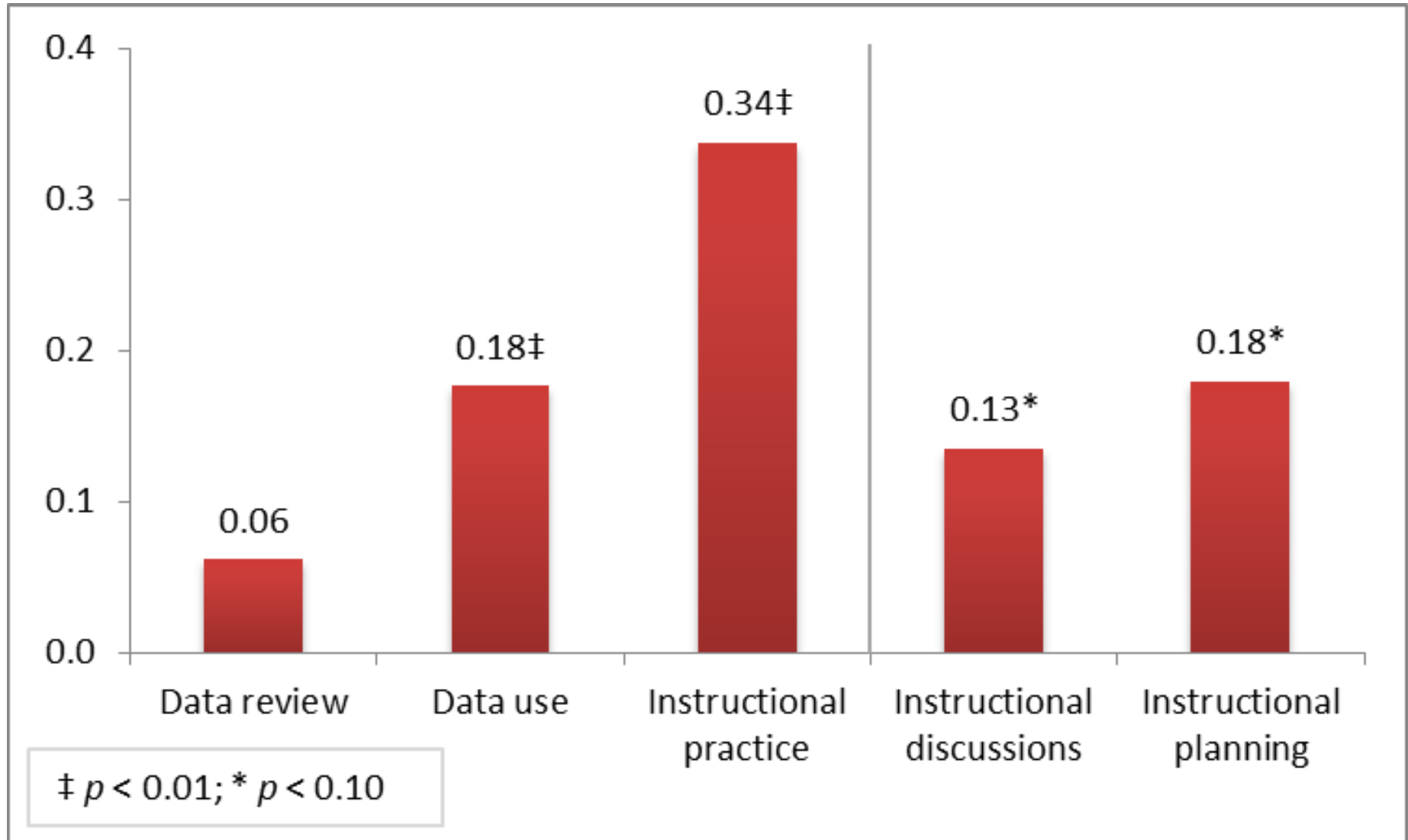


Teachers' Instructional Practices

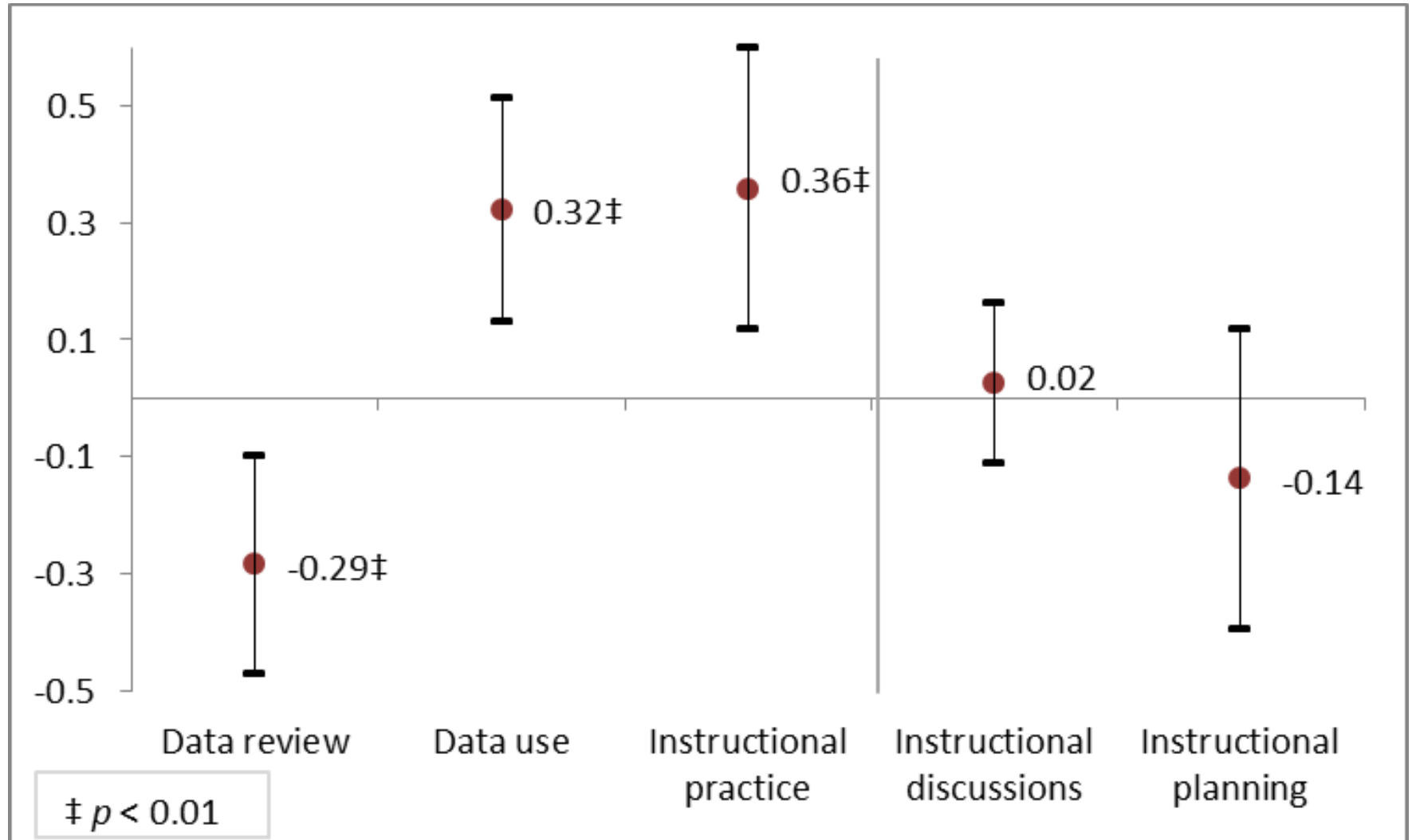
In response to students' different learning needs,
how often do you...?



Teacher Practices & Student Achievement in Math: Bivariate Associations



Teacher Practices & Student Achievement in Math: Multivariate Associations



Barriers to Instructional Data Use



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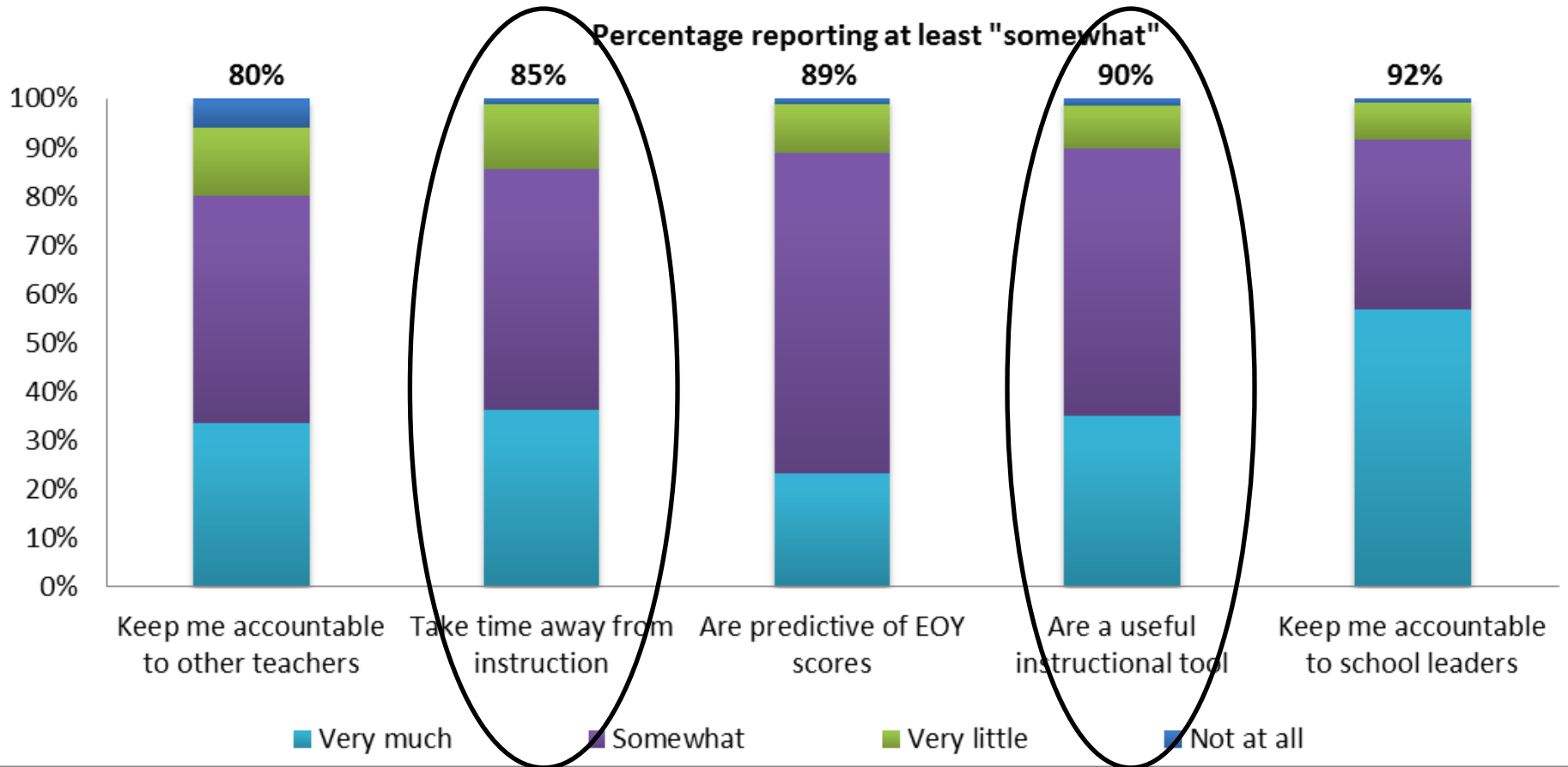
Barriers to Instructional Data Use

- Relatively positive attitudes toward assessments and assessment data, and high levels of confidence
- More frequent use of data by teachers who:
 - have more positive attitudes toward assessment/data,
 - are more confident in various data use and instructional practices, and
 - rate their instructional leaders' abilities higher.



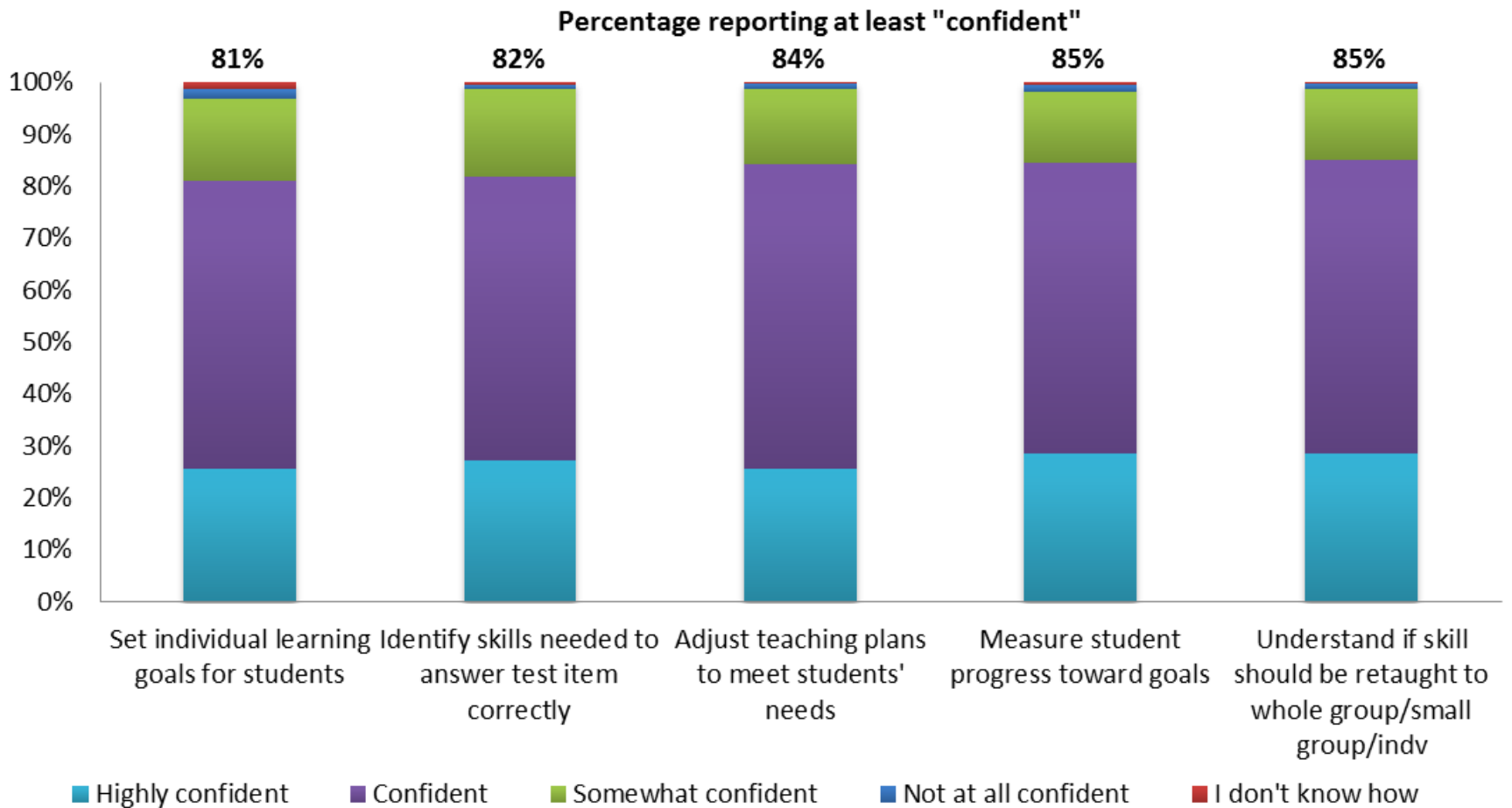
Teachers' Beliefs

Agreement with various statements about interim assessments, their administration, and results

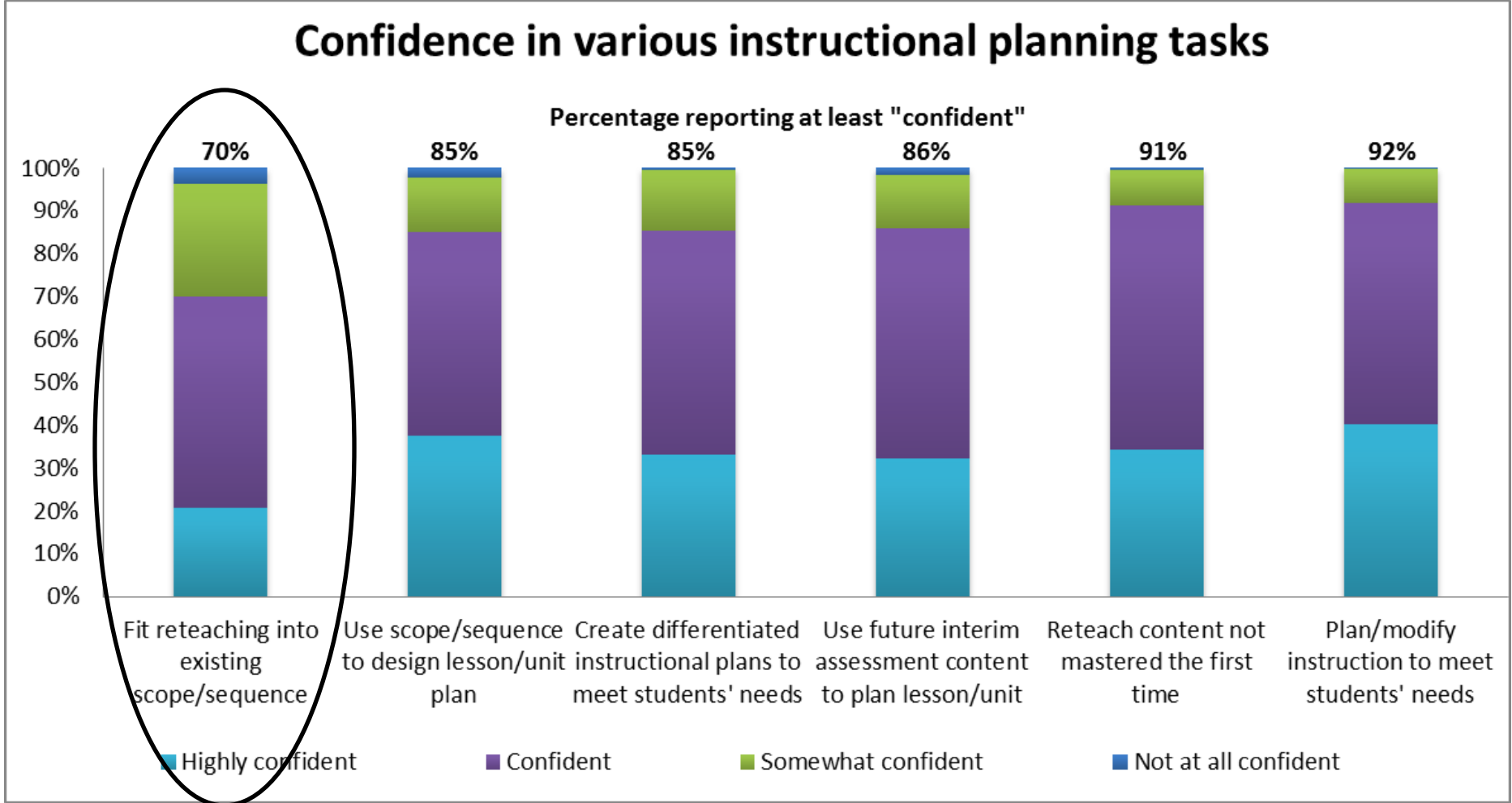


Confidence in Using Data

Confidence in various interim assessment/data-related tasks

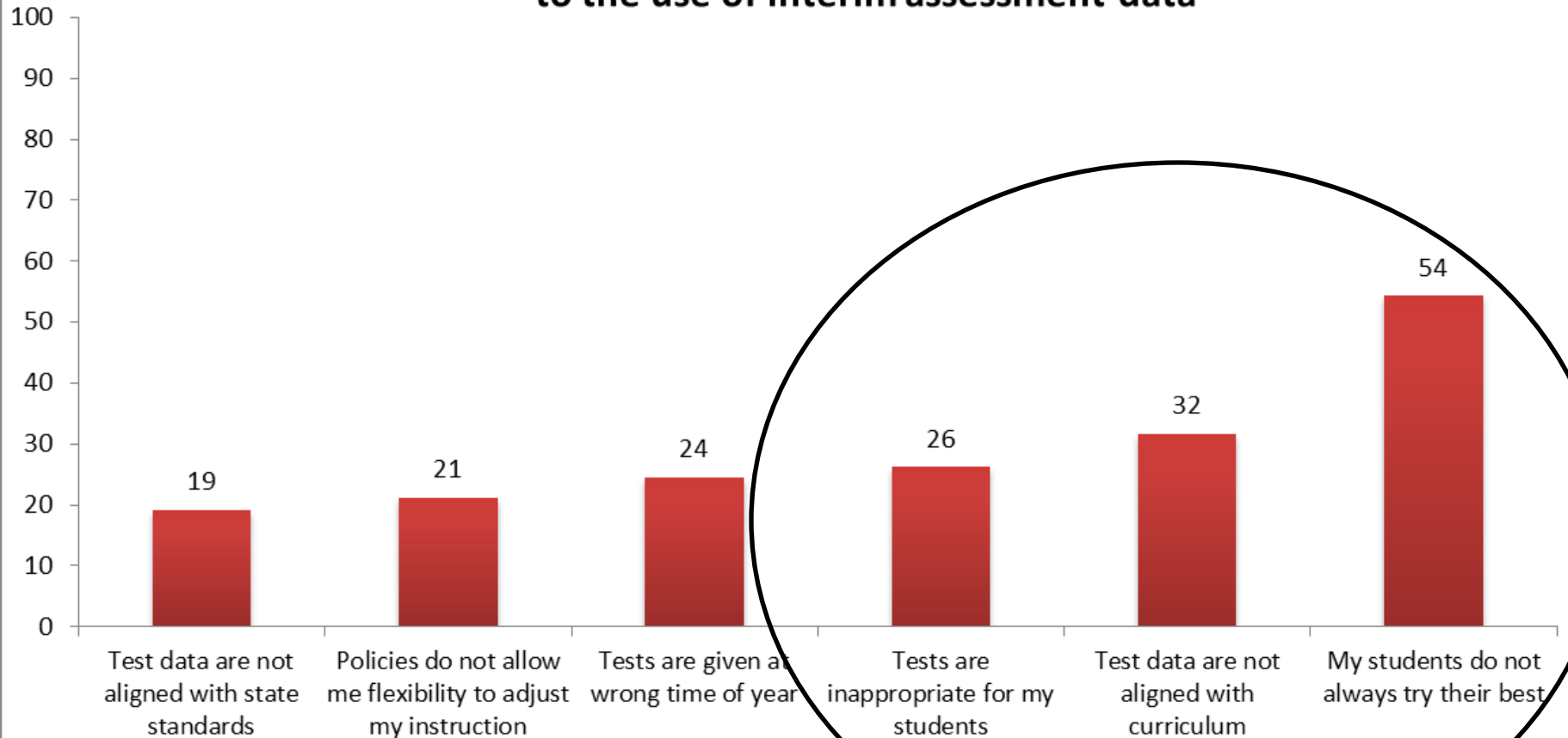


Confidence in Instructional Planning



Barriers to Data Use

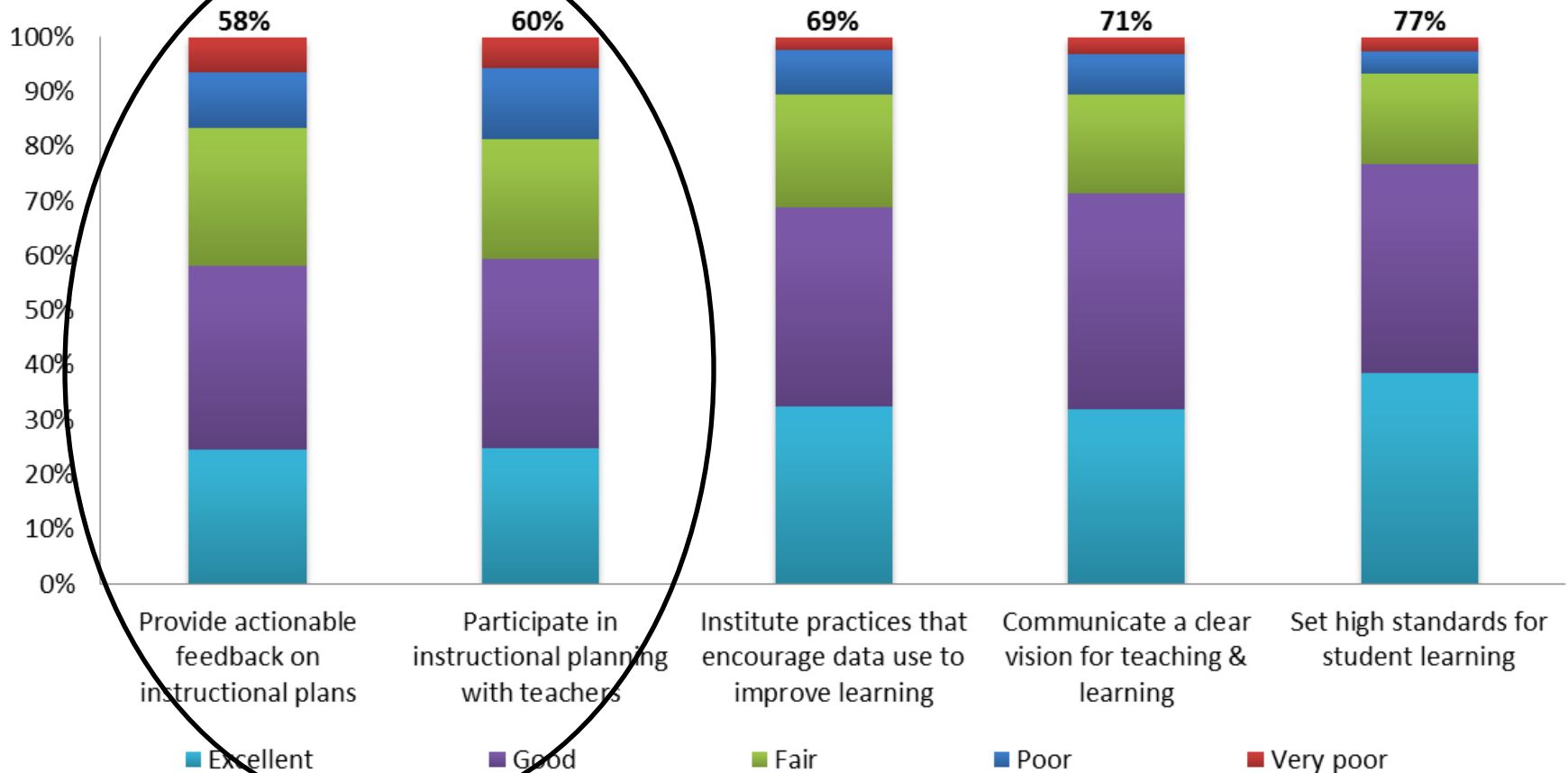
Percentage of teachers reporting various hindrances to the use of interim assessment data



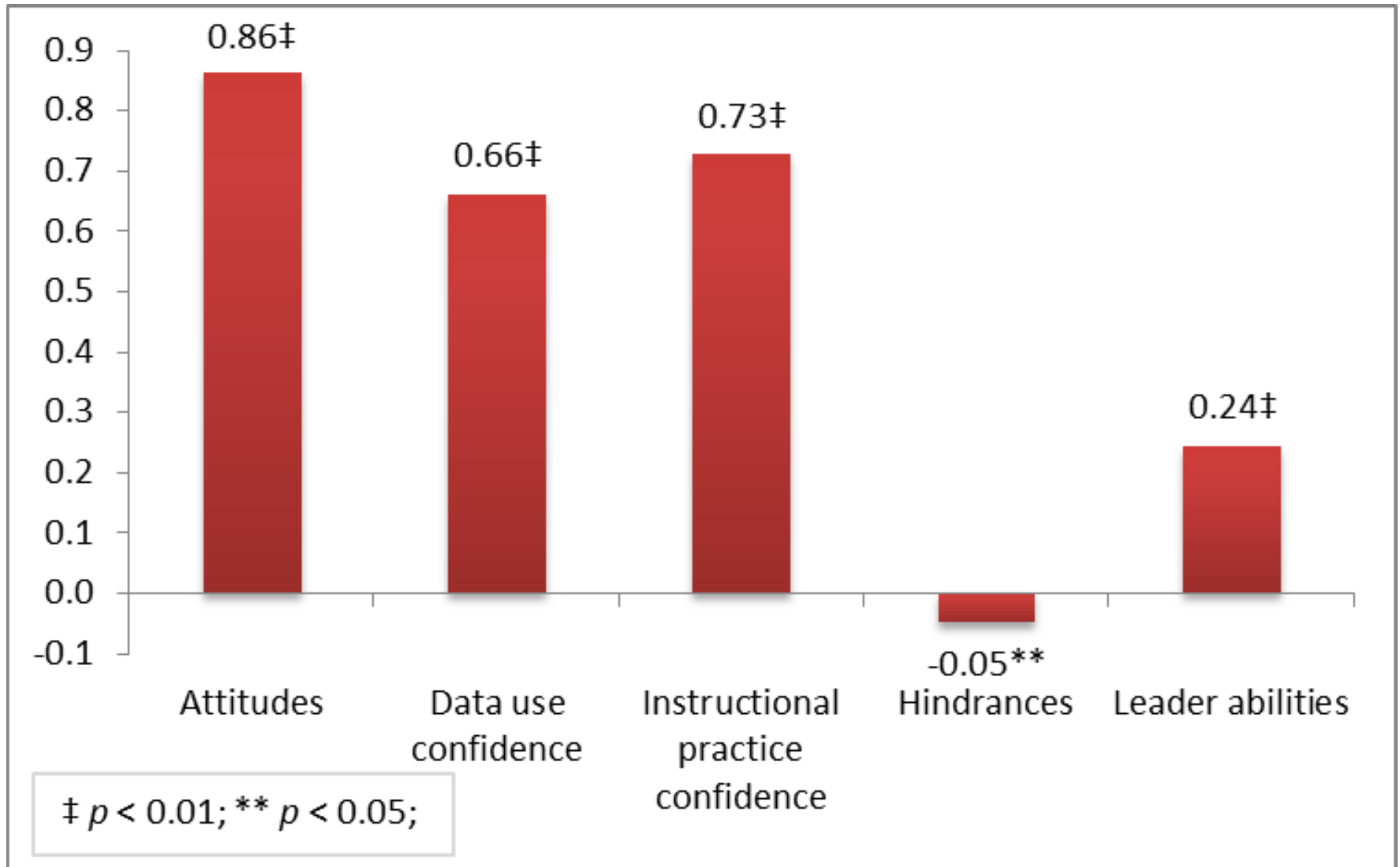
School Leader(s)' Abilities

Teachers' perceptions of their leaders' abilities on a range of practices

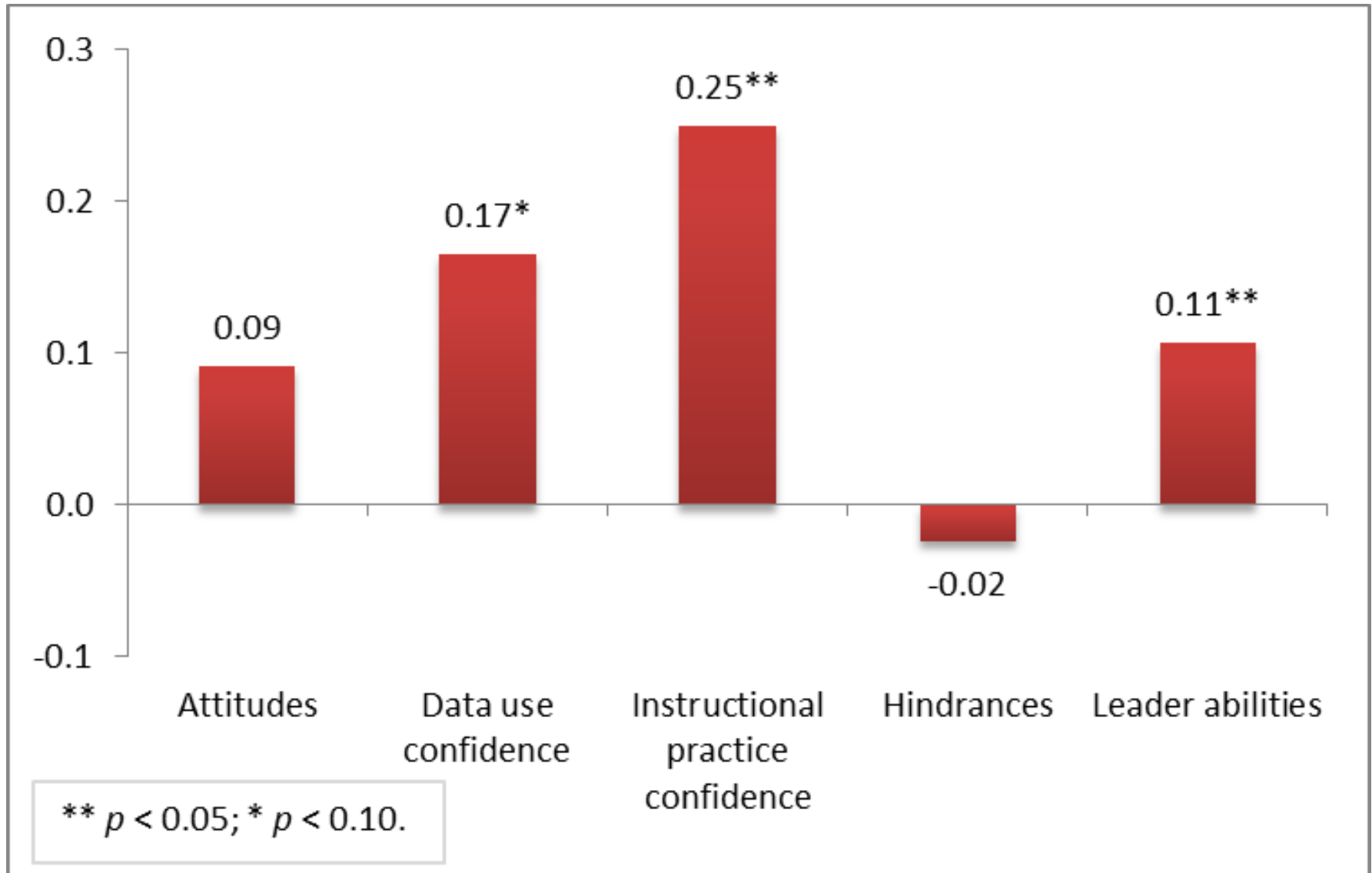
Percentage reporting at least "good"



Barriers & Teacher Data Use: Bivariate Associations



Barriers & Student Achievement in Math: Bivariate Associations



Program Components



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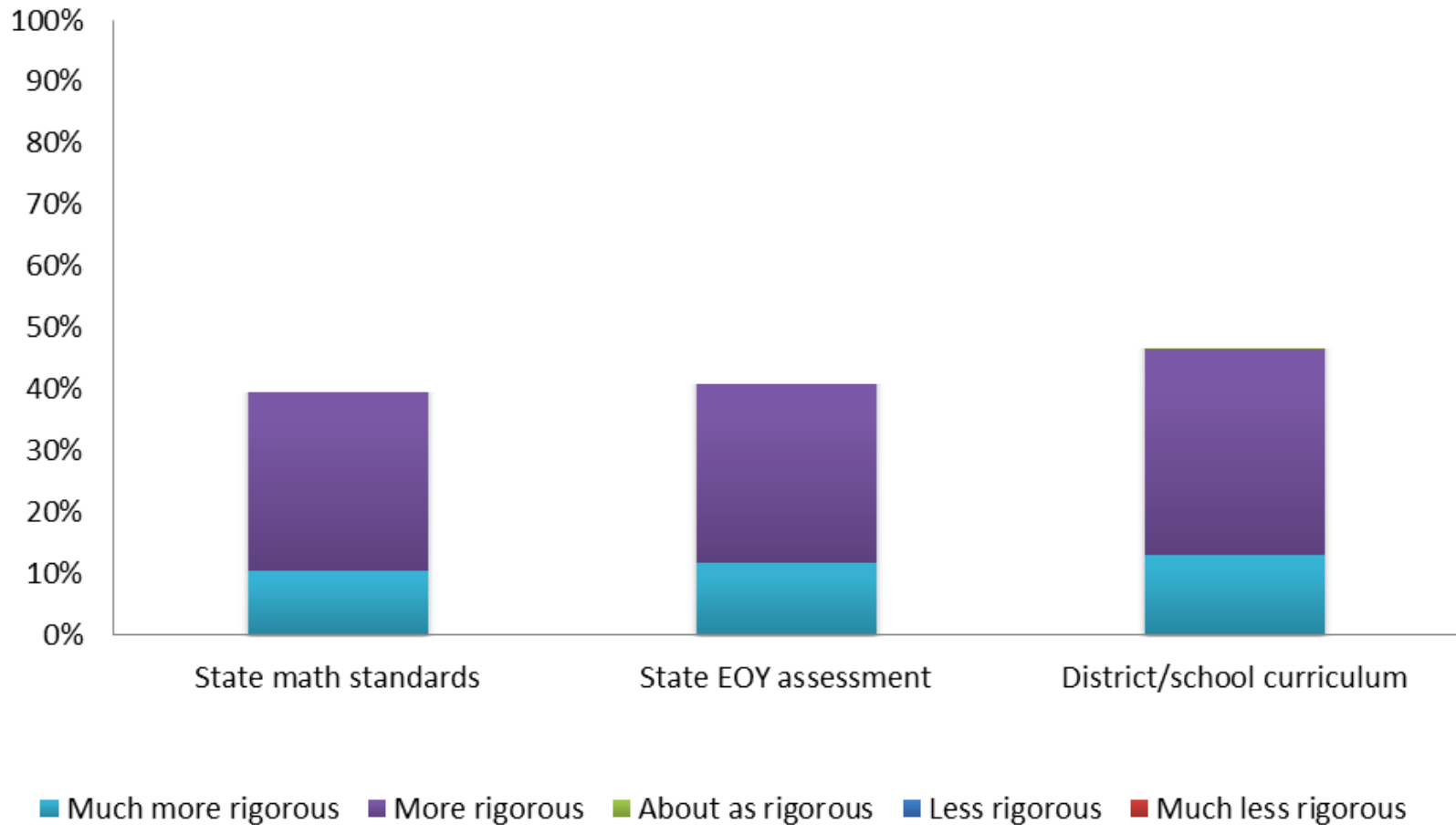
Program Components

- Relatively high satisfaction with program components
- More frequent use of data by teachers who:
 - are satisfied with program components and
 - perceive the interim assessments to be better aligned.
- Relatively strong, positive bivariate relationship between teachers' perceptions of the alignment of their math interim assessments and student achievement in math



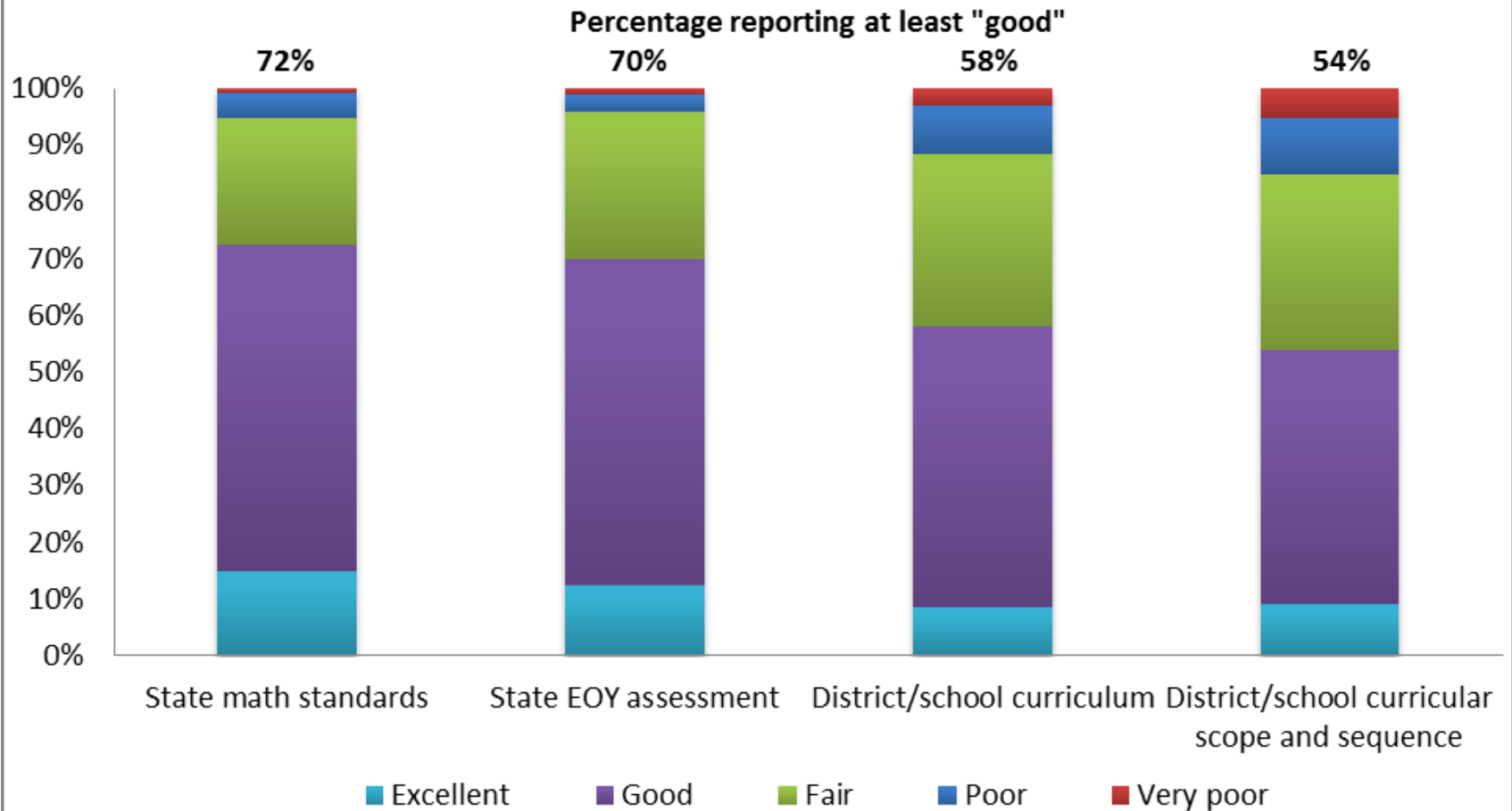
Perceptions of Assessment Rigor

Teachers' perceptions of the rigor of their math interim assessments compared to...

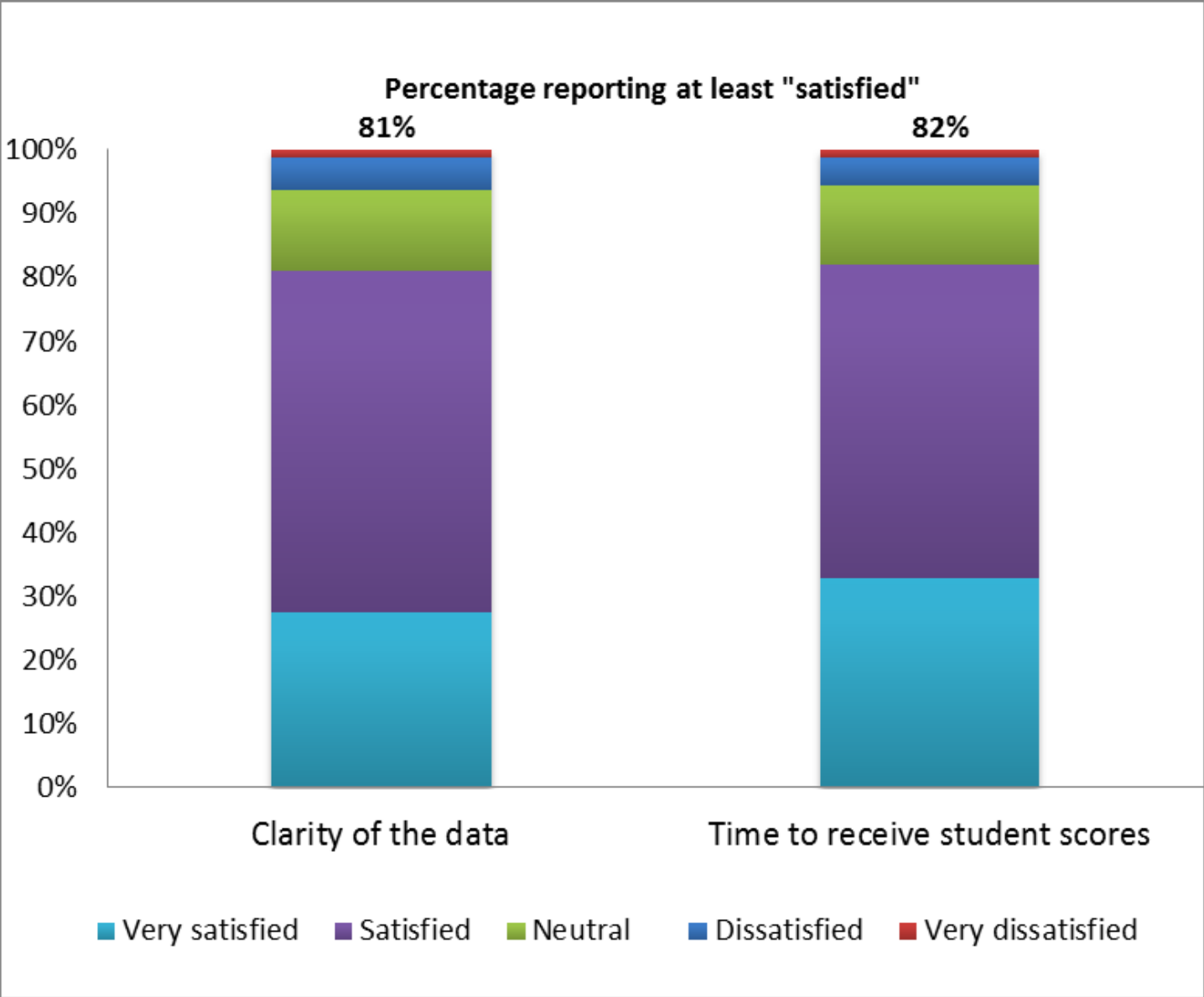


Perceptions of Assessment Alignment

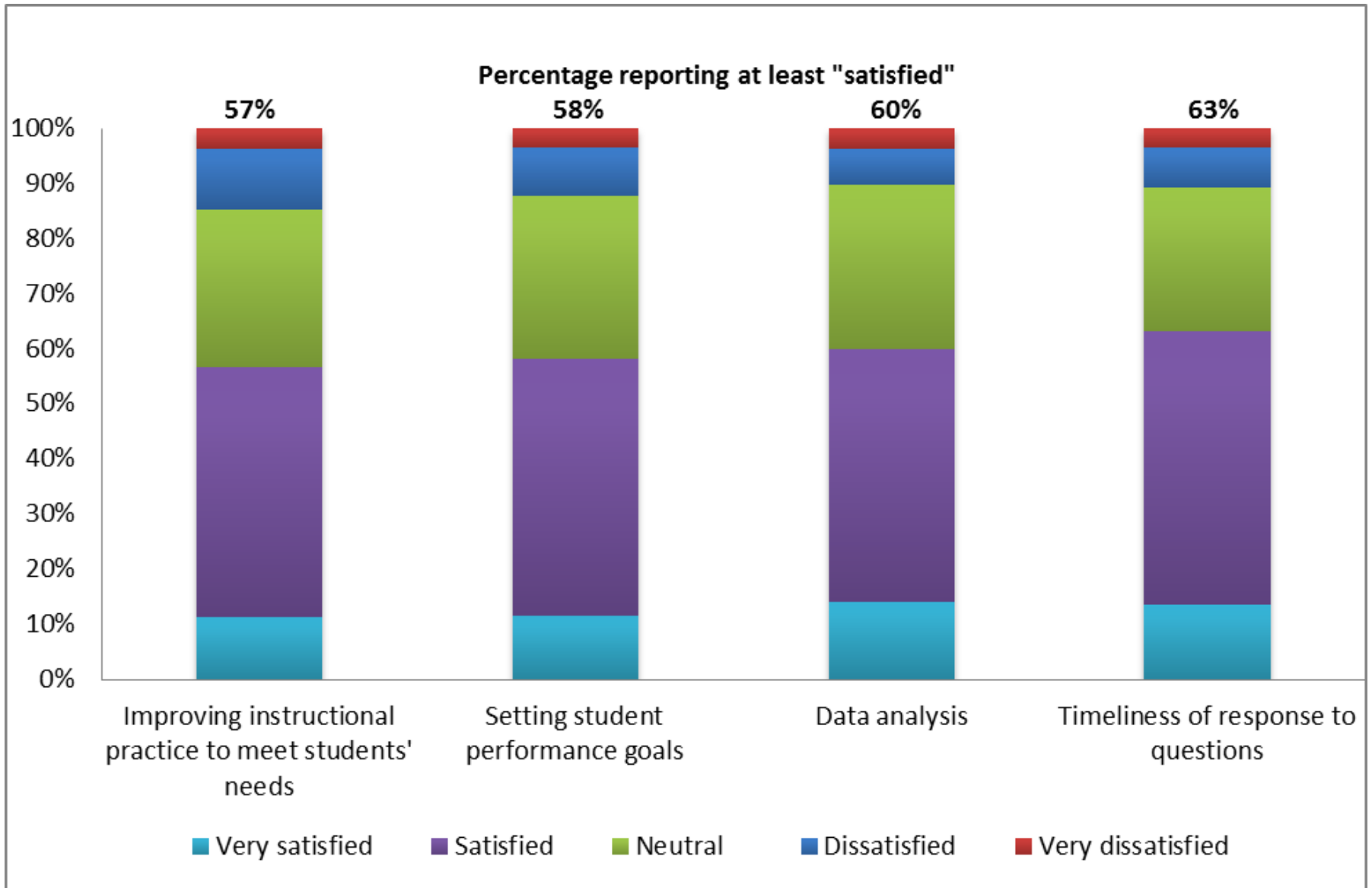
Teachers' perceptions of the alignment of their math interim assessments compared to...



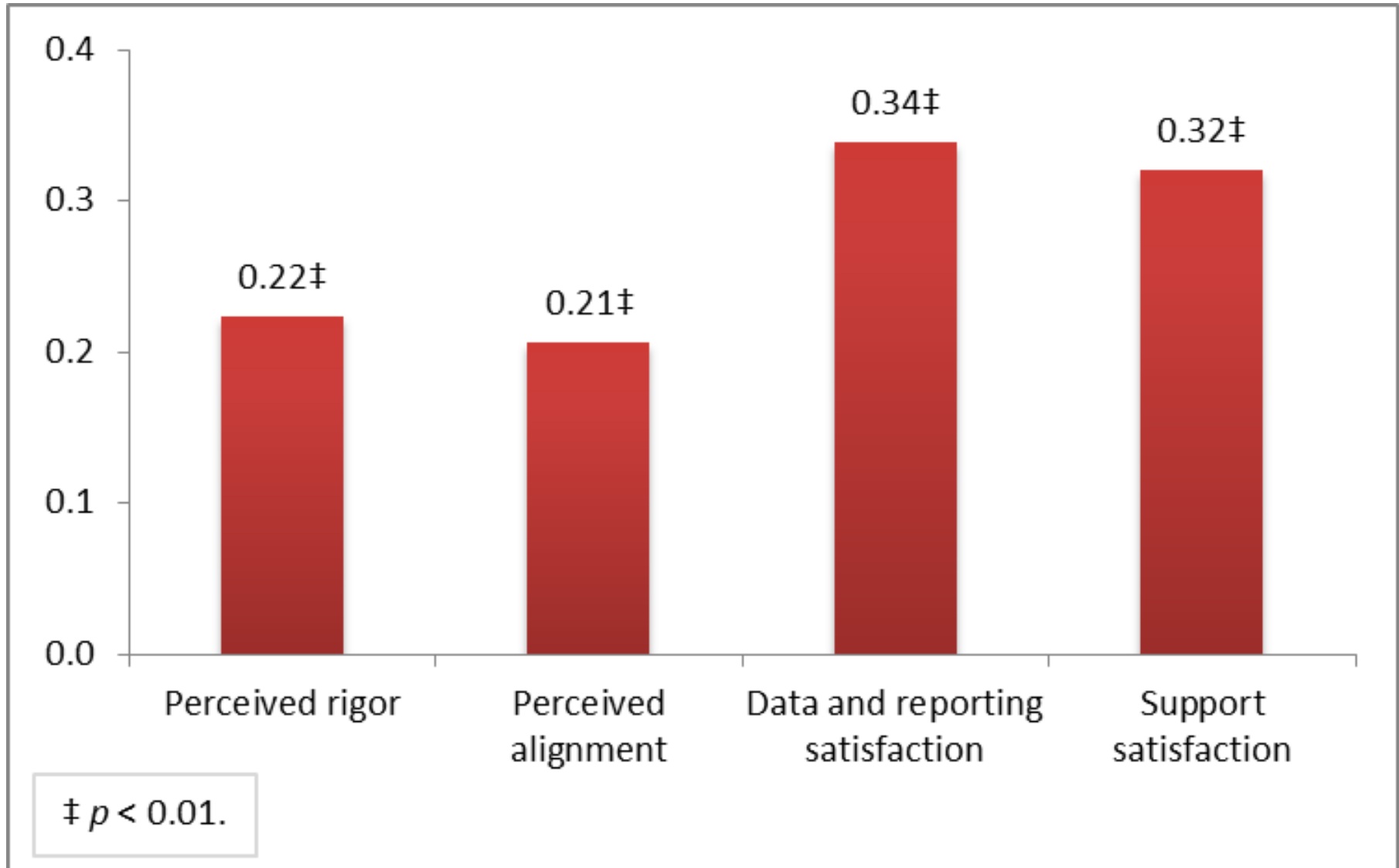
Data & Reporting Satisfaction



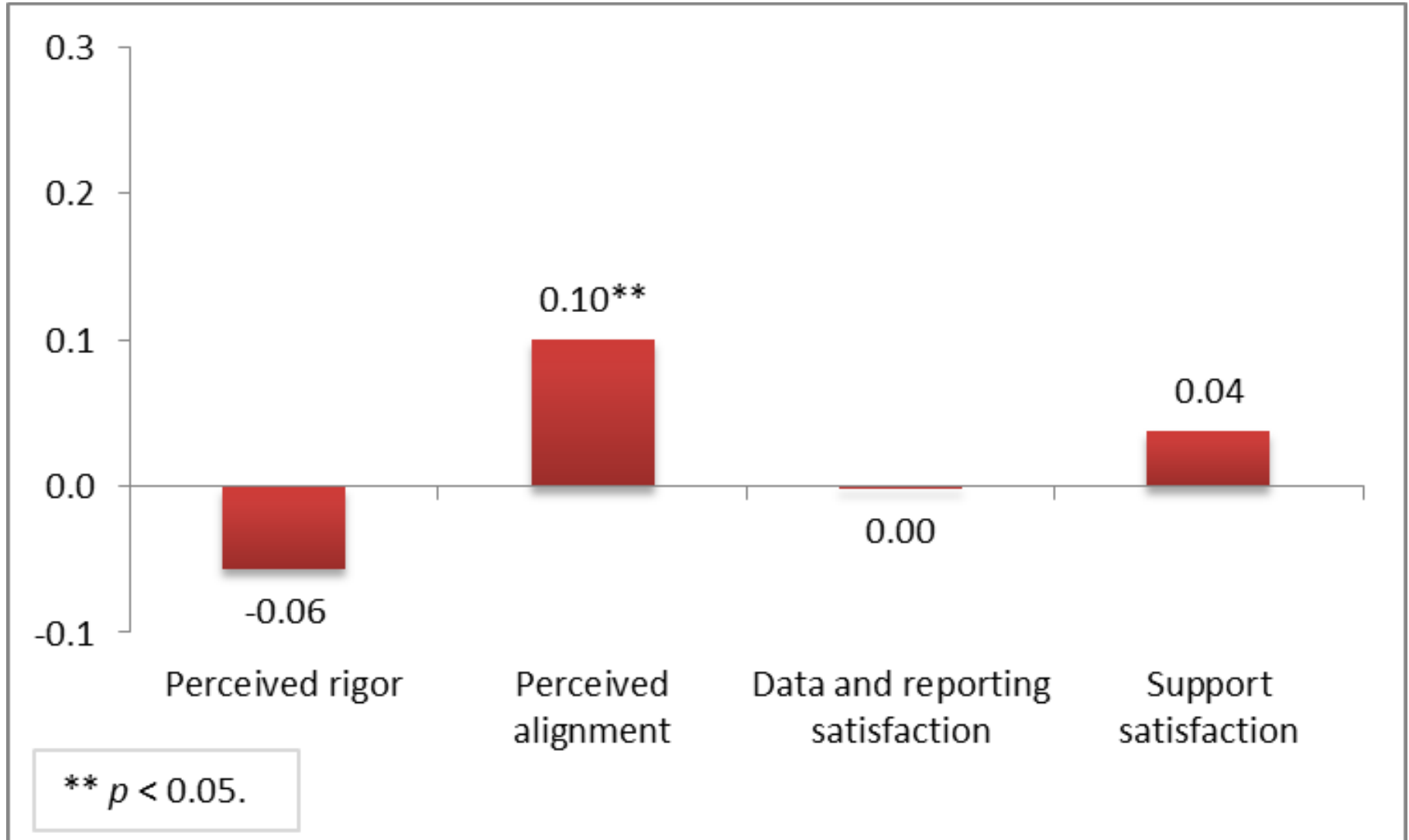
Data Support Satisfaction



Program Components & Teacher Data Use: Bivariate Associations



Program Components & Student Achievement in Math: Bivariate Associations



Contact

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Appendix A

Summary

- Most of the variation in self-reported practices, beliefs, and satisfaction is at the teacher level despite these data-use policies and programs often being school or district based.
 - Individual factors, more so than contextual factors, may influence teachers' perceptions and practices.



Variation in Teacher Practices

Most of the variation in teachers' data-related and instructional practices is within schools.

Variance	Data Review	Data Use	Instructional Planning
Within-school (σ^2)	75%	87%	82%
Between-school (τ_π)	5%	5%	9%
Between-district (τ_β)	20%	9%	9%

Unconditional 3-level model accounting for clustering of teachers within schools and districts.

Variation in Hypothesized “Barriers” Scales

Variance	Attitudes toward assessment/data	Confidence in data use	Confidence in instructional practices	Hindrances	Perceived leadership
Within-school (σ^2)	87%	90%	92%	96%	76%
Between-school (τ_π)	3%	6%	2%	1%	5%
Between-district (τ_β)	10%	4%	6%	3%	19%

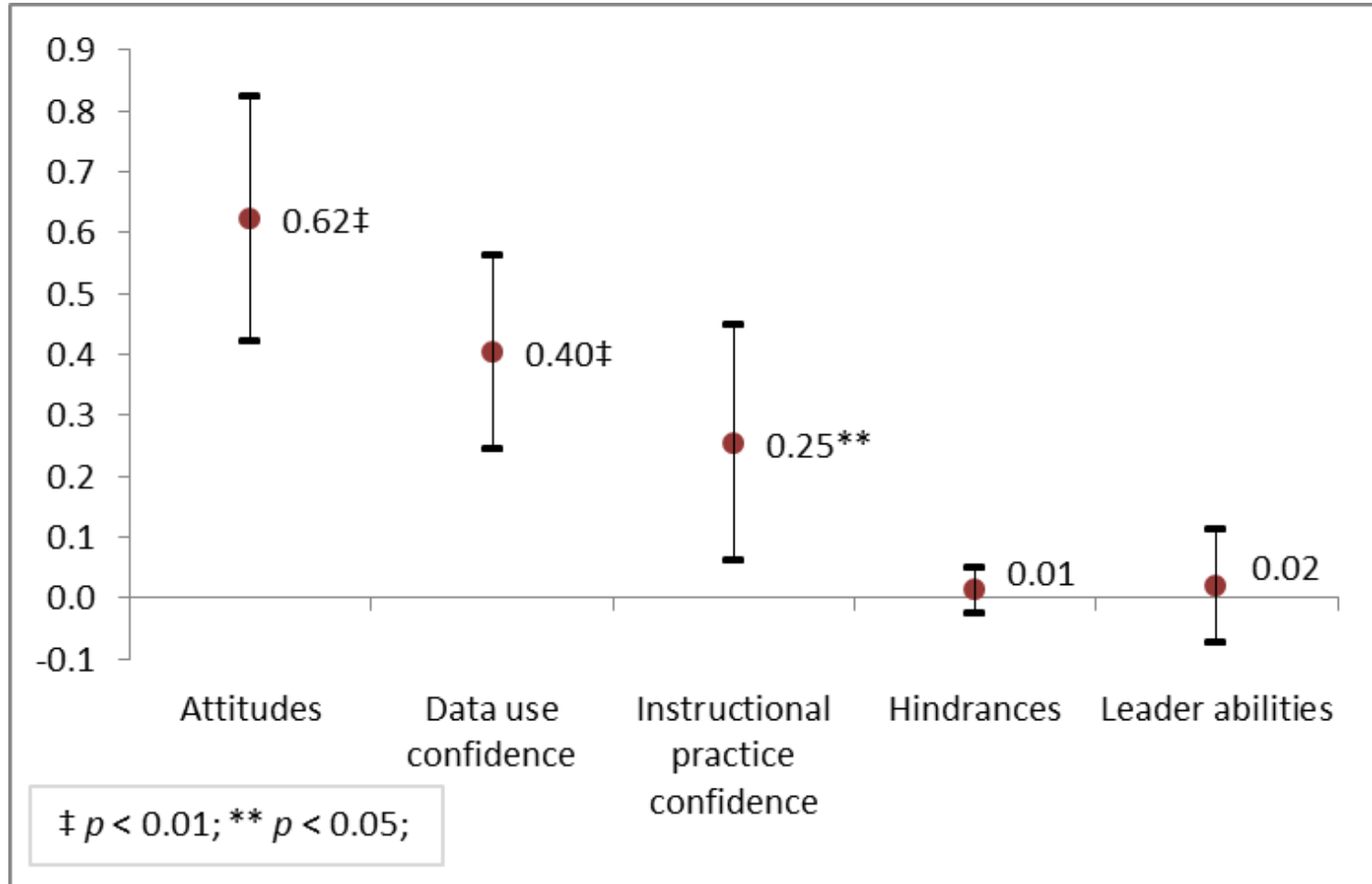
Unconditional 3-level model accounting for clustering of teachers within schools and districts.

Variation in Program Component Scales

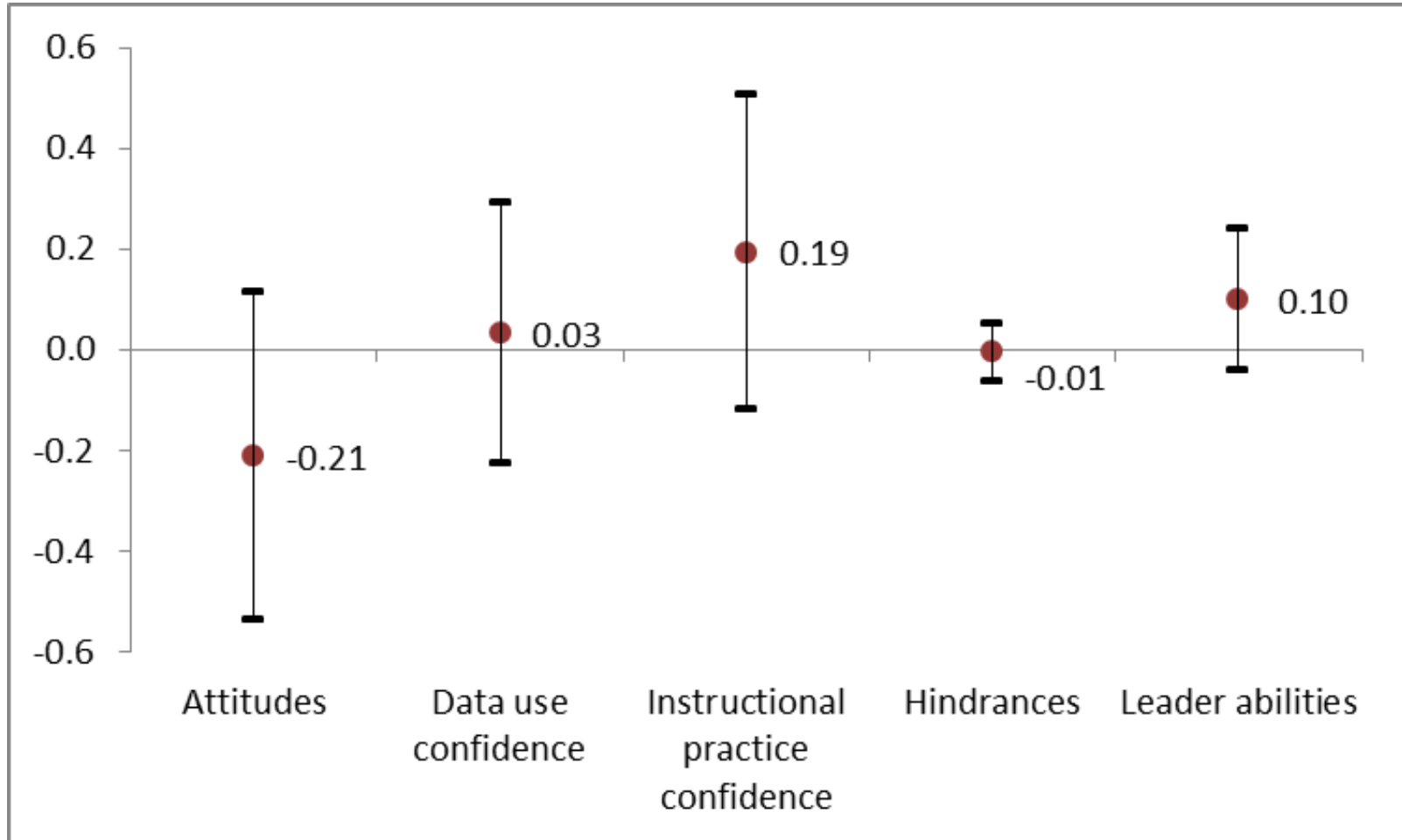
Variance	Perceived rigor	Perceived alignment	Data & reporting satisfaction	Data support satisfaction
Within-school (σ^2)	74%	83%	81%	80%
Between-school (τ_π)	5%	0%	2%	6%
Between-district (τ_β)	21%	17%	16%	14%

Unconditional 3-level model accounting for clustering of teachers within schools and districts.

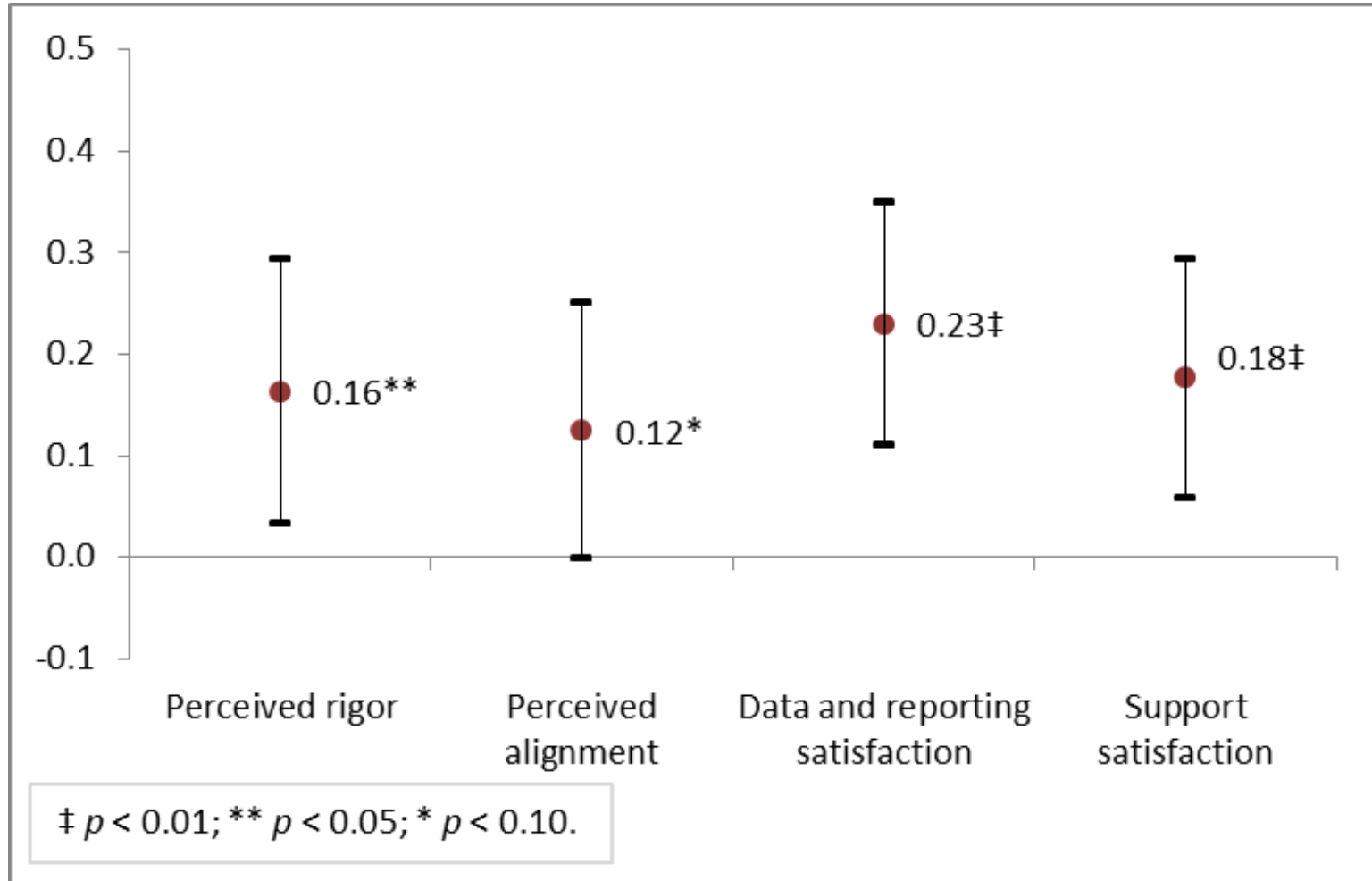
Barriers & Teacher Data Use: Multivariate Associations



Barriers & Student Achievement in Math: Multivariate Associations



Program Components & Teacher Data Use: Multivariate Associations



Program Components & Student Achievement in Math: Multivariate Associations

