



Measuring the Effectiveness of Wisconsin Principals: Two Studies From the State-wide Evaluation of Educator Effectiveness

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Presentation Outline

- Background of the process and characteristics of principal ratings.
- Study 1 – Measuring the concurrent validity of principal ratings with teacher perceptions of principal effectiveness across a number of aspects of principal leadership.
- Study 2 – Using principal ratings to detect and measure the magnitude of principal effectiveness equity gaps within Wisconsin school districts.

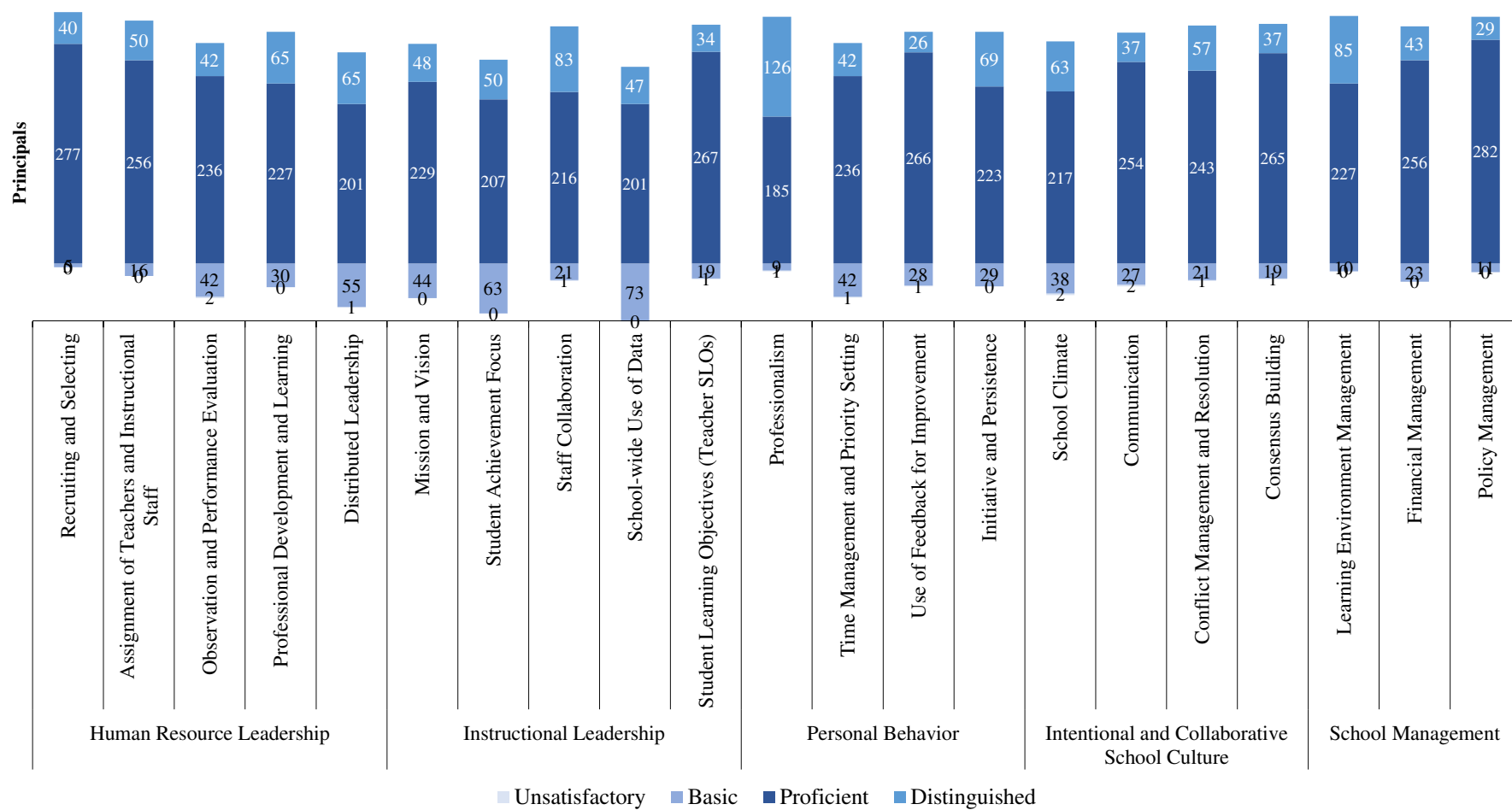
The Wisconsin Educator Effectiveness Process

- In 2011, Wisconsin passed Act 166, which required the state Department of Public Instruction (DPI) to develop an Educator Effectiveness (EE) system and school districts to implement principal and teacher evaluation systems based on the state EE System (Wisconsin, 2011).
- As part of the EE process, districts are required to provide ongoing, formal feedback to principals about their practice using a standard process and leadership rubric.
- Principals who are new to the profession or new to a district go through the evaluation process in their first year and every third year thereafter.
- At the end of the year, district administrators provide principals evaluation ratings based on leadership documents and observations of practice collected throughout the year.

The Wisconsin Framework for Principal Leadership

- With assistance from the Wisconsin Center for Education Research (WCER), DPI developed a principal effectiveness rubric called the Wisconsin Framework for Principal Leadership (WFPL).
- About two-thirds of Wisconsin districts have chosen the WFPL to inform their principal evaluation and feedback process.
- Following two pilot years, Wisconsin districts began fully implementing the principal EE process during the 2014-15 school year.
- This paper focuses on WFPL ratings assigned to 322 principals at the end of the 2016-17 school year, across 61 school districts, which was the first year that WFPL ratings were collected from districts across the state.

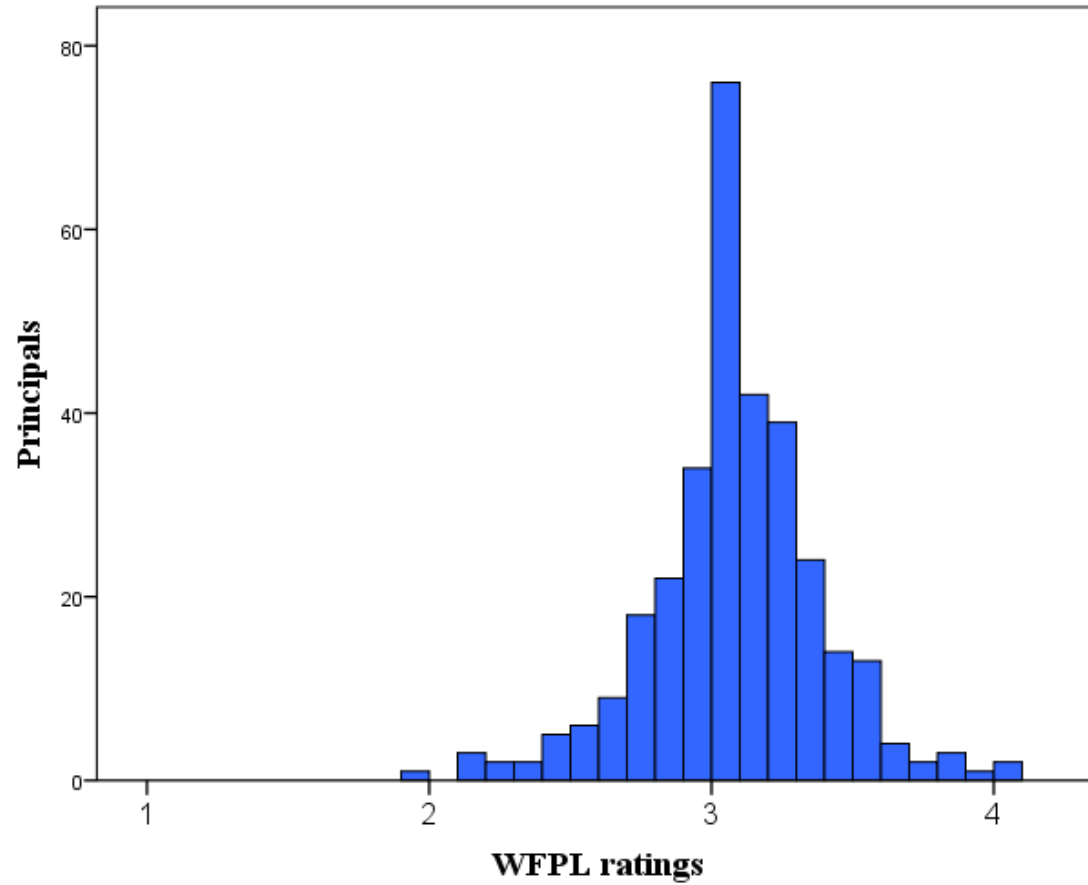
Wisconsin Framework for Principal Leadership Ratings



WFPL ratings of principal effectiveness – descriptive statistics

| | <i>Items</i> | <i>Internal Consistency</i> | <i>Mean</i> | <i>Std. Dev.</i> |
|---|--------------|---------------------------------|-------------|----------------------|
| Human Resource Leadership | 5 | .75 | 3.07 | 0.36 |
| Instructional Leadership | 5 | .80 | 3.02 | 0.40 |
| Personal Behavior | 4 | .70 | 3.12 | 0.37 |
| Intentional and Collaborative School Culture | 4 | .73 | 3.06 | 0.37 |
| School Management | 3 | .59 | 3.12 | 0.32 |
| Overall WFPL Rating | 5 subdomains | .88 | 3.08 | 0.30 |

Distribution of Overall WFPL Ratings



Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness

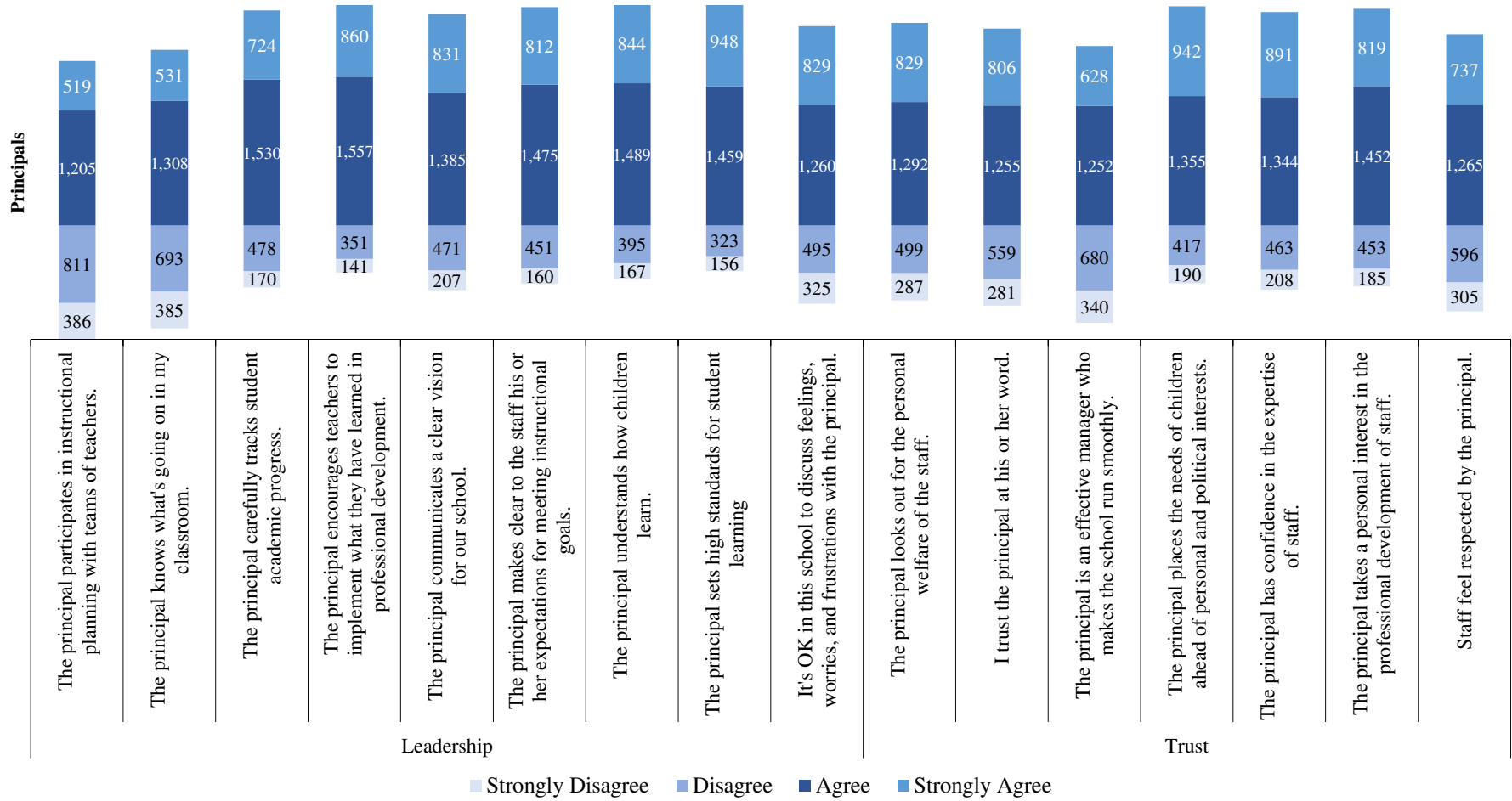
- As part of the state-wide evaluation of EE, each year SREed conducts a state-wide survey of teachers.
- In the 2016-17 evaluation, over 21,000 teachers completed the survey, which represented about 42% of all Wisconsin classroom teachers.
- The survey measures a number of aspects of schools. For the current study, we focus on teacher perceptions of:
 - **Principal Leadership and Trust** (5Essential Survey; Bryk, Sebring, Allensworth, Easton, & Luppescu, 2010)
 - **Qualifications to provide performance feedback, Usefulness of feedback, and Accuracy of feedback** (The Examining Evaluator Feedback Survey; Cherasaro, Brodersen, Yanoski, Welp, & Reale, 2015)

Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness

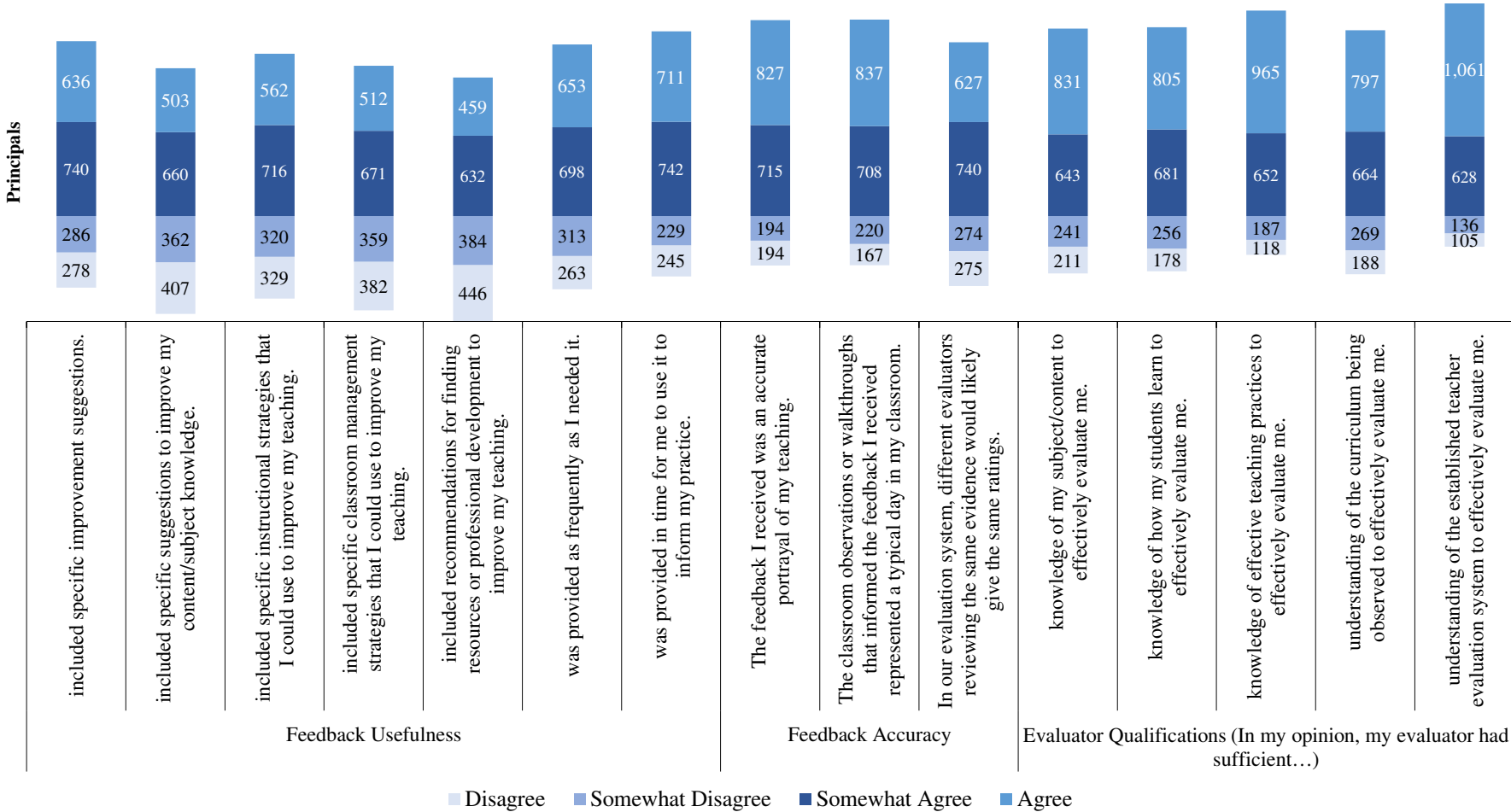
- Of the 322 schools with WFPL ratings, 162 had at least 40% of classroom teachers complete a survey.
- 2,873 classroom teachers completed surveys in these schools, representing a 62% response rate.
- 114 (70.3%) were elementary schools, 20 (12.3 %) were middle schools, 22 (13.6%) were high schools, and 6 (3.7%) were combined elementary and secondary schools.
- In 56 schools (34.6%) the principal was new (in their first three years).
- 60 schools were from the Milwaukee Public Schools.

| | <i>Min</i> | <i>Max</i> | <i>Mean</i> | <i>Std. Dev.</i> |
|---|------------|------------|-------------|------------------|
| Enrollment | 42 | 1,903 | 475 | 254 |
| Percent Students with Disability | 5.2% | 77.8% | 17.5% | 7.7% |
| Percent Economic Disadvantaged Students | 2.1% | 99.0% | 60.7% | 26.5% |
| Percent White Students | 0.6% | 95.2% | 44.9% | 33.1% |

Teacher Evaluations of Principal Leadership and Trust



Teacher Perceptions of Performance Feedback



Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness

Teacher ratings of principal effectiveness – descriptive statistics

| | <i>Items</i> | <i>Internal Consistency</i> | <i>Mean</i> | <i>Std. Dev.</i> | <i>Responses</i> |
|-----------------------------|--------------|-----------------------------|-------------|------------------|------------------|
| Principal Leadership | 8 | .94 | 2.93 | 0.70 | 2,873 |
| Principal – Teacher Trust | 8 | .96 | 2.91 | 0.79 | 2,872 |
| Feedback Quality/Usefulness | 7 | .95 | 2.78 | 0.92 | 1,942 |
| Feedback Accuracy | 3 | .86 | 3.05 | 0.87 | 1,924 |
| Evaluator Qualifications | 5 | .94 | 3.18 | 0.84 | 1,915 |

Correlation matrix of school factors ($n = 162$)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|--|--------|--------|--------|-------|-------|--------|--------|--------|-------|-------|------|--------|--------|------|
| 1. Human Resource Leadership Rating | - | | | | | | | | | | | | | |
| 2. Instructional Leadership Rating | .80** | - | | | | | | | | | | | | |
| 3. Personal Behavior Rating | .75** | .65** | - | | | | | | | | | | | |
| 4. Intentional & Collaborative School Culture Rating | .72** | .71** | .65** | - | | | | | | | | | | |
| 5. School Management Rating | .46** | .49** | .51** | .50** | - | | | | | | | | | |
| 6. Overall WFPL Rating | .90** | .88** | .85** | .86** | .69** | - | | | | | | | | |
| 7. Principal Leadership | .39** | .39** | .26** | .36** | .08 | .36** | - | | | | | | | |
| 8. Principal – Teacher Trust | .36** | .36** | .22** | .36** | .10 | .34** | .91** | - | | | | | | |
| 9. Feedback Quality | .17* | .16* | .09 | .16* | .08 | .15 | .57** | .50** | - | | | | | |
| 10. Feedback Accuracy | .27** | .30** | .14 | .26** | .11 | .26** | .60** | .64** | .62** | - | | | | |
| 11. Evaluator Qualifications | .25** | .26** | .17* | .28** | .13 | .26** | .71** | .71** | .71** | .76** | - | | | |
| 12. Percent students with disabilities | -.09 | -.25** | -.03 | -.01 | .10 | -.08 | -.23** | -.20** | .10 | -.11 | -.07 | - | | |
| 13. Percent students Econ. Disadv. | -.27** | -.36** | -.29** | -.18* | -.20* | -.32** | -.20* | -.25** | .10 | -.20* | -.08 | .42** | - | |
| 14. Percent White students | .30** | .41** | .31** | .20* | .23** | .36** | .27** | .34** | -.02 | .27** | .18* | -.34** | -.88** | - |
| 14. Enrollment | -.01 | -.03 | .02 | .02 | .01 | .003 | -.13 | -.12 | .03 | -.08 | -.02 | -.06 | .01 | -.13 |

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| 14. Enrollment | -.01 | -.03 | .02 | .02 | .01 | .003 | -.13 | -.12 | .03 | -.08 | -.02 | -.06 | .01 | -.13 |

Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness

- Hierarchical linear modeling (HLM) (Raudenbush & Bryk, 2002), was used to test the agreement between WFPL ratings and teacher perceptions of principal effectiveness.
- First, an unconditional model was used to determine the degree that teacher perceptions of principal effectiveness were related to school factors. The first, or unconditional model, for teacher (i) in school (j) is written as,

$$Y_{ij} = \gamma_{00} + u_{0j} + r_{ij}$$

- Second, WFPL ratings were included in the model, to determine its bivariate relationship with each aspect of teacher perceptions of principal effectiveness. This is written as,

$$Y_{ij} = \gamma_{00} + \gamma_{01}(WFPL)_j + u_{0j} + r_{ij}$$

- Third, school and principal characteristics were added to the model to clarify the relationship of WFPL ratings with teacher perceptions of principal effectiveness. This model was expressed as,

$$Y_{ij} = \gamma_{00} + \gamma_{01}(WFPL)_j + \gamma_{02}(\%White)_j + \gamma_{03}(HS)_j + \gamma_{04}(New\ Principal)_j + u_{0j} + r_{ij}$$

Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness

| Outcome | <i>ICC (Percent of variance attributed to school)</i> | <i>B (WFPL ratings)</i> | <i>Teacher level standardized effect size (Z)</i> | <i>School level standardized effect size (Z)</i> | <i>School Pseudo R²(after including WFPL ratings)</i> | <i>School Pseudo R²(after also including school and principal characteristics)</i> |
|---------------------------|---|-------------------------|---|--|--|---|
| Principal Leadership | 26.0% | 0.47 | 0.20 | 0.36 | 16.5% | 25.5% |
| Principal – Teacher Trust | 26.4% | 0.50 | 0.19 | 0.34 | 10.1% | 24.8% |
| Feedback Quality | 8.7% | 0.21 | 0.07 | 0.11 | 2.7% | 12.8% |
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Study 1 – Measuring the Concurrent Validity of WFPL Ratings with Teacher Perceptions of Principal Effectiveness - Conclusions

- Little variability in WFPL ratings, with most principals rated near Proficient.
- Seemingly small differences in ratings of principal effectiveness reflected significant differences in the quality of leadership experienced by teachers.
- WFPL ratings were strong predictors of teacher perceptions of principal leadership, trust, perceptions of principal qualifications, feedback usefulness, and feedback accuracy.
- WFPL ratings, assigned by administrators, have a high degree of concurrent validity with teacher perceptions of principal effectiveness.
- WFPL ratings differentiate between the effectiveness of principals across a number of aspects of their role.

Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

- Low-income and ethnically diverse schools are more likely to have principals with less experience and less education, and principals in these schools are more likely to transfer away (Loeb, Kalogrides, & Horng, 2010; Clofelter, Ladd, Vignor, & Wheeler, 2007).
- Most state equity plans fail to mention anything about principals.
- It is not clear how documented differences in principal credentials translate into differences in effectiveness ratings.
- The current study addresses this by examining the relationships of 322 principal effectiveness ratings with school characteristics within 61 school districts.

Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

- 210 (65.2%) were ES, 43 (13.4 %) were MS, 56 (17.4%) were HS, and 13 (4.0%) were K-12.
- In 57 (18%), the principal was a 1st year principal, in 31 (10%) the principal was in their 2nd year, and in 234 (73%) schools the principal had three or more years.
- 11 school districts only had one school with ratings

Districts with more than 10 schools included in study

| District | Schools with WFPL ratings |
|---------------------------------------|---------------------------|
| Milwaukee Public Schools | 64 |
| Kenosha School District | 34 |
| Madison Metropolitan School District | 20 |
| Green Bay Area Public School District | 19 |
| Waukesha School District | 15 |
| Racine Unified School District | 13 |
| Appleton Area School District | 12 |
| Oshkosh Area School District | 11 |

Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

Correlation matrix of school factors ($n = 322$)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---------|---------|---------|---------|---------|--------|--------|---------|---------|
| 1. WFPL effectiveness rating | 1 | | | | | | | | |
| 2. Human Resource Leadership Subdomain | .891** | 1 | | | | | | | |
| 3. Instructional Leadership Subdomain | .864** | .777** | 1 | | | | | | |
| 4. Personal Behavior Subdomain | .853** | .717** | .630** | 1 | | | | | |
| 5. Intentional and Collaborative School Culture Subdomain | .849** | .698** | .661** | .682** | 1 | | | | |
| 6. School Management Subdomain | .699** | .504** | .485** | .511** | .477** | 1 | | | |
| 7. Enrollment | .040 | .013 | .020 | .054 | .043 | .036 | 1 | | |
| 8. Percent students with disabilities | -.135* | -.164** | -.253** | -.077 | -.083 | .045 | -.099 | 1 | |
| 9. Percent students economic disadvantaged | -.242** | -.213** | -.249** | -.229** | -.175** | -.128* | -.104 | .459** | 1 |
| 10. Percent White students | .292** | .262** | .294** | .260** | .193** | .197** | -.119* | -.356** | -.844** |

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Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

WFPL ratings - comparison of new and experienced principals

| | Mean | Std. Dev. | ANOVA results | Sum of Squares | df | Mean Square | F | Sig. |
|---------------------|------|-----------|----------------|----------------|-----|-------------|--------|-------|
| First-year | 2.88 | 0.31 | Between Groups | 3.499 | 2 | 1.749 | 21.208 | <.001 |
| Second-year | 2.98 | 0.29 | Within Groups | 26.314 | 319 | 0.082 | | |
| Three or more years | 3.14 | 0.28 | | | | | | |

Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

- Generalized Linear Modeling (GLM), with Robust Standard Errors with fixed district effects, was used to identify the school and principal factors that most related to WFPL ratings within districts.
- All of the study factors listed in the correlation matrix, along with fixed district effects, school type (high school versus not) and principal experience, were initially included in the models. A parsimonious model was built by removing non-significant factors.
- The resulting model presented below was then used to examine the relationship of WFPL ratings with school student racial composition and principal experience within school districts:

$$\text{WFPL rating}_{ij} = \gamma_{00} + \gamma_{01}(\%white)_j + \gamma_{02}(\text{First} - \text{year principal})_j + \gamma_{03}(\text{Second} - \text{year principal})_j + \gamma_{04}(\%white)^2_j + \sum_{j-1}^j \gamma_{05j} D_j + r_{ij}$$

Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

- School racial composition and principal experience all independently explained WFPL ratings within school districts.
- The quadratic form of school racial composition was also predictive of WFPL ratings.

Results of generalized linear model of WFPL ratings

| | Type III Wald Chi-Square | <i>df</i> | <i>p</i> -value |
|------------------------|--------------------------|-----------|-----------------|
| (Intercept) | 979.595 | 1 | < .001 |
| District | 27531634.12 | 47 | < .001 |
| Principal experience | 17.767 | 2 | < .001 |
| Percent White Students | 11.183 | 1 | 0.001 |
| Percent White Students | 19.156 | 1 | < .001 |
| (Quadratic) | | | |

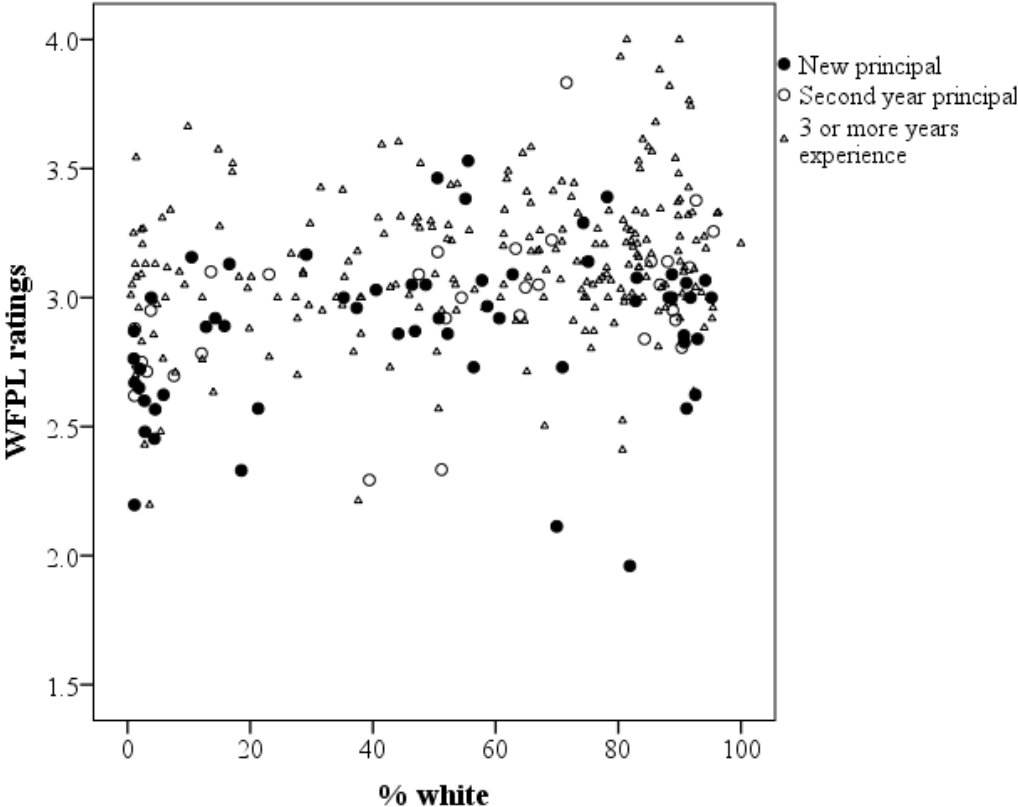
Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts

- First-year principals were rated an adjusted 0.19 points less effective ($z = .63$) than experienced principals.
- WFPL ratings are more related to school racial composition in the schools with the most students of color within districts.
- Comparing two schools within a school district, one in a school with 50% students of color would be predicted to be rated .34 scale points higher than a principal in a school with 100% students of color ($z = 1.1$).

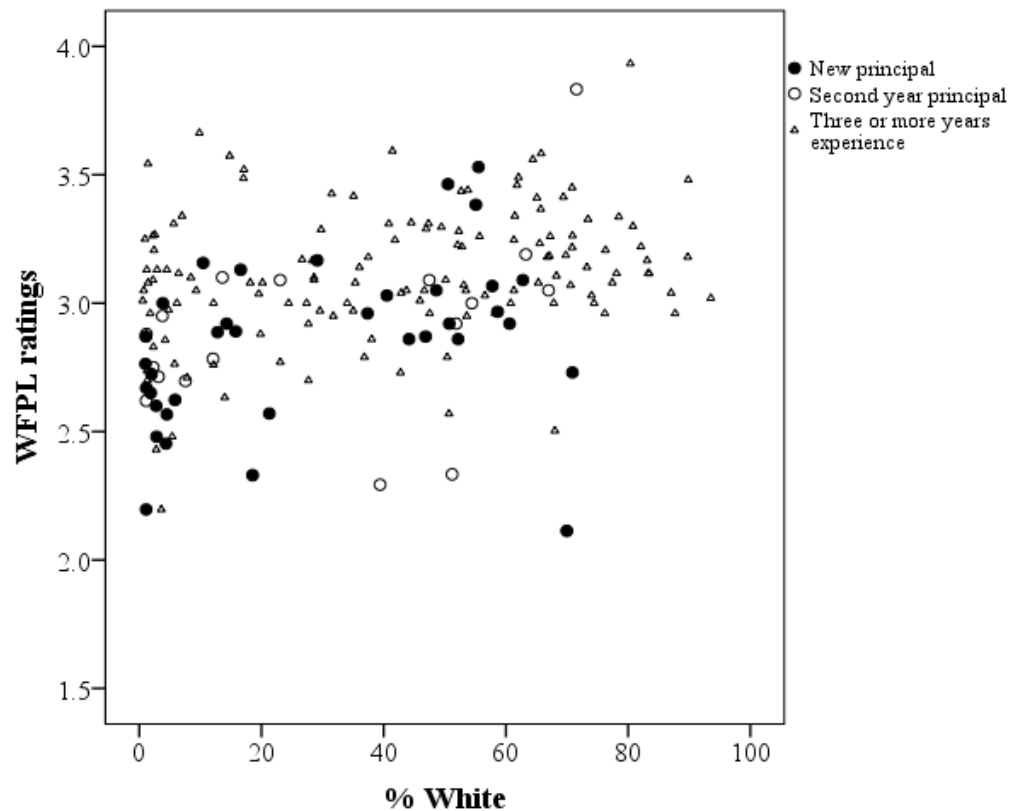
Results of generalized linear model of WFPL ratings

| | <i>B</i> | <i>Std. Error</i> |
|---------------------------------------|-----------|-------------------|
| First-year | -0.190 | 0.0471 |
| Second-year | -0.094 | 0.0603 |
| Three or more years | - | - |
| Percent White Students | 0.01199 | 0.00274 |
| Percent White Students (Quadratic) | -0.000105 | 0.0000314 |

Study 2 – Scatter plot of school racial composition and WFPL ratings across all 322 schools



Study 2 – Scatter plot of school racial composition and WFPL ratings in districts with at least 10 schools in study ($n = 188$)



Study 2 – Measuring the Principal Effectiveness Equity Gap within Wisconsin School Districts - Conclusions

- We found clear evidence of principal equity gaps within Wisconsin school districts.
- More effective principals were found in less diverse and more affluent schools.
- The size of the gap within school districts was large. A principal in a school comprised mostly of students of color, was rated as 1.1 standard deviation less effective than one in a school with fewer students of color.
- Principal experience was found to be independently related to effectiveness ratings. A novice principal in a diverse school was 1.6 standard deviations less effective.
- Given the large impact principals have on teacher employment experiences, and the size of the effectiveness gaps measured in this study, many of the most diverse Wisconsin schools are likely to continue to face difficulties attracting and retaining effective teachers. Any efforts to improve their access to effective teachers must also address their access to effective school leadership.

Thanks!

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