

**TESTING LSA'S  
THEORY OF ACTION**

# NEW LSA RESEARCH

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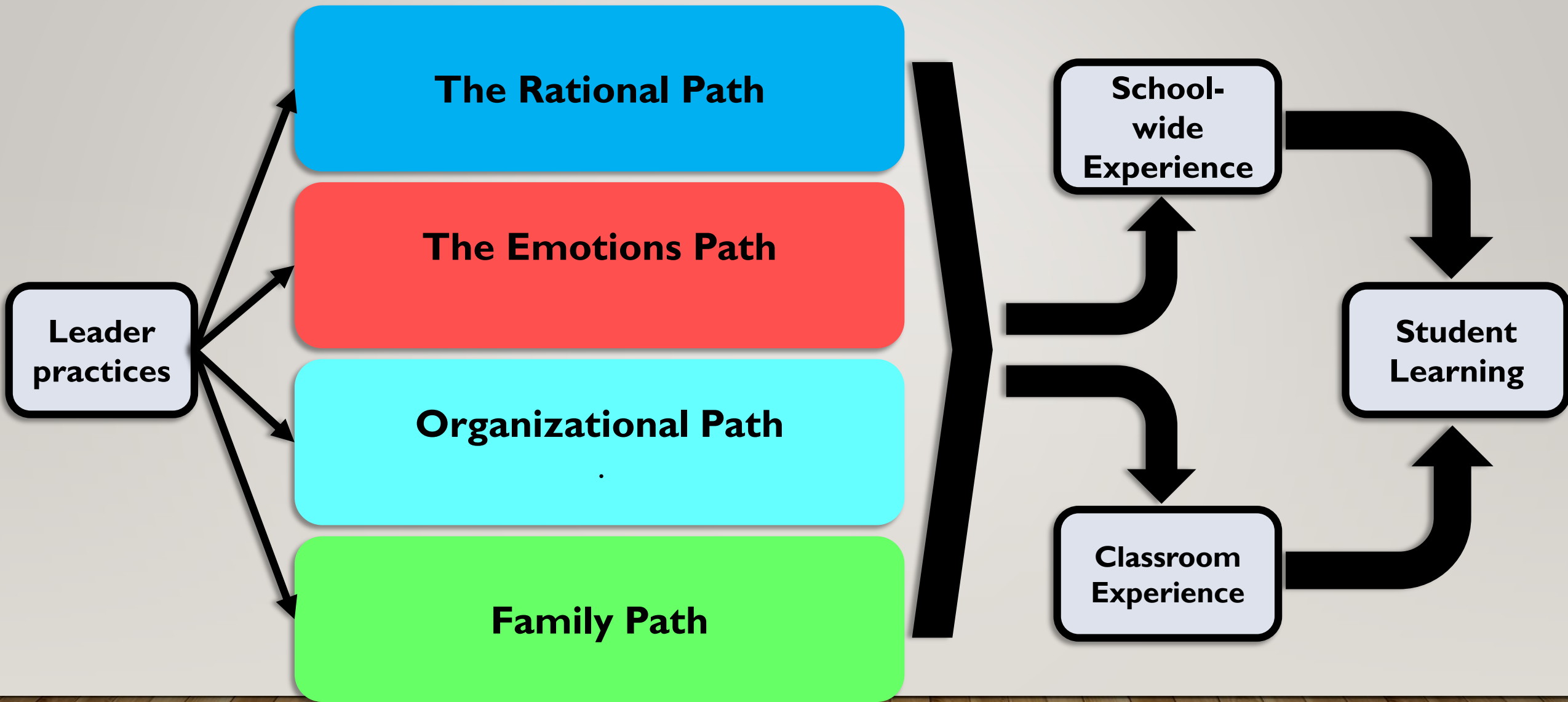
**AND**

**NEXT STEPS IN LSA'S  
RESEARCH ON  
EFFECTIVE  
LEADERSHIP  
NETWORKS**

# LSA'S THEORY OF ACTION

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## **A TEST OF THE FOUR PATHS MODEL**



# PURPOSES SERVED BY THE THEORY OF ACTION

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A framework for classifying and making sense of LSA's supports, resources and priorities

A source of guidance for leaders of the LSA project about future directions

A model for guiding the school improvement work of school leaders

# FIRST TEST

(LEITHWOOD, PATTEN, JANTZI (EAQ, 46, 5, 671-706, 2010))

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## The study:

- teacher data from 1445 teachers in 199 Ontario schools (measured the 4 path variables)
- student achievement data - grade 3 and 6 EQAO test results

## Results

- the four paths model as a whole, explained 43% of the variation on students' math and language achievement

# NEW TEST: *REPLICATION AND EXTENSION*

(LEITHWOOD, SUN, SCHUMACKER, 2018, AERA)

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## The Study

- teacher data from 1749 teachers in 81 Texas schools (measured the 4 path variables)
- Student Achievement data = Texas Star Percentage at Phase-in Satisfactory or Above (combined measures across multiple subjects)
- Student SES: Count and percentage of students eligible for free/reduced lunch and etc

# CONCEPTION OF SCHOOL LEADERSHIP PRACTICES:

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## *FOUR DOMAINS AND 21 SPECIFIC PRACTICES*

- Set Directions
- Build Relationships and Developing People
- Design the Organization to Support Desired Practices
- Improving the Instructional Program

e.g. *The Ontario Leadership Framework (Leithwood, 2012)*

# ANALYSIS

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Descriptive statistics

Correlations

Multiple regression analysis

Structural equation modeling



THE DIRECT EFFECTS  
OF  
INDIVIDUAL FOUR PATH VARIABLES  
ON  
STUDENT ACHIEVEMENT

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# THE RATIONAL PATH

## Correlations

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- **Classroom instruction CI (.02)**
- **Academic Press AP (.42)**
- **Disciplinary Climate DC (.56)**
- **Teachers' Uses of Instructional Time UIT (.42)**

## Regression Analysis

- **DC had the primary influence on student learning followed by UIT**

# THE EMOTIONS PATH

## Correlations

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- **Collective Teacher Efficacy CTE (.52)**
- **Teacher Commitment TC (.30)**
- **Teacher Trust in Others TT (.50)**

## Regression Analyses

- **CTE had primary influence on student learning.**

# ORGANIZATIONAL PATH

## Correlations

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- **Safe and orderly environments SOE (.44)**
- **Organizing for planning and instruction time OPIT (.24)**
- **Collaborative cultures and structures CCS (.25)**

## Regression Analysis

- **SOE had the largest impact on student learning**

# FAMILY PATH

## Correlations

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- *Parent expectations for child's success at school and beyond* **PE (.64)**
- *Parent/child communications in the home* **PC (.61)**
- *Parents' social capital related to schooling* **PSC (.68)**

## Regression Analysis

- *Similar strong influence of all three variables on achievement*

# School Leadership Effects

*(Structural Equation Model)*

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- Test Direct Effects of School Leadership on Four Paths
- Test Indirect Effects of School Leadership on Student Achievement through the Four Paths

(also test SES direct and indirect effects)

**Model as a whole explained 67% of the variation in student achievement**

# DIRECT EFFECTS OF SCHOOL LEADERSHIP ON EACH OF THE FOUR PATHS

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**Rational Path = .58**

**Emotions Path = .74**

**Organizational Path = .83**

**Family Path = .34**

**School leadership had significant direct effects  
on all Four Paths**

# INDIRECT EFFECTS OF SCHOOL LEADERSHIP ON STUDENT ACHIEVEMENT

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**School Leadership -> Rational Path -> Student Achievement = .42**

**School Leadership -> Emotions Path -> Student Achievement = -.09**

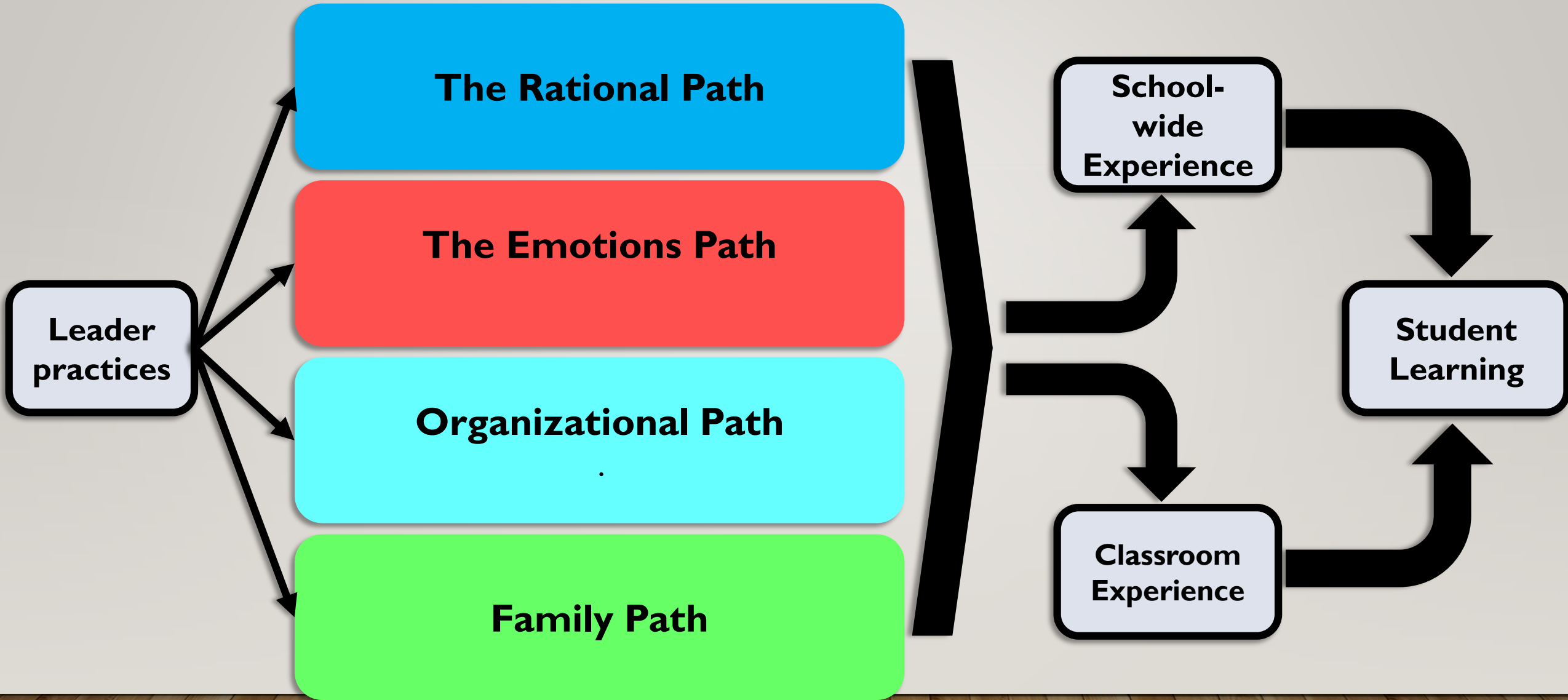
**School Leadership -> Organizational Path -> Student Achievement = -.013**

**School Leadership -> Family Path -> Student Achievement = .02**

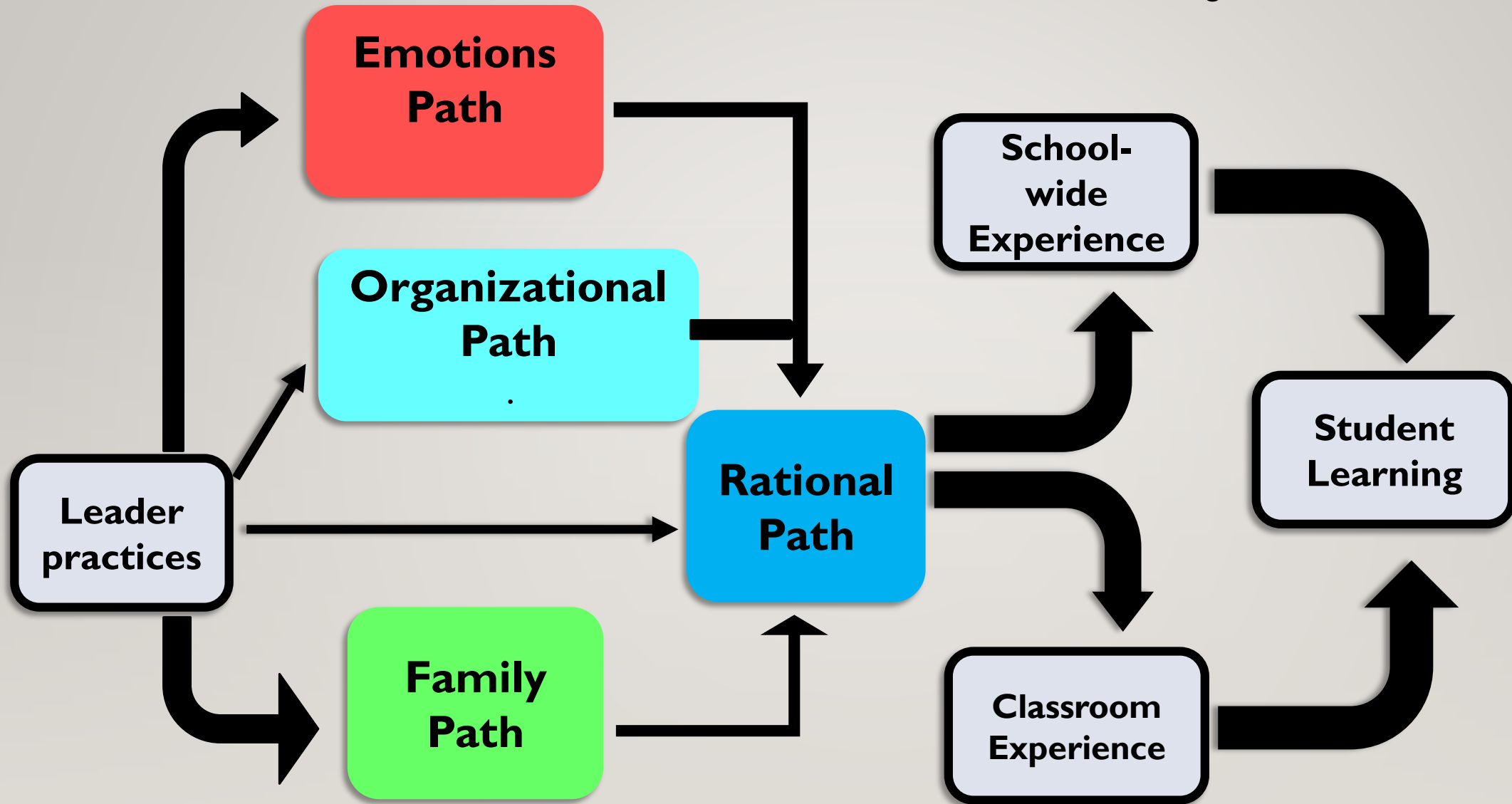
**School Leadership had significant effects on achievement  
only through the Rational Path**



Theoretical Four Paths Framework  
Not Supported by Data



Should the Theoretical Model be Changed?



# FOUR IMPLICATIONS

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- Importance of replication (additional confidence)
- Deepens our understanding of how the paths are related
- Suggests a different orientation for leaders aiming to improve the status of path variables in their schools
- Opens up new lines of inquiry about relationships among variables on three of the paths and variables on the Rational Path

# NEW DIRECTIONS FOR LSA RESEARCH ON LEADERSHIP NETWORKS

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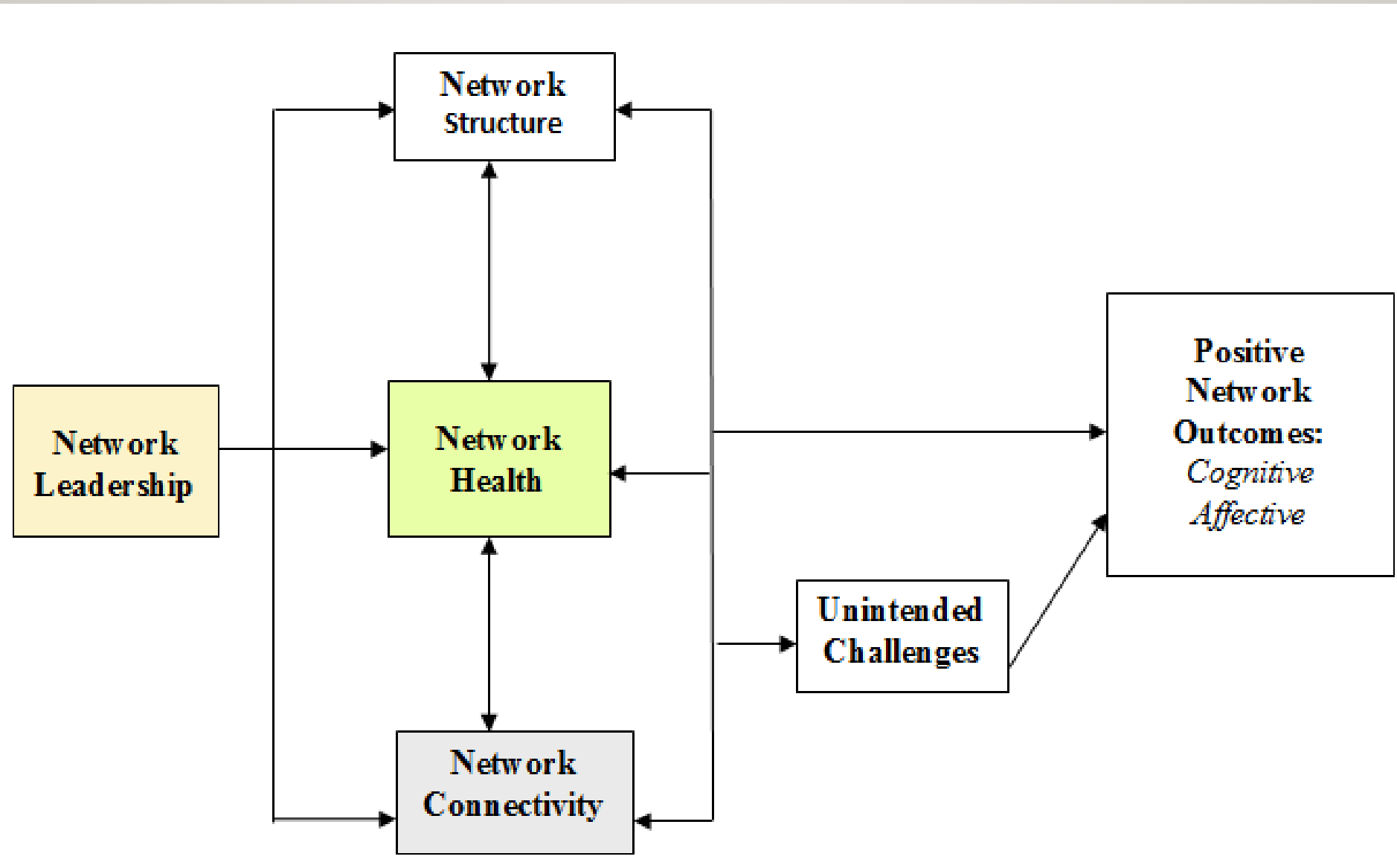
## 1<sup>st</sup> study

Leithwood, K., Azah, V. (2016). Characteristics of effective leadership networks, *Journal of Educational Administration*, 54, 4.

## 2<sup>nd</sup> study

Leithwood, K. (in press). Characteristics of effective leadership networks: A Replication and Extension, *School Leadership and Management*.

# INITIAL FRAMEWORK



# OVERALL RESULTS SIMILAR FOR BOTH STUDIES

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- ▶ **The model** (framework) was a very good fit with the data (as a whole explained 51% of the variation in Network Outcomes).
- ▶ **Network Leadership** had the largest total effect on Network Outcomes ( $R^2 = .56$ ) *followed closely by the effects of ....*
- ▶ **Network Health** ( $R^2 = .49$ )  
and
- ▶ **Network Connectivity** ( $R^2 = .46$ ).

...SO *(FOLLOWING THE EVIDENCE)* NEXT STUDY:

A FOCUS ON NETWORK LEADERSHIP

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Today's Surveys