School Disparities in Teacher Trust in Students: What Can Principals Do?

[1]Curt M. Adams

Abstract

The intent behind this study was to understand how school principals might work through teachers to engender better trusting teacher-student relationships, particularly in high poverty, high minority schools. Three research questions were advanced for the empirical investigation: (1) What is the relationship between school social composition (e.g. FRL rate and percent students of color) and teacher trust in students? (2) Does Principal Support of Student Psychological Needs moderate the relationship between school composition and teacher trust in students? (3) Do other leadership practices, such as transformational leadership and teacher evaluation, influence teacher trust in students?

Keywords: *Teacher Trust in Students; Principal Support; School Disparities; Psychological Needs*

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[1]Curt M. Adams, PhD, Professor, Educational Leadership and Policy Studies, Jeannine Rainbolt College of Education, University of Oklahoma, Norman, OK.
Email: curtadams@ou.edu

School Disparities in Teacher Trust in Students: What Can Principals Do?

Teacher trust in students is a social resource that all students deserve for optimal learning; yet, not all students experience teacher trust equally. Evidence from different cross-sections of public schools in the US report that teachers in high poverty, high minority schools have lower trust in students compared to teachers in schools with a greater percentage of White and higher income students (Adams, 2014; Goddard, Hoy, & Tschannen-Moran, 2001; Goddard, Salloum, & Berebitsky, 2009). This disparity is not limited to US schools. Van Maele and Van Houtte (2009, 2011) found similar patterns in Flanders where teachers trusted students less in schools with higher percentages of low-income and immigrant students.

Trust disparities raise an important leadership question that this study addresses: How might school principals work indirectly through teachers to influence teacher trust in students? The study begins by reviewing literature on cognitive processes involved in trust formation. From here, the literature review shifts to the concept of Principal Support of Student Psychological Needs, a conversational approach to leadership that is advanced as a means to influence teacher trust in students by way of mental representations. The literature review leads to three research questions that guided the empirical investigation: What is the relationship between school composition (e.g. FRL rate and percent students of color) and teacher trust in students? Does Principal Support of Student Psychological Needs moderate the relationship between school composition and teacher trust in students? Do other leadership practices, such as transformational leadership and teacher evaluation, influence teacher trust in students?

Cognitive Processes: A Hidden Pathway to Teacher Trust in Students

The work of Hoy and colleagues grounds the definition of trust used in this study (see: Forsyth et al., 2011; Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 2000). Trust is defined as one party's willingness to risk vulnerability based on confidence that the other party is benevolent, competent, open, honest, and reliable (Tschannen-Moran & Hoy, 2000). Trust formation is a dynamic, social-cognitive process that results in a judgment about another party's trustworthiness (Bryk & Schneider, 2002; Tschannen-Moran & Hoy, 1999). Socially, actions and interactions transmit trust producing information, both verbally and nonverbally, that individuals and role groups cognitively weigh and judge as they discern how the behavior of the trustee corresponds with socially defined expectations for the role-group (Bryk & Schneider, 2002;Dirks & Ferrin, 2003; Forsyth, et al., 2011; Lewis & Weigert, 1985). Discernment is the cognitive dimension of trust formation. Individuals discern the intentions of another party based on judgements of past behavior and perceptions of future intent (Hoy & Tschannen-Moran, 1999).

Cognitive processes have been overlooked in trust formation. Conceptually, the cognitive side of trust describes the discernment process where judgments of another party's trustworthiness form (Jones & George, 1998; Lewis & Weigert 1985; Rousseau, et al. 1998). Early theorizing largely reduced the cognitive dimension to rational choices and calculations from which a decision to risk vulnerability derives (Hoy & Tschannen-Moran,1999; Giddens, 1990; Lewis & Weigert, 1985). Grounding cognitive processes in rational choices, though,

trivializes what in reality is a complex, dynamic mental activity from which subjective interpretations like trust emerge (Nooteboom, 2003, 2006).

More recent trust scholarship has extended into mental structures that affect how information from the environment is encoded and decoded against decision-making heuristics (Nooteboom, 2006). Accordingly, Nooteboom (2003) argues that cognition affects trust formation through mental heuristics that are used to interpret, evaluate, and explain interpersonal experiences. Lindenberg (2003) expands this argument by claiming that mental representations associated with specific circumstances determine how we perceive and respond to situations and events. As an example, a social encounter with a friend triggers a preexisting mental model of friendship that simultaneously affects engagement in the relationship and judgements about the friend's trustworthiness.

Research in social-psychology suggests that cognitive processes are not trivial throughways to teacher discernments of student trustworthiness. Subjective social judgments, like trust, traverse complicated mental representations (Conrey & Smith, 2007; Smith, 1998) and automatic associations (Florack, et al., , 2001; Ferreira et al., 2006; Greenwald, et al.,1998; Sherman et al., 2008;) before arriving at a formulated belief and affecting one's actions. Our unconscious minds control many habitual behavioral responses that in many cases occur unintentionally and even unknowingly (Kahneman, 2011; Staats, 2016). For instance, harmful disciplinary practices inflicted on students of color, particularly Black male students, originate in part from unconscious teacher stereotypes that frame students as deficient, as troublemakers, and requiring disciplinary control (Okonofua,et al., 2016; Okonofua & Eberhardt, 2015). It is not a leap to conjecture that the cognitive roots underneath diminished trust are tightly and inextricably entangled around the same unconscious representations contributing to inequities and disparities in school climate, discipline, and educational access/opportunities.

Cognitive evidence reveals that teacher trust in students is not merely a function of objective student behavior. Trust depends on how teachers interpret and explain situations and behavior patterns. This point is critical when considering the positionality of principals in the teacher-student relationship. Principals have relatively little control over social sources of teacher trust discernments. They cannot stand next to students and remind them to be competent, benevolent, open, honest, and reliable when engaging with teachers and academic tasks, and even if they could, and even if students displayed these characteristics, there is no guarantee teacher trust would improve. Subjective interpretations are highly sensitive to implicit assumptions and prejudicial associations embedded in mental representations (Okonofua & Eberhardt, 2015; Staats, 2016; Walton & Wilson, 2018). Within this in mind, mental representations present a door from which principals might enter teacher trust discernments.

Mental representations change over time and through interactions that in some situations deepen existing knowledge structures and in other cases challenge and expand what we know and believe (Dweck & London, 2004). For principals, influencing teacher trust in students may involve using conversations to socially construct mental representations that enable teachers to see students humanistically, and to understand student behavior as a complex interaction between the student and her/his environment (Adams & Olsen, 2017). In schools with a high percentage of low-income and students of color, principal-teacher conversation must contend with implicit and explicit prejudicial associations that frame students as deficient, at-risk,

unmotivated, and other dehumanizing representations that bias interpretations and discernments (Okonofua & Eberhardt, 2015; Staats, 2016; Walton & Wilson, 2018). Herein lies the utility in talking with teachers in ways that might disrupt harmful representations and form new associations around student psychological needs and need-supportive instructional climates.

Principal Support of Student Psychological Needs

Principal Support of Student Psychological Needs (PSSPN) is a construct that aligns with the learning-centered responsibilities and behaviors associated with the principal role. Learning centered leadership is multi-dimensional in that it spans and connects various structures, processes, and actions that work dynamically to organize learning opportunities and experiences (Goldring, et al., 2009; Murphy, et al., 2006). Specifically, PSSPN defines a social context where principals and teachers talk about the degree to which instructional features of the school and classroom environment nurture or thwart student academic thriving (Adams & Olsen, 2017).

PSSPN derives from two theoretical sources. First, Groysberg and Sind (2012), with their conceptualization of organizational conversation, explain modern leadership as being an ongoing conversation organized by interactivity, inclusivity, intimacy, and intentionality. Intimacy, interactivity, and inclusion capture the "how" of leadership conversation. Intimacy characterizes conversation as close personal communication based on trust, openness, and collegiality. Interactivity seeks ongoing dialogue between leaders and employees. Inclusion engages all employees in intimate and interactive conversation.

Intentionality addresses the "what" of leadership conversation. In building the case for intentionality, Groysberg and Slind (2012) argue that simply communicating with employees is not sufficient for building knowledge about strategic actions and outcomes. Influential and persuasive interactions often have specific intent behind the language used and the information exchanged. Intentionality directs sense making and actions toward strategies and practices designed to bring future aims and goals to life (Groysberg & Slind, 2012). Intentionality is the component applied to PSSPN. Intentional conversations bring order and structure to interactions so that information exchanged between two parties facilitates meaning making processes (Adams & Olsen, 2017).

The second component derives from self-determination theory and its explanation for how social-psychological interactions can be experienced in ways that facilitate innate, adaptive processes of individuals or, conversely, in ways that thwart natural tendencies toward learning and growth (Deci & Ryan, 2016). Our basic psychological needs of autonomy, competence, and relatedness operate as the fulcrum between social context and autonomous motivation, positive adjustment and personal wellbeing (Deci & Ryan, 2016). For students, autonomy is a psychological state characterized by perceived agency and internal control over learning goals and outcomes. Competence is experienced as a belief that students can meet the challenges of schoolwork and perform at high academic levels (Niemiec & Ryan, 2009). Relatedness reflects feelings of security, attachment, and belonging to educators and the school (Ryan & Deci, 2000).

Principal-teacher conversations about student autonomy de-emphasize evaluating and controlling pedagogical practices while stressing the relevance and meaningfulness of learning tasks, affording voice and choice in activities, and framing goals that have intrinsic value and purpose (Assor et al, 2002; Niemiec & Ryan, 2009). Competence-supportive conversations

center on how teachers communicate high expectations for students, how they use performance information and feedback in non-controlling ways, and how they build student confidence with optimally challenging tasks (Reeve & Halusic, 2009). Relational-supportive conversations address the social adjustment of students, respect and acceptance of students, and open communication with parents/guardians (Deci & Ryan, 2016).

The intent of PSSPN is to structure conversations so that teachers develop a mental representation that enables them to understand if and how their instructional strategies are activating or thwarting the autonomy, competence, and relatedness of students (Adams & Olsen, 2017). Importantly, principal support does not involve telling teachers how to teach or controlling their practices; instead, it functions as an external reference to encourage teachers to think about the social and psychological factors behind student engagement in the learning process. Rather than attributing academic success or failure to natural genetic traits, a mental representation of basic psychological needs directs teacher attention to controllable conditions in the social environment that can maximize student growth (Roth & Weinstock, 2013).

At the school level, PSSPN captures a general climate in which the principal and teachers are talking about how school and classroom structures – such as curriculum, pedagogy, assessments – are being used to activate student agency and self-determination (Adams & Olsen 2017). Principal-teacher conversations do not alter the observational evidence teachers gain through interactions with students and colleagues, but information about need-support has the capacity to expand and/or deepen mental representations involved in trust discernments. This speculation leads to questions for the empirical study:

(1) What is the relationship between school composition (e.g. FRL rate and percent students of color) and teacher trust in students?
(2) Does PSSPN moderate the relationship between school composition and teacher trust in students?
(3) Do other leadership practices, such as transformational leadership and teacher evaluation, influence teacher trust in students?

Methods

A cross-sectional research design based was used to gather data for the research questions. Data were collected in spring 2017 from a random sample of teachers in 74 elementary, middle, and high schools located in a metropolitan city of a southern state. Schools in the sample mirror the population of many urban schools in the United States. The average free and reduced lunch rate for schools was 79 percent. The average student racial composition was 33 percent Hispanic, 25 percent Black, 25 percent white 9 percent multi-racial, 6 percent Native American, and 2 percent Asian.

Data were collected with an electronic survey emailed directly to teachers. Surveys were administered in two-week range with a total of three follow-up reminder emails. Teachers in each school received either survey form B, which included the measure of teacher trust in students, or survey form A, which included leadership measures. Of the 1,305 teachers who received survey B, usable responses were recorded from 896 teachers. Of the 1,285 teachers who received survey A, usable responses were recorded from 801 teachers. Data on survey form A were aggregated to the school level. Of teachers responding with usable surveys, 67 percent

reported being White, 19 percent Black, 9 percent Hispanic, 4 percent Native American, and 2 percent were or other.

Measures

Teacher trust in students was measured with items from the Omnibus Trust Scale (Tschannen-Moran, 2004). The scale parallels the theoretical properties of trust in that it operationalizes teacher perceptions of the openness, honesty, benevolence, reliability, and competence of students and colleagues. Items used a 6-point Likert response set ranging from 1 Strongly Disagree to 6 Strongly Agree. Sample faculty trust in student items include: "Students in this school can be counted on to do their work." "Teachers believe students in this school are competent learners." Trust items maintained good structural validity and reliability with data from our sample. Exploratory factor analysis with principal-axis extraction found that trust in colleagues items converged on one factor with item loadings ranging from .62 to .80. A Cronbach alpha of .85 demonstrated good item consistency.

The Principal Support for Student Psychological Needs Scale (Adams & Olsen, 2017) was used to measure the degree to which teachers perceived their principal as interacting with them about competence-support, autonomy-support, and relational-support for students. Sample items include: "My principal wants to know how I convey realistic but high expectations to students" (Competence-Support). "My principal wants to know how I make course content relevant for students" (Autonomy-Support). "My principal consults with me about the social adjustment of individual students" (Relational Support). Items use a 6-point Likert response set ranging from 1 Strongly Disagree to 6 Strongly Agree. An exploratory factor analysis of the scale from a previous study found the items to converge on one factor with individual item loadings ranging from .80-.95. Scale reliability was very strong with a Cronbach alpha of .98.

Transformational Leadership Behavior, teacher evaluation, teacher characteristics, and school demographics were also measured. These conditions were treated as control variables in the analysis. For transformational leadership, seven items from Bass' (1985) transformational leadership scale were used to capture teacher perceptions of leader behaviors. Items load strongly on one factor with factor ladings ranging from .73-.93 and good reliability with an alpha of .95. Teacher evaluation was measured with items that capture teachers' perceived utility of performance evaluation (OCEP, 2013). Sample items include: "The evaluation process helped me develop as a teacher;" "I am confident the evaluation process fairly reflects my teaching effectiveness;" and "Face to face feedback from the evaluation was provided after each observation." Items load strongly on one factor with factor loadings ranging from .74-.85.

Teacher characteristics included racial identification, number of years teachers have been teaching in their current school, number of years teaching, and whether or not they were Nationally Board Certified (NBC). Schools conditions included the FRL rate and percent of students of color students. Each of these conditions have been associated with trust in prior research (Forsyth, et al., 2011).

Analysis

Evidence for the first research question was generated through three analyses. Bi-variate correlations with teacher level data were used to estimate the relationship between teacher racial

identification and individual teacher trust in students. A 2x3 factorial ANOVA was used to evaluate mean differences in teacher trust in students by school FRL rate and the percent of students of color. Teachers in schools with a FRL rate of less than 55 percent were coded as 1, teachers in schools with a FRL rate between 55-75 percent were coded as 2, and teachers in schools with a FRL rate between 75-100 percent were coded as 3. Similar coding was used for the percent of students of color. Teachers in schools with less than 55 percent of students of color were coded 1, in schools between 55-75 percent of students of color were coded as 2, and greater than 75 percent coded as 3. The third analysis was a multi-level random-intercepts, ANCOVA using HLM7.03 with teacher level covariates of Black (uncentered), Years Teaching (grand-mean centered), and Years in School (grand-mean centered) entered at level one and FRL rate and percent students of color entered grand-mean centered at the school level.

Random Intercepts ANCOVA

Level-1 Model
$$ZTTS_{ij} = \beta_{0j} + \beta_{1j}*(ZYEARSIN_{ij}) + \beta_{2j}*(ZBLACK_{ij}) + \beta_{3j}*(ZYEARSTA_{ij}) + r_{ij}$$

Level-2 Model
$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(ZFRLRATE_j) + \gamma_{02}*(ZPERSoC_j) + u_{0j}$$
$$\beta_{1j} = \gamma_{10}$$
$$\beta_{2j} = \gamma_{20}$$
$$\beta_{3j} = \gamma_{30}$$

Evidence for the second and third research questions were generated with a continuation of the multi-level random intercepts ANCOVA. For question two, PSSPN was entered in model two with teacher co-variates and school FRL rate and the percent students of color. The intent was to examine changes in model fit and changes in the parameter estimates with the inclusion of PSSPN. For question three, transformational leadership behavior and teacher evaluation were entered to evaluate a change in model fit and change in parameter estimates with two additional leadership practices entered in the model.

Level-1 Model
$$ZTTS_{ij} = \beta_{0j} + \beta_{1j}*(ZYEARSIN_{ij}) + \beta_{2j}*(ZBLACK_{ij}) + \beta_{3j}*(ZYEARSTA_{ij}) + r_{ij}$$

Level-2 Model
$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(ZTLBSCOR_j) + \gamma_{02}*(ZFRLRATE_j) + \gamma_{03}*(ZPERSoC_j) + \gamma_{04}*(ZTESCOR_j) + \gamma_{05}*(ZPSSPN_j) + u_{0j}$$
$$\beta_{1j} = \gamma_{10}$$
$$\beta_{2j} = \gamma_{20}$$
$$\beta_{3j} = \gamma_{30}$$

Limitations

Like all research, the design of the empirical test has limitations that require identification. First, the lack of experimental conditions means that rival explanations cannot be controlled for in the statistical analyses. For instance, teacher reports measured PSSPN, but such measures do not control for the degree to which principals engaged in these conversations with teachers, in what contexts conversations were held, and the explicitness of talking about autonomy, competence, and/or relatedness. Second, the line of reasoning argued that PSSPN works through teacher mental representations to affect conditions in the instructional core. The study did not actually measure cognitive structures of teachers so the claims remain speculative based on evidence from social-psychology. Third, the sample, while large, reflects a population of city schools and may not represent conditions common in suburban and rural schools.

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Results

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Results present the empirical evidence from which to address the three research questions. Table one reports IntraClass Correlation Coefficients for teacher trust in students and PSSPN. The estimates support the nested nature of the data with both teacher trust in students and PSSPN showing large variance across schools. Descriptive statistics and bivariate correlations are presented for teacher and school variables in Tables two and three. Correlation results serve two purposes: to estimate the relationship between teacher racial identification and teacher trust in students and to determine teacher and school level controls for the HLM models. As reported in table two, teachers who identified as Black ($r = .11$, p<.01), years in teaching ($r = -.08$, p< .01), and years in school ($r = .06$, p<.05) each had weak, yet statistically significant relationships with teacher trust in students. Years in teaching had a negative association and years in school and Black had positive relationships. School-level correlations are reported in table three. These results were used to examine the relationship between school compositional factors and PSSPN. Results report that the percent of White students in school had a statistically significant, positive association with PSSPN ($r = .32$, p<.01), whereas percent of Hispanic students ($r = -.23$, p<.05) and FRL rate ($r = -.35$, p<.01) had negative associations with PSSPN.

Table 1
Variance Decomposition

	Teacher Level Variance	School Level Variance
TTS	62 %	38 % ($\chi^2 = 564.43$, p<.01)
PSSPN	79 %	21 % ($\chi^2 = 252.31$, p<.01)

Note. N = 74 schools; N = 896 teachers for TTS; N = 801; TTS – Teacher Trust in Students; PSSPN = Principal Support of Student Psychological Needs

Table 2.

Descriptive statistics and bivariate correlations for teacher variables

Teacher Level	Mean	SD	1	2	3	4	5	6	7	8	9
1.White	.67	.47	1.0	-.65**	-.45**	-.26**	-.18**	-.04	-.01	.08*	-.07
2.Black	.19	.39		1.0	-.14**	-.10**	-.06	.06	.02	-.07*	.11**
3.Hispanic	.09	.28			1.0	-.04	-.04	-.03	-.01	-.04	.02
4.Native	.04	.19				1.0	-.03	.01	-.01	.03	-.01
5.Other	.02	.13					1.0	.04	.01	-.04	-.03
6.YT	13.32	9.50						1.0	.45*	-.06*	-.08**
7.YinS	6.32	6.76							1.0	-.04	.06*
8.NBC	.10	.30								1.0	.02
9.TTS	4.02	.89									1.0

Note. **p<.01; * p<.05; N = 896 teachers. Kendall's Tau was used to estimate correlations for the categorical race variables.

Table 3.

Descriptive statistics and bivariate correlations for school variables

School Level	Mean	SD	1	2	3	4	5	6	7	8
1.Black	28.60	20	1.0	-.53**	-.49**	-.36**	.31**	-.07**	.05	.13
2.White	36.13	18		1.0	-.47**	.49**	-.71**	.32**	.12	.20
3.Hispanic	27.60	19.			1.0	-.23*	.36**	-.23*	.14	-.31**
4.NA	6.17	3.04				1.0	-.12	.01	.05	.08
5.FRL rate	79.63	23.21					1.0	-.35**	.09	-.20
6.PSSPN	4.91	.36						1.0	.27*	.32**
7.TE	4.21	.35							1.0	.45*
8.TLB	4.71	.58								1.0

Note. **$p<.01$, *$p<.05$. N = 74 schools. NA = Native American; PSSPN – Principal Support of Student Psychological Needs; TE = Teacher Evaluation; TLB = Transformational Leadership Behavior

Table four reports results of the factorial ANCOVA with teacher trust in students as the dependent variable and school FRL rate and percent students of color as three-level categorical independent variables. Black was used as a co-variate in the analysis. Results report statistically significant differences in teacher trust in students between Black and non-Black teachers $F(1, 895) = 16.47$, $p<.01$, and by FRL rate $F(2, 894) = 46.80$, $p<.01$ and percent students of color $F(2, 894) = 11.18$, $p<.01$. The interaction of FRL rate and percent students of color was also statistically significant $F(3, 893) = 3.31$, $p<.05$). The mean trust score for Black teachers was 4.27 (SD = .91) compared to a mean of 3.97 (SD = .76) for non-Black teachers, with Black explaining approximately 1.8 percent of the trust variance. Schools with a FRL rate lower than 55 percent had a trust mean of 4.82 (SD = .81) compared to means of 3.85 (SD = .85) for schools between 55-75 percent and 4.04 (SD = .87) for schools greater than 75 percent FRL rate. FRL rate explained approximately 9.5 percent of trust variance. Similarly, schools with the lowest percentage of students of color had a trust mean of 4.37 (SD = .81) compared to a mean of 4.20 (SD = .85) for schools between 55-75 percent, and a mean of 3.75 (SD = .87) for schools greater than 75 percent. Percent students of color explained approximately 2.5 percent of trust variance.

Table 4.

Fixed-effects factorial ANCOVA with Black as a co-variate

Predictor	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	9205.394	1	9205.394	14160.69	.000	.941
Black	10.705	1	10.705	16.46	.000	.018
FRL	60.852	2	30.426	46.80	.000	.095
SoC	14.544	2	7.272	11.18	.000	.025
FRL* SoC	6.454	3	2.151	3.31	.020	.011
Error	576.609	887	.650			
Total	15256.760	896				

Note. $R^2 = .20$; Adjusted $R^2 = .19$. SoC – Percent Students of Color. FRL – Percent Free/Reduced Lunch

Graphs one and two show differences in teacher trust in students by FRL rate and percent students of color. Both graphs reveal trust declines as FRL rate (graph one) and percent students of color (graph two) increase. For FRL rate, the precipitous drop is between schools with less than a 55 percent rate and all other schools. For percent students of color, the largest drop is between schools with a 55-75 percent and greater than 75 percent. The interaction of FRL rate and percent students of color in graph five is interesting. Schools with the lowest percentage of low-income students have the highest teacher trust in schools across schools with less than 75 percent students of color. There is no data point for a FRL rate lower than 55 percent and with greater than 75 percent students of color, indicating that schools with the lowest poverty rates have the lowest percentage of students of color.
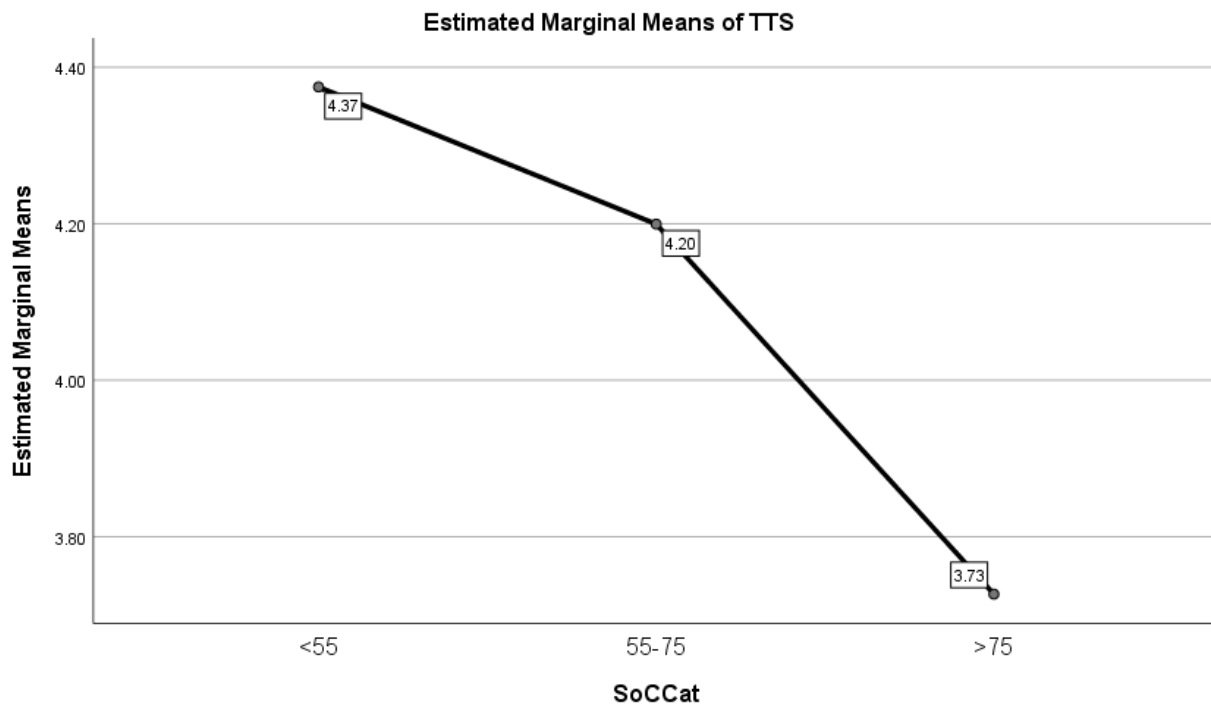
Figure 1

Differences in Teacher Trust in Students Across Levels of FRL Rate
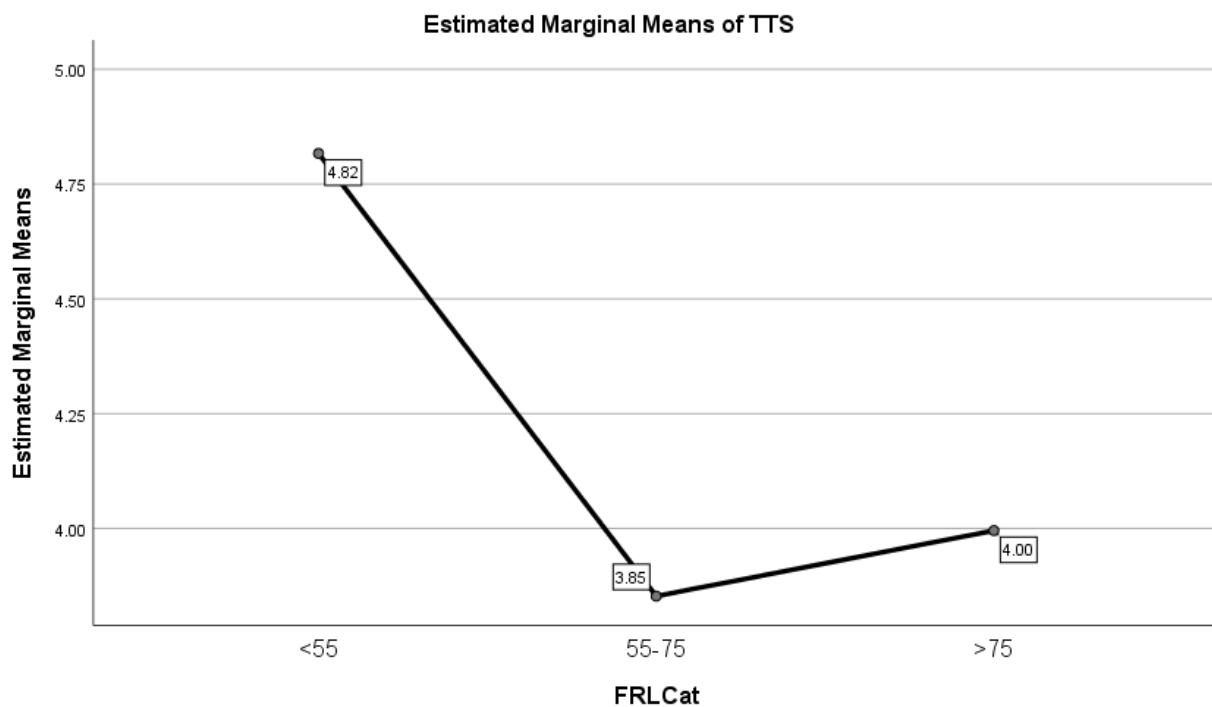
Estimated Marginal Means of TTS

Note. The graph was derived with the full factorial ANCOVA with Black included as a control variable

Figure 2

Differences in Teacher Trust in Students Across Percent Students of Color

Note. The graph was derived with the full factorial ANCOVA with Black included as a control variable

Table five presents HLM results from the random intercept ANCOVA analysis. Consistent with the bi-variate correlations, Black teachers ($\beta2j = .08$, $p<.01$) had slightly higher trust in students than non-Black teachers. At the school level, model one reports statistically significant negative relationships between FRL rate ($\gamma01 = -.21$, $p<.01$) and percent student of color ($\gamma02 = -.20$, $p<.01$) and teacher trust in students. Specifically, FRL rate and percent students of color each explained approximately 4 percent of the variance in Teacher trust in students. The combined model explained approximately 35 percent of the school-level variance in teacher trust in students. Model two included PSSPN with school social composition. As reported, PSSPN ($\gamma03 = .45$, $p<.01$) had a strong, positive relationship with trust in students, explaining approximately 10 percent of the variance. Importantly, the change in parameter estimates for FRL rate and percent student of color is noteworthy. The inclusion of PSSPN decreased the effects of both FRL rate (-.21 to -.12) and percent students of color (-.21 to -.09) by nearly half. Explained variance increased dramatically in model two with 85 percent of the school level variance accounted for by the model. Model three included transformational

leadership behavior and teacher evaluation to examine the unique effect of PSSPN when considering other leadership behaviors and practices. Transformational leadership and teacher evaluation were not related to trust in students and the overall model fit declined with the addition of these variables.

Table 5.

Results of the HLM Random Intercepts ANCOVA Models

Fixed Effects	TTS 1	TTS 2	TTS3
Teacher Predictors			
Black	.08 (.02)**	.08 (.02)**	.08 (.02)**
Years Teaching	.04 (.03)	.04 (.03)	.04 (.03)
Years in School	.00 (.06)**	.00 (.03)	.00 (.03)
School Predictors			
% FRL	-.21(.09)*	-.12 (.06)*	-.13 (.06)*
% Students of Color	-.20 (.09)*	-.09 (.06)	-.09 (.06)
PSSN	-----	.45 (.04)**	.45 (.04)**
TLB	-----	-----	.03 (.05)
TLE	-----	-----	-.02 (.05)
Deviance (-2 Log likelihood)	2078.34	2024.00	2032.03
Δ Deviance	-225.80	-54.34	+12
Explained School Variance	35 %	82 %	81 %
Reliability Intercept	.80	.60	.55

Note. ** $p<.01$ * $p<.05$; N = 896 Teachers, 74 Schools. All estimates were standardized to a mean of 0 and a standard deviation of 1. Black was entered uncentered and years teaching and years in school were entered as grand-mean centered. All school-level variables were grand-mean centered. Percent Students of Color was used as the predictor variable do to large shared variance when separating student racial classification by Black, White, Hispanic, and Native American.

Figures three and four are line graphs of the HLM models. The lines reflect schools at the 25th and 75th percentiles in percent students of color. Figure four reveals the trust disparity between schools at the 25th and 75th percentile in students of color. Additionally, the graph illustrates how trust in students declines as the FRL rate in schools increases. Figure five reveals what happens to teacher trust in students when PSSPN is included in the analysis. Dashed lines are for schools around the 75th percentile of PSSPN and solid lines are schools around the 25th percentile. The graph reveals the effect of PSSPN on teacher trust in students. Schools around the 75th percentile of PSSPN had the strongest levels of teacher trust in students. This was true for schools with both a low and high percentage of students of color. Additionally, trust depreciates as FRL rate increases but for schools with higher levels of PSSPN trust remains considerably stronger compared to schools with low PSSPN.
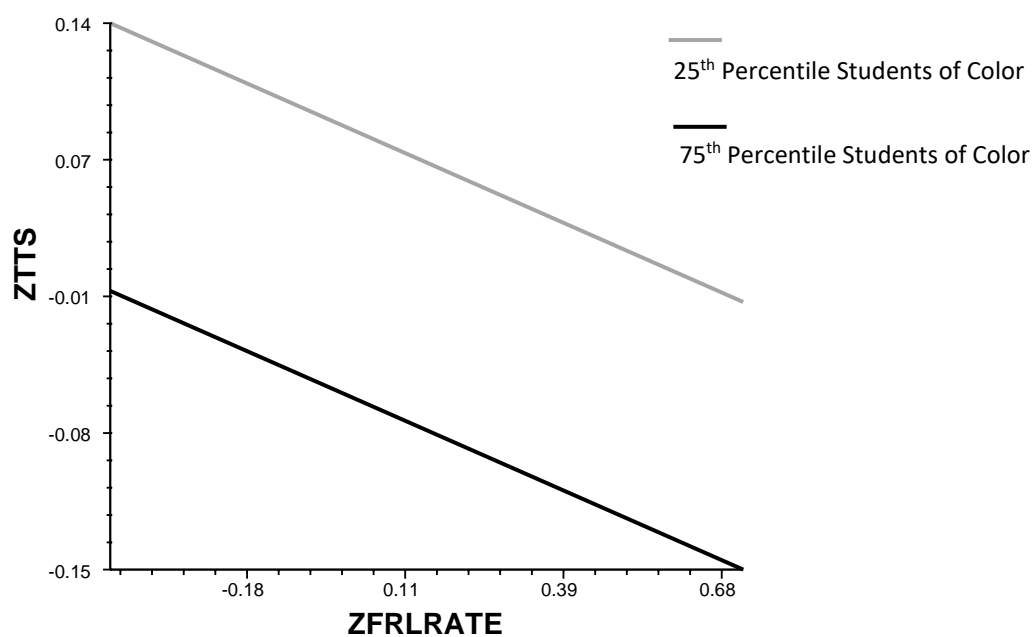
Figure 3

Differences in Teacher Trust in Students: Interaction of FRL Rate and Percent Sudents of Color
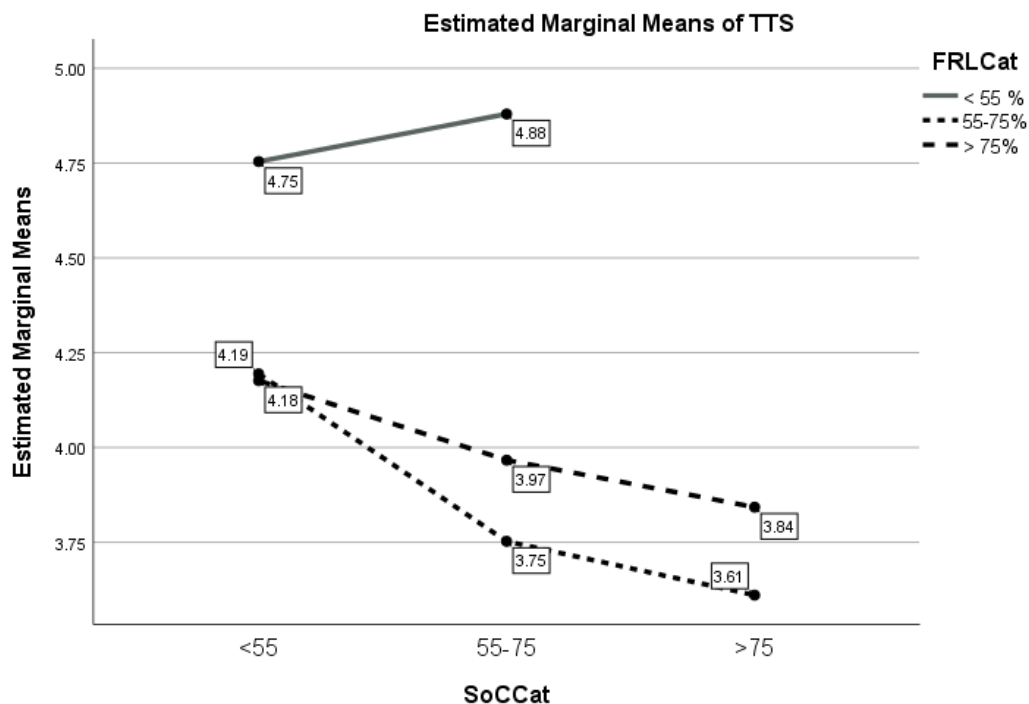
Note. The graph was derived with the full factorial ANCOVA with Black included as a control variable
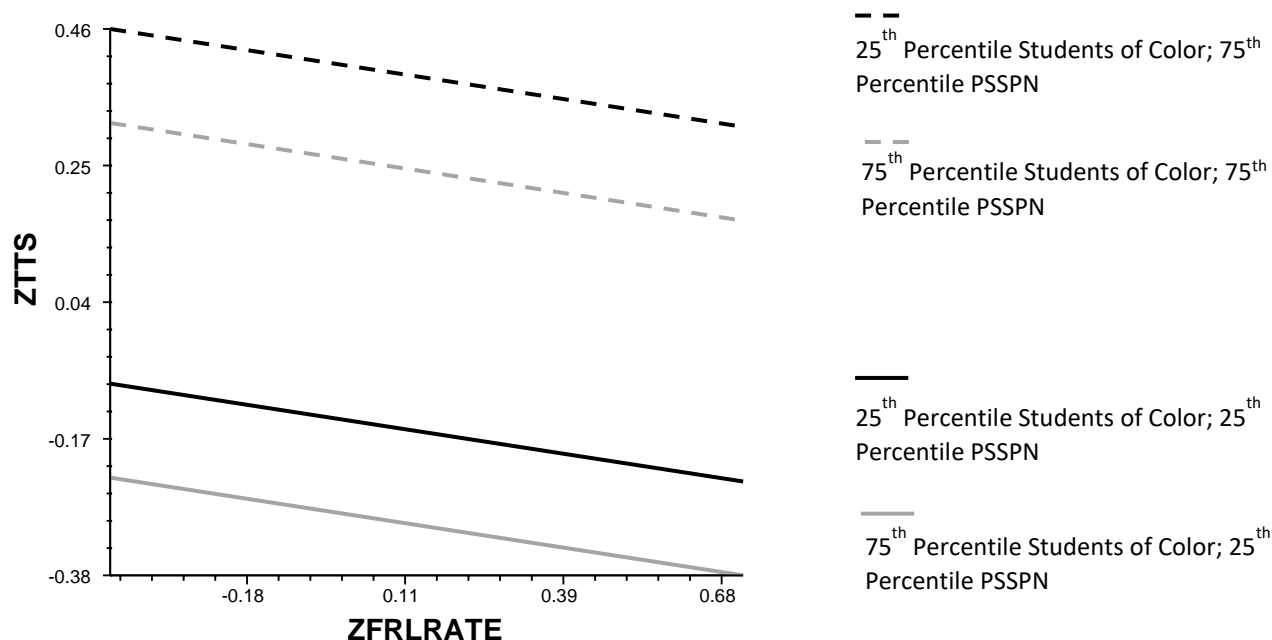
Figure 4

Full Random-Intercepts ANCOVA HLM Model: Percent Student of Color and FRL Rate

Note. Values are reported as z-scores.

Figure 5

Full Random-Intercepts ANCOVA HLM Model: Percent Student of Color, FRL Rate, and PSSPN

Note. Values are reported as z-scores

In summary, findings provide answers to the research questions. For the first question, teacher trust in students was lower in schools with a higher percentage of low-income students and students of color. Results of the factorial ANVOCA and the HLM findings support the claim that school social composition is related to teachers' discernments of students, with higher poverty and a higher representation of students of color having less trust than schools with more White and higher income students. New evidence emerged from teacher level correlation results suggesting that teacher race had a small relationship with trust beliefs. Black teachers had slightly higher trust in students than non-Black teachers. The second and third research questions bring leadership practices into the formation of teacher trust in students. HLM results not only establish a relationship between PSSPN and trust in students, reduction in the parameter estimates in model two suggest that principal-teacher conversation may be capable of intervening in teacher discernment processes. A deeper examination of these questions follows in the discussion.

Discussion

Consistent with studies by Goddard and colleagues (2009, 2001), Van Maele and Van Houtte (2009, 2011, and Adams (2014), this study found a trust disparity between schools based on the representation of FRL students and students of color. Additionally, finding that Black teachers had slightly higher trust in students than non-Black teachers adds material detail to the picture. Lower trust in higher poverty and higher minority schools aligns with general trust research showing that homogeneity and familiarity nurture trust (Alesina & La Ferrara, 2000; Coleman, 1990; Leigh, 2006), while differences by race, income, and ethnicity tend to lessen it (Costa & Kahn 2003; Putnam 2000, Zak & Knack 2003). Without measuring teacher-student race/ethnic congruence, we do not know how teacher-student homogeneity or heterogeneity may have affected trust beliefs, but it is worth raising this point given that the majority of teachers in the study were White and schools with the lowest trust had the highest percentage of low-income students and students of color.

Even where race and class differences exist between teachers and students, which is in the majority of US schools (NCES, 2018), such differences do not explain reasons for diminished trust in these environments. Teacher and student demographics do not cause trust to grow or depreciate (Van Maele & Van Houtte, 2009, 2011). Trust ebbs and flows based on actions and interactions of people in relationships (Forsyth, et al., 2011). Relationships are affected as much by latent cognitive processes as by actual social behavior (Allen, et al.,2010; Barden et al., 2004). This study did not measure or observe mental structures behind teacher trust in students, but the findings, when considered against research on unconscious mental associations (Okonofua et al., 2016; Okonofua & Eberhardt, 2015), point to a plausible relationship between teacher mental representations and trust. Mental associations control many judgments teachers make about students (Bergh et al., 2010; Tobisch & Dresel, 2017), so it is logical to conclude that trust discernments would be shaped by these same mental structures. Of interest here is to understand how PSSPN might intervene in low teacher trust in students, particularly in high poverty, high minority schools. Statistics do not address this question, so we turn to the theoretical line of reasoning for PSSPN.

PSSPN reflects a climate where teachers and principals talk about students and student learning as situated in a larger social context that at times can be facilitative of, indifferent to, and outright antagonistic for adaptive student functioning and development (Adams & Olsen, 2017). Principal-teacher conversations framed by student psychological needs and need-support shifts, in theory, the attributional lens away from dispositional factors and toward school conditions affecting students' inner agency and resources (Adams & Olsen, 2017). For teacher trust discernments, being able to see student engagement in the context of school structures deepens and complicates many simplistic, and/or biased framings teachers may have about students and their motivations, capacity, and future promise. Re-framing mental representations does not require extensive work or complicated interventions. In fact, empathetic discipline interventions found that giving teacher stories to read about students negative feelings and experiences, coupled with evidence on the benefits of positive relationships, lowered teachers racialized stereotypes and reduced suspension rates during an academic year, with the largest reductions occurring with Black and Latino students (Okonofua, et al., 2016; Yeager & Walton, 2011).

In returning to teacher trust in students, PSSPN likely functions similarly to the stories used in empathetic discipline interventions. Where teacher trust in students is low, teachers have likely constructed a mental story that frames student behavior and intentions pejoratively.There may be good reasons for this. Students, at times, will challenge authority, structures, and regulations, and if such behavior occurs frequently trust perceptions would be affected. The problem is that negative and objectifying mental stories often overlook how teachers and schools are active participants in relational dynamics (Okonofua, et al., 2016; Okonofua & Eberhardt, 2015). Efforts to repair damaged trust in many high poverty, high minority schools might be enhanced by tending to the cognitive roots from which healthy relationships grow. This is the intent of PSSPN. Talking about the school and classroom context through a need-supportive or thwarting frame may help teachers see student consciousness and agency as inextricably tethered to structural and normative conditions in schools. When mis-behavior occurs, instead of thinking what is wrong with these students, a need-supportive frame enables educators to think about how they are contributing to adverse situations and mal-adaptive behavior.

Conclusion

Bair (1986) described our relationship with trust as similar to that of air, arguing that we notice it only when it becomes depleted or polluted. Trust scarcity in schools with a high percentage of low-income students and students of color has largely gone unaddressed in research and practice, allowing a different type of climate crisis to remain hidden and unencumbered. The intent behind this study was to understand how school principals might work through teachers to engender better trusting teacher-student relationships, particularly in high poverty, high minority schools. Rather than look toward student behavior as reasons for weakened trust, teacher cognitive processes were positioned as the fulcrum from which trust teeters.

Certainly, findings in this study fall short of establishing conclusive evidence that teacher mental representations underline low trust in students, but the line of reasoning makes a case for closer examination into how cognitive processes operate in trust formation. With considerable evidence on the relationship between autonomic associations and implicit biases (Florack, et al., 2001; Sherman,et al., 2008; Staats, 2016), it is reasonable that mental structures underlining prejudicial thoughts would intercede in trust discernments. Relatedly, mental representations change through conscious effort, contextual circumstances, and experiences; they are not fixed structures they merely reinforce and deepen narrow beliefs (Allen, et al.,2010; Dweck & London, 2004). PSSPN calls attention to the critical, yet often overlooked, function of principal conversations in shaping representations conducive to trust formation.

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