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Improving Teacher Job Satisfaction: The Roles of Social Capital, Teacher Efficacy, and Support

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Abstract

In this study, we examine how social capital, teacher efficacy and organizational support increase teacher job satisfaction. Research suggests that teachers worldwide are exceedingly dissatisfied with their jobs and have significantly higher levels of turnover than their counterparts in other professions. We investigate this phenomenon using a sample of 122 elementary school teachers. We found that teachers' centrality position, or each teacher's relationship with every other teacher, in their school's trust network and the density of a teacher's academic advice ego-network predicted the development of teacher job satisfaction. Additionally, we found that teacher efficacy mediated the relationship between teacher's trust and academic advice relationships and job satisfaction, and perceived organizational support strengthened the relationship between teacher efficacy and job satisfaction. The article concludes by offering implications of the findings for the social capital, teaching efficacy and teacher job satisfaction literatures.

Keywords: social capital, social networks, teacher efficacy, perceived organizational support, teacher job satisfaction

Improving teacher job satisfaction: The roles of social capital, teacher efficacy and support

The current lack of well-qualified teachers is a worldwide dilemma (Ingersoll, 2001; Loeb, Darling-Hammond, & Luczak, 2005; Sutchter, Darling-Hammond, & Carver-Thomas, 2016). In North America, teacher shortages are increasing due to teacher attrition, or the departure of teachers from their teaching positions (Scheopner, 2010). Job satisfaction and teacher retention declined from the 1970s to the 1990s (Perie & Baker, 1997), but more recently, the National Center for Education Statistics in the United States reports that 33% of new teachers resign within their first three years in the classroom (Colgan, 2004) and 40-50% of new teachers quit within five years (Ingersoll, 2003; Ingersoll & Smith, 2003). This rate of resignation is in stark contrast to the United States' annual turnover rate where individuals leave one career field for any other. Since 2003, the Bureau of Labor Statistics reports that the non-education-related career turnover rate has varied between 19-22% (BLS, 2013).

Research suggests that the possibility of teacher attrition is lessened when teachers are satisfied with their jobs (Skaalvik & Skaalvik, 2011). Studies indicate that job satisfaction influences teachers' enthusiasm (Weiqi, 2007) and teachers' relations to students (van den Berg, 2002). However, empirical evidence suggests that American teachers are highly dissatisfied with their careers. The *MetLife Survey of the American Teacher*, an annual survey of teacher feelings, found that morale among teachers nationwide is the lowest in 20 years (Giordano, 2012). This finding can be alarming since job dissatisfaction and teacher turnover can have serious consequences for the success of American schools as both issues negatively impact student achievement, teacher quality and accountability (Darling-Hammond, 2003). Moreover, teacher turnover is a costly phenomenon for American school districts (Hunt Jr., 2003). For example, a recent Texas report suggests that the cost of annual statewide teacher turnover was

approximately \$329 million (Hunt Jr., 2003). Therefore, it is crucial for school leaders to pursue the increase of teacher job satisfaction and teacher retention rates.

Our study's purpose is to address three specific gaps in the understanding of teacher job satisfaction and its development within schools: collaborative work, teacher efficacy, and perceived organizational support. These concepts relate directly to findings in prior studies which suggest that several major areas of teaching influence job satisfaction, such as "working with children and seeing them achieve, working collaboratively with other members of the education community, and achieving personal professional growth" (C. Scott, Stone, & Dinham, 2001, p. 5). Our study builds upon the two areas that do not involve direct contact with students: working collaboratively and achieving professional growth. Additionally, our study explores the understudied role of school context on these two influential areas.

Study Contributions

Collaborative Work

First, collaborative work with fellow teachers and school staff members is known to increase teacher job satisfaction (Perie & Baker, 1997; C. Scott et al., 2001). For example, teachers believe that working in teams with colleagues and staff members, planning collaboratively, and achieving goals together contributes greatly to their job satisfaction (C. Scott et al., 2001). However, little is known about which *types* of collaboration are most important and how the structure of teacher relationships impacts teacher collaboration. Thus, the first contribution of this study is to employ a social capital perspective to investigate teacher collaboration networks toward increasing teacher job satisfaction.

Teacher Efficacy

Second, an important aspect of achieving professional growth is the development of teacher efficacy, which is the degree of belief teachers have that they can generate a positive impact on their students' academic achievement and behavior (Tschannen-Moran & Woolfolk Hoy, 2001). Teacher efficacy is a well-researched and relatively mature construct that has been linked in prior work to the development of teacher job satisfaction (Caprara, Barbaranelli, Steca, & Malone, 2006; Darling-Hammond, 2003; Klassen & Chiu, 2010). However, many of these studies investigate a main effect relationship between teacher efficacy and teacher job satisfaction. Therefore, the second contribution of this study is to examine teacher efficacy as a mechanism that explains *why* teacher collaboration networks are related to teacher job satisfaction.

School Context and Perceived Organizational Support

Lastly, research indicates that a positive school context is significant for teacher job satisfaction (Day, Sammons, Stobard, Kington, & Gu, 2007; Scheopner, 2010). Understanding the role of school context, or a school's working conditions, is important since this context may be changed and improved, thus potentially improving job satisfaction (Skaalvik & Skaalvik, 2011). One key variable present in any school context is perceived organizational support (POS), that encompasses supportive leader behaviors and a facilitative organizational climate (Eisenberger, Huntington, Hutchison, & Sowa, 1986). POS contributes to "overall job satisfaction by meeting social-emotional needs, increasing performance-reward expectancies, and signaling the availability of aid when needed" (Rhoades & Eisenberger, 2002, p. 701). Thus, the third contribution of this study is to examine the relationship between an important school context variable (POS), teacher efficacy and teacher job satisfaction.

Literature Review and Hypotheses

Individual Teacher Social Capital

Social capital is “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships” in a social unit (Nahapiet & Ghoshal, 1998, p. 243). Individual social capital theory states that individuals invest time and resources into relationships and can reasonably expect to receive a reward or benefit for themselves from doing so (Lin, 1999). These benefits can include information, influence, and control (Lin, 1999). Additionally, social capital develops within the personal social networks of individuals. These networks provide individuals with opportunities to share resources such as guidance, assistance, and information that is directly related to the success of their work (Chua, Ingram, & Morris, 2008; Sparrowe, Liden, Wayne, & Kraimer, 2001). Thus, a teacher’s social network is a specific type of social capital.

Teacher Advice and Trust Networks

Individuals, such as teachers, concurrently develop several types of social networks (Oh, Labianca, & Chung, 2006). First, an advice network is a set of relationships that permit the flow of appropriate information in a group or organization (Lazega, Mounier, Snijders, & Tubaro, 2012). Members of organizations are dependent upon the advice of others, especially in knowledge-intensive organizations such as schools (Cross, Borgatti, & Parker, 2001; Nebus, 2006). An efficient advice network can reduce the time and transaction costs of finding useful information during the process of making problem-solving decisions (Lazega et al., 2012).

Second, trust is the willingness of individuals to be vulnerable to the actions of others in conditions of uncertainty and without control of the other party (Mayer, Davis, & Schoorman, 1995). A trust network can create advantages by providing useful informational exchange (Uzzi,

1996) and greater cooperation (Coleman, 1990) among members. These trust network advantages are linked to significant organizational outcomes such as knowledge sharing (e.g., Abrams, Cross, Lesser, & Levin, 2003) and job satisfaction (Helliwell, 2005).

Network Properties

The first network property, density, describes the general level of interconnection among individuals in a network (J. Scott, 2000). Density represents the interpersonal relationships between network members, with greater density indicating stronger bonds between these individuals. A second social network property, centrality, refers to the intuitive notion of how well-connected an individual is to other individuals within a network (J. Scott, 2000). Central network positions can provide individuals with privileged knowledge-sharing opportunities and access to timely and useful knowledge (Wasserman & Faust, 1994).

Teacher Job Satisfaction

In academic research, job satisfaction is thought of as the positive or negative appraisals individuals make about their jobs (Weiss, 2002). Locke (1976) defined job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one’s job” (p. 1300). Thus, we define teacher job satisfaction as teachers’ affective reactions to their teaching role (e.g., Skaalvik & Skaalvik, 2010; Zembylas & Papanastasiou, 2004).

Caprara, Barbaranelli, Borgogni, Petitta, and Rubinacci (2003) suggest that job satisfaction is the “decisive element” (p. 823) that influences teachers’ attitudes and performance while Judge, Thoresen, Bono, and Patton (2001) associate it with higher levels of job performance. Early studies indicate that when teachers experience job dissatisfaction, student achievement suffers and teachers become less willing to do their job (Csikszentmihalyi & McCormack, 1986). Low levels of teacher job satisfaction are also closely associated with

teacher absenteeism, reduced commitment, and attrition (e.g., Evans, 2001; Huberman, 1993; Ingersoll, 2001; Sargent & Hannum, 2005; Weiqi, 2007; Zembylas & Papanastasiou, 2004).

Influencing Teacher Job Satisfaction

Teacher job satisfaction and dissatisfaction are influenced by many factors.

Dinham and Scott (1998) classify the sources of job satisfaction and dissatisfaction into three categories: (a) intrinsic rewards of teaching, (b) factors extrinsic to the school, and (c) school-based factors. First, the intrinsic rewards of teaching are related to the daily tasks of teaching: working hand-on with students and seeing them grow and learn. These rewards are a main source of satisfaction for teachers and often draw individuals into the teaching profession (C. Scott et al., 2001). Second, extrinsic factors include “imposed educational change, external evaluation of schools, negative portrayal of teachers in the media, and a decrease in the status of teaching” (Skaalvik & Skaalvik, 2011, p. 1030). Finally, school-based factors, or elements of the school context, include relations with school leadership and colleagues (Dinham & Scott, 1998). Many prior studies investigated the intrinsic rewards of teaching and factors extrinsic to the school, but our study focuses on associations between all three of these school-based factors and their direct and indirect relationship to teacher job satisfaction. Our research model is presented in Figure 1.

Insert Figure 1 about here

Integration of Social Capital and Teacher Job Satisfaction

Trust is one of the most important factors in promoting high quality interactions in organizations and organizational success (Caldwell & Dixon, 2010; Dirks & Ferrin, 2001). “[A] group whose members manifest trustworthiness and place extensive trust in one another will be

able to accomplish much more than a comparable group lacking trustworthiness and trust” (Coleman, 1990, p. 304). Individuals who build trusting relationships with their colleagues are likely to feel they belong to the group (den Hartog, de Hoogh, & Keegan, 2007) and share resources with one another (Dirks & Skarlicki, 2009).

Trust Relationships

Establishing and maintaining a trust relationship utilizes significant time and energy (Dirks & Ferrin, 2001; Kramer, 1999). Findings that suggest trust relationships lead to positive outcomes, such as job satisfaction, are consistent with Kirchmeyer’s (1992) resource enhancement approach (Marks, 1977). This approach suggests that personal resources such as energy, allegiance, and time are abundant and expandable. “Some roles may be performed without any net energy loss at all; they may even create energy for use in that role or other role performances” (Marks, 1977, p. 926). Therefore, we believe that teachers who invest time and energy in building their trust networks experience greater job satisfaction. The time invested in their networks is repaid to them through future interactions with network members.

Surprisingly, there is sparse research directly linking trust in co-workers to job satisfaction, but some related studies exist. For example, Braun, Peus, Weisweiler, and Frey (2013) found that trust in team members mediated the relationship between leader variables and individual job satisfaction. Additionally, in her study of 194 teachers in four rural Virginia elementary schools, Wolfe (2010) found an association between mutual trust and teacher job satisfaction. However, since her construct of mutual trust did not have strong statistical reliability, these findings are not conclusive. Based on the above argument, we posit that:

Hypothesis 1: Teachers’ level of trust in their co-workers is positively related to teacher job satisfaction.

Advice Networks

Another important resource available to teachers through their social capital connections is academic advice. Advice networks promote informational flow within and between organizations (Stevenson & Gilly, 1991). In order to discover different approaches to a problem, individuals often consult with more knowledgeable others (Nebus, 2006). This search for advice allows individuals to leverage the experiences of others by learning from their successes and failures (Nebus, 2006).

However, participating in an advice network can be a time consuming and effortful process (Nebus, 2006) since densely embedded individuals within personal advice networks are continually connecting with others. Dense networks imply that frequent advice transactions take place and create a drain on a teacher's time and resources and this drain leads to negative attitudinal outcomes, such as reduced job satisfaction. When teachers participate in advice networks, not only do they receive advice, but they are also required to provide advice and guidance. Findings that suggest embeddedness in an academic advice network leads to negative outcomes are consistent with Kirchmeyer's (1992) resource depletion approach (Marks, 1977). In this approach, Kirchmeyer suggests that personal resources such as energy, allegiance, and time become scarce and constrained. As teachers gather more domains and roles to themselves, the possibility of resource depletion and its associated negative outcomes increases. Thus, we believe that dense teacher academic advice networks lead to reduced job satisfaction: teachers feel that too much time is spent seeking and giving advice.

Some empirical evidence supports this argument. Gabbay and Zuckerman (1998) found that researchers in 223 American R&D labs with networks of weak or disconnected ties were more optimistic about their job future than were coworkers with dense networks. Additionally,

in his study of employees at a American newspaper publishing company, Brass (1981) found that structural variables including centrality had no additional explanatory value over job characteristics in predicting job satisfaction. Finally, in their study of two Dutch governmental agencies, Flap and Volker (2001) found that network structures had a strong negative effect on job satisfaction. Thus, we predict that:

Hypothesis 2: Teachers' level of embeddedness in their academic advice ego-network is negatively related to teacher job satisfaction.

Teacher Efficacy Development

The development of teacher efficacy is an area of ongoing research. It is tempting to assume that teacher efficacy develops over time, and that veteran teachers have developed high levels of efficacy. However, research suggests that the development of teacher efficacy is much more complex (e.g., Wolters & Daugherty, 2007). Bandura (1997) speculated that self-efficacy can be developed through multiple influences including social persuasion, while Rosenthal (as cited in Ross, 1992) acknowledged “collaboration with other teachers” (p. 239) as positively affecting teacher efficacy. Prior work suggests that teacher efficacy positively impacts teachers and teaching; thus, it is important to better understand the relationship between efficacy and other constructs which either increase or act in unison with efficacy to produce positive outcomes (Caprara et al., 2003).

Integration of Teacher Efficacy and Job Satisfaction

Prior research suggests that teacher efficacy significantly predicts job satisfaction. Teachers who have well-developed efficacy enjoy an increased ability for dealing with challenging situations (Ashton & Webb, 1986) and tend to be more strongly committed to

teaching (Coladarci & Breton, 1997). These teachers may be more likely to continue their careers as educators, thus increasing teacher retention results (Freidman, 2003).

The relationship between teacher efficacy and job satisfaction is supported empirically. In their study of 1,500 teachers attending a multidistrict teacher conference, Klassen and Chiu (2010) found that teachers with 10% more efficacy averaged 3% more job satisfaction. Additionally, in their studies of teachers conducted in over 100 junior high schools in Italy, Caprara and colleagues (2003; 2006) found that perceived self-efficacy positively predicted teachers' job satisfaction. Therefore, we posit that:

Hypothesis 3: Teacher efficacy is positively related to teacher job satisfaction.

Linking Social Capital and Teacher Efficacy to Job Satisfaction

In addition to the direct relationships described above, we also believe that teacher efficacy plays a part in transmitting the effects of social capital to job satisfaction. Teachers with high efficacy are confident in their capability to help students achieve academic success, which is a primary driver of teacher satisfaction (Dinham & Scott, 1998). The social capital variables in this study also promote confidence. Teachers with high levels of trust in their co-workers feel more psychologically safe and are more willing to take risks (Dirks & Ferrin, 2001). Similarly, teachers with low levels of embeddedness in an academic advice network do not feel the need to consult with many of their co-workers regarding curriculum or lesson planning decisions since they are confident in their own capabilities. Additionally, "teachers with high levels of self-efficacy beliefs are more likely to be able to create the conditions and to promote the interpersonal networks that nourish and sustain their work satisfaction" (Caprara et al., 2006, p. 487).

Little empirical work has investigated the role of teacher efficacy as a mediator (Chan, Lau, Nie, Lim, & Hogan, 2008). In their study of teacher effectiveness conducted at 81 schools in Singapore, Chan and colleagues (2008) found that teacher efficacy fully mediated the effects of reflective dialogue, or conversations with colleagues, on teacher commitment. This finding lends support to our theorizing since teacher efficacy mediates the effects of a social relationship variable on an affective outcome, which is similar to our model. Thus, we predict that:

Hypothesis 4: Teacher efficacy mediates the influence of trust on teacher job satisfaction.

Hypothesis 5: Teacher efficacy mediates the influence of academic advice ego-network density on teacher job satisfaction.

The Role of Perceived Organizational Support

Finally, we expect a positive social climate, as evidenced by POS, to be an important contributor to teacher job satisfaction. Organizational support theory suggests that employees in organizations develop global beliefs regarding how highly the organization values their contributions and how much it cares about their well-being (Rhoades & Eisenberger, 2002). The theory also suggests that employees who evaluate their organization as supportive will expect aid when needed to carry out job responsibilities and to deal with job stress (Rhoades & Eisenberger, 2002). These beliefs are encouraged by employee's tendency to personify the organization, and assign it human-like characteristics (Eisenberger et al., 1986). Prior empirical findings suggest that organizational rewards such as pay, promotions, job enrichment, and influence over policies contribute more to POS if employees believe the organization is acting voluntarily (Rhoades & Eisenberger, 2002). Employees often view the actions of their immediate supervisor, such as a principal or other school administrator, as an agent for the organization when assessing POS (Rhoades & Eisenberger, 2002).

Work contexts with high levels of POS provide employees with supportive leader behaviors and a generally facilitative organizational climate (Eisenberger et al., 1986). Social exchange theory (Blau, 1964) suggests that employees willingly repay support offered by their organizations with positive attitudes and behaviors such as satisfaction and reduced turnover intentions that, in turn, benefit the organization (Eisenberger et al., 1986).

We do not expect the effect of POS on teacher job satisfaction to be direct, however. Instead, we propose that POS interacts with teacher efficacy in predicting job satisfaction. Teachers who feel confident in their capability to promote student achievement are more likely to receive satisfaction from their jobs if they feel supported by their organizations. Teachers with high levels of efficacy who work for schools that offer low levels of POS may feel that their effort on behalf of students is unappreciated. Conversely, high levels of POS provide teachers with evidence that their effort on behalf of students is valued, thereby increasing their job satisfaction.

While no previous studies have investigated the relationship between teacher efficacy, POS, and job satisfaction, some related work does exist in the literature. For example, in their study of 522 employees in a large public hospital, Lawrence and Callan (2011) found that POS moderated the relationship between job satisfaction and the affective variable support mobilization, or the extent to which an individual seeks and utilizes supportive transactions. Based on the above argument, we posit that:

Hypothesis 6: Perceived organizational support moderates the relationship between teacher efficacy and teacher job satisfaction such that efficacy is more strongly related to job satisfaction for individuals with greater perceived organizational support.

Method

Participants and Procedures

Study participants were elementary school teachers in two rural southeastern United States school districts. These districts were selected for their small size, as each comprised one elementary school. This strategy allowed us to survey the entire population of elementary school teachers within each of these districts. Disadvantages to this strategy are outlined in the limitations section of the paper. Within each district, these teachers taught students across all subject areas (i.e., math, English, art, library) and in grade levels ranging from Kindergarten (age 5) to sixth grade (age 11). We did not survey teaching assistants, pre-school teachers, or administrators as we believed their experiences might be significantly different from our target sample based on accountability and training levels.

Surveys were administered to all teachers at these schools during two regularly scheduled team meetings held approximately three months apart. During the first meeting, teachers were asked to complete measures related to teacher efficacy, POS, and demographic information. During the second meeting, teachers were asked to complete measures related to their co-worker relationships and job satisfaction. Survey administration was divided across two meetings to help prevent survey fatigue and to minimize common-method bias in the survey responses. We also wanted to provide respondents with as much experience interacting with their co-workers as possible before asking them to complete our social network measures. This consideration was paramount for new teachers or those changing grade levels from the previous school year. Any confounding effects introduced into the data by two survey administrations were controlled for by the multivariate regression analysis described in the analysis section. Participants were advised that (1) participation was voluntary; (2) the surveys would be managed by independent researchers and not their school's administration; and (3) school administrators would not have

access to each teacher's response but, rather, would receive feedback in aggregate form only.

Complete surveys from both administration sessions were received from 122 of 147 teachers, for a response rate of 83%.

Measures

Trust. Using a five-point Likert scale (1=not at all, 2=very little, 3=some, 4=quite a bit, 5=a great deal), each teacher rated each of his fellow teachers on the following single item: *To what extent do you trust this co-worker?* This single-item roster method is a frequently used and acceptable method in network studies (Marsden, 1990).

We calculated each teacher's centrality in their school-wide trust network, meaning that we included each teacher's relationship with every other teacher. Since we were interested in the extent to which teachers believed their co-workers to be trustworthy, the most appropriate measure is out-degree centrality. Out-degree centrality measures the influence of individuals in a network by counting the number of nominations they make for trustworthy co-workers (Wasserman & Faust, 1994). Since our data are both valued (on a Likert scale of 1-5) and directional (A could report a tie with B regardless of whether B reported a tie with A), relative out-degree centrality was used. Relative out-degree centrality is a proportion ranging from 0 to 1, with 1 indicating maximum centrality, where a teacher would report a Likert scale response of 5 with every other co-worker.

Academic advice ego-network density. Using a five-point Likert scale (1=never, 2=very rarely, 3=once a month, 4=once a week, 5=once a day or more), each teacher rated each of her fellow teachers on the following single item: *How often do you seek advice from this person on academic issues (for example: pedagogy, core-subject questions, etc.)?*

We calculated the density of each teacher's academic advice ego-network, meaning that we considered an individual teacher to be the focal point and looked at the web of connections emanating from everyone. Density is typically expressed as a percentage of ties present between individuals versus the number of ties possible between individuals in each network. The density function in UCINet 6.211 appropriate to valued, rather than dichotomous, data were used to calculate a density statistic for each ego-network (Borgatti, Everett, & Freeman, 2002). Consistent with other studies including network density (e.g., Reagans, Zuckerman, & McEvily, 2004), higher density scores were obtained for individuals who indicated that they seek out many peers for advice as opposed to individuals who seek advice from fewer peers.

Teacher efficacy. Teachers indicated the extent to which they believe they have the ability to affect student performance, using the 12-item Ohio State Teacher Efficacy Scale developed by Tschannen-Moran and Woolfolk Hoy (2001). This scale measures three distinct dimensions of teacher efficacy: instructional strategies, classroom management, and student engagement. Consistent with the recommendations of the authors in their scale development article references above, we utilized this scale as a single factor in our analyses as all three dimensions are considered essential to the development of teacher efficacy. Validity evidence for the Ohio State Teacher Efficacy Scale is within Tschannen-Moran and Woolfolk Hoy (2001). A five-point Likert scale (1=not at all/nothing, 2=very little, 3=to some degree, 4=quite a bit, 5=a great deal) was used to capture teacher responses to items such as "*How much can you do to control disruptive behavior in the classroom?*" and "*How much can you do to help your students value learning?*" ($\alpha=.85$).

Perceived organizational support. Teachers indicated the extent to which they perceived support in their current organization, using the eight-item Survey of Perceived

Organizational Support scale developed by Eisenberger, Cummings, Armeli, and Lynch (1997).

Validity evidence for the Survey of Perceived Organizational Support is within Eisenberger et al. (1997). A five-point Likert scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree) was used to capture teacher responses to items such as “[*School name*] strongly considers my goals and values” and “*Help is available from [school name] when I have a problem*” ($\alpha=.89$).

Teacher job satisfaction. Teachers indicated the extent to which they felt satisfied in their current job, using the three-item scale general satisfaction subscale of the Job Diagnostic Survey developed by Hackman and Oldham (1975). Validity evidence for the Job Diagnostic Survey is within Hackman and Oldham (1975). A five-point Likert scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree) was used to capture teacher responses to items such as “*Generally speaking, I am very satisfied with my job*” and “*I am generally satisfied with the feeling of worthwhile accomplishment I get from doing this job*” ($\alpha=.82$).

Control Variables

Several additional variables may influence the proposed relationships. Therefore, we controlled for these variables statistically when testing our hypothesized relationships.

Teacher experience. The teachers indicated their overall teaching experience by responding to a single item asking, “*How long have you been an educator?*”

Level of education. The teachers indicated their highest level of education completed (1=Bachelor’s degree, 2=Master’s degree, 3=Education Specialist degree, 4=Doctorate [PhD or other] degree).

Analyses

In this dataset, teachers (n=122) were nested within schools (n=2), thereby implying that the data may not meet the ordinary least squares (OLS) regression assumption of independent observations. We therefore tested to see if our hypothesized relationships required analysis using hierarchical linear modeling (HLM) rather than hierarchical OLS. We used standardized variables in all our analyses that help to reduce differences due to the diverse metrics extant in the measures. Therefore, the parameter estimates we reported and compared are standardized beta coefficients.

Results

Table 1 presents descriptive statistics and bivariate correlations for all study variables.

 Insert Table 1 about here

Results of HLM Null Models

We ran null models for the two dependent variables of interest: teacher efficacy and job satisfaction. A non-significant portion of variance in teacher efficacy resided between groups ($\chi^2[1]=1.96, p > .50$). Similarly, a non-significant portion of variance in job satisfaction resided between groups ($\chi^2[1]=1.84, p > .50$). Based on this analysis, none of the hypotheses required HLM analysis. Therefore, we tested all hypotheses in SPSS using OLS hierarchical regression.

Main Effects on Job Satisfaction

Table 2 summarizes the results of OLS analyses testing for all hypotheses. Hypothesis 1 posited that trust is positively related to teacher job satisfaction. We tested this hypothesis by entering the two control variables followed by the main effect variable, trust, in a hierarchical regression. Results supported the hypothesis. Higher levels of trust were related to significantly higher levels of teacher job satisfaction ($\beta=.25, p < .05$). Additionally, trust explained 11% of the available variance in teacher job satisfaction ($R^2=.11$).

Insert Table 2 about here

In hypothesis 2, we predicted that teachers' level of embeddedness in the academic advice ego-network is negatively related to teacher job satisfaction. We tested this hypothesis by entering the two control variables followed by the main effect variable, academic advice ego-network density, in a hierarchical regression. Results provided marginal support for the hypothesis. Higher levels of academic advice network density were related to significantly lower levels of teacher job satisfaction ($\beta = -.23$, $p = .08$). Additionally, academic advice ego-network density explained 10% of the available variance in teacher job satisfaction ($R^2 = .10$).

Hypothesis 3 posited that teacher efficacy was positively related to job satisfaction. We tested this hypothesis by entering the two control variables and the main effect variable, teacher efficacy, in a hierarchical regression. Results supported the hypothesis. Higher levels of teacher efficacy were related to significantly higher levels of job satisfaction ($\beta = .48$, $p < .05$). Additionally, efficacy explained 28% of the available variance in job satisfaction ($R^2 = .28$).

Mediations and Moderation on Teacher Job Satisfaction

Hypothesis 4 predicted that teacher efficacy mediates the relationship between trust and job satisfaction. We followed the procedures for testing mediation advanced by Baron and Kenny (1986). Full mediation occurs when (1) the independent variable (X) predicts the dependent variable (Y), (2) X predicts the mediating variable (M), (3) M significantly predicts Y, but (4) X no longer significantly predicts Y. Control variables were entered during all steps of the analyses. We first demonstrated the main effect of trust on job satisfaction ($\beta = .25$, $p < .05$), hence meeting the first mediation criterion. Next, trust significantly related to teacher efficacy ($\beta = .26$, $p < .05$). Finally, as shown in Table 3, teacher efficacy was significantly related to job satisfaction ($\beta = .45$, $p < .05$), and the effects of trust were non-significant ($\beta = .13$, n.s.),

suggesting full mediation. This block of predictors accounted for 29% of the variance in job satisfaction ($R^2=.29$). In addition, the results of the Sobel test of the indirect effect of trust on job satisfaction through teacher efficacy was marginally significant ($z = 1.82, p = .07$). Given that the Sobel test is extremely conservative, these results are strongly suggestive of the presence of indirect effects, although perhaps as partial rather than full mediation. Thus, Hypotheses 4 was supported. Table 3 summarizes the results of additional OLS analyses testing for the mediation hypotheses.

 Insert Table 3 about here

Hypothesis 5 predicted that teacher efficacy mediates the relationship between academic advice ego-network density and job satisfaction. Control variables were entered during all steps of the analyses. We first demonstrated the main effect of academic advice ego-network density on job satisfaction ($\beta = -.23, p = .08$), hence providing marginal support for the first mediation criterion. Next, academic advice ego-network density significantly related to teacher efficacy ($\beta = -.31, p < .05$). Finally, as shown in Table 3, teacher efficacy was significantly related to job satisfaction ($\beta = .46, p < .05$), and the effects of academic advice ego-network density were non-significant ($\beta = -.09, n.s.$), suggesting full mediation. This block of predictors accounted for 28% of the variance in job satisfaction ($R^2=.28$). In addition, the results of the Sobel test of the indirect effect of academic advice ego-network density on job satisfaction through teacher efficacy was significant ($z = -2.03, p < .05$). Thus, Hypotheses 5 was supported.

Hypothesis 6 posited that perceived organizational support moderates the relationship between teacher efficacy and teacher job satisfaction such that efficacy is more strongly related to job satisfaction for individuals with greater perceived organizational support. To test this prediction, we entered the four control variables (including trust and academic advice ego-

network density), the main effect variables (teacher efficacy and perceived organizational support) and the interaction term, again with the predictor variables mean-centered to reduce multicollinearity. Hypothesis 6 was supported as perceived organizational support significantly and positively moderated the relationship between teacher efficacy and job satisfaction ($\beta=4.04$, $p<.05$). This block of predictors explained 49% of the available variance in job satisfaction ($R^2=.49$). Figure 2 illustrates the interaction. As anticipated, the interaction plot revealed that the relationship between teacher efficacy and job satisfaction was significant and positive when teachers had higher levels of perceived organizational support. For teachers with lower efficacy, the slope of the relationship between perceived organizational support and job satisfaction was negative. An additional test of slopes revealed that teacher efficacy positively predicts job satisfaction when perceived organizational support is high ($\beta = .66$, $p<.05$), but teacher efficacy does not predict job satisfaction when perceived organizational support is low ($\beta = -.02$, ns).

 Insert Figure 2 about here

Discussion

In this paper, we sought to answer three specific research questions pertaining to teacher job satisfaction. First, we considered what types of social capital collaboration networks are important for the development of job satisfaction. We found that teachers' out-degree centrality in their school's trust network was positively related to job satisfaction, and that the density of their academic advice ego-network was negatively related to job satisfaction. Second, we investigated whether teacher efficacy transmits the effects of our social capital variables to job satisfaction. We found that teacher efficacy partially mediated the effects of trust and fully mediated the effects of academic advice ego-network density on job satisfaction. Finally, we

integrated teacher efficacy with an important context variable, POS, and considered their interaction on job satisfaction. We found that teacher efficacy interacted with POS such that the highest levels of job satisfaction occurred for individuals with high levels of both efficacy and POS.

Theoretical Implications

The present findings contribute to interdisciplinary theory in three important ways. First, we found that two specific types of collaboration networks, trust and academic advice, have important but distinct relationships with teacher job satisfaction. Despite an extensive literature search, we were unable to find prior work that considered the role of social networks in developing teacher job satisfaction. Network studies offer a unique perspective into organizational phenomena as individuals respond to questions about each co-worker rather than responding to questions concerning their average feelings about co-workers as a group. This approach increases the accuracy and variance of the data collected and provides researchers with more detailed insight into constructs. The network approach also allows us to consider the structure of relationships and the content of ties simultaneously, again providing more detailed insight into the phenomena of interest. Thus, we build on existing interdisciplinary theory by adding the social network approach to the conversation on teacher job satisfaction.

Second, we found that teacher efficacy mediates the relationship between our social capital variables and job satisfaction. Prior work on teacher efficacy and job satisfaction has found that efficacy mediates the effects of various stress-related variables such as job stress (Collie, Shapka, & Perry, 2012) and burnout (Skaalvik & Skaalvik, 2010) on job satisfaction. However, almost no prior work (see Chan et al., 2008 for an exception) has considered the role of efficacy as a mediator for more positive constructs that contribute to, rather than reduce,

overall levels of job satisfaction. Thus, we expand the role of teacher efficacy as a mediator by exploring its relationship with positive antecedent variables.

Finally, we found that teacher efficacy and POS interact to predict job satisfaction. Surprisingly, few studies have investigated how the school context might combine with teacher efficacy to predict important outcomes such as job satisfaction. In their study of teacher burnout in schools, Skaalvik and Skaalvik (2010) found that several aspects of the school context, including time pressure, parent relations, and autonomy, were indirectly related to job satisfaction through self-efficacy. While these constructs are important contextual variables, POS offers a more comprehensive look at context as it assesses individuals' "global beliefs concerning the extent to which the organization values their contributions and cares about their well-being" (Rhoades & Eisenberger, 2002, p. 698). Thus, we expand the conceptualization of school context in the teacher efficacy and job satisfaction literature by considering the role of a more global indicator of support.

Practical Implications

Our research offers important implications for both administrators and teachers. First, administrators play an important role in helping teachers develop trust and job satisfaction. In the current education climate, teachers feel immense pressure from administration to increase student performance on standardized tests (Tanner, 2013). Testing pressure can draw administrators' support away from important teacher job satisfaction factors such as developing effective collaboration networks and creating a positive work environment. For example, time should be spent on fostering collaboration between teaching and building a supporting school climate that can result in high levels of trust, teacher job satisfaction, and reduced turnover.

Also, administrators must acknowledge that teacher job satisfaction is dependent upon a variety of variables, not just student achievement (Olcum & Titrek, 2015). Asif, Fakhra, Tahir, and Shabbir (2016) found that teachers acquire job satisfaction through appropriate teaching responsibilities and appropriate working conditions, or culture. Administration can support a positive school culture by including teacher of the month parking privileges, administrative ‘open door’ policies, and teacher-lead professional learning communities with teacher-chosen topics such as differentiated instruction, classroom behavior management and technology integration.

Finally, administrators offer organizational support to teachers for the development of efficacy. This construct is comprised of three dimensions: efficacy for instructional strategies, classroom management, and student engagement (Tschannen-Moran & Woolfolk Hoy, 2001). Administrators can facilitate the development of efficacy through onsite teacher training and offsite professional development programs that focus on supporting teachers’ practice. The interactions and role play activities that take place in professional development sessions can also help teachers establish and maintain collaboration networks that develop efficacy and job satisfaction. Investment of time and resources in these types of programs can pay dividends for schools through reduced teacher turnover and increased trust and teacher job satisfaction. Administrators are viewed by teachers as an agent of the organization, and the administrator’s actions will determine the degree of POS a teacher believes they are receiving from their school.

Our research also offers important implications for teachers. Based on these findings, teachers should engage in activities that will help them feel valued, confident and successful, thereby increasing their own self efficacy. While trying to improve their daily practice by incorporating differentiated instruction, classroom behavior management or technology

integration strategies into their pedagogy, teachers must remember to take ‘baby-steps’ or incorporate a single strategy at a time until it is mastered. Also, like the life-long lesson they teach their students, teachers must remember that it is acceptable to fail when trying something new if they reflect and learn from the mistake.

Additionally, teachers must remember that trust with an administrator is a two-way street, or a reciprocal action or obligation. Teachers should be aware of and closely follow their teaching contract as well as all school rules and regulations. Teachers can also ask themselves, “Can I assist at the track meet or dance, or start an interesting student club to improve the school?” One could argue that alleviating some administrative chore can benefit the teaching population. As we all know, arriving late to school-based meetings, upsetting parents with unprofessional communication or not minding students in common areas can add to administrator stress and erode organizational support for teachers.

Limitations and Future Research Directions

As with any study, the present research has several limitations. These limitations help to highlight potentially fruitful future avenues for research. First, our study uses teacher job satisfaction as a proxy for turnover. This is a common practice in studies set in schools (Caprara et al., 2003; Caprara et al., 2006; Skaalvik & Skaalvik, 2011) and studies focusing on job satisfaction make important contributions to our understanding of why teachers choose to stay or leave their positions. However, it would also be interesting to study actual turnover and interview teachers about their reasons for having left their teaching roles. The findings from these investigations could lead to a more complete understanding of the high turnover rate for our teachers.

Second, our study provides a static, snapshot view of the relationship between social capital, teacher efficacy, school context, and job satisfaction. While this method is conventional in organizational and particularly in social network research, the cross-sectional design prevents us from determining causality in our relationships. Furthermore, greater understanding of how teacher job satisfaction develops requires a longitudinal study design. The development of anything, including job satisfaction, is a process that needs to be examined over time. Future studies may find that other social capital variables, such as group identification or shared vision, are important predictors of job satisfaction for teachers. Other context variables, such as climate for integration or the amount of conflict present in a school environment could also have a significant impact on teacher satisfaction.

Finally, there is some limit to the generalizability of our findings based on the context studied. The teachers in this study worked within elementary schools in two rural districts in the southeastern part of the US. While social capital, teacher efficacy, and school context are likely to be important predictors of job satisfaction for any teacher anywhere, their relative importance may vary in more suburban or urban school settings. Teachers in more rural districts may have fewer opportunities to change jobs than their urban and suburban counterparts and may feel reasonably satisfied in conditions that might be unacceptable for their colleagues with more job choices. Future research should investigate teachers who work in a variety of schools and locations to determine if our findings remain robust.

Conclusion

This paper takes a significant step toward developing a greater understanding of the antecedents of teacher job satisfaction. We offer contributions to the social capital and teacher efficacy literatures by considering their simultaneous influence on teacher job satisfaction.

However, much work remains before we fully understand which combination of factors is most likely to create the atmosphere necessary for teachers to be sufficiently satisfied and remain as teachers in the classroom.

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Table 1: Descriptive Statistics and Correlations

Variable	Mean	s.d.	1	2	3	4	5	6	7
1. Level of Education	1.32	0.47	--						
2. Teaching Experience	10.67	7.98	.09	--					
3. Job Satisfaction	4.08	0.69	-.03	.22	(.82)				
4. Teacher Efficacy	4.14	0.42	-.08	-.14	.45*	(.85)			
5. Perceived Organizational Support	3.40	0.70	.13	.32*	.51*	.32*	(.89)		
6. Trust	0.32	0.30	.10	.17	.25*	.20	.27*	--	
7. Academic Advice Network Density	0.36	0.14	.00	-.31*	-.29*	-.25*	-.13	-.12	--

Note. $N=122$ teachers, $*p < .05$; Reliability estimates (coefficient alpha) are on the diagonal.

Table 2: OLS results: Hypotheses 1-6

<i>DV: job satisfaction</i>						
	Model 1	Model 2	Model 3	Model 4b	Model 5b	Model 6
Level of Education	-.16 (.26)	-.09 (.26)	-.04 (.23)	-.07 (.24)	-.04 (.24)	-.17 (.21)
Teaching Experience	.02 (.02)	.02 (.02)	.04 (.01)*	.03 (.02)*	.03 (.02)*	.01 (.01)
Trust	.25 (.12)*	--	--	.13 (.12)	--	.06 (.10)
Academic Advice Network Density	--	-.23 (.13)+	--	--	-.09 (.12)	-.11 (.11)
Teacher Efficacy	--	--	.48 (.11)*	.45 (.11)*	.46 (.12)*	1.87 (.53)*
Perceived Organizational Support	--	--	--	--	--	3.61 (1.07)*
Efficacy x Organizational Support interaction	--	--	--	--	--	4.04 (1.32)*
R ²	.11*	.10+	.28*	.29*	.28*	.47*

Note. * $p < .05$, + $p < .10$

Table 3: OLS results: Additional Analyses for Mediations, Hypotheses 4-5

<i>DV: teacher efficacy</i>		
	Model 4a	Model 5a
Level of Education	-.20 (.27)	-.13 (.26)
Teaching Experience	-.02 (.02)	-.03 (.02)
Trust	.26 (.13)*	--
Academic Advice Network Density	--	-.31 (.13)*
R ²	.09*	.11*

Note. * $p < .05$, + $p < .10$

Figure 1: Hypothesized Theoretical Model

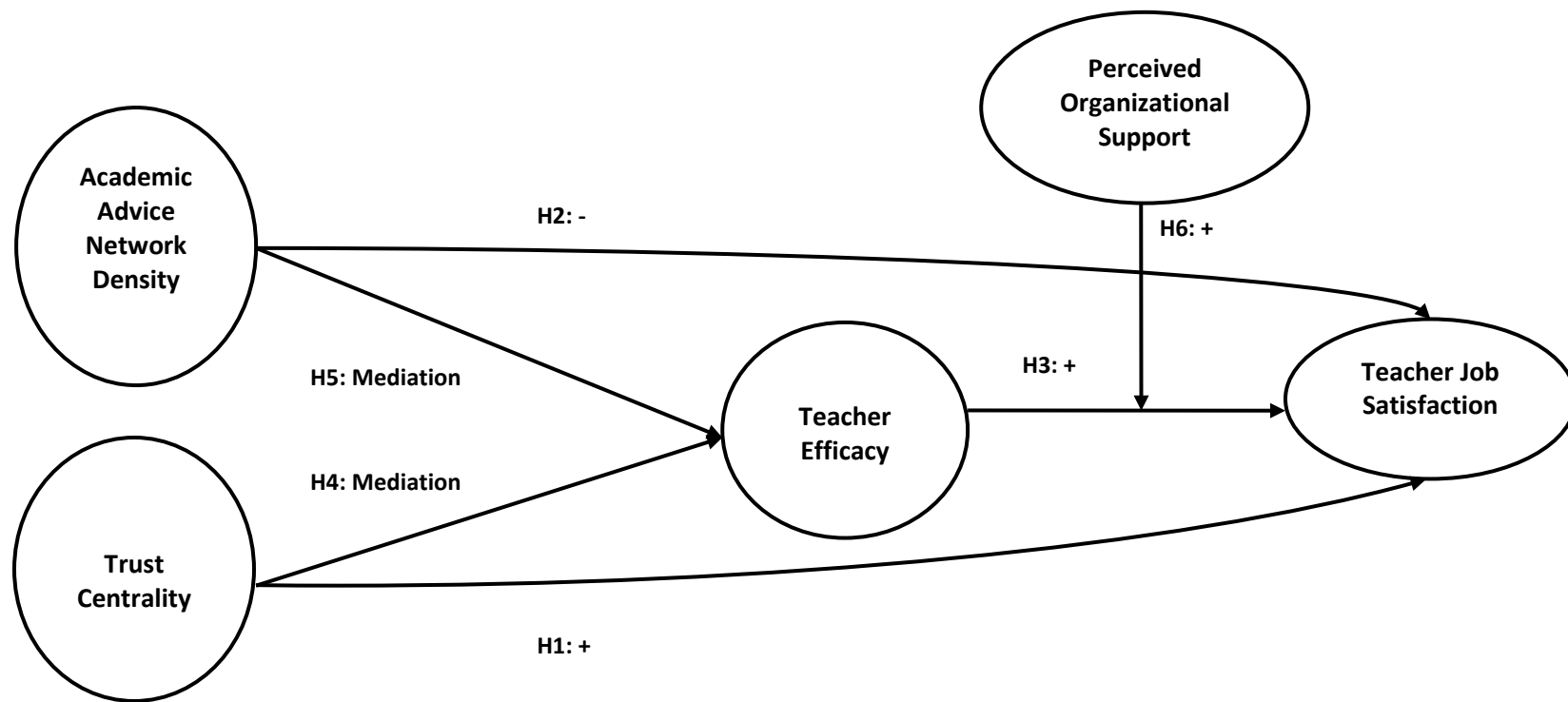


Figure 2: Moderating Effect of Perceived Organizational Support on the Relationship between Teacher Efficacy and Job Satisfaction

