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The Relationship between Teachers' Perceptions of a Lack of Parent/Family Support and
Teachers' Self- Efficacy

by

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Abstract

Teachers' self-efficacy is shown to be affected by many different factors, including students, parents/families, and schools. Teachers' perception of a lack of parent/family support may be related to their reports of self-efficacy, that is, their perceived ability to successfully teach their students. This study uses data from the High School Longitudinal Study of 2009 to investigate the relationship between math teachers' perceived lack of parent/family support and their teaching self-efficacy. This study controlled for teachers' educational attainment, sex, and race to improve the estimates of this relationship. Results show that there is a negative relationship between teachers' perceptions of a lack of parent/family support and teaching self-efficacy. Teachers tend to report significantly lower levels of self-efficacy when there is a higher lack in parent/family support. This relationship remained significant after introducing the control variables during regression analysis. The results can help teachers and schools be informative on this relationship and the effect it has in the classroom.

Introduction

Teachers' teaching self-efficacy is an important measure when it comes to the discussion of education and schooling. This measure of self-efficacy represents how a teacher is perceiving their ability to successfully do their job of educating students. Studies have shown that self-efficacy varies among teachers depending on factors at several different levels including students, parents/families, and schools. When it comes to parent/family support, studies have found that it greatly impacts teachers and classroom functionality. When parents/families are more involved, there is greater communication between parents and teachers. Parents also have better expectations of what is expected from their children. We used nationally representative data of over 20,000 students and their schools from the High School Longitudinal Study of 2009 to investigate two research questions: 1) Do math teachers' perceptions of a lack of parent/family support relate to their teaching self-efficacy? 2) Does this relationship persist after controlling for teachers' educational attainment, sex, and race? This study contributes to the scholarly literature because it addresses teachers' perceptions and experiences through a large recent data set with rich measures on students, teachers, and schools throughout the United States.

This study will differ from the other existing studies because it will not be measuring the amount of parent/family involvement from the parents/families directly. Instead it will be looking at teachers' perceptions of the involvement from parents/families and family and seeing if their perception influences their self-efficacy.

Background

Teachers' self-efficacy refers to the perceptions and beliefs that a teacher holds about their own instructional abilities (Morris 2017). Self-efficacy is built by four main components: firsthand experience, observing the experiences of others, society's perceptions, and the

individual's emotional experiences (Morris 2017). When it comes to teachers, self-efficacy is important because teacher's perceptions of their abilities in teaching may influence their motivation, energy, and actual teaching efficacy. Teaching self-efficacy is important because it is how an instructor measures their success. If teachers have the perception that they are not teaching effectively, this could hinder their abilities moving forward in their careers. Teachers' perceived self-efficacy may also be accurate, such that teachers with high self-efficacy are actually more effective teachers. Further research is valuable because if teachers' self-efficacy is affected by their perception of parent/family support, then ways to improve this problem can be implemented.

When looking at parental/familial involvement, this could be referring to helping children with homework at home, communicating with teachers, or volunteering at their children's school. According to Hoover-Dempsey, Bassler, and Brissie (1987), interaction between teachers and parents/families has several benefits in encouraging the success of children in school. Teacher-parent interactions first became recognized as important in the 1960s when early studies were done to find the factors that benefit young children's schooling (Bronfenbrenner 1974). Previous studies focus on both teaching self-efficacy and teachers' perceptions of a lack of parent/family support as important aspects of the classroom. One such study found that different types of parent involvement were very closely associated with teacher efficacy (Hoover-Dempsey et al. 1987). Evidence also shows that over time, parent/family involvement decreases each year as children age (Izzo, Weissberg, Kaspro, and Fendrich 1999). Along with the decreasing parent/family involvement each year, findings suggest that overall school functioning including teacher efficacy, improves with more parent/family involvement (Izzo et al. 1999). The current research suggests that there is a definite correlation between parental/familial

involvement and teaching self-efficacy (Hoover-Dempsey et al. 1987), but it is important to investigate this relationship among teachers of adolescents.

From the perspective of parents/families, there may be many reasons that prevent their involvement with teachers. Many parents/families have a lack of time, are not aware of involvement opportunities, or may not feel comfortable inserting themselves (Hoover-Dempsey et al. 1987). Teachers may also hesitate to involve parents/families because of a lack of resources, communication skills, or time restraints in planning activities to involve parents/families (Hoover Dempsey et al. 1987). Sometimes parent/families and teachers may have fears about initiating contact due to fears of judgement. According to Hoover-Dempsey et al. (1987), studies have shown that despite the possible worries and tensions, parent/family-teacher communication is a necessity for the success of children. Teachers are likely aware of these potential barriers. If they attribute what they perceive as less involvement from their students' families to a real lack of time on the part of the family, this may reduce their self-efficacy in their own ability to teach children in their classrooms.

When examining teaching self-efficacy, many factors affect how a teacher is viewing their success in the classroom. Teachers can feel limited by a lack of resources, too little support, and personal defeatism (Skaalvik and Skaalvik 2009). One factor that can increase teacher's efficacy is regular parental/familial involvement. According to Hoover-Dempsey et al. (1987), when teachers experience higher rates of parental/familial involvement, their efficacy is increasing. The connection between efficacy and parental/familial involvement can be explained for a few different reasons (Skaalvik and Skaalvik 2009). Approval may be one reason higher parental/familial involvement links to higher levels of teacher self-efficacy. If parents/families are more involved in classrooms and communications with teachers, they are more likely to

believe they are teaching successfully, and their work has the approval of parents/families which in turn creates higher self-efficacy.

When looking at teacher's self-efficacy, many factors play into its entirety. Because teaching self-efficacy is multifaceted, there are other factors that must be accounted for and controlled in order to be confident in how parent/family support relates to teaching self-efficacy. Teachers' educational attainment, race and sex can all be additional factors that affect teaching self-efficacy, and also relate to perceived parent/family support.

When it comes to being a teacher, depending on the school and location, the education requirements can vary. In schools of rural areas, only a bachelor's or even associates degree can be an acceptable amount of education to start teaching full-time, whereas in cities, master's degrees are more common (Hughes 2012). One explanation as to why teachers' educational attainment may relate to their self-efficacy is because the more education a teacher receives, the more experience they are likely to have when becoming a teacher (Tabacbnick and Zeichner 1984). Teachers with higher levels of educational attainment typically get more experience as student teachers and this can help with teachers' confidence levels and skill sets (Tabacbnick and Zeichner 1984). Teachers' race has also been seen to have a connection with teaching self-efficacy. Existing literature shows that due to the differences in experiences across different race groups, they may have different perceptions of self-efficacy (Raudenbush, Rowan, and Cheong 1992). Minority teachers may face more discrimination which leads to higher feelings of doubt and defeat which will lead to a lower self-efficacy (Raudenbush et al. 1992). Because all teachers do not have equal opportunities and experiences, their feelings of self-efficacy vary. Race may play into the reasons that teachers' opportunities vary and are unequal. Teacher's sex is also considered a possible predictor of teachers' teaching self-efficacy. Caprara, Vittorio, Barbarnelli,

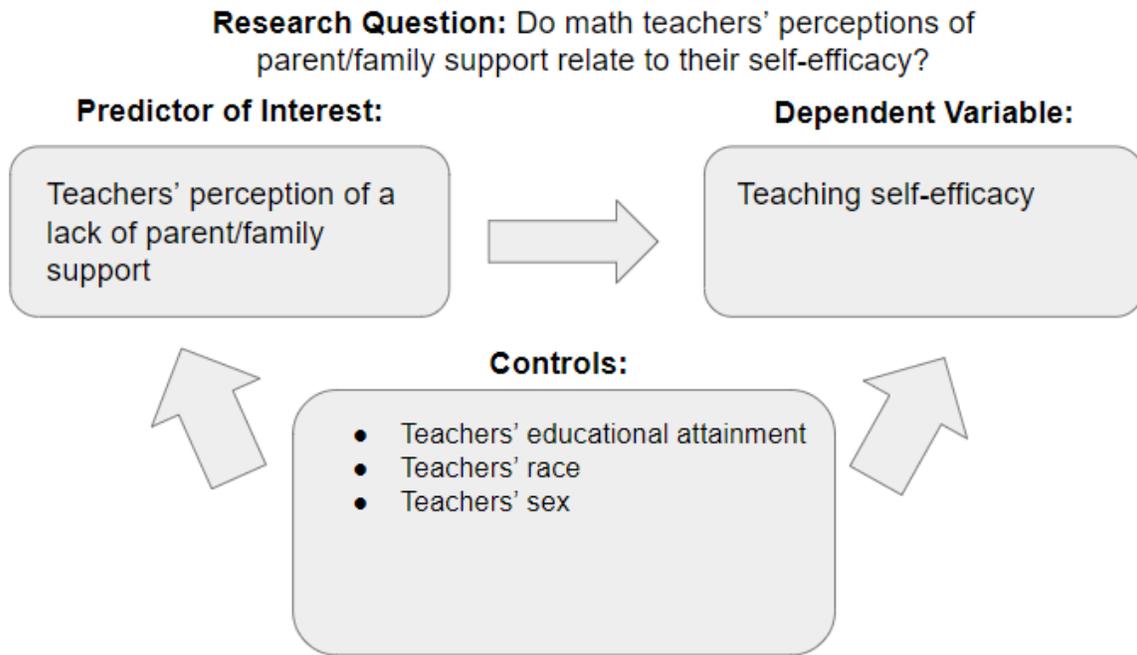
Steca, and Malone (2006) found that teaching self-efficacy can vary depending on teachers' sex. Teachers' sex may vary feelings of confidence and success, which could also reflect on their self-efficacy. This study controls on teachers' educational attainment, teachers' sex, and teachers' race to improve estimates of the relationship between perceived parent/family support and teaching self-efficacy.

Along with many influences, parent/family support play heavily into teachers' self-efficacy. According to a study by Izzo et al. (1999), when parents actively are involved in their children's schooling, they can more effectively learn what is expected in the children's learning at home. It was also found that parents have a better understanding of what is expected of their children at school in the classroom (Izzo et al. 1999). When parent/family and teacher communication is successful, there is a higher rate of a routine discussions about the importance of education in the home (Izzo et al. 1999). Many factors can affect a parent's involvement in their children's school lives. According to Hoover-Dempsey et al. (1987), some of these factors can include quality of school, school socioeconomic status, student grade level, class size, teachers' sense of efficacy, etc. Typically, parent/family involvement is greater when student grade level is lower, and school socioeconomic status is higher. Likely related to both teachers' perceptions of a lack of parent/family involvement and to teachers' self-efficacy, this study includes controls for some of these factors to achieve a less biased estimate of how teachers' perceptions of a lack of parent/family involvement relates to self-efficacy.

Figure 1 provides a conceptual model of this study. This study investigates two research questions: Do math teachers' perceptions of a lack of parent/family support relate to their self-efficacy? Does this relationship persist after controlling for teachers' educational attainment, sex,

and race? Based on the previous research, I hypothesize that teachers with the perceptions of a greater lack of parent/family support will have lower levels of teaching self-efficacy.

Figure 1



Data and Methods

The data that is being used to conduct this research is from the High School Longitudinal Study (HSLs). The HSLs is a nationally representative study that was administered by the National Center for Education Statistics (NCES). The NCES' goals and purposes for this study were to investigate further into students' academic experiences, with a more narrowed focus on math and science courses, from the start of high school into their plans for postsecondary education (college, trade school, etc.). The HSLs began in the fall of 2009 with a survey given to 21,444 ninth-graders. The HSLs also surveyed a parent of each ninth-grader, each student's

math and science teacher, the school administrator, and a lead school counselor. The surveys were administered across 944 high schools in the United States, both public and private. The second wave of data collection was conducted by the NCES in 2012, when most sampled students were in 11th grade. The third wave followed in 2013 when the students were completing high school; this wave collected data from the students or their parent depending on who is available (Ingels et al. 2015). This study uses data from the Wave 1 survey of sampled students' 9th grade math teachers. After excluding students who were not in a 9th grade math class (n=7,320), or teachers who were missing on the dependent variable (n=1,490), this study's analytic sample includes 16,390 students' math teachers. Mean/mode imputation was used to address missing values on all independent variables.

Dependent Variable: Math Teachers' Teaching Self-Efficacy

Math teachers' teaching self-efficacy is the dependent variable for this study. This self-efficacy variable is a scale variable. These questions asked teachers about their feelings of success when it comes to teaching, how they view children's learning, and how they view the importance and value of their impact on students. This variable was created by averaging a collection of questions from the Wave 1 Math Survey that was distributed to math teachers in 2009 by the National Center for Education Statistics. 8,770 cases were set to missing because they were missing on all responses needed to create the scale variables. An additional 40 cases were set to missing because they were missing on all responses except one. Only respondents who answered the entire set of questions were used to create this scale variable.

Predictor of Interest: Math Teachers' Perception of a Lack of Parent/Family Support

Math teachers' perceptions of a lack of parent/family support is the predictor of interest for this study. This question was included on the Wave 1 Math Teacher Survey. The question

asked, “In your view, to what extent do the following limit how you teach?,” then one sub question was “Lack of parent or family support” with the options “Not applicable”, “Not at all”, “A little”, “Some”, and “A lot”. This question was asked along with a variety of others for the NCES to learn about what factors teacher’s feel limit their abilities to teach students. For this research, respondents who selected “Not Applicable” were omitted from the data analysis. The remaining categories were kept in the original condition they were asked as.

Controls

To improve estimate of the relationship between math teachers’ teaching self-efficacy and their perceptions of a lack of parent/family support, a number of controls have been included for teacher differences. Teachers’ educational attainment, sex, and race were all factors considered to improve the relationship estimates.

Teachers’ educational attainment was asked to collect information of teachers’ background. The survey asked, “What is the highest degree you have earned?”, and then responses started at the lowest degree option as “Associate’s degree” and the highest option “Ph.D., M.D., law degree, or other high level professional degree”. There was also a category for “You do not have a degree” so that the categories were exhaustive. For data analysis, the category “You do not have a degree” was omitted and the remaining categories were collapsed and recoded as “Associate’s degree”, “Bachelor’s degree”, and “Master’s degree or higher”.

Teachers’ sex was asked to collect demographic information of math teachers across schools and locations. The survey asked “We would like to confirm your sex. Are you male or female?” with the options “male” and “female”.

The final control variable is teachers’ race. This variable was collected in order to get demographic information across schools and locations. The survey asked “Which of the

following choices describe your race? You may choose more than one.” with the answer options “White”, “Black/African American”, “Asian”, “Native Hawaiian or Other Pacific Islander”, and “American Indian or Alaska Native”. There is also a question that asked, “Are you of Hispanic or [Latino/Latina] origin?” with yes and no options. The responses from these two questions were combined and collapsed for data analysis into one race variable with the categories “Asian”, “White”, “Black”, “Hispanic”, and “Other”. The recoded “Other” category included responses for the previous “Native Hawaiian or Other Pacific Islander” and “American Indian or Alaska Native” categories.

Analytic Plan

We first provide descriptive statistics for the variables used in analysis. These descriptive statistics include mean/proportions, standard deviation for means, and ranges. In order to answer the first research question of the relationship between math teachers’ teaching self-efficacy and their perceptions of a lack of parent/family support, we use multilevel linear regression models. Model 1 represents a baseline estimate of the relationship between the predictor of interest and the dependent variable. In order to answer the second research question, Model 2 represents an adjusted estimate of the relationship by adding in the control variables. This model gives a more accurate estimate of the relationship now controlling for some possible outside factors.

Results

Table one shows descriptive statistics for the sample. The scale variable for teachers’ teaching self-efficacy ranged from zero to three. On this scale, zero indicated the lowest possible teaching self-efficacy score and three was the highest possible self-efficacy. The average score of teaching self-efficacy score was 1.72. When it comes to teachers’ perceptions of a lack of parent/family support, the most common answer was “a little” with 35% of the responses. The

least common response was “a lot” with 17%. When looking at the control variables the results show 50% of teachers who were in this study had a bachelor’s degree and 50% had a master’s degree or higher. The majority of teacher’s were found to be white at 83% and the smallest minority representing 2% of the data was the “other” category which included “Hawaiian or another Pacific Islander” as well as “American Indian or Alaska Native.” When looking at sex, 60% of the math teachers in this study are female.

Table two provides results from multilevel linear regression models predicting math teachers’ teaching self-efficacy. Table two is broken into two models. Model one indicates the relationship between the predictor of interest and dependent variable. Model two shows this relationship, adjusted by introducing the control variables into the regression. Model one shows that, at the baseline, with every one unit increase in the degree to which math teachers report that a lack of parent/family support limits their teaching, teachers’ self-efficacy decreases by 0.20. This relationship is found to be statistically significant ($p < 0.001$). Model two includes control variables to improve the estimates of the relationship between teachers’ teaching self-efficacy and teachers’ perceptions of a lack of parent/family support. After control variables were introduced, the relationship remained constant at a 0.20 decrease in teachers’ teaching self-efficacy for every one unit increase in the degree to which teachers report that a lack of parent/family support limits their teaching. This relationship also remained statistically significant ($p < 0.001$).

The self-efficacy of math teachers with a master’s degree or higher is 0.03 higher on average than that of math teachers with a bachelor’s degree. This relationship is only marginally significant. When it comes to race there were also some differences in average self-efficacy. Model two shows that Asian math teachers’ teaching self-efficacy is 0.08 lower on average than

white teacher's teaching self-efficacy, net of controls. Black math teachers' teaching self-efficacy is 0.11 higher on average than white teachers' teaching self-efficacy. Both of these relationships are only marginally significant.

Discussion

The purpose of this research was to address possible factors that could be influencing math teachers' teaching self-efficacy. This study specifically investigated teachers' perceptions of a lack of parent/family support as a possible effect on self-efficacy. This study hypothesized that teachers with the perception of a great lack of parent/family support will have lower levels of teaching self-efficacy. This study used wave 1 data from the High School Longitudinal Study from the National Center for Educational Statistics collected in 2009. After analyzing this data through linear regression from the math teachers of over 16,000 students across the United States, it was found that there was a significant relationship between these two variables.

These results support the proposed hypothesis that there is a relationship between teachers' perceptions of a lack of parent/family support and teachers' teaching self-efficacy. As hypothesized, the results show that when teachers report higher rates of a lack of parent/family support, on average their self-efficacy decreases. This relationship stayed significant after controlling for teachers' educational attainment, race, and sex. The control variables allowed for an improved estimate of the relationship between these variables.

This research is an important piece in the ever-growing exploration of education in the United States. This research helps to further acknowledge the importance of teachers' teaching self-efficacy and the factors that can affect it. Education is essential in our society and teachers are the front runners of building the minds of future generations. Existing research has shown that teachers' self-efficacy correlates to the duration of their teaching careers as well as the

success of their students. Therefore, it is essential to continue to focus on the self-efficacy of these teachers so that improvements can be made to the American education system as best as possible.

An important point in this research is to address the sensitivity of parent/family support in schools. This research is not trying to suggest that parents/families of students are at complete fault for a teachers' perception of a lack of support. Parents/families come from all types of backgrounds and have different circumstances that may allow for their involvement in their children's schooling. This research suggests that schools with interventions aimed at supporting parent/family involvement at school might also increase teachers' self-efficacy, benefitting the learning of students in multiple ways.

Limitations

In this study, there were certain limitations that should be addressed for future research. One limitation to this research was the control variables were only from a teacher level. While this study did include the controls for teachers' educational attainment, race, and sex there are many additional factors that could be affecting teachers' self-efficacy. Teachers' teaching self-efficacy could also be affected at levels other than teacher such as student, school, and administration. Not including additional variables at different levels as well as the lack of significance in the included variables does not allow for absolute confidence in the relationship between teachers' teaching self-efficacy and teachers' perceptions of a lack of parent/family support. In future research, addressing additional control variables at different levels would allow for an improvement in the relationship.

Another limitation of this research was that the lack of parent/family support was only from the teacher's perceptions. This study did not look at perceptions of parent/family support

from the parents/families. If future research looked at a perceptions of parent/family support from parents and families then they may be able to get a deeper insight into why support may be lacking and their views on teachers' teaching self- efficacy. While this variable is still an important measure, getting the perspective from parents/families could result in further learning about the relationship between parents/families and teachers.

A final limitation is that this research used data that was focused on high school students and teachers. If future research was done with data that was collected at elementary school or middle school levels, they could gather more information about how these variables shift as teachers educate older students. Research traditionally has found that parent/family support is more crucial as children are younger and therefore the relationship between that support and teachers' teaching self-efficacy may be found to be more impactful.

Future Research

In the future, this research could be taken in multiple directions for further exploration. As mentioned previously, this research could address this same relationship between teachers' perceptions of a lack of parent/family support and teachers' teaching self-efficacy among teachers from elementary and middle schools. This study only looked at high school level teachers therefore the resulted targeted a specific demographic. Because of the large sample size, these results can be generalized to the greater population, however, if further research were to incorporate teachers of younger levels the results could be more inclusive to teachers at all grades. Research looking at teachers from elementary and middle schools could also look to see if there are changes as teachers educate older students. Future research could show possible patterns of self-efficacy changes as grade levels increase.

This research could also be used to implement programs that directly aim to increase the self-efficacy of teachers nationwide. A comprehensive study could be done where a program is implemented in schools that directly increases the involvement of parents/families through family functions or incentives. The results of this study could then seek to see if the self-efficacy among teachers increased after the introduction of this program. This study would further the current research because it would represent direct efforts of increasing parent/family support and increasing self-efficacy.

Conclusion

As the educators of future generations, it is no doubt that teachers play an important role in our society. Teachers are the steppingstones and building blocks that children gain much of their contextual understanding of the world from. Because teachers are so vital to the development of children and society as a whole, their feelings of success need to be prioritized. One way to prioritize teacher's teaching self-efficacy is to increase the parent/family involvement in schools. Parent/family involvement in schools allows for a greater understanding of the expectations of students as well as more streamlined communications between parents/families and teachers. The results of this study represent the significant relationship between teacher's teaching self-efficacy and parent/family involvement. While there are limitations to this study as well as future research to be explored, this study can serve as a foundation in recognizing the importance of self-efficacy among teachers.

Table 1. Descriptive Statistics

	Mean/ Proportion	SD	Range
Teachers' teaching self-efficacy	1.72	0.01	(.47, 3)
Teachers' perception a lack of parent/family support			(0,4)
Not at all	0.26	0.01	
A little	0.35	0.01	
Some	0.25	0.01	
A lot	0.17	0.01	
Teachers' highest degree earned			(0,3)
Associate's Degree	0.00	0.00	
Bachelor's Degree	0.50	0.02	
Master's Degree or higher	0.50	0.02	
Teachers' Race			(0,5)
Asian	0.04	0.01	
Black	0.04	0.01	
Hispanic	0.06	0.01	
White	0.83	0.01	
Other	0.02	0.00	
Teachers' sex			
Teacher is female	0.60	0.02	(0, 1)
Teachers (n)	16, 394		

Table 2: Coefficients from Regression Models Predicting Teachers' Teaching Self Efficacy

	Model 1 - Baseline			Model 2 - Adjusted			
	B	(SE)		B	(SE)		
Teachers' perception of a lack of parent/family support	-0.20	***	0.01	-	-0.20	***	0.01
Teachers' highest degree earned				-			
Bachelor's Degree (ref)				-			
Associate's Degree				-	0.09		0.13
Master's Degree or higher				-	0.03	+	0.02
Teachers' Race				-			
White (ref)				-			
Black				-	0.11	+	0.06
Hispanic				-	0.03		0.05
Asian				-	-0.08	+	0.05
Other				-	0.04		0.06
Teachers' sex				-			
Male (ref)				-			
Female				-	0.02		0.02
Constant	2.15	***	0.04	-	2.12	***	0.05
R-squared				-			

Note: Approximately 16,000 teachers in 900 schools were used to estimate each model.

+p < 0.10, *p < 0.05, **p < 0.001, ***p < 0.001

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