



2016-03-01

Psychological and Behavioral Dimensions of Team Trust and Adherence to Collaborative Team Norms Within PLCs

Anne L. Staffieri
Brigham Young University

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>



Part of the [Educational Leadership Commons](#)

BYU ScholarsArchive Citation

Staffieri, Anne L., "Psychological and Behavioral Dimensions of Team Trust and Adherence to Collaborative Team Norms Within PLCs" (2016). *All Theses and Dissertations*. 6227.
<https://scholarsarchive.byu.edu/etd/6227>

This Dissertation is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in All Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

Psychological and Behavioral Dimensions of Team Trust and
Adherence to Collaborative Team Norms Within PLCs

Anne L. Staffieri

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Education

Sterling C. Hilton, Chair
Pamela Hallam
Julie M. Hite
Shannon Dulaney
A. LeGrand Richards

Department of Educational Leadership and Foundations

Brigham Young University

March 2016

Copyright © 2016 Anne L. Staffieri

All Rights Reserved

ABSTRACT

Psychological and Behavioral Dimensions of Team Trust and Adherence to Collaborative Team Norms Within PLCs

Anne L. Staffieri

Department of Educational Leadership and Foundations, BYU
Doctor of Education

In response to increasing demands placed on public education, Professional Learning Communities (PLCs) have emerged as a means of providing teachers with opportunities to collaborate together. Collaboration has been shown to improve teaching practices and lead to better student outcomes. Trust has been shown to be an important factor contributing to the success of PLC teams. Adherence to collaborative norms is also an important factor in the ability to collaborate successfully in PLC teams, yet few studies exist that empirically assess the relationship between trust and adherence to norms regarding the collaboration process. Participants in this study are public high school teachers, grades 9–12, who on average have been working together in their current PLC team for over three and a half years. Team trust is measured by established tool developed by Costa and Anderson (2011) based upon four dimensions of team trust including both psychological (propensity to trust and perceived trustworthiness) and behavioral (cooperating and monitoring behaviors) dimensions. The tool used to measure adherence to PLC team norms was based upon the Meeting Inventory by Garmston and Wellman (2009) and The Collaborative PLC Norming Tool developed by Jolly (2008). These instruments were used with permission, and the author generated some survey items.

Multiple regression analyses assessed the strength of the relationship between PLC team trust and team norms. Four dimensions of team trust were examined by confirmatory factor analyses: Propensity to Trust, Perceived Trustworthiness, Cooperating Behaviors, and Monitoring Behaviors. All four showed a good fit. Team adherence to three different types of collaborative team norms was examined by confirmatory factor analyses: Teacher Dialogue, Decision Making, and Norms of Enforcement. All three outcomes showed a good model fit. Findings showed gender within the norms of enforcement regression model to be the only significant demographic variable. All four dimensions of team trust were significantly and positively related to adherence to norms of teacher dialogue at the bivariate level. Both significant positive and negative correlations exist between dimensions of team trust. When examined collectively, Perceived Trustworthiness and Cooperating Behaviors are directly related to adherence to Teacher Dialogue norms, whereas Propensity to Trust and Monitoring Behaviors have an indirect impact. This study confirms a positive relationship between the two constructs and presents the value of both direct and indirect relationships amongst the psychological and behavioral dimensions of team trust in impacting adherence to collaborative PLC team norms. Teachers and administrators who are aiming to improve or sustain high quality collaboration within PLC teams would do well to focus on Perceived Trustworthiness and Cooperating Behaviors, as those dimensions of team trust are directly related to adherence to collaborative team norms.

Keywords: norms, collaboration, trust, professional learning community, teams

ACKNOWLEDGMENTS

This dissertation journey has been unforgettable and would not have been possible without the support of several individuals. I wish to express my deep appreciation to them.

First, I wish to thank my husband, Russ for his unwavering love, support, and encouragement.

To my children, Allyson, Daniel, Corinne, and Bryce who were my cheerleaders and my motivation to keep going. May you continue in your educational pursuits and love learning as much as I do.

To my parents, Brent and Tamara Livingston who have modeled lifelong learning, always believed in me, and taught me that anything is possible with persistent hard work and dedication.

To my dissertation chair, Sterling Hilton, for his knowledge and wisdom, which continually challenged my thinking and deepened my understanding.

To my dissertation committee members, Pam Hallam, Julie Hite, Buddy Richards, and Shannon Dulaney, whose memorable positive associations and valuable insights have made all the difference.

Finally, I wish to express sincere gratitude to Brigham Young University for the opportunity to learn with others in a blended setting of faith and scholarship. The experience has changed me both mentally and spiritually and left a lasting impression on my heart and soul.

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	v
DESCRIPTION OF STRUCTURE AND CONTENT.....	vi
Background.....	1
Understanding Trust in Teams.....	4
Norms in Collaborative Teams	8
Trust in Teams and Team Norms.....	10
Methods.....	12
Measures	12
Data Analysis	14
Findings.....	15
Discussion.....	22
Conclusion	28
References.....	32
APPENDIX A: REVIEW OF LITERATURE	44
APPENDIX B: METHODS.....	68
APPENDIX C: MEASUREMENT INSTRUMENTS	73
Dissertation References	76

LIST OF TABLES

Table 1 Descriptive Demographic Statistics for Sample Respondents.....	16
Table 2 Descriptive Response Statistics for Dimensions of Team Trust and Adherence to Types of Norms.....	17
Table 3 Correlations Among Dimensions of Team Trust and Adherence to Types of Norms	18
Table 4 Simple Linear Regression Results	19
Table 5 Multiple Regression Models	20

DESCRIPTION OF STRUCTURE AND CONTENT

This manuscript, *Psychological and Behavioral Dimensions of Team Trust and Adherence to Collaborative Team Norms Within PLCs*, is presented in the format of a hybrid dissertation. The hybrid dissertation format focuses on producing a journal-ready manuscript, which is considered by the dissertation committee to be ready for submission. Therefore, this dissertation has fewer chapters than the traditional format, as the manuscript focuses on the presentation of the scholarly article. The hybrid dissertation format includes appended materials such as an extended review of literature and a methods section with elaborated detail on the research approach used in this dissertation project.

The targeted journal for this dissertation is *Educational Management, Administration and Leadership (EMAL)*. *EMAL* is a peer-reviewed journal, which publishes original contributions on education administration, management, and leadership in the widest sense. The topics include the management of schools of all types, administration and policy at institutional, local, national and international levels, and the study and teaching of educational administration. *EMAL* is a strong tier-two journal as determined by both rigor and influence with an acceptance rate within 21-40%; a Google H5 Index of 22; Pop equal to 29; H-Index of 63; SJR indicator of 0.81; and a SJRH index of 20.

Articles submitted to the *EMAL* are reviewed by the editor as well as two in-house reviewers. The manuscript length for submission is 8,000 words. The manuscript in this hybrid dissertation targeted the 8,000-word length submission (excluding all tables and references). The target audience for the *EMAL* is composed of both academics and practitioners in educational leadership.

The literature review for this dissertation may be found in Appendix A. Appendix B contains an extended Methods section, and Appendix C contains the measurement instruments used in this study.

This thesis format contains two reference lists. The first reference list contains references included in the journal-ready article. The second list includes all citations used in the entire dissertation document.

Background

For years, the demand for improving the quality of teaching and learning has been fueled in part by increased accountability policies and reforms, emphasizing the need to create tighter links between the policy environment and instructional practice. Reform mandates (i.e., NCLB and Common Core) expect teachers to use scientifically based professional instructional strategies that will boost student learning (Kaplan & Owings, 2003). For many educators these expectations represent a fundamental change in traditional teaching practices.

Studies have shown that the introduction of high stakes testing alone is not enough to influence teachers to change their instructional strategies to meet the student learning challenge (Milner, Sondergeld, Demir, Johnson, & Czerniak, 2012; Yamashita, 2011). The key to high student achievement is a highly skilled teaching staff (Wells, 2015). In order for schools to obtain and retain quality teachers, an element of ongoing professional development must exist (Diamond, 2007; DuFour & Marzano, 2011; Jackson & Davis, 2000). However, for teachers to take advantage of the professional development opportunities that would help them to learn and improve their practice in schools, an adequate infrastructure is required (Jeffries & Becker, 2008). General agreement exists among educational professionals that the most favorable structure of professional development for educators to acquire and retain the skills necessary to meet long term educational expectations includes work that is led, designed, and provided by teachers nested within their daily practice (Wenger, 1999). Such a structure can be found in professional learning communities, or PLCs (Harris & Jones, 2010; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Vescio, Ross, & Adams, 2008). Professional Learning Communities (PLCs) consist of teams of teachers whose main focus is on improving student learning by

enhancing their own learning and capacity in the delivery of research based best practices (Wells, 2015).

Collaboration is one of the most salient aspects of a PLC team (Stoll, McMahon, & Thomas, 2006). Within PLCs, teacher team collaboration provides the ongoing support necessary for teachers to reflect upon their practice as they examine evidence of student learning in order to tailor instruction which provides for maximal student achievement (DuFour, 2007; DuFour, DuFour, Eaker, & Karhanek, 2004; DuFour, DuFour, Eaker, & Many, 2013). Teachers who work together in a collaborative team are able to accomplish more together to improve their professional practice than they could otherwise do alone (Hargreaves, 1994; Stoll et al., 2006).

Effective collaboration is tied to trust (Tschannen-Moran, 2001). The presence of trust allows for increased initiation and retention of cooperative efforts (Bryk & Schneider, 2004). This is because when teachers engage in PLC team efforts such as sharing individual teaching strategies and results of student achievement data, they expose themselves to potential vulnerability with other PLC team teacher colleagues. Where there is a culture of trust, individuals are more likely to engage in sharing, exposing mistakes in practice, and risk taking (Tschannen-Moran, 2001). In this manner, trust assists in the process of collaboration by allowing teachers to be amenable to sharing sensitive information that might cause vulnerability (Hallam, Smith, Hite, Hite, & Wilcox, 2015) .

Effective collaboration is also tied to the presence of collegial norms (O'Day, 2002). Within teams, the presence of norms governing team processes is essential to the collaboration necessary for competent team performance (Antonetti & Rufini, 2008; Schriber & Gutek, 1987). Norms assist in providing a predictable environment for collaboration to occur. An individual's

understanding and adherence to accepted norms is critical to his or her ability to collaborate with other individuals (Hurwitz & Hurwitz, 2015).

The nature of the relationship between dimensions of team trust and adherence to norms is far from clear. It is clear, however, that norms and trust serve different roles within collaborative teams. At a superficial level, one might perceive norms to be a surrogate for trust, as norms consist of explicit statements outlining aspects of a group or team such as acceptable behaviors and what processes are to be used. These statements are necessary to assist in facilitating interactions amongst team members particularly when individuals do not know one another. The logical extension is that norms are no longer necessary once the group or team becomes acquainted with one another. However, this extension is superficial. Trust and norms are separate and distinct entities within teams.

Studies have revealed that over time behavioral controls within teams, such as team norms of interaction, lead to a decrease in perceived trustworthiness within the team (Piccoli & Ives, 2003) that trust and professional behaviors are related (Hoy & Tschannen-Moran, 2003), and that a possible relationship between trust in teams and setting ground rules exists (Bos, Olson, Gergle, Olson, & Wright, 2002). Some research states that there may be a positive relationship between one purpose of norms in teams and trust in team settings (Cranston, 2009; Dirks, 1999; Ferrin, Bligh, & Kohles, 2007; Gillespie, 2005; Jones & Martens, 2009; Langfred, 2004; Loughry & Tosi, 2008; Salas, Sims, & Burke, 2005; Webber, 2008; Young, 2006). In examination of the roles of trust and norms within collaborative teams it is clear that much more still needs to be learned especially as it pertains to the specific collaborative teacher team context of professional learning communities in education. PLC teams commonly have established norms. However, only within examination of the adherence to those norms do the benefits of

team norms express themselves. Hence, the intent of this study is to expressly examine the relationship between different dimensions of team trust and adherence to the different types of collaborative PLC team norms. Results of this study can be significant to teachers, administrators, and all who have a vested interest in PLC teams. An increased understanding of the trust-norms relationship in collaborative teams can assist those involved in PLCs with promoting and sustaining effective levels of collaboration which can lead to improved teacher instruction and ultimately increased student learning.

Understanding Trust in Teams

The notion of trust as a construct has a wide range of conceptualizations (Buffum & Erkens, 2012; Hoy & Tschannen-Moran, 2003; Huff, 2008; Johnson & Johnson, 2009; Rousseau, Sitkin, Burt, & Camerer, 1998; Schoorman, Mayer, & Davis, 2007; Zenger & Lawrence, 1989). Mayer, Davis, and Schoorman (1995) define trust as an individual's willingness to risk vulnerability or willingness to be vulnerable to another party. Numerous definitions of trust are similar to that of Mayer et al. (1995) and reference an individual's willingness to become vulnerable (Burke, Sims, Lazzara, & Salas, 2007; Costa, 2003; Costa & Anderson, 2011; De Jong & Elfring., 2010; Dirks & Skarlicki, 2008; Golembiewski & McConkie, 1975; Hoy & Tschannen-Moran, 1999, 2003; Mayer et al., 1995; Schoorman et al., 2007).

Much of the literature on trust exists within a leader-follower context. In the educational setting of trust this is found in examples such as teacher trust in a principal (Bryk & Schneider, 2004; Hoy & Sweetland, 1999; Tschannen-Moran & Hoy, 2000) or teacher trust in a team leader (Berg, Bosch, & Souvanna, 2013; MacDonald, 2013). In this study however, trust is measured at

the team level, in a peer-peer context, as individual teachers trust in other teachers within the same team.

The construct of team trust is measured as a compilation of both psychological and behavioral dimensions. As Costa and Anderson (2011) note, trust is shared among members of the team as a way to establish a climate of trust. Psychological dimensions of trust include an individual's *Propensity to Trust* and the *Perceived Trustworthiness* of team members. Both of these are formative in nature, representing reflections of a disposition and perception relating to team trust.

The first psychological dimension of team trust is the Propensity to Trust which describes the willingness of an individual to become vulnerable as they enter into trust relationships (Kochanek, 2005). This sense of vulnerability is founded on the individual's history and resulting beliefs. The collaborative nature of PLCs requires the ongoing sharing of professional work including, but not limited to, individual instructional strategies, curricular plans, and student achievement data. Teachers with a high propensity to trust will be more likely to be open in sharing teaching strategies and results of student assessment data with colleagues. Hallam et al. (2015) note that "high trust is needed in order for teachers to deprivatize their teaching practice" (p. 209). Deprivatizing, or becoming more open to sharing teaching strategies and practices of teaching is essential to PLC team collaboration. On the other hand, a team that is comprised of members exhibiting low levels of propensity to trust may experience initial challenges in collaboration. Teachers in PLC teams may not be willing to share information necessary to effectively collaborate because of the potential for exposure and subsequent vulnerability.

The second psychological dimension of team trust, Perceived Trustworthiness, is assessed through trustor perceptions that the trustee is honest, benevolent, reliable, open, and competent (Eastwood & Seashore-Louis, 1992; Johnson & Johnson, 2009; Tschannen-Moran & Hoy, 1998; Zenger & Lawrence, 1989). These characteristics allow the trustor to be willing to accept vulnerability (Akgün, Keskin, & Byrne, 2010; Dirks & Skarlicki, 2008). In this context, it is implied that a person who is trustworthy will not put another individual in harm's way and will only think about the best interest of other people or the group as a whole. A PLC team experiencing a positive environment where team members regard other members of the team highly is likely to experience successful collaboration and productive exchanges of information. Perceived Trustworthiness is a necessary component of effective collaboration and provides a solid foundation for good and productive relationships (Erfle, 2013).

While Propensity to Trust and Perceived Trustworthiness as categorized by Costa and Anderson (2011) are psychological dimensions of team trust regarded as formative in that they precede team trust; the behavioral dimensions regarded as reflective which follow team trust are identified as *Cooperating* and *Monitoring Behaviors*. Team trust is formed from the psychological dimensions of Propensity to Trust and Perceived Trustworthiness, and is reflected by the presence of Cooperating Behaviors and the absence of Monitoring Behaviors (Costa & Anderson, 2011). Cooperating Behaviors are associated with high levels of team trust and contain a common element of openness (Costa & Anderson, 2011). Effective collaboration results from an environment where individuals are open in that they share information freely and cooperate one with another (Katz & Miller, 2013). Cooperating Behaviors foster collaboration as teachers are open to giving advice and receiving help from others without holding back information from the team regardless of the potential for personal exposure. In contrast,

collaboration cannot occur amongst teachers who reserve information for personal gain or keep ideas to themselves in order to avoid criticism. Openness is critical to team collaboration as a PLC team's collaborative efforts are likely to be superficial and less than effective unless teachers are willing to share sensitive information in addition to teaching ideas (Hallam et al., 2015). PLC teachers who increase communication by openly sharing information with team members may influence other teachers to do the same over time. As team members continue in these open exchanges the frequency and types of shared information may increase, leading to the establishment and sustenance of team collaboration.

As opposed to Cooperating Behaviors, Monitoring Behaviors are often associated with underdeveloped or low levels of trust (Costa & Anderson, 2011; Malhotra & Murnighan, 2002). Monitoring behaviors include actions of team members, which regulate or monitor the actions of others within the team (Marks & Panzer, 2004). Monitoring Behaviors in PLC teams may look like teachers checking up on one another to be sure assignments are being carried out, or teachers holding one another accountable for agreed upon agenda items (DuFour et al. 2013). Monitoring Behaviors are necessary in order for the team to regulate their own performance (Rousseau, Aube, & Savoie, 2006). Monitoring Behaviors are those that are focused on holding team members accountable for their actions that may be perceived as positive or negative within the team. Regardless of how they are perceived, Monitoring Behaviors contribute to team collaboration, because a failure to regulate or monitor the work of team members could prevent the team from accomplishing the intended tasks or goals (Yeatts & Hyten, 1998). Individuals within collaborative teams can attain a high level of performance with the application of Monitoring Behaviors used to regulate progress toward task completion (Arrow, Poole, Henry, Wheelan, & Moreland, 2004).

Costa and Anderson (2011) conceptualize that team trust is formed from the psychological dimensions of Propensity to Trust and Perceived Trustworthiness of team members, and reflected by the presence of Cooperating Behaviors and the absence of Monitoring Behaviors within the team. A foundational premise of this team trust measurement tool is that the trustor's own Propensity to Trust as well as their perception of the trustee's trustworthiness within the team, lead to an increase in the presence of Cooperating Behaviors. Conversely, within the team the trustor's own Propensity to Trust as well as their perceptions of trustworthiness in the trustee lead to a decrease in the presence of Monitoring Behaviors.

Norms in Collaborative Teams

Norms are ground rules, controls, practices, or ways that govern or direct a group. Within collaborative teacher teams, shared norms and values lay the foundation for the PLC team culture because they help to establish personal and team-wide expectations, providing for a clear vision of responsibilities and assumptions of team interactions (Adams, 1963; Konovsky & Pugh, 1994; Walther & Bunz, 2005).

There are many types of norms within teams based upon aspects such as how teams interact with each other, how business is conducted, how decisions are made, how team members communicate, and even the expectations for dress when teams are assembled. Collaboration is an essential ingredient in PLC teams as the ability of teachers to improve their performance and subsequently increase student performance is based largely upon their ability to collaborate with other team members successfully (Nehring & Fitzsimons, 2011; Nelson, Slavit, Perkins, & Hathorn, 2008; Saphier, Gower, & Haley-Speca 1997). All aspects of PLC teams, from setting team goals, discussing student assessment data, and planning for future instruction based upon those results, involve the critical element of collaboration within the team.

In consideration of team adherence of many types of norms, this study measures *adherence* to three specific norms of collaboration: Teacher Dialogue norms, Decision Making norms, and Norms of Enforcement. Adherence to all three types of team norms are found in teams which consistently demonstrate high levels of collaboration (Garmston & Wellman, 2009).

First, successful collaborative PLC teams are found to adhere to norms that govern teacher dialogue. Teacher Dialogue norms are ground rules about how teachers will talk with one another while working within the team. Within a group of individuals such as a PLC team, collaboration involves progressive exchanges of help and support from other teachers (Lipnack & Stamps, 1997).

A second type of norm which collaborative PLC teams are found to adhere to is norms of Decision Making. Effective team collaboration takes place as individual members understand the role of their voice within the team decision making process and adhere to that role. In addition, when individuals are assured that alternative opinions matter in the decision making process they are more likely to engage with fidelity. Thirdly, collaborative teams are found to adhere to team norms that govern how norms are enforced. The effectiveness of collaboration within a team is closely tied to how well its members follow the team's norms (Johnson & Johnson, 2009). Enforcement of norms within teams is necessary to team development in order to ensure structural fidelity. Problem behaviors, such as lack of individual team member support, and blatant disregard or disrespect of team procedures and processes, can ultimately lead to discontent, mistrust, and disagreement within a team (Harris, 2011).

Adherence to norms of enforcement is a collective responsibility equally shared amongst all members, which includes both reviewing existing norms for adherence purposes, as well as systematically addressing violations of norms within the team. Teams with established patterns

for both of these components of norm enforcement stand to collaborate more successfully than teams that do not (Garmston & Wellman, 2009).

This study specifically examines adherence to three types of PLC team norms of collaboration: Teacher Dialogue norms, Decision Making norms, and Norms of Enforcement. Each of these types of norms is essential to effective team collaboration, which is critically tied to the functionality of the PLC team. In examining adherence to each type of team norm, this study will consider the specific nature of the relationship between different dimensions of team trust and adherence to different types of collaborative norms in PLC team. An enhanced understanding of the nature of the relationship between trust and norms in teams may increase the overall ability of a PLC team to promote and sustain collaboration, leading to improved student learning.

Trust in Teams and Team Norms

The relationship between trust and team performance has been well established (De Jong & Elfring, 2010; Dirks, 1999; Dirks & Ferrin, 2001; Hoy & Tschannen-Moran, 2003). Teams that are able to secure and maintain trust collaborate more effectively and more consistently than those who do not (Hallam et al., 2015; Tschannen-Moran, 2001). The relationship between norms and team performance is clear (Adams, 1963; Hadar & Brody, 2013; Konovsky & Pugh, 1994; Loughry & Tosi, 2008; Piccoli & Ives, 2003; Walther & Bunz, 2005). Specifically, teams that have individual consistent norms governing procedures and interactions display enhanced collaboration in comparison to those who do not (Johnson, Suriya, Yoon, Berrett, & Fleur, 2002; Schwarz, 1994; Weinberg, Cooney-Miner, Perloff, Babington, & Avgar, 2011).

With respect to the role of norms of enforcement in teams, the literature provides mixed findings and a number of contradictory positions (Ferrin et al., 2007; Hord, 1997; Langfred,

2004; Malhotra & Murnighan, 2002; Webber, 2008). Some research states that there *may* be a positive relationship between adherence to norms and trust in team settings, and that individuals in teams expect ground rules as part of maintaining healthy team interactions (Ferrin et al., 2007; Langfred, 2004; Webber, 2008). Yet in contrast, evidence also suggests that norms within teams can be counter-productive to trust because they may condition individuals to rely more on external limitations (such as rules) than on the internal team member relationships (Malhotra & Murnighan, 2002).

This exploratory nature of this study aims to improve understanding regarding the nature of the relationship between the dimensions of team trust and adherence to norms in teams, and to provide clarification to the mixed findings within the literature regarding these two constructs. Research is centered on this overarching question: What is the relationship between dimensions of team trust and *adherence to norms* in collaborative teacher teams? This question includes the following specific questions:

1. What is the relationship between psychological and behavioral dimensions of team trust and adherence to *norms that govern team member dialogue*?
2. What is the relationship between psychological and behavioral factors of team trust and adherence to *norms that govern team decision making*?
3. What is the relationship between psychological and behavioral factors of team trust and adherence to *norms of enforcement*?

A refined understanding of the relationship between these constructs has potential to inform and impact the level of collaboration within PLC teams. Ultimately, teams maximizing effective collaboration are more equipped to consistently enhance performance, resulting in improved teaching and learning for students.

Methods

A survey study was conducted in a suburban high school district within the boundaries of San Diego County, California. For at least the past eight years, this district has been committed to PLCs. Designated time within the workweek for collaborative PLC teams has been well established, suggesting a collaborative culture focused on student learning and results. In addition, strong administrative support from the district level allowed for ease of researcher access to conduct the study.

The survey was administered via an online method using Qualtrics software. An email was sent out to all (n=340) teachers within the district introducing the research and inviting them to participate by completing an attached anonymous survey. In order to maximize the number of elicited responses, an additional two emails were sent out to all teachers for a total of three invitations during the two-week survey window. The result was a 23.5% survey response rate producing 80 respondents in total.

Measures

Multiple control variables were selected based on their predicted level of impact upon the PLC team's adherence to norms. Number of years on the currently PLC team was selected as a control variable because of the likelihood of making a difference with respect to adherence to team norms. Additional control variables include PLC team leader, number of years teaching, number of years at the current school, and gender as a standard control variable.

In developing the measurement tool for adherence to team norms, a review of literature on collaborative team norms was conducted. Review results determined that an appropriate existing tool for use in this study was not available. A norms measurement tool was developed by the researcher with the majority of questions compiled from the following two primary

sources: *Meeting Inventory* developed by Garmston and Wellman (2009), and the *Collaborative PLC Norming Tool* developed by Anne Jolly (2008). Both were identified for use due to a focus on measuring adherence to collaborative team norms within PLCs.

Over 35 questions were considered in the process of creating the final 16 questions of the norms measurement tool based upon alignment with survey objectives. Adherence to teacher dialogue norms was measured by items addressing balance in meeting participation, listening and feeling heard by others, reacting to differing ideas and opinions with respect, and keeping information that is shared confidential between team members. Adherence to decision making norms was measured by items focused on clarity of the decision making process, sharing relevant facts and ideas as part of that process, as well as understanding one's own role. In addition, items addressed supporting decisions made by the team and making decisions by consensus. The measurement items for adherence to enforcement of norms contained two parts. One set of items was focused on reviewing and establishing norms. Another set of items focused on how norm violations were handled within the team. Examples include: norms are reviewed regularly; when a team norm is violated, the misbehavior is addressed in a timely manner by other members of the team; and when a team norm is violated, the misbehavior is addressed in a positive manner by other members of the team.

Items used to operationalize team trust were created and validated by Costa and Anderson (2011). All 21 items of the existing team trust survey were used. Items that assessed Propensity to Trust contained an element of regard for others. Measurement items for Perceived Trustworthiness were reflective of Tschannen-Moran's facets of trust, indications of trustworthiness and precursors to trust: benevolence, reliability, competence, honesty, and openness (Tschannen-Moran & Hoy, 1998; Tschannen-Moran & Hoy, 2000). Survey items

identified to assess Cooperating Behaviors contain a theme of openness. Survey items for the factor of Monitoring Behaviors focused on regulating individual team actions.

The norms measurement tool contained 16 survey items, and the team trust measurement tool contained 21 items. By design, all 37 survey items used a seven-point Likert scale with the following response format: strongly disagree (1), disagree (2), slightly disagree (3), neither agree nor disagree (4), slightly agree (5), agree (6), and strongly agree (7).

Data Analysis

Confirmatory factor analyses of the three-factor adherence to team norms model were conducted using the 80 respondents in this study to assess the dimensionality of the norms construct. Model fit for the three-factor norm adherence model was good. For Teacher Dialogue, TLI =0.95 CFI =0.97 and RMSEA =0.07. For Decision Making, TLI =0.98 CFI =0.99 and RMSEA =0.07. For Norms of Enforcement, TLI =0.97 CFI = 0.99 and RMSEA =0.07. The Cronbach's alpha for these three constructs were as follows: Teacher Dialogue (0.71); Decision Making (0.86); Norms of Enforcement (0.86).

Team trust was measured using an instrument created and validated by Costa and Anderson (2011). They analyzed the validity of the instrument via exploratory factor analysis, internal homogeneity, confirmatory factor analysis, consensual and discriminant power, and construct validity as a way of establishing validity. This instrument uses a seven-point Likert scale of agreement identical to the one used in the norms assessment tool. Estimated Cronbach's alpha for the four factors of team trust and the values are: Propensity to Trust (0.69); Perceived Trustworthiness (0.87); Cooperating Behaviors (0.89); and Monitoring Behaviors (0.66).

The items associated with adherence to each type of team norms were averaged to produce a separate score in each domain for each respondent. An identical process took place

for the items associated with each dimension of trust. Multiple methods were used to analyze the adherence to each type of team norm separately. First, bivariate correlations were calculated between the dimensions of team trust, between the adherence to norms scales, and between the dimensions of team trust and the adherence to norms scales. Second, simple linear regressions were carried out in order to explore the magnitude and significance of the relationship between each dimension of team trust and adherence scales. Finally, multiple regression models were used to examine the relationships involving dimensions of team trust and norm adherence scales jointly and in the presence of control variables.

Findings

Of the 80 respondents, all were PLC Team Members who taught grades 9-12. The respondents were 68% female (n=54), and 43% (n=34) identified as team leader. Respondents taught for a mean of 13.5 years (SD=7.9 years, range: 1 year to 35 years), were at their current school for a mean of 9.44 years (SD=7.83 years, range 1 year to 35 years), and were on their existing team for a mean of 3.68 years (SD=3.55 years, range 0.2 years to 18 years). These data paint a picture of respondents representing a wide range of individuals from the first year teacher to the 35 year veteran, with an average of the teachers representing those who were midway through their professional career and established in existing PLC teams. Only 7.5 percent of the 80 respondents reported being on their PLC team for one year or less, while on average, teachers had worked with each other on the same PLC teams for over three and a half years, signifying that professional relationships within the existing teams were not new. A description of the teachers who responded to the survey is found in Table 1.

*Table 1**Descriptive Demographic Statistics for Sample Respondents*

		Count	(%)		Mean (SD)
Gender	Male	26	(32)	Years Teaching	13.5 (7.9)
	Female	54	(68)	Years at School	9.4 (7.8)
				Years on Team	3.7 (3.5)
Team Leader	Yes	34	(43)		
	No	46	(57)		

Descriptive statistics of respondents' adherence to team norms and dimensions of team trust provided by all study respondents (n=80) are presented in Table 2. The mean for both teacher dialogue norms and decision making norms was 5.9 with standard deviations of 1.03 and 1.20 respectively. In the enforcement of norms data, the mean response was 5.0, with a standard deviation of 1.49.

The trust survey instrument within this study was used to measure team trust as evidenced by four individual facets: Propensity to Trust, Perceived Trustworthiness, Cooperating Behaviors, and Monitoring Behaviors. In the Propensity to Trust data, the mean response was 6.1 with a standard deviation of 0.97; the mean for Perceived Trustworthiness was 5.5 with a standard deviation of 1.42. The Cooperating Behaviors data responses resulted in a mean of 5.6, with a standard deviation of 1.1; finally, the Monitoring Behaviors data resulted in a mean response of 3.2 with a standard deviation of 1.37.

Because 43% of the 80 respondents identified as having experience as a team leader, two sample t-tests were conducted to determine if team leadership experience was associated with dimensions of team trust and adherence to team norms. There were no significant differences in

the responses between those who had experience as team leaders and those who had not (see Table 2). Therefore, despite the relatively high percentage of respondents with team leadership, the lack of difference in responses between those with and without team leadership experience suggests that the relatively high percent of individuals in the sample with team leadership experience is not significantly related to their responses.

Table 2

Descriptive Response Statistics for Dimensions of Team Trust and Adherence to Types of Norms

	Overall (n=80)	Team Leader (n=34)	Non team leader (n=46)	
NORMS	Mean (SD)	Mean (SD)	Mean (SD)	2 sample t-test
Teacher Dialogue	5.9 (1.03)	5.7 (1.34)	6.1 (0.69)	n.s.
Decision Making	5.9 (1.20)	5.8 (1.43)	6.0 (1.01)	n.s.
Norms of Enforcement	5.0 (1.49)	5.1 (1.58)	4.9 (1.43)	n.s.
TRUST				
Propensity to Trust	6.1 (0.97)	6.0 (1.24)	6.1 (0.72)	n.s.
Perceived Trustworthiness	5.5 (1.42)	5.3 (1.65)	5.7 (1.21)	n.s.
Cooperating Behaviors	5.6 (1.11)	5.5 (1.43)	5.7 (0.80)	n.s.
Monitoring Behaviors	3.2 (1.37)	3.4 (1.34)	3.0 (1.37)	n.s.

Note. Seven-point Likert response format: strongly disagree (1), disagree (2), slightly disagree (3), neither agree nor disagree (4), slightly agree (5), agree (6), strongly agree (7).
n.s.: p-value not significant at .05 level

Bivariate correlation results as shown in Table 3 yield some significant findings. To begin with, all of the adherence to team norm scales are significantly and positively correlated with each other. Adherence to Teacher Dialogue norms and Decision Making norms was the most highly correlated of all (0.83, $p < .001$), with the correlation between adherence to Decision

Making norms and Enforcement of Norms (0.74, $p < .001$) being the second strongest, followed by the correlation between adherence to Teacher Dialogue norms and Enforcement of Norms (0.64, $p < .001$). Likewise, all the dimensions of team trust are significantly correlated with each other. As expected, Monitoring Behaviors is negatively correlated with the other three dimensions of team trust with estimates showing a moderately weak correlation ranging from -0.31 to -0.44. The other three estimates dimensions are all positively correlated with each other with relatively strong estimates ranging from 0.72 to 0.80.

Table 3

Correlations Among Dimensions of Team Trust and Adherence to Types of Norms

	Teacher Dialogue	Decision Making	Enforcement of Norms	Propensity to Trust	Perceived Trustworthiness	Cooperating Behaviors
Decision Making	0.83***					
Enforcement of Norms	0.64***	0.74***				
Propensity to Trust	0.68***	0.72***	0.62***			
Perceived Trustworthiness	0.81***	0.80***	0.71***	0.72***		
Cooperating Behaviors	0.76***	0.76***	0.62***	0.80***	0.78***	
Monitoring Behaviors	-0.37**	-0.26*	-0.15	-0.31**	-0.40***	-0.44***

* $p < .05$, ** $p < .01$, *** $p < .001$

Of the correlations between domain of norm adherence and dimensions of team trust, eleven of the twelve were shown to be significantly and positively correlated with each other. Perceived Trustworthiness and adherence to Teacher Dialogue norms was the most highly

correlated of all (0.81, $p < .001$), with the correlation between Perceived Trustworthiness and adherence to Decision Making norms being the second strongest (0.80, $p < .001$), followed by a tie for the third strongest between Cooperating Behaviors and adherence to Teacher Dialogue norms (0.76, $p < .001$), and Cooperating Behaviors and adherence to Decision Making norms (0.76, $p < .001$). Negative correlations were found between Monitoring Behaviors and adherence to each type of collaborative team norm as follows: Teacher Dialogue norms (-0.37, $p < .01$), Decision Making norms (-0.26, $p < .05$), and Enforcement of Norms (-0.15).

Simple linear regressions provided additional information as to the magnitude and significance of the relationships between each dimension of trust and each scale of adherence to collaborative team norms (see Table 4).

Table 4

Simple Linear Regression Results

	ADHERENCE TO NORMS					
	Teacher Dialogue		Decision Making		Enforcement	
TRUST DIMENSIONS	β (SE)	R^2	β (SE)	R^2	β (SE)	R^2
Propensity to trust	0.72*** (0.09)	46%	0.89*** (0.10)	52%	0.94*** (0.14)	38%
Perceived trustworthiness	0.59*** (0.05)	65%	0.68*** (0.06)	64%	0.74*** (0.08)	50%
Cooperating Behaviors	0.71*** (0.07)	58%	0.83*** (0.08)	58%	0.84*** (0.12)	39%
Monitoring Behaviors	-0.28** (0.08)	14%	-0.23* (0.10)	7%	-0.17 (0.12)	2%

* $p < .05$, ** $p < .01$, *** $p < .001$

Results of each of the three multiple regression model analyses are presented in Table 5. With respect to the model of adherence to Teacher Dialogue norms, there were two dimensions

of team trust found to be significantly related. First, Perceived Trustworthiness was significantly related to adherence to Teacher Dialogue norms (0.29, $p < .01$). Second, Cooperating Behaviors was significantly related to adherence to Teacher Dialogue norms (0.29, $p < .05$).

Table 5

Multiple Regression Models

	ADHERENCE TO NORMS		
	Teacher Dialogue	Decision Making	Enforcement
CONTROL VARIABLES	β (SE)	β (SE)	β (SE)
Gender (male)	0.06 (0.15)	0.03 (0.17)	0.71** (0.26)
Team Leader (yes)	-0.18 (0.14)	0.03 (0.16)	0.50 (0.25)
Years Teaching	0.01 (0.01)	0.01 (0.01)	0.04 (0.02)
Years at the school	-0.01 (0.01)	-0.01 (0.02)	-0.04 (0.02)
Years on the Team	0.00 (0.02)	0.01 (0.02)	0.04 (0.04)
TRUST DIMENSIONS			
Propensity to trust	0.06 (0.12)	0.11 (0.14)	0.10 (0.22)
Perceived trustworthiness	0.29** (0.08)	0.45*** (0.10)	0.60*** (0.15)
Cooperating behaviors	0.29* (0.13)	0.37* (0.15)	0.23 (0.22)
Monitoring behaviors	0.00 (0.06)	0.11 (0.07)	0.12 (0.10)
Model R ²	62%	68%	57%

* $p < .05$, ** $p < .01$, *** $p < .001$

Likewise, within the model of adherence to Decision Making norms, two significant positive relationships were found. The first is between Perceived Trustworthiness and adherence to Decision Making norms (0.45, $p < .001$), and the second is between Cooperating Behaviors and adherence to Decision Making norms (0.37, $p < .05$). None of the control variables were found to be significant in either the adherence to Teacher Dialogue model or the adherence to Decision Making model.

However, within the adherence to Norms of Enforcement model, two control variables were found to be significant. Gender was the most significant (0.71, $p < .01$), indicating that males reported higher adherence to norms of enforcement, and team leader was also significant (0.50), with team leaders reporting higher adherence to norms of enforcement. Also within the adherence to Norms of Enforcement model, Perceived Trustworthiness was found to have a significant and positive relationship (0.60, $p < .001$). This relationship was the most significant and positive of all three models and was supported by the similar significant and positive relationships found with Perceived Trustworthiness in the adherence to Teacher Dialogue norms model and the adherence to Decision Making norms model.

Patterns are evident amongst different relationships of individual dimensions of team trust and adherence to individual types of team norms. With respect to the psychological dimensions of team trust the results are mixed. Propensity to Trust is not related to any of the domains of norm adherence after adjusting for the other dimensions of team trust. On the other hand, after adjusting for the other dimensions of team trust, Perceived Trustworthiness remains positively associated with adherence to all three domains of norm adherence: Teacher Dialogue (0.29), Decision Making (0.45), and the strongest association with Norms of Enforcement (0.60). Examination of behavioral team trust dimension results also are mixed. After adjusting for the

other dimensions of team trust, Cooperating Behaviors have significant positive associations with adherence to Teacher Dialogue norms (0.29) and the strongest association with Decision Making norms (0.37). However, Monitoring Behaviors is not related to adherence to any type of team norm after adjusting for the other dimensions.

Overall, dimensions of team trust explained between 57% and 68% of the observed variability within the domains of adherence to PLC collaborative team norms, suggesting a strong and important relationship. While all of the control variables were included in each multiple regression model, none were significant or important with the exception of the model for adherence to Enforcement of Norms. Within this model, gender and team leader were found to be significant.

Discussion

To our knowledge, this study is the first to examine dimensions of team trust simultaneously in determining the nature of the relationship between trust and adherence to collaborative norms within teacher teams. Other studies have examined relationships between individual trust dimensions and team collaboration (Jacques, Garger, Brown, & Deale, 2009; Lee et al., 2010; Price, 2006; Robert, Denis, & Hung, 2009), but none have examined all psychological and behavioral dimensions of team trust simultaneously as they relate to norm adherence. Overall, our research provides a starting point for understanding the collective impact of psychological and behavioral dimensions of team trust on the adherence of norms within collaborative teams, as well as how the dimensions of trust interact together.

With results indicating that dimensions of team trust are explaining close to 65 percent of the variability in self-reported adherence to norms within collaborative teams, this study supports a strong and significant relationship between the multiple dimensions of team trust and

three domains of norm adherence directly related to team collaborative processes. Specifically our findings suggest that Perceived Trustworthiness (psychological dimension) and Cooperating Behaviors (behavioral dimension) represent the two dimensions of trust which are directly related to adherence to collaborative norms, while the other two dimensions, Propensity to Trust and Monitoring Behaviors are indirectly related. Practically speaking, teachers and administrators who wish to promote successful collaboration within PLC teams could focus on levels of Perceived Trustworthiness and Cooperative Behaviors within the team as these dimensions of team trust are most strongly associated with a PLC team's adherence to collaborative team norms.

Considering the results of the simple linear regression models more closely, each dimension of trust demonstrates a unique relationship with adherence to the different types of collaborative team norms. This study provides an understanding of the association *within* the construct of team trust, as well as the association *between* the two constructs of team trust and adherence to collaborative team norms. The unique relationships between adherence to each type of norm and the dimensions of team trust are discussed below.

Teacher Dialogue norms in this study assess the adherence of teachers to ground rules about how they will talk with one another while working within the team. At the bivariate level, all dimensions of trust are significantly related to adherence to Teacher Dialogue norms. With the exception of Monitoring Behaviors, all of the associations are positive, meaning higher team trust scores are associated with higher levels of adherence to Teacher Dialogue norms. Propensity to Trust has the largest association with adherence to Teacher Dialogue norms; however nearly an equally strong relationship exists with Cooperating Behaviors among team members and Perceived Trustworthiness as well.

The strong positive relationship between these constructs suggests that teachers who are more inclined to trust others within their PLC team because of their personal past experiences or history will be more likely to adhere to norms associated with being clear about listening to one another, balancing participation in discussions, reacting to differing ideas and opinions with respect, and keeping shared information within the team confidential. These results are consistent with previous findings (Jones & George, 1998; Lewicki, McAllister, & Bies, 1998; Reina & Reina, 1999) that indicate that an individual's prior history and values impact behavior in conversations and exchanges with colleagues in groups and teams.

The strong positive relationship between Cooperating Behaviors and adherence to Teacher Dialogue norms suggests that teachers in PLC teams who are demonstrating positive actions such as open communication and interdependence are more likely to adhere to the rules of the team which govern how team members will converse with one another. This finding confirms prior research from Holmlund, McNally, and Viarengo (2012), who found a positive relationship between how much is shared (openness, collaborating behaviors) within the team and the way in which teachers dialogue around student work (dialogue norms).

Perceived Trustworthiness is assessed through trustor perceptions that the trustee is honest, benevolent, reliable, open and competent (Eastwood & Seashore-Louis, 1992; Johnson, Truxillo, Erdogan, Bauer, & Hammer, 2009; Tschannen-Moran & Hoy, 1998; Zenger & Lawrence, 1989). The strong positive relationship between these two constructs suggests that the more teachers regard others within their PLC team to be honest, benevolent, reliable open, and competent (Tschannen-Moran & Hoy, 1998), the higher the level of adherence they will have to norms associated with being clear about listening to one another, balancing participation in discussions, reacting to differing ideas and opinions with respect, and keeping shared

information within the team confidential. These results are consistent with previous findings that the perceptions of trustworthiness one has of others largely determines the type of interactions people have within teams (Rusman, van Bruggen, Sloep, Valcke, & Koper, 2013).

In sharp contrast to the other dimensions of team trust, the behavioral trust dimension identified as Monitoring Behaviors was found to have a negative association with both adherence to Teacher Dialogue norms and adherence to Decision Making norms. These negative relationships indicate that the more Monitoring Behaviors (such as checking up on one another) are evident within the team, the less likely the team member is to follow the agreed upon rules of how teachers speak with one another and how decisions are made within the team. These results are surprising, considering that prior research (Arrow et al., 2004; Yeatts & Hyten, 1998) substantiates the need for monitoring within teams in order to ensure progress toward team goals. When considering results of this study which indicate an excess of Monitoring Behaviors leads to a disregard and lack of commitment to the rules and procedures of the team, the adage, “everything in moderation” is applicable as it is known that some level of Monitoring Behaviors are essential to the attainment of team goals and successful performance (Rousseau et al., 2006; Yeatts & Hyten, 1998). Through this research, we learn that an excess of monitoring is deleterious and moderation in monitoring amongst team members may be the key to achieving success as measured by adherence to collaborative team norms.

Decision Making norms are the type of collaborative team norms which govern the role of each individual teacher within the team decision making process. Here again, all dimensions of trust are significantly associated with adherence to Decision Making norms, and with the exception of Monitoring Behaviors, all of the associations are positive. Similar to Teacher Dialogue norms, Propensity to Trust and Cooperating Behaviors have the largest associations

with adherence to Decision Making norms with Perceived Trustworthiness close behind. The strength of these relationships suggest that at the bivariate level, the presence of Propensity to Trust, Cooperating Behaviors, and Perceived Trustworthiness and the absence of Monitoring Behaviors are important in explaining adherence to collaborative team norms of decision making. This finding aligns with prior research (Petty, 2015; Rode, 2010) which indicate that the level at which an individual is able to trust another based upon his or her childhood experiences with friends and family members impacts the individual's involvement with and support of decision making in the workplace. An additional study demonstrates that openness as a factor that influences the decision making process of collaborative educational teams of students (Forrester & Tashchian, 2011), and further findings indicate the perceptions of trustworthiness one has of others largely determines the type of interactions people have within teams and the level of support for team processes (Heldal & Steinsbeckk, 2009; Lee et al., 2010; Rusman et al., 2013).

Norms of Enforcement are the type of collaborative team norms that assess how well team members hold one another accountable to follow the team's norms. This includes both reviewing existing norms for adherence purposes, as well as systematically addressing norm violations within the team. Similar to the other types of collaborative norms, at the bivariate level, with the exception of Monitoring Behaviors, all dimensions of trust have a relationship with adherence to Norms of Enforcement. Propensity to Trust positively impacts adherence to Norms of Enforcement. In addition, Perceived Trustworthiness leads to a positive change in the adherence to Norms of Enforcement which is sensible considering prior research (Aggarwal & Mazumdar, 2008; Dixon-Woods & Tarrant, 2009) which indicates that trustworthy individuals are also seen as more accountable for their actions, and more likely to cooperate and follow

agreed upon procedures. It stands to reason then that trustworthy individuals who are adhering to the team norms themselves will be more likely to adhere to norms of enforcement and hold others within the team accountable for following the agreed upon rules and procedures of the team.

Cooperating Behaviors positively impacts adherence to Norms of Enforcement. PLC teacher teams demonstrating positive actions such as open communication and interdependence are more likely to adhere to the agreed upon manner in which members of the team will be held accountable to enforce the norms of the team. This finding aligns with those found in the Teacher Dialogue norms model and the Decision Making norms model. It also confirms that of Dennis Sparks (2013), who established that within effective collaborative teams, individuals are open in sharing information amongst the team in order to willingly review the progress of the team, to hold one another accountable for delivering against the plans agreed to, and to feel a sense of obligation to the team for its progress.

In the examination of the multiple regression models, with respect to the influence of control variables, only two were found to be significant within this study and only within the Norms of Enforcement model. Findings revealed that team leaders are significantly more likely to adhere to Norms of Enforcement than those who had never been a PLC team leader. This is likely due to the responsibilities associated with the team leader position and how that experience engenders familiarity with the role of holding team members accountable. Experience in this role would likely carry over into individual adherence to Norms of Enforcement within the PLC team even long after the team leader role has been fulfilled.

Findings also revealed that males are significantly more likely to adhere to Norms of Enforcement than females. This is surprising considering prior research which indicates that

within broad contexts there are no clear gender differences with respect to enforcement of norms (Boschini, Muren, & Persson, 2011). However, one can reason this result by considering the traditional roles of men and women in the family and in the upbringing of children. It has been demonstrated that men may be more prone to emphasize work norms through childrearing than women (Lindbeck & Nyberg, 2006). Enforcing norms on children might carry over to the wider task of enforcing norms also in social interactions with adults.

Conclusion

In summary, a primary finding exists at the bivariate level, where not only is nearly each dimension of team trust related to adherence to Teacher Dialogue norms, Decision Making norms, and Norms of Enforcement, but they also are related to one another, signifying that they are not completely independent. Interdependent relationships exist amongst the four dimensions of team trust as evidenced through examination of correlations. Within the Teacher Dialogue norms model specifically there are three strong *positive* correlations: between Propensity to Trust and Perceived Trustworthiness, between Cooperating Behaviors and Propensity to Trust, and between Cooperating Behaviors and Perceived Trustworthiness. In contrast, three *negative* correlations were also found: between Monitoring Behaviors and Propensity to Trust, between Monitoring Behaviors and Perceived Trustworthiness, and between Monitoring Behaviors and Cooperating Behaviors (-0.44; $p < .001$). Similar correlations exist within the other models of collaborative norms. These correlations between dimensions of team trust are intriguing and outline a multidimensional complexity given that they are both related to one another, and individually associated with adherence to types of collaborative norms.

Consideration of the correlational and bivariate results leads to the salient question of how the interrelationships between dimensions of team trust impact their relationships with

adherence to norms of Teacher Dialogue, Decision Making and Norms of Enforcement when adjusting for the other dimensions of team trust in a multiple regression analysis. Interestingly enough, the multiple regression analyses show that Perceived Trustworthiness and Cooperating Behaviors continue to have strong and direct positive relationships with adherence to norms of Teacher Dialogue, Decision Making and Norms of Enforcement, whereas Propensity to Trust and Monitoring Behaviors do not.

Taking all of these findings collectively we reach the conclusion that in general, for teacher teams that have worked together on average for over 3.5 years, that separately, nearly all dimensions of trust are associated with adherence to all types of collaborative team norms. However, when we look at all dimensions of team trust and their relations concurrently, we see that some are related directly (Perceived Trustworthiness and Cooperating Behaviors), and others are related indirectly (Propensity to Trust and Monitoring Behaviors).

The takeaway here is that teams who are aiming to improve or sustain high quality collaboration within PLC teams would do well to focus on Perceived Trustworthiness and Cooperating Behaviors, those dimensions of team trust which are directly related to adherence to norms of teacher dialogue. A concentrated effort to improve the way in which team members perceive others within the team to be competent, open, honest, benevolent, and reliable (Tschannen-Moran & Hoy, 1998) as well as the levels of exhibited behaviors of openness and going beyond the minimum within the team would be of high value as they impact the team's adherence to all types of collaborative team norms most significantly. These dimensions of trust far outweigh the impact of an individual team member's history and experience as well as their ability to check up on team members in the impact upon adherence to collaborative team norms.

This study has confirmed a positive relationship between the two constructs of trust and adherence to collaborative norms in teams and added to the conversation by disclosing additional knowledge on the subject. Findings of this research propose the study of team trust and adherence to collaborative team norms in a more detailed way offering multidimensionality and an increased awareness of the impact each dimension of trust can have on the development of collaboration within a PLC team for both teachers and administrators.

It is widely accepted that collaboration amongst teachers in a PLC is the key to the kind of professional development necessary to meet the increased requirements for student learning (Abrams, Cross, Lesser, & Levin, 2003; Bullough, 2007; DuFour, 2007; DuFour, Eaker, & DuFour, 2005; Moolenaar & Slegers, 2010). This exploratory research examined the nature of the relationship between dimensions of trust within collaborative teacher teams and adherence to collaborative team norms. Prior findings were confirmed indicating a significant and positive relationship between the two constructs. When considered individually, every dimension of trust is associated with adherence to the norms of teacher dialogue. However, when all dimensions of trust and their relations are examined collectively, it is clear that some are related directly and others are indirectly related. Through this study empirical evidence is offered to deepen understanding as to the nature of the relationship of the psychological and behavioral dimensions of team trust and their impact upon adherence to collaborative team norms.

In order to improve or sustain collaboration within PLC teams, all appropriate stakeholders should examine not only the relationships which exist *between* dimensions of team trust and adherence to team norms, but the relationships which exist *within* dimensions of team trust themselves and concentrate efforts on improving the dimensions of team trust which are directly related to collaborative norm adherence. Perceived Trustworthiness and Cooperating

Behaviors not only contribute to, or are reflected by team trust, but also have the most impact upon adherence to collaborative team norms.

References

- Abrams, L. C., Cross, R., Lesser, E., & Levin, D. Z. (2003). Nurturing interpersonal trust in knowledge-sharing networks. *The Academy of Management Executive*, 17(4), 64–77.
- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, 67(5), 422–436.
- Aggarwal, P., & Mazumdar, T. (2008). Decision delegation: A conceptualization and empirical investigation. *Psychology & Marketing*, 25(1), 71–93.
- Akgün, A. E., Keskin, H., & Byrne, J. C. (2010). Procedural justice climate in new product development teams: Antecedents and consequences. *Journal of Product Innovation Management*, 27(7), 1096–1111.
- Antonetti, M., & Rufini, A. (2008). Social norms, coordination and collaboration in heterogeneous teams. *Managerial and Decision Economics*, 29(7), 547–554.
- Arrow, H., Poole, M. S., Henry, K. B., Wheelan, S., & Moreland, R. (2004). Time, change, and development the temporal perspective on groups. *Small Group Research*, 35(1), 73–105.
- Berg, J. H., Bosch, C. A., & Souvanna, P. (2013). Critical conditions: What teacher leaders need to be effective in schools. *Journal of Staff Development*, 34(2), 109–110.
- Bos, N., Olson, J., Gergle, D., Olson, G., & Wright, Z. (2002, April). Effects of four computer-mediated communications channels on trust development. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 135–140). New York, NY: ACM.
- Boschini, A., Muren, A., & Persson, M. (2011). Men among men do not take norm enforcement seriously. *The Journal of Socio-Economics*, 40(5), 523–529.

- Bryk, A., & Schneider, B. (2004). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation.
- Buffum, A., & Erkens, C. (2012). *The collaborative administrator: Working together as a professional learning community*. Bloomington, IN: Solution Tree Press.
- Bullough, R. V. (2007). Professional learning communities and the eight-year study. *Educational Horizons*, 85(3), 168–180.
- Burke, C. S., Sims, D. E., Lazzara, E. H., & Salas, E. (2007). Trust in leadership: A multi-level review and integration. *The Leadership Quarterly*, 18(6), 606–632.
- Costa, A. C. (2003). Work team trust and effectiveness. *Personnel Review*, 32(5), 605–622.
- Costa, A. C., & Anderson, N. (2011). Measuring trust in teams: Development and validation of a multifaceted measure of formative and reflective indicators of team trust. *European Journal of Work and Organizational Psychology*, 20(1), 119–154.
- Cranston, J. (2009). Holding the reins of the professional learning community: Eight themes from research on principals' perceptions of professional learning communities. *Canadian Journal of Educational Administration and Policy*, 90, 1–22.
- De Jong, B. A., & Elfring, T. (2010). How does trust affect the performance of ongoing teams? The mediating role of reflexivity, monitoring, and effort. *Academy of Management Journal*, 53(3), 535–549.
- Diamond, J. B. (2007). Where the rubber meets the road: Rethinking the connection between high-stakes testing policy and classroom instruction. *Sociology of Education*, 80(4), 285–313.
- Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology*, 84(3), 5445–5444.

- Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization Science*, 12(4), 450–467.
- Dirks, K. T., & Skarlicki, D. P. (2009). The relationship between being perceived as trustworthy by coworkers and individual performance. *Journal of Management*, 35(1), 136–157.
- Dixon-Woods, M., & Tarrant, C. (2009). Why do people cooperate with medical research? Findings from three studies. *Social Science & Medicine*, 68(12), 2215–2222.
- DuFour, R. (2007). Professional learning communities: A bandwagon, an idea worth considering, or our best hope for high levels of learning? *Middle School Journal*, 39(1), 4–8.
- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: National Educational Service.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2013). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree Press.
- DuFour, R., Eaker, R., & DuFour, R. (2005). *On common ground: The power of professional learning communities*. Bloomington, IN: National Educational Service.
- DuFour, R., & Marzano, R. J. (2011). *Leaders of learning: How district, school, and classroom leaders improve student achievement*. Bloomington, IN: Solution Tree Press.
- Eastwood, K. W., & Seashore-Louis, K. (1992). Restructuring that lasts: Managing the performance dip. *Journal of School Leadership*, 2(2), 213–224.
- Erfle, J. (2013, March 14). Holding schools accountable without punishing kids. *Politics Uncuffed*. Retrieved from <http://politicsuncuffed.com/education/holding-schools-accountable-without-punishing-kids/>

- Ferrin, D. L., Bligh, M. C., & Kohles, J. C. (2007). Can I trust you to trust me? A theory of trust, monitoring, and cooperation in interpersonal and intergroup relationships. *Group & Organization Management, 32*(4), 465–499.
- Forrester, W. R., & Tashchian, A. (2011). Factors that influence students to participate in team decision making. *American Journal of Business Education, 4*(11), 33.
- Garmston, R. J., & Wellman, B. M. (2009). *The adaptive school: A sourcebook for developing collaborative groups* (2nd ed.). Norwood, MA: Christopher-Gordon Publishers.
- Gillespie, N. (2005). Are perceptions of trust shared? Examining agreement in trust ratings within dyads and teams. Paper presented at the EIASM Workshop on Trust Within and Between Organizations, Amsterdam, the Netherlands.
- Golembiewski, R. T., & McConkie, M. (1975). The centrality of interpersonal trust in group processes. In C. L. Cooper (Ed.), *Theories of group processes*. London, England: Wiley.
- Hadar, L. L., & Brody, D. L. (2013). The interaction between group processes and personal professional trajectories in a professional development community for teacher educators. *Journal of Teacher Education, 64*(2), 145–161.
- Hallam, P. R., Smith, H. R., Hite, J. M., Hite, S. J., & Wilcox, B. R. (2015). Trust and collaboration in PLC teams: Teacher relationships, principal support, and collaborative benefits. *NASSP Bulletin, 99*(3), 193–216.
- Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. New York, NY: Teachers College Press.
- Harris, D. N. (2011). *Value-added measures in education: What every educator needs to know*. Cambridge, MA: Harvard Education Publishing Group.

- Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving Schools, 13*(2), 172–181.
- Heldal, F., & Steinsbekk, A. (2009). Norwegian healthcare professionals' perceptions of patient knowledge and involvement as basis for decision making in hematology. *Oncology Nursing Forum, 36*(2), 93.
- Holmlund, H., McNally, S., & Viarengo, M. (2010). Does money matter for schools? *Economics of Education Review, 29*(6), 1154–1164.
- Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory.
- Hoy, W. K., & Sweetland, S. R. (1999). School bureaucracies that work: Enabling, not coercive. *Journal of School Leadership, 10*(6), 525–541.
- Hoy, W. K., & Tschannen-Moran, M. (1999). Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership, 9*(3), 184–208.
- Hoy, W. K., & Tschannen-Moran, M. (2003). The conceptualization and measurement of faculty trust in schools: The omnibus t-scale. In W. K. Hoy & C. Miskel (Eds.), *Studies in leading and organizing schools* (pp. 181–208). Greenwich, CT: Information Age Publishing.
- Huff, S. (2008). Digging deep into data. In A. Buffum & C. Erkens (Eds.), *The collaborative administrator: Working together as a professional learning community*. Bloomington, IN: Solution Tree.
- Hurwitz, M., & Hurwitz, S. (2015). *Leadership is half the story: A fresh look at followership, leadership, and collaboration*. Toronto, Canada: Rotman-UTP Publishing.

- Jackson, A. W., & Davis, G. A. (2000). *Turning points 2000: Educating adolescents in the 21st century*. New York, NY: Teachers College Press.
- Jacques, P. H., Garger, J., Brown, C. A., & Deale, C. S. (2009). Personality and virtual reality team candidates: The roles of personality traits, technology anxiety and trust as predictors of perceptions of virtual reality teams. *Journal of Business and Management*, 15(2), 143–159.
- Jeffries, F. L., & Becker, T. E. (2008). Trust, norms, and cooperation: Development and test of a simplified model. *Journal of Behavioral and Applied Management*, 9(3), 316–336.
- Johnson, D. W., & Johnson, F. P. (2009). *Joining together: Group theory and group skills* (10th ed.). Columbus, OH: Pearson.
- Johnson, J., Truxillo, D. M., Erdogan, B., Bauer, T. N., & Hammer, L. (2009). Perceptions of overall fairness: Are effects on job performance moderated by leader-member exchange? *Human Performance*, 22(5), 432–449.
- Johnson, S. D., Suriya, C., Yoon, S. W., Berrett, J. V., & La Fleur, J. (2002). Team development and group processes of virtual learning teams. *Computers & Education*, 39(4), 379–393.
- Jolly, A. (2008). *Teams to teach: A facilitator's guide to professional learning teams*. Oxford, OH: National Staff Development Council.
- Jones, D. A., & Martens, M. L. (2009). The mediating role of overall fairness and the moderating role of trust certainty in justice–criteria relationships: The formation and use of fairness heuristics in the workplace. *Journal of Organizational Behavior*, 30(8), 1025–1051.
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23(3), 531–546.

- Kaplan, L. S., & Owings, W. A. (2003). No Child Left Behind: The politics of teacher quality. *Phi Delta Kappan*, 84(9), 687–693.
- Katz, J. H., & Miller, F. A. (2013). *Opening doors to teamwork and collaboration: 4 keys that change everything*. San Francisco, CA: Berrett-Koehler Publishers.
- Kochanek, J. R. (2005). *Building trust for better schools: Research based practices*. Thousand Oaks, CA: Corwin Press.
- Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, 37(3), 656–669.
- Langfred, C. W. (2004). Too much of a good thing? Negative effects of high trust and individual autonomy in self-managing teams. *Academy of Management Journal*, 47(3), 385–399.
- Lee, A. Y., Bond, G. D., Russell, D. C., Tost, J., González, C., & Scarbrough, P. S. (2010). Team perceived trustworthiness in a complex military peacekeeping simulation. *Military Psychology*, 22(3), 237–261.
- Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review*, 23(3), 438–458.
- Lindbeck, A., & Nyberg, S. (2006). Raising children to work hard: Altruism, work norms, and social insurance. *The Quarterly Journal of Economics*, 121(4), 1473–1503.
- Lipnack, J., & Stamps, J. (1997). *Virtual teams: People working across boundaries with technology* (2nd ed.). New York, NY: Wiley.
- Loughry, M. L., & Tosi, H. L. (2008). Performance implications of peer monitoring. *Organization Science*, 19(6), 876–890.

- MacDonald, E. (2013). *The skillful team leader: A resource for overcoming hurdles to professional learning for student achievement* (Vol. xvii). Thousand Oaks, CA: Corwin Press and Learning Forward.
- Malhotra, D., & Murnighan, J. K. (2002). The effects of contracts on interpersonal trust. *Administrative Science Quarterly*, *47*(3), 534–559.
- Marks, M. A., & Panzer, F. J. (2004). The influence of team monitoring on team processes and performance. *Human Performance*, *17*(1), 25-41.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), 709-734.
- Milner, A. R., Sondergeld, T. A., Demir, A., Johnson, C. C., & Czerniak, C. M. (2012). Elementary teachers' beliefs about teaching science and classroom practice: An examination of pre/post NCLB testing in science. *Journal of Science Teacher Education*, *23*(2), 111–132. doi: 10.1007/s10972-011-9230-7
- Moolenaar, N. M., & Sleegers, P. J. C. (2010). Social networks, trust, and innovation: The role of relationships in supporting an innovative climate in Dutch schools. In A. J. Daly (Ed.), *Social Network Theory and Educational Change*. Cambridge, MA: Harvard Education Press.
- Nehring, J., & Fitzsimons, G. (2011). The professional learning community as subversive activity: Countering the culture of conventional schooling. *Professional Development in Education*, *37*(4), 513–535.
- Nelson, T., Slavit, D., Perkins, M., & Hathorn, T. (2008). A culture of collaborative inquiry: Learning to develop and support professional learning communities. *The Teachers College Record*, *110*(6), 1269–1303.

- O'Day, J. (2002). Complexity, accountability, and school improvement. *Harvard Educational Review*, 72(3), 293–329.
- Petty, A. (2015, August 28). The high professional cost of your inability to trust. *Government Executive*. Retrieved from <http://www.govexec.com/excellence/promising-practices/2015/08/high-professional-cost-your-inability-trust/119714/>
- Piccoli, G., & Ives, B. (2003). Trust and the unintended effects of behavior control in virtual teams. *MIS Quarterly*, 27(3), 365–395.
- Price, M. E. (2006). Monitoring, reputation, and 'greenbeard' reciprocity in a Shuar work team. *Journal of Organizational Behavior*, 27(2), 201–219.
- Reina, D., & Reina, M. (1999). *Trust and Betrayal in the Workplace*. San Francisco, CA: Berrett-Kohler.
- Robert, L. P., Denis, A. R., & Hung, Y. T. C. (2009). Individual swift trust and knowledge-based trust in face-to-face and virtual team members. *Journal of Management Information Systems*, 26(2), 241–279.
- Rode, J. (2010). Truth and trust in communication: Experiments on the effect of a competitive context. *Games and Economic Behavior*, 68(1), 325–338.
- Rousseau, V., Aubé, C., & Savoie, A. (2006). Teamwork behaviors a review and an integration of frameworks. *Small Group Research*, 37(5), 540–570.
- Rusman, E., Van Bruggen, J., Sloep, P., Valcke, M., & Koper, R. (2013). The Mind's eye on personal profiles: A cognitive perspective on profile elements that inform initial trustworthiness assessments and social awareness in virtual project teams. *Computer Supported Cooperative Work*, 22(2-3), 159–179.

- Salas, E., Sims, D. E., & Burke, C. S. (2005). Is there a “Big Five” in teamwork? *Small Group Research, 36*(5), 555–599.
- Saphier, J., Gower, R. R., & Haley-Speca, M. A. (1997). *The skillful teacher: Building your teaching skills*. Acton, MA: Research for Better Teaching.
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review, 32*(2), 344-354.
- Schriber, J. B., & Gutek, B. A. (1987). Some time dimensions of work: Measurement of an underlying aspect of organization culture. *Journal of applied psychology, 72*(4), 642.
- Schwarz, R. (1994). *The skilled facilitator: Practical wisdom for developing effective groups*. San Francisco, CA: Jossey-Bass.
- Sparks, D. (2013, November 6). Why professional development without substantial follow-up is malpractice. *Dennis Sparks on Leading and Learning* [web blog]. Retrieved from <http://dennissparks.wordpress.com/2013/11/06-why-professional-development-without-substantial-follow-up-is-malpractice/>
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change, 7*(4), 221–258. doi: 10.1007/s10833-006-0001-8
- Stoll, L., McMahon, A., & Thomas, S. (2006). Identifying and leading effective learning communities. *Journal of School Leadership, 16*(5), 611-623.
- Tschannen-Moran, M. (2001). Collaboration and the need for trust. *Journal of Educational Administration, 39*(4), 308–331.
- Tschannen-Moran, M., & Hoy, W. K. (1998). Trust in schools: A conceptual and empirical analysis. *Journal of Educational Administration, 36*(4), 334–352.

- Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research, 70*(4), 547–593.
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91. doi: 10.1016/j.tate.2007.01.004
- Walther, J. B., & Bunz, U. (2005). The rules of virtual groups: Trust, liking, and performance in computer-mediated communication. *Journal of Communication, 55*(4), 828–846. doi: 10.1111/j.1460-2466.2005.tb03025.x
- Webber, S. S. (2008). Development of cognitive and affective trust in teams a longitudinal study. *Small Group Research, 39*(6), 746–769.
- Weinberg, D. B., Cooney-Miner, D., Perloff, J. N., Babington, L., & Avgar, A. C. (2011). Building collaborative capacity: Promoting interdisciplinary teamwork in the absence of formal teams. *Medical Care, 49*(8), 716–723.
- Wells. (2015). Ensuring equity in teaching to the new standards—A case study. *Leadership, 45*(2), 8–11.
- Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Yamashita, M. Y. (2011). *How does high stakes testing influence teachers' classroom instruction? Institutional pressures and classroom instruction*. (Doctoral dissertation.) University of Pittsburgh, Pittsburgh, PA.
- Yeatts, D. E., & Hyten, C. (1998). *High-performing self-managed work teams*. Thousand Oaks, CA: Sage.

Young, V. M. (2006). Teachers' use of data: Loose coupling, agenda setting, and team norms. *American Journal of Education, 112*(4), 521–548.

Zenger, T. R., & Lawrence, B. S. (1989). Organizational demography: The differential effects of age and tenure distributions on technical communication. *Academy of Management Journal, 32*(2), 353–376.

APPENDIX A: REVIEW OF LITERATURE

This chapter will provide a review of the literature that will first describe the role Professional Learning Communities (PLCs) in education, their characteristics, and how the development of PLCs has impacted teachers. Next, trust and its specific components will be discussed in detail, with special focus being given to trust in schools, and the role of relational trust in collaborative teams of teachers. This will then be followed by an overview of the norms that are established within collaborative teams. Finally, an examination of how specific types of norms can be related to trust within collaborative teams of teachers in a PLC will be presented for consideration.

Understanding Professional Learning Communities

There have been a myriad of definitions offered for the term *Professional Learning Communities* (or PLCs) within the literature (Bell & Kozlowski, 2002; Clark, 2001; Martin, 2002; Mitchell & Sackney, 2000; Toole & Seashore-Louis, 2002). A PLC has most often been defined as a group of people who engage themselves in serious discussions as a way to develop their understanding of a common interest; that is to say, the members of a PLC seek to share their individual opinions on a continuing basis (Corcoran, 2007; Dooner, Mandzuk, & Clifton, 2008). According to DuFour et al. (2013), within a PLC team of teachers,

members work together to clarify exactly what each student must learn, monitor each student's learning on a timely basis, provide systematic interventions that ensure students receive additional time and support for learning when they struggle, and extend and enrich learning when students have already mastered the intended outcomes. (p. 3)

Others argue that individuals within PLCs often discuss different aspects of their teaching craft as a means of incorporating new ideas and skills into their attitude and beliefs (De Jong & Dirks, 2012).

This concept of a PLC is closely aligned with Wenger's notions on what he calls *communities of practice* (Wenger, 1999). "Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger, 1999, p. 1). Although PLCs are aligned with a community of practice, a PLC tends to be more formalized and procedurally driven than a community of practice. Furthermore, a PLC also tends to have an ongoing emphasis upon a continuous cycle of actions that are designed to improve team member skills. Another important distinction is that this action cycle is results oriented by design, as "members of a PLC realize that all their efforts in these areas: a focus on learning, collaborative teams, collective inquiry, action orientation, and continuous improvement, must be assessed on the basis of results rather than intentions" (Darling-Hammond & McLaughlin, 1995, p. 4).

The consensus which has emerged from the literature is that a PLC functions as a collective enterprise of learners who are continually seeking knowledge, embody shared values and norms, and are engaged in practices of improvement (DuFour, 2007; DuFour et al., 2013; DuFour & Eaker, 1998; Leona, 2011; Marx, 2010; Snow-Geronimo, 2005). Teachers in a PLC work as part of a collaborative team by contributing and sharing individual strengths to achieve a common goal. Within the PLC team, a teacher will benefit from shared knowledge that is brought to the PLC by other members of the team (Dooner et al., 2008). Collaborative and collegial interchange should be a norm for teachers in a PLC team, as it has been suggested that a

more collaborative team of professionals helps in improving teacher efficacy (Vescio et al., 2008).

Essential Factors of Professional Learning Communities

According to Garmston and Wellman (2009), there are six essential factors of a professional community of teachers that produce a sense of shared responsibility for student success. “These shared efforts produce gains in student achievement” (Garmston & Wellman, 2009, p. 15). The six factors are as follows:

1. Compelling purpose, shared standards, and academic focus
2. Collective efficacy and shared responsibility for student learning
3. Communal application of effective teaching practices and deprivatized practice
4. Individual and group learning based on ongoing assessment and feedback
5. Collaborative culture
6. Relational trust in one another, in students, and in parents

The first factor is very important to the health of a professional learning community mainly because defining and refining what it means to do quality work is the important catalyst for conversation among colleagues within a PLC team. Establishing a common academic focus is critical to the work of the team (Hoy, Tarter, & Woolfolk-Hoy, 2006). Without it, the team may spend their time together focused on incidental or inessential issues instead of working on the work of improving teaching and learning.

The second factor is in order for the PLC to flourish, the members must agree to have a collective and shared responsibility for the learning of students and for the benefit of the team (Adams, 1965; Gray, 2007; Leithwood & Seashore-Louis, 1999). Individual autonomy is said to reduce a teacher’s efficacy in student learning (Gillespie, 2005). Having a shared responsibility

and goal is important when creating a vision that will guide the desired outcomes of the PLC, and this vision will tend to grow over time as people work together (Dirks, 1999) within the PLC. The concept of collective responsibility involves a give-and-take obligation among teachers within the PLC (Coleman, 1966). Collective responsibility can test the resolve of team members, as it makes them more accountable for their duties and more pressured to share equal responsibilities (Sako, 1992). Collective responsibility is also a key factor in the sustenance of high levels of responsibility with respect to student performance and achievement (Hedges & Greenwald, 1996; Mayer & Argyres, 2004).

A third essential factor of a successful Professional Community of teachers is that of communal application of effective teaching practices and deprivatized practice. Teachers who work together in PLC teams establish a working zone between the larger sphere of district and state initiatives and the smaller sphere of their individual classroom (McLaughlin & Talbert, 2001, 2006). This working zone may provide the ongoing support individual teachers need in their pursuit of continual improvement of their professional practice. Deprivatized practice involves teachers observing the instruction of other teachers. These observations include subsequent discussions between the teachers of what went well and what could be improved (Kruse & Seashore-Louis, 1995), as well as meaningful feedback discussions based on research based teaching principles (Hord, 1997). As teachers within a PLC share their ideas and strategies, coaching one another and solving problems together, they break down traditional walls of isolation and students become the beneficiaries through an environment of improved teaching and learning (Garmston & Wellman, 2009).

Individual and group learning based on ongoing assessment and feedback is a fourth essential factor of PLCs. A commitment by all PLC team members to continuous professional

learning is essential in order to achieve an improved and sustained level of teaching excellence (Sendjaya & Sarros, 2002; Tschannen-Moran & Hoy, 1998). When teachers in a PLC team look at student work together, to explore what is working and what might require modification in their curricular and instructional approaches, they can receive meaningful feedback from one another through reflective professional dialogue (Garmston & Wellman, 2009; Solomon, 2001). Considerations with respect to reflective professional inquiry may include an examination of teacher's practice and teaching strategies, joint planning and development of curricula (Sako, 1992), the sharing and seeking of new knowledge (Gillespie, 2005) through frequent and persistent interactions (Folger & Greenberg, 1985), and application of solutions to problems (Ferrin et al., 2007).

A fifth essential factor of PLCs, and a factor which is part of the focus of this study, is that of a collaborative culture. PLCs and students benefit when teachers in schools work in collaborative teams (Little, 1990). Effective teams have also been linked to improved productivity in the workplace. Specifically a positive school climate and increased student achievement is linked to collaboration amongst teaching staff (Wheelan & Kesselring, 2005). In order to sustain school improvement through PLCs, it is vital to have a culture of collaboration (Horn, 2010; Meeks-Gardner, Powell, & Grantham-McGregor, 2007; Vescio et al., 2008).

Collaboration is defined as an interpersonal style between *coequal parties* voluntarily engaged in shared decision making as they work toward a common goal (Friend & Cook, 2010). Within a group of individuals, such as a PLC team, collaboration involves progressive exchanges of help and support from other people, (PLC teachers) within the team (Lipnack & Stamps, 1997). The progressive exchanges can be surrounding common student assessments, professional practice decisions, and evaluation of strategies and lessons (Gillespie, 2005).

The goals of a school practice, including those of a PLC team, cannot be reached without collaboration (Sako, 1992). A team of individuals who are effective at collaboration “does not happen by chance: It has to be taught, practiced, and learned” (Garmston & Wellman, 2009, p. 16). The team environment which is conducive to practicing and learning the required skills of collaboration, is one in which individual team members feel safe to be vulnerable, to be authentic, to share, and to take risks.

Building trust is essential to the process of developing collaborative relationships. Within a PLC, effectively moving from isolation to collaboration requires a foundation of trust between individual teachers. Without clear knowledge of how to build trust among staff, those attempting to pursue collaborative relationships may be met with difficulties. It is explained that “only after a period of time in which trust, and subsequently respect are established can school professionals feel relatively secure in fully exploring collaborative relationships” (Friend & Cook, 2010, p. 13).

A sixth essential element of PLCs, and one which is a central focus of this study, is that of relational trust. In order for teachers to be successful in PLCs, they need to trust one another (Coleman, 1966; Israel, 2003; Naumann & Bennett, 2000; Tschannen-Moran, 2004; Young, 2006). When teachers do not trust each other, they cannot collaborate with one another, the result of which is a negative attitude toward change, a lack of buy in, and a failure of the PLC team and organization to succeed (Dooner et al., 2008; Kim & Mauborgne, 1995). Because of the importance of trust in this study, an examination of the history and description of trust will be discussed below.

Understanding Trust

Trust, is a human instinct that has evolved from the eagerness to share food in societies of hunters and gatherer several thousand years ago (Nooteboom, 2002). Individuals trust to gain self-interests, to show compassion, empathy, recognition and camaraderie, or just because a person honestly wants to trust (Kim & Mauborgne, 1996; Pirson & Malhotra, 2011). According to several researchers, trust is considered a choice behavior, one which may be withdrawn when a person believes their trust is being ignored or abused (Baier, 1986; Earl & Timperley, 2008; Langfred, 2004).

Even though there are certain agreed-upon principles associated with trust, the notion of trust as a construct has a wide range of conceptualizations (Buffum & Erkens, 2012; Hoy & Tschannen-Moran, 2003; Huff, 2008; Johnson & Johnson, 2009; Rousseau, Sitkin, Burt, & Camerer, 1998; Schoorman, Mayer, & Davis, 2007; Zenger & Lawrence, 1989). Early research on trust was primarily founded in institutions, known as institutional trust which consists of the relationship between an individual and an institution which changes over time, is analyzed through the interpersonal ties of the individual to the organization (Bachmann & Inkpen, 2011; Gillespie & Dietz, 2009; Saunders, 2010). In economic terms, others write about trust as the capital necessary in order for a society to experience economic benefit (Fukuyama, 1995; Putnam, 1993). Specifically, Fukuyama (1995) states, “a nation’s well-being, as well as its ability to compete, is conditioned by a single, pervasive cultural characteristic: the level of trust inherent in the society” (p. 7).

As trust has developed further, the concept of relational trust, or trusting relationships between individuals, has become more accepted (Rousseau et al., 1998). This transition of trust is reflective of the transition of organizational structures in society. Early traditional

organizations were mainly top-down, leadership driven entities whereas recent organizations are comprised of more flexible forms involving independent contractors and smaller work teams (Miles & Creed, 1995; Miles & Snow, 1992). This study will focus on relational trust between teachers in a collaborative team.

Varied conceptualizations of trust exist across disciplines (Rousseau et al., 1998). For example, Robert Putnam's work on the nature of democratic institutions led him to explain trust as a form of social capital within the realm of politics (Putnam, 1993). Additionally, Francis Fukuyama (1995) through the lens of national economics derived the notion of social trust as a form of social capital. Adam Seligman defined trust as interactive and connected to a part of the self that we identify with when we seek personal and social relationships (Seligman, 1997). Mayer et al. (1995) defined trust as an individual's willingness to risk vulnerability or a willingness to be vulnerable to another party.

Numerous definitions of trust are similar to that of Mayer, Davis, & Schoorman (1995) and reference an individual's willingness to become vulnerable (Burke, Webber, & Young, 2007; Costa, 2003; Costa & Anderson, 2011; Dirks & Skarlicki, 2008; Hoy & Tschannen-Moran, 1999, 2003; Mayer, Davis, & Schoorman, 1995; Schoorman et al., 2007). Costa and Anderson (2011) state, "The willingness to be vulnerable from Mayer *et al.*, (1995) is one of the most cited definitions of trust and has played a central role in many conceptualizations" (p. 607). Correspondingly, this study will focus on the definition of trust as a willingness to be vulnerable.

A variety of situations are explained within the literature on trust, which may pertain to an individual's willingness to be vulnerable and how an individual may or may not manifest that willingness. For example, Mayer et al. (1995) refers to *risk taking* as a behavior of an individual that demonstrates an observable manifestation of an individual's willingness to be vulnerable,

and therefore can be deemed as a trusting behavior. In contrast, other research references trust in terms of an individual's thoughts, noting that, "trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (Rousseau et al., 1998, p. 395). Costa and Anderson (2011) conceptualize trust at the team level (such as in PLC teacher teams), as a combination of both psychological and behavioral dimensions. "Trust within teams reflects a climate that is shared among team members and is likely to influence and be influenced by individual propensities and perceptions of trustworthiness and lead to behavior patterns that reflect that climate" (p. 123).

Psychological dimensions of trust. Psychological dimensions of trust as conceptualized by Costa and Anderson (2011) include the propensity to trust and perceived trustworthiness. Both of these are identified as *formative* indicators of trust, meaning that the level of an individual's propensity to trust and perceived trustworthiness is a reflection of a disposition and perception of trust.

Propensity to trust, as outlined in the Mayer et al. (1995) model, is important to a cooperative trusting relationship. Each individual enters a relationship with his or her own base state of trust. This base is founded on the individual's history and resulting beliefs. Scholars explain that "some individuals believe that people are basically good and therefore have a higher base propensity to trust. Others have experienced numerous relationship failures, which have made them less open to risk and therefore having a lower propensity to trust. The concept of an individual's propensity to trust describes the sense of vulnerability that people have in entering trust relationships" (Kochanek, 2005, p. 17).

The second psychological dimension of individual vulnerability is that of trustworthiness. Trustworthiness is assessed through trustor perceptions that the trustee is honest, benevolent,

reliable, open, and competent (Eastwood & Seashore-Louis, 1992; Johnson & Johnson, 2009; Zenger & Lawrence, 1989). These characteristics allow the trustor to be willing to accept vulnerability (Akgün et al., 2010; Dirks & Skarlicki, 2008). In this context, it is implied that a person who is trustworthy will not put another individual in harm's way and will only think about the best interest of other people or the group as a whole.

Additional research by Tschannen-Moran and Hoy (Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 1998; Tschannen-Moran & Hoy, 2000) identified five facets of trust indicating that the presence of the facets creates a context of trustworthiness, which lays the foundation for the development of relational trust. These facets are indications of trustworthiness and precursors to trust as follows: benevolence, reliability, competence, honesty, and openness.

Both a propensity to trust and trustworthiness are needed to achieve effective communication and collaboration, which are the foundations of good and productive relationships (Erffle, 2013).

Behavioral dimensions of trust. Behavioral dimensions of trust, such as cooperating and monitoring behaviors, are identified as *reflective* indicators, meaning that they reflect the level of an individual's propensity to trust and perceived trustworthiness. Cooperating behaviors are those behaviors conducive to the work of the team such as engagement, willingness to share information, reliance on team members, and open communication (Costa & Anderson, 2011). Individuals who behave in these ways demonstrate that they are willing to make themselves vulnerable, and lay the foundation for relational trust.

Conditions within schools are such that multiple tasks are undertaken simultaneously throughout a given school year. It is unreasonable to expect that a single individual within a

school can carry out an assignment alone from start to finish. Therefore, those working within schools need to cooperate with one another consistently. These cooperative exchanges can exist at all levels in a school environment, including teachers depending on teachers in a collaborative work team as in a PLC (Burke et al., 2007).

As individual teachers transition from the traditional culture of isolation and individuality, to a culture of collaboration there is potential for uncertainty and vulnerability. Within a collaborative team, teachers demonstrate a willingness to be vulnerable as they depend upon those teachers on their team with whom they have a collective responsibility to ensure that students are learning the material. In addition, as individual teachers share the results of student assessments or individual instructional practices with their colleagues, they are exhibiting cooperative behaviors and a willingness to be vulnerable. Over time with increased interactions, a level of relational trust can develop ultimately providing an environment where collaborative teacher interaction is sustained (Adler, 2002; Tschannen-Moran & Hoy, 2000).

As opposed to cooperating behaviors, monitoring behaviors are often associated with underdeveloped or low levels of trust. Monitoring behaviors include actions of team members, which regulate or monitor the actions of other within the team (Costa & Anderson, 2011) . An example of a monitoring behavior within a collaborative team can look like a sign-in sheet, which each team member is required to sign at every team meeting to ensure that there is verification of attendance. Another example can be found in the submission of collaborative team meeting notes to a site administrator as evidence of the topics which were discussed during each meeting (DuFour et al., 2013). Monitoring behaviors can play a larger part in the interactions of individuals who have recently entered into a relationship. This may be due to the fact that individuals are in the beginning phases of assessing the trustworthiness of the other

individuals on the team. As time passes and individuals have increased opportunities to interact, monitoring behaviors may become less prevalent due to the increase in perceptions of trustworthiness (Costa & Anderson, 2011).

Costa and Anderson (2011) state that “trust within teams reflects a climate that is shared among team members and is likely to influence and be influenced by individual propensities and patterns of trustworthiness and lead to behavior patterns that reflect that climate” (p. 125). A measurement has been developed by Costa and Anderson (2011) concluded that propensity to trust and trustworthiness of individuals within a team are reflected by the presence of cooperative behavior and the absence of monitoring behaviors. Four specific indicators of team trust are propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors, as previously discussed in this chapter. A foundational premise of this measurement tool is that the trustor’s perception of the trustee’s trustworthiness increases as cooperative behaviors become more evident. Conversely, the trustor’s perceptions of trustworthiness in the trustee decreases as monitoring behaviors are more evident. For purposes of this study, Costa and Anderson’s (2011) team trust assessment tool will be the measurement tool that it used to evaluate trust within PLC teams. In addition to evaluating trust within a collaborative team, this study will evaluate the role of different types of norms in establishing the conditions necessary for optimal collaborative team performance.

Norms and the Role of Norms in Teams

Norms are ground rules, practices or ways that govern or direct a group (Konovsky & Pugh, 1994). The norms of a group are the group’s common belief regarding appropriate behavior, attitudes, and perceptions for its members. These prescribed modes of conduct and belief not only guide the behavior of group members but also help group interaction by

specifying the kind of responses that are expected and acceptable in particular situations (Johnson & Johnson, 2009). Norms are considered to be socially shared standards or rules against which evaluation of the appropriateness of behavior can be made possible (Buffum, 2008). According to Schein (1968) as new members enter an organization or a group they go through *organizational socialization*, or the process by which a new member learns the value system, the norms, and the required behavior patterns of the group being entered. The values, norms, and behavior patterns of the group are based on the basic goals of the group and how the goals should be carried out, as well as the responsibilities of the members within the group (Schein, 1968).

Within collaborative teacher teams, shared norms and values lay the foundation for the PLC team culture, because they help to establish personal and team-wide expectations within a team, providing all team members with clear vision of associated responsibilities and assumptions of team interactions (Adams, 1963; Konovsky & Pugh, 1994; Walther & Bunz, 2005). Each individual team member joins a team with preconceived judgments of who they may or may not be able to trust and why. These judgments result from prior experiences of the individual and/or personality traits which predispose the individual to propensity to trust as well as expectations of interactions within the team before they actually occur (Costa, 2003; Costa & Anderson, 2011; Kramer, 1999). As the team begins to interact collectively, the interactions lead to a common way of being within the team, or a culture of the team which is comprised of shared experiences, values, behaviors, and conversations which occur within the team over time (Schein, 1968). These shared experiences, values, behaviors and conversations are known as the *norms* of the team, or the rules, guidelines and standards governing group interaction. Healthy and unhealthy communities, low performing and high performing teams all establish and enforce

a code of norms (Garmston & Wellman, 2009). Thus an individual's collective perception of trust in the team, based upon perceptions of trustworthiness and individual propensities to trust, most likely takes place as the individual repeatedly engages in team interactions and experiences which can include both cooperative and monitoring behaviors within the team.

Norms have many purposes. Within teams, norms embody the procedures to be followed and the commitments developed by the members of a team to guide them in collaborating effectively (Schwarz, 1994). According to Johnson and Johnson (2009), norms primarily provide a "basis for predicting the behavior of other members and serve as a guide for a member's own behavior" (p. 17). Norms within collaborative teams lay out the framework for acceptable team dynamics which can lead to the types of interpersonal interactions in teams that foster team trust. Norms can also serve to regulate communication among the members of the team, regulate decision making within the team, control team conflict, and regulate the tasks distribution of power and rewards among team members (Hartley, 1997; Jehn & Mannix, 2001; Levine & Moreland, 1990; Pfeffer, 1983; Zenger & Lawrence, 1989). Norms can foster and reinforce trust through the promotion of positive interactions and effective decision-making by helping to set the stage for productive differences and disagreement. A safe climate of openness and exploration can be established through the use of norms, thereby allowing team members to share different point of view. Norms also help to regulate team member behavior during meetings (Amason & Sapienza, 1997; Argote, 1989; Ehrhart & Naumann, 2004; Hackman, 1976; Hackman & Walton, 1986; Marks, Mathieu, & Zaccaro, 2001; McGrath, 1984). For example, behaviors such as tardiness, negative attitudes and other distracting actions can be kept under control through invoking the norms established by the team.

Types of norms in teams. Norms are the rules that govern how teams interact, with each other, how business is conducted, how decisions are made, how team members communicate, even the expectations for dress when teams are assembled (Jolly, 2008). Norms define the supportive conditions for a professional learning community. Hord (1997) described supportive conditions as the elements that determine “when and where and how staff regularly come together as a unit to do the learning, decision making, problem solving, and creative work that characterize a professional learning community” (p. 20).

Hord (1997) further defined that the two types of conditions necessary for groups such as collaborative teams in PLCs to function are structural and human. The structural conditions focus on creating the environment in which a PLC operates. According to Kruse and Seashore-Louis (1993) these structural conditions can include elements such as group time and physical proximity. Some of the human conditions as described by Kruse and Seashore-Louis (1993) include openness to improvement, respect, and socialization mechanisms. Garmston and Wellman (2009) in their book, *The Adaptive School: A Sourcebook for Developing Collaborative Groups* identified norms of dialogue and decision making in addition to norms of monitoring norms as among the structures necessary to guide collaborative groups to continual success. This study will focus on the role of four types of norms in teams, which include both structural and human conditions: norms of meeting time, team member dialogue, decision making, and norms of enforcement.

First, norms which govern meeting time are essential to guide team processes and maintain continuity within the meeting structure. Meetings which start and end on time allow team members to predict the time commitment involved, and accurately anticipate the logistics of the meeting, thus minimizing anxiety or potential vulnerability associated with team meeting

structure (Saphier et al., 1997). Research indicates that often, outside influences take advantage of a collaborative team working together and attempt to interrupt meeting time with disruptive events. Subsequently, collaborative team meeting time must be protected and valued as dedicated time for the team (Lujan & Day, 2010). Members who arrive on time and stay for the entire collaborative team meeting communicate to the team that the PLC work is important and valued. Examples of norms which team meeting time may include statements as: We start and end meetings on time. Members of the team arrive on time. Members of the team stay for the entire meeting. Meeting attendance is a priority for all members of the team. Meeting time is dedicated solely to the work of the PLC team.

Secondly, within a team, there are also many norms that govern team dialogue that support greater effectiveness in collaborative teams. A collaborative team of teachers in a PLC can operate more efficiently and productively when there are norms that govern team dialogue during team meetings. Teachers in collaborative teams require the ability to try new ideas without the concern of failure, reflecting on their teaching and improving their practice (Kruse & Seashore-Louis, 1993). A safe level of communication within the team allows teachers to share ideas and collaborate more effectively than an environment in which the level of communication is unknown (Horn, 2010). Jacobs and Yendol-Hoppey (2010) found that through open discussions in collaborative teacher teams, conversations about instruction took place which assisted individual teachers in improving their instruction. Through these discussions, teacher constructed new information that will improve their classroom instruction (Kruse & Seashore-Louis, 1993). Norms of teacher dialogue which support an organized agenda with one topic being discussed at a time, balanced participation between team members, welcome the respectful exchange of differing opinions and ideas, facilitate deep listening, and an understanding of

confidentiality within the group (Garmston & Wellman, 2009; Jolly, 2008). Examples of norms which govern how teachers talk together may include statements as found in Anne Jolly's (2008) *Team to Teach*, Tool 4.3, A norm sampler such as:

All members will join in the team's discussions; no one will dominate the discussions; each member will listen attentively as other speak; Everyone's point of view will be considered; Our conversations will reflect our respect for and acceptance of one another; We will disagree with ideas not individuals; no zingers or put-downs; we will keep confidential any information shared in confidence. (p. 163)

Third, collaborative teams are more successful when there are norms which address how decision making occurs (Garmston & Wellman, 2009). Effective team collaboration takes place as individual members understand the role of their voice is in the process of decision making within the team. Is their voice being used to inform, recommend, or decide? If they are informing or recommending, to whom are they relaying information and what are the next steps in the process? In addition, when individuals are assured that alternative opinions matters in the process they are more likely to engage with fidelity (Hipp & Huffman, 2003). Research has shown that shared decision making based on relevant facts and ideas involves all stakeholders when working towards improvement (Darling-Hammond, 1996).

Consensus is one form of decision making. Groups such as collaborative teacher teams are appropriately served by a consensus process in which at least 80% of the group is willing to commit and act upon the recommended decision. It also means that the others in the group agree to support the decisions of the team and refrain from any appearance of sabotage (Garmston & Wellman, 2009). Examples of these norms which govern decision making may include statements such as those found in Anne Jolly's (2008) *Team to Teach*, Tool 4.3,

A Norm Sampler: We will reach decisions by consensus; Any member of the team not in agreement with a decision will present an alternative solution to the situation for consideration before a decision is made. Team members will support the decisions of the team. (p. 163)

Finally, within collaborative teacher teams, norms which govern how norms are enforced are essential to creating the environment necessary for effective collaboration. “The less members follow the group’s norms, the less effective the group will be “ (Johnson & Johnson, 2009, p. 298). For a group norm to influence a person’s behavior, the person must recognize that it exists, be aware that other group members accept and follow the norms, and accept and follow it himself or herself. Enforcement of group norms requires the ability to monitor members’ behavior so that norm violations are detected and supportive norm behaviors are reinforced. It also requires that the social sanctions the group uses to punish norm violation carry weight for the individuals (Fox, 1985). At first a person may conform to a group norm because the group typically rewards conforming behavior and punishes non-conforming behavior. Later the person may internalize the norm and conform to it automatically, even when no other group members are present.

Individual team members will need to unlearn previous norms as much as they learn new team norms when it comes to collaborative team processes (Levine, 2011). This ties into Schein’s (1968) concept of *organizational socialization* with respect to an individual’s values and behavior patterns.

If a novice comes to the organization with values and behavior patterns which are in varying degrees out of line with those expected by the organization, then the socialization process first involves a destructive or unfreezing phase. This phase serves the function of

detaching the person from his former values... and that he must redefine himself in terms of the new roles which he is to be granted. (p. 54)

Likewise, within a collaborative team, norms which govern meeting time, teacher dialogue, and decision making are necessary to help individual teachers to “see the taken-for-granted practices, beliefs, or knowledge, to question these, and to unlearn whatever is unproductive” (Levine, 2011, p. 933). These norms within a team stand to have a critical impact on the team’s focus and understanding of what is important with respect to the process of team structure and interaction and, ultimately, on how the team culture is established.

It can be expected that members of every team will violate every norm at one time or another. How these violations are addressed comprises the enforcement of norms within teams (Vescio et al., 2008). The enforcement of team norms is associated with the *storming* phase of Tuckman’s (1965) group development model. Enforcement of team norms is critical to successful team development as clear violations of commitments members have made to each other need to be confronted (Hill & Jones, 1998; Tuckman & Jensen, 1977).

Enforcement of norms. Enforcement of norms within teams is necessary to the development of the team in order to ensure that with individual and team needs, they need to be evaluated and possibly adjusted if necessary. In teams, problem behaviors are identified when a team member openly acts in contrast (not necessarily purposefully) to either the explicit or implicit norms of the team. For example, lack of cooperation in performing agreed upon tasks, non-attendance of meetings, coming to meetings unprepared or late, and behaving discourteously (Little, Gearhart, Curry, & Kafka, 2003; Newcomb, 1943; Reed, 2001; Sarkar, Aulakh, & Cavusgil, 1998) all are actions that can be readily identified as contradictory to positive team interactions. Problem behaviors can also be the root of team conflict as

disagreements about how the team members should work collaboratively to accomplish a specific task can be disruptive (Zaccaro, 2012). Another example of problem behaviors would be when a member does not give all his or her support and help to the team because he/she thinks that their effort is not necessary at all (Webber, 2008). These and other problem behaviors ultimately lead to discontent, mistrust, and disagreement within a team (Harris, 2011). A team that finds itself in this state has reached the *storming* phase of development identified by Tuckman (1965).

The maintenance of agreed-upon norms plays an important role in preventing negative conflict from arising within teams, which can affect performance among the members (Syer & Connolly, 1996). A team depends on its members to execute assigned tasks and meet agreed deadlines (Hoy & Kupersmith, 1985). When team members fail to do what is expected from them, the levels of trust within the team may start to fall and cohesion among the members of the team starts to decline. On the other hand, if the ground rules and norms are well-executed, trust may be sustained and even increased, which will also serve to improve cohesion among team members (Levin, 1994).

Teams which regularly address violations of norms with team members and enforce behaviors that are supportive of the norms can regulate conflict in an effective manner (Garmston & Wellman, 2009). Negative behaviors can, in effect, quickly become the norm if left unchecked. How can a team successfully enforce agreed upon norms when they are violated by members? Enforcement of norms within a team is a collective responsibility equally shared amongst all members. “Members of effective groups hold one another accountable to do their fair share of the work, promote one another’s success, appropriately engage in small-group skills, and determine how effectively they are at working together.” (Johnson & Johnson, 2009, p. 20).

Within the context of establishing team norms, teams are encouraged to create a *meta-norm* or norm about how team members hold one another accountable to team norms (Richardson, 1999). For example, a team which has a norm supporting a face-to-face confrontation when problem behaviors occur could enable conflicts to reach better resolutions. According to Druskat and Wolff (1999), when team members are confronted face-to face in a structured and interactive way, those who initially showed negative behaviors towards the enforcement of norms felt significantly more positive after the face-to-face discussion. In contrast, the absence of a norm that supports addressing problem behaviors can cause these issues to be addressed and resolved by team members in a more personal and emotional manner, such as disliking other members of the team and acting with irritation and annoyance (Jehn & Mannix, 2001). These types of negative outcomes have been linked to lower performance and satisfaction in teams (Richardson, 1999).

Within teams, if norms are consistently enforced in accordance with agreed upon processes, the mental images of how a task is to be completed are in greater congruence with the team's goals and expectations, thus reducing potential conflict and uncertainty (Hadar & Brody, 2013). Regular enforcement of team norms involving all team members in a consistent manner, also solidifies the importance of the norms in guiding appropriate team interactions. Over time, with consistent enforcement, continued positive team interactions may create experiences that foster the propensity to trust amongst individual team members and likewise the perceptions of individual trustworthiness within the collaborative team.

Team norms and trust in teams. The relationship between trust and team performance has been well established (De Jong & Elfring, 2010; Dirks, 1999; Dirks & Ferrin, 2001). Collaborative teams that are able to establish and maintain trust, outperform those who do not.

The relationship between norms and team performance is clear (Adams, 1963; Hadar & Brody, 2013; Konovsky & Pugh, 1994; Loughry & Tosi, 2008; Piccoli & Ives, 2003; Walther & Bunz, 2005). Specifically, collaborative teams that have clear, consistent norms governing procedures and interactions explicitly, excel in comparison to those teams without anything in place (Schwarz, 1994).

Norms function to provide a means of monitoring, express the values and identity of a group, norms simplify and make the group behavior predictable (Hackman, 2002; Hadar & Brody, 2013; Konovsky & Pugh, 1994). However, the current literature is limited regarding the relationship between norms in collaborative teams, being mainly focused on the role of norms in monitoring within teams.

With respect to the role of norms for monitoring in teams, the literature provides mixed findings and a number of contradictory positions (Ferrin et al., 2007; Langfred, 2004; Malhotra & Murnighan, 2002; Webber, 2008). Some research states that there *may* be a positive relationship between monitoring and trust in team settings, and that individuals in teams expect monitoring as part of maintaining healthy team interactions (Ferrin et al., 2007; Langfred, 2004; Webber, 2008). Yet in contrast, evidence also suggests that monitoring within teams can be counter-productive to trust because it can condition individuals within the team to rely more on external controls (such as rules) than on the internal relationships between team members in carrying out the tasks of the team (Malhotra & Murnighan, 2002). As concluded by Malhotra and Murnighan (2002), the relationship between monitoring and trust in teams is “far from clean or simple” (p. 556).

This proposed study aims to examine the relationship between norms and trust within teams, specifically the relationship between team trust and adherence to norms in collaborative

teacher teams within a PLC. This study will inform the current knowledge base regarding norms and trust in teams and may clarify the existing contradictory findings.

PLCs are designed to focus on increasing student performance and in order to accomplish this goal, successful collaboration within the teacher team must occur. Collaborative teams would greatly benefit from additional knowledge on the direct relationship between team norms and team trust. This research will be studied from the perspective of the collaborative team members. Additional insight into this relationship stands to assist educators, administrators, and all who have an interest in understanding more about what is necessary to create a positive environment for successful collaborative team interactions which will contribute to successful student learning.

Summary

Education is ever changing and the demands on educators to provide a teaching and learning environment which ensures success for all students is greater than ever before. Schools are emphasizing the importance of collaborative teams as a structural and cultural means to provide ongoing systematic professional development for teachers engaged in this pursuit. In order for teachers in a PLC to be successful, a level of collaboration must exist within their team. At the foundation of interactions within these collaborative teams is trust within the team.

As collaborative teams grow and develop, the dynamics of the team can change. The establishment of team norms, or ground rules for expectations and interactions, is vital to sustain positive collaborative team development and success. In order for collaborative teams to be successful, positive norms of interaction must become salient within the team (Cialdini & Trost, 1998). Specifically, this study will investigate how different types of norms relate to trust within the collaborative team.

This study will examine the overarching question of: What is the relationship between the *types* of norms and mutual teacher trust in collaborative teacher teams? Specifically, what is the relationship between *norms that govern meeting time* and mutual teacher trust; what is the relationship between *norms that govern team member dialogue* and mutual teacher trust; what is the relationship between *norms that govern team decision making* and mutual teacher trust; and *norms of enforcement* and mutual teacher trust?

APPENDIX B: METHODS

Purpose of the Study

The purpose of this study was to conduct quantitative research that will assess the relationship between norms and trust within collaborative teacher teams. Collaborative team norms as a construct were defined as a function of multiple factors that were previously explained in detail as part of the literature review. These factors included the types of norms that govern meeting time, teacher dialogue, decision making, and the enforcement of norms. Another construct, that of team trust, was defined in this study as a measurement of the following four facets of trust: propensity to trust, perceived trustworthiness, collaborative behaviors, and monitoring behaviors. The data gathered by this study was used to answer the overarching research question that seeks to understand the relationship between types of norms and mutual teacher trust in collaborative teams. Specific subparts to the research question included the following:

1. What is the relationship between *norms that govern meeting time* and mutual teacher trust?
2. What is the relationship between *norms that govern team member dialogue* and mutual teacher trust?
3. What is the relationship between *norms that govern team decision making* and mutual teacher trust?
4. What is the relationship between *norms of enforcement* and mutual teacher trust?

Measurement

A survey was used to gather all data that will be later analyzed as part of this research study. The survey had three main components. The first component of the survey was designed to gather demographic information, whereas the second part gathered information on the construct of collaborative team norms. The final portion of the survey collected information on team trust.

The demographics questions were prepared for the survey by the researcher and were designed to be used as statistical control variables. In other words, the control variables were potential confounds in the relationship between collaborative team norms and team trust. Included within the demographic information were questions that gathered information about the teacher such as what grade levels were taught, how long they have been teaching, and how long they have been a member of their current team. The intent of the demographic data was to strengthen the research findings by providing an opportunity to explore the relationship between trust and collaborative team norms while controlling for additional factors that also may have had a relationship with these two constructs.

The second part of the survey focused on the collaborative team norms. A review of literature on both PLC team norms and collaborative team norms was conducted as part of the process of developing the survey assessment. These efforts resulted in the production of a survey that estimated four different facets of collaborative team norms. These facets included the norms that governed meeting time, the norms that govern teacher dialogue, decision making, and how norms are enforced within the team. These questions were primarily based upon two sources. First, the Meeting Inventory developed by Garmston and Wellman (2009) and second, the Collaborative PLC Norming Tool developed by Anne Jolly (2008) and were used with the author's permission, although some of these survey items were generated by the primary researcher.

The content of part two of the survey was thoroughly reviewed by a survey expert in order to assure accuracy of format and alignment of content with respect to collaborative team norms. Over 35 questions were considered and evaluated in the process of creating the final 19 questions for the second section of the survey. Each question in the second section of the survey

used a seven-point Likert scale response format. Possible answers ranged from a low of “Strongly Disagree” to a high of “Strongly Agree.”

The third portion of the survey measured team trust. The items used to operationalize team trust were created and validated by Costa and Anderson (2011). Their study provided information on the validity of their instrument via exploratory factor analysis, internal homogeneity checks, confirmatory factor analysis, consensual and discriminant power analysis, and construct validation of the instrument (Costa & Anderson, 2011). They noted that “all of these psychometric analyses suggest that the final 21-item four-factor measure is a reliable and valid multifaceted measure of trust at the team levels of analysis” (p. 147).

The third portion of the survey included all 21 items in the final four-factor trust survey developed by Costa and Anderson (2011). These four factors included propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors. Like the previous portion of the survey on PLC team norms, each question in the team trust response set used a seven-point Likert scale response format. Possible answers ranged from a low of *Strongly Disagree* to a high of *Strongly Agree*.

Representation and Sampling

The target population for the current study is all teachers participating in collaborative teams. The sampling frame consists of all teachers participating in collaborative teams within the Escondido Union High School District. The Escondido Union High School District is located within the boundaries of San Diego County, California. The Escondido Union High School District, established in 1894, is comprised of five high schools, three of these high schools are comprehensive in nature (i.e., grades 9–12), and one is alternative (i.e., grades 10–12). There were approximately 8,500 students and 350 teachers in the district. The student

ethnic population is 70% Hispanic, 21% white, 3% African American, 2% Asian, 1% Filipino, and 3% other. As of 2013, approximately 78% of the students districtwide received free or reduced lunches.

There were many reasons why the Escondido Union High School District was selected for this study. First, PLCs were a priority amongst all schools within the district. Second, designated time within the work day for collaborative PLC teams was well established for at least the past eight years, which suggests that the district had embraced a collaborative culture with a focus on learning and results. Within Escondido Union High School District, an ever increasing focus existed on how to improve the collaborative team time for teachers, and the nature of the survey lent itself to very desirable data which was timely for PLC team members. In addition, access to the district leadership and Superintendent is high. The Superintendent granted permission to the researcher to survey the population of teachers during the 2014-2015 school year.

Analysis Plan

The survey was delivered through an online method utilizing Qualtrics. The survey was attached to an email with a request to complete the survey and a link to the survey. The email was sent out with a letter of support from the Superintendent. The survey was open for a two-week window. During this time each participant was invited by email twice within the first four days .

Upon completion of the surveys, analyses of the data were conducted. First, a factor analysis was carried out on the collaborative team norms portion of the survey in order to determine the dimensionality of the norms construct. The factor analysis of the collaborative team norms items indicated how many different dimensions of team norms existed. The number

of dimensions which were determined through the factor analysis was included in further statistical analyses. General descriptive statistics of the respondents was also created.

Upon completion of the factor analysis, simple correlation models, simple regression models, and multiple regression models were computed in order to understand the relationship between collaborative team norms and team trust, while controlling for the demographic variables. In conducting the multiple regressions, *team norms* was the dependent or outcome variable and *team trust* was the focal explanatory variable. The dimensionality of both the team norm and team trust constructs determined how many regression models needed to be constructed.

APPENDIX C: MEASUREMENT INSTRUMENTS

SURVEY OF NORMS AND TRUST WITHIN COLLABORATIVE TEAMS OF TEACHERS

This survey is intended to examine norms within collaborative teams of teachers. There are three parts to the survey. The first demographics section should only take a few minutes to complete. The second section is focused on Norms within your team, and the third part is focused on Trust within your team. In total, the survey should take no more than 10 minutes to complete.

PART ONE: DEMOGRAPHIC INFORMATION

1. Are you a member of a Collaborative teacher team within your school?
 - A. Yes
 - B. No
2. Are you a teacher?
 - A. Yes
 - B. No
3. What is your gender?
 - A. Male
 - B. Female
4. Select the answer that best describes the grade levels of students you teach:
 - A. Elementary Grades (K-5)
 - B. Middle Grades (6-8)
 - C. High School Grades (9-12)
5. How long have you been teaching? _____
6. How long have you been working at your current school? _____
7. How long have you been a member of your current collaborative team? _____
8. Are you now or have you been the team leader for your current collaborative team?
 - A. Yes
 - B. No

PART TWO: COLLABORATIVE TEAM NORMS

Please indicate the extent to which you agree with how well your collaborative team adheres to each norms listed below; whether you strongly agree, somewhat agree, slightly agree, neither agree nor disagree, slightly disagree, somewhat disagree or strongly disagree. If your team doesn't have the norm described, please mark not applicable. Please answer each statement honestly. Consider your team norms as any written or unwritten rules of expectation for your collaborative teacher team.

- 1) Strongly agree
- 2) Somewhat agree
- 3) Slightly agree
- 4) Neither agree nor disagree
- 5) Slightly disagree
- 6) Somewhat disagree
- 7) Strongly disagree
- NA Not applicable

Teacher Dialogue

9. Participation in meetings is balanced between team members.
10. Team members listen to me in team meetings.
11. I listen to others in team meetings.
12. Members of the team react to differing ideas and opinions with respect.
13. Information shared with the team is kept confidential by all members of the team.

Decision Making

14. Team members are clear about the decision making processes being used within the team.
15. Team members are clear about their role in the decision making process
16. Relevant facts and ideas are shared as part of the decision making process.
17. Team decisions are made by consensus.
18. Members are supportive of team decisions.

Enforcement of Norms

19. Team norms are regularly reviewed and adherence is re-established.
20. Members of the team participate equally in making sure the team norms are enforced.
21. Team members acknowledge one another when member behavior is congruent with team norms.
22. When a team norm is violated, the misbehavior is addressed in a timely manner by the other members of the team.
23. When a team norm is violated, the misbehavior is addressed in a positive manner by the other members of the team.
24. When a team norm is violated the misbehavior is addressed through a face to face conversation with the member of the team who violated the norm.

PART THREE: COLLABORATIVE TEAM TRUST

Please indicate the extent to which you agree with how well your collaborative team demonstrates the behaviors listed below; whether you strongly agree, somewhat agree, slightly agree, neither agree nor disagree, slightly disagree, somewhat disagree or strongly disagree. If your team doesn't demonstrate the behavior described, please mark not applicable. Please answer each statement honestly.

- 1) Strongly agree
- 2) Somewhat agree
- 3) Slightly agree
- 4) Neither agree nor disagree
- 5) Slightly disagree
- 6) Somewhat disagree
- 7) Strongly disagree
- NA Not applicable

Propensity to Trust

25. Most people in this team do not hesitate to help a person in need.
26. In this team most people speak out for what they believe in.
27. In this team most people stand behind their convictions.
28. The typical person in this team is sincerely, concerned about the problems of others.
29. Most people will act as "Good Samaritans" if given the opportunity.
30. People usually tell the truth, even when they know they will be better off by lying.

Perceived trustworthiness

31. In this team people can rely on each other.
32. We have complete confidence in each other's ability to perform tasks.
33. In this team people will keep their word.
34. There are some hidden agendas in this team.
35. Some people in this team often try to get out of previous commitments.
36. In this team people look for each other's interests honestly.

Cooperative behaviors

37. In this team we work in a climate of cooperation.
38. In this team we discuss and deal with issues or problems openly.
39. While making a decision we take each other's opinion into consideration.
40. Some people hold back relevant information in this team.
41. In this team people minimize what they tell about themselves.
42. Most people in this team are open to advice and help from others.

Monitoring behaviors

43. In this team people watch each other very closely and critically.
44. In this team people check whether others keep their promises.
45. In this team most people tend to keep each other's work under surveillance.
46. In this team people micromanage one another

Dissertation References

- Abrams, L. C., Cross, R., Lesser, E., & Levin, D. Z. (2003). Nurturing interpersonal trust in knowledge-sharing networks. *The Academy of Management Executive*, 17(4), 64–77.
- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, 67(5), 422–436.
- Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 267–299). New York, NY: Academic Press.
- Adler, P. S. (2002). Market, hierarchy, and trust: The knowledge economy and the future of capitalism. In C. W. Choo & N. Bontis (Eds.), *The strategic management of intellectual capital and organizational knowledge* (pp. 100–131). New York, NY: Oxford University Press.
- Aggarwal, P., & Mazumdar, T. (2008). Decision delegation: A conceptualization and empirical investigation. *Psychology & Marketing*, 25(1), 71–93.
- Akgün, A. E., Keskin, H., & Byrne, J. C. (2010). Procedural justice climate in new product development teams: Antecedents and consequences. *Journal of Product Innovation Management*, 27(7), 1096–1111.
- Amason, A. C., & Sapienza, H. J. (1997). The effects of top management team size and interaction norms on cognitive and affective conflict. *Journal of Management*, 23(4), 495–516.
- Antonetti, M., & Rufini, A. (2008). Social norms, coordination and collaboration in heterogeneous teams. *Managerial and Decision Economics*, 29(7), 547–554.
- Argote, L. (1989). Agreement about norms and work-unit effectiveness: Evidence from the field. *Basic and Applied Social Psychology*, 10(2), 131–140.

- Arrow, H., Poole, M. S., Henry, K. B., Wheelan, S., & Moreland, R. (2004). Time, change, and development the temporal perspective on groups. *Small Group Research*, 35(1), 73–105.
- Bachmann, R., & Inkpen, A. C. (2011). Understanding institutional-based trust building processes in inter-organizational relationships. *Organization Studies*, 32(2), 281–301.
- Baier, A. (1986). Trust and antitrust. *Ethics*, 96(2), 231–260.
- Bell, B. S., & Kozlowski, S. W. (2002). A typology of virtual teams implications for effective leadership. *Group & Organization Management*, 27(1), 14-49.
- Berg, J. H., Bosch, C. A., & Souvanna, P. (2013). Critical conditions: What teacher leaders need to be effective in schools. *Journal of Staff Development*, 34(2), 109–110.
- Bos, N., Olson, J., Gergle, D., Olson, G., & Wright, Z. (2002, April). Effects of four computer-mediated communications channels on trust development. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 135–140). New York, NY: ACM.
- Boschini, A., Muren, A., & Persson, M. (2011). Men among men do not take norm enforcement seriously. *The Journal of Socio-Economics*, 40(5), 523–529.
- Bryk, A., & Schneider, B. (2004). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation.
- Buffum, A. (2008). Trust: The secret ingredient to successful shared leadership. In A. Buffum and C. Erkens (Eds.), *The collaborative administrator: Working together as a professional learning community*. Bloomington, IN: Solution Tree Press.
- Buffum, A., & Erkens, C. (2012). *The collaborative administrator: Working together as a professional learning community*. Bloomington, IN: Solution Tree Press.

- Bullough, R. V. (2007). Professional learning communities and the eight-year study. *Educational Horizons*, 85(3), 168–180.
- Burke, C. S., Sims, D. E., Lazzara, E. H., & Salas, E. (2007). Trust in leadership: A multi-level review and integration. *The Leadership Quarterly*, 18(6), 606–632.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In Gilbert, Giske & Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., Vol. 2, pp. 151–192). New York, NY: McGraw-Hill.
- Clark, C. M. (2001). *Talking shop: Authentic conversation and teacher learning*. New York, NY: Teachers College Press.
- Coleman, J. (1966). *Equality of educational opportunity*. The Coleman Report.
- Corcoran, T. B. (2007). Teaching matters: How state and local policymakers can improve the quality of teachers and teaching. *CPRE Policy Brief*. Philadelphia, PA: Consortium for Policy Research in Education.
- Costa, A. C. (2003). Work team trust and effectiveness. *Personnel Review*, 32(5), 605–622.
- Costa, A. C., & Anderson, N. (2011). Measuring trust in teams: Development and validation of a multifaceted measure of formative and reflective indicators of team trust. *European Journal of Work and Organizational Psychology*, 20(1), 119–154.
- Cranston, J. (2009). Holding the reins of the professional learning community: Eight themes from research on principals' perceptions of professional learning communities. *Canadian Journal of Educational Administration and Policy*, 90, 1–22.
- Darling-Hammond, L. (1996). The quiet revolution: Rethinking teacher development. *Educational Leadership*, 53(6), 4–10.

- Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan*, 76(8), 597–604.
- De Jong, B. A., & Dirks, K. T. (2012). Beyond shared perceptions of trust and monitoring in teams: Implications of asymmetry and dissensus. *Journal of Applied Psychology*, 97(2), 391–406.
- De Jong, B. A., & Elfring, T. (2010). How does trust affect the performance of ongoing teams? The mediating role of reflexivity, monitoring, and effort. *Academy of Management Journal*, 53(3), 535–549.
- Diamond, J. B. (2007). Where the rubber meets the road: Rethinking the connection between high-stakes testing policy and classroom instruction. *Sociology of Education*, 80(4), 285–313.
- Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology*, 84(3), 5445–5444.
- Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization Science*, 12(4), 450–467.
- Dirks, K. T., & Skarlicki, D. P. (2009). The relationship between being perceived as trustworthy by coworkers and individual performance. *Journal of Management*, 35(1), 136–157.
- Dixon-Woods, M., & Tarrant, C. (2009). Why do people cooperate with medical research? Findings from three studies. *Social Science & Medicine*, 68(12), 2215–2222.
- Dooner, A. M., Mandzuk, D., & Clifton, R. A. (2008). Stages of collaboration and the realities of professional learning communities. *Teaching and Teacher Education*, 24(3), 564–574.

- Druskat, V. U., & Wolff, S. B. (1999). The link between emotions and team effectiveness: How teams engage and build effective task processes. Paper appeared in the 1999 Academy of Management Best Paper Proceedings, Organizational Behavior Division.
- DuFour, R. (2007). Professional learning communities: A bandwagon, an idea worth considering, or our best hope for high levels of learning? *Middle School Journal*, 39(1), 4–8.
- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: National Educational Service.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2013). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree Press.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: National Educational Service.
- DuFour, R., Eaker, R., & DuFour, R. (2005). *On common ground: The power of professional learning communities*. Bloomington, IN: National Educational Service.
- DuFour, R., & Marzano, R. J. (2011). *Leaders of learning: How district, school, and classroom leaders improve student achievement*. Bloomington, IN: Solution Tree Press.
- Earl, L. M., & Timperley, H. (Eds.). (2008). *Professional learning conversations: Challenges in using evidence for improvement*. New York, Ny: Springer.
- Eastwood, K. W., & Seashore-Louis, K. (1992). Restructuring that lasts: Managing the performance dip. *Journal of School Leadership*, 2(2), 213–224.
- Ehrhart, M. G., & Naumann, S. E. (2004). Organizational citizenship behavior in work groups: A group norms approach. *Journal of Applied Psychology*, 89(6), 960–974.

- Erfle, J. (2013, March 14). Holding schools accountable without punishing kids. *Politics Uncuffed*. Retrieved from <http://politicsuncuffed.com/education/holding-schools-accountable-without-punishing-kids/>
- Ferrin, D. L., Bligh, M. C., & Kohles, J. C. (2007). Can I trust you to trust me? A theory of trust, monitoring, and cooperation in interpersonal and intergroup relationships. *Group & Organization Management*, 32(4), 465–499.
- Folger, R., & Greenberg, J. (1985). Procedural justice: An interpretative analysis of personnel systems. In Rowland & Ferris (Eds.), *Research in personnel and human resources management* (Vol. III, pp. 141–183). Greenwich, CT: JAI Press.
- Forrester, W. R., & Tashchian, A. (2011). Factors that influence students to participate in team decision making. *American Journal of Business Education*, 4(11), 33.
- Fox, D. R. (1985). Psychology, ideology, utopia, and the commons. *American Psychologist*, 40(1), 48–58.
- Friend, M., & Cook, L. (2010). *Interactions: Collaboration skills for school professionals* (6th ed.). Upper Saddle River, NJ: Pearson/Merrill.
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. New York, NY: Free Press.
- Garmston, R. J., & Wellman, B. M. (2009). *The adaptive school: A sourcebook for developing collaborative groups* (2nd ed.). Norwood, MA: Christopher-Gordon Publishers.
- Gillespie, N. (2005). Are perceptions of trust shared? Examining agreement in trust ratings within dyads and teams. Paper presented at the EIASM Workshop on Trust Within and Between Organizations, Amsterdam, the Netherlands.

- Gillespie, N., & Dietz, G. (2009). Trust repair after an organization-level failure. *Academy of Management Review*, 34(1), 127–145.
- Golembiewski, R. T., & McConkie, M. (1975). The centrality of interpersonal trust in group processes. In C. L. Cooper (Ed.), *Theories of group processes*. London, England: Wiley.
- Gray, S. L. (2007). *A grounded theory study of the phenomenon of collective competence in distributed, interdependent virtual teams* (Doctoral dissertation, University of Phoenix). Available from ProQuest Dissertations and Theses database. (UMI No. 3302616)
- Hackman, J. R. (1976). Group influences on individuals. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1455–1525). Chicago, IL: Rand-McNally.
- Hackman, J. R. (2002). *Leading teams: Setting the stage for great performances*. Boston, MA: Harvard Business School Press.
- Hackman, J. R., & Walton, R. E. (1986). Leading groups in organizations. In P. S. Goodman (Ed.), *Designing effective work groups*. San Francisco, CA: Jossey-Bass.
- Hadar, L. L., & Brody, D. L. (2013). The interaction between group processes and personal professional trajectories in a professional development community for teacher educators. *Journal of Teacher Education*, 64(2), 145–161.
- Hallam, P. R., Smith, H. R., Hite, J. M., Hite, S. J., & Wilcox, B. R. (2015). Trust and collaboration in PLC teams: Teacher relationships, principal support, and collaborative benefits. *NASSP Bulletin*, 99(3), 193–216.
- Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. New York, NY: Teachers College Press.
- Harris, D. N. (2011). *Value-added measures in education: What every educator needs to know*. Cambridge, MA: Harvard Education Publishing Group.

- Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving Schools, 13*(2), 172–181.
- Harris, D. N. (2011). Economists and the Value-Added Wave in Schools. *Education Week*. Retrieved from <http://www.edweek.org/ew/articles/2011/01/26/18harris.h30.html?qs=Economists+and+the+Value-Added+Wave+in+Schools>
- Hartley, P. (1997). *Group Communication*. London, England: Routledge.
- Hedges, L. V., & Greenwald, R. (1996). Have Times changed? The relation between school resources and students performance. In G. T. Burtless (Ed.), *Does money matter?: The effect of school resources on student achievement and adult success* (pp. 74–92). Washington, DC: Brookings.
- Hill, C. W. L., & Jones, G. R. (1998). *Strategic management theory: An entegrated approach* (4th ed.). Boston, MA: Houghton Mifflin.
- Hipp, J. B., & Huffman, K. K. (2003). *Reculturing schools as professional learning communities*. Lanham, MD: Rowman & Littlefield.
- Holmlund, H., McNally, S., & Viarengo, M. (2010). Does money matter for schools? *Economics of Education Review, 29*(6), 1154–1164.
- Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory.
- Horn, I. S. (2010). Teaching replays, teaching rehearsals, and re-visions of practice: Learning from colleagues in a mathematics teacher community. *Teachers College Record, 112*(1), 225–259.

- Hoy, W. K., & Kupersmith, W. J. (1985). The meaning and measure of faculty trust. *Educational and Psychological Research*, 5(1), 1–10.
- Hoy, W. K., & Sweetland, S. R. (1999). School bureaucracies that work: Enabling, not coercive. *Journal of School Leadership*, 10(6), 525–541.
- Hoy, W. K., & Tschannen-Moran, M. (1999). Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership*, 9(3), 184–208.
- Hoy, W. K., & Tschannen-Moran, M. (2003). The conceptualization and measurement of faculty trust in schools: The omnibus t-scale. In W. K. Hoy & C. Miskel (Eds.), *Studies in leading and organizing schools* (pp. 181–208). Greenwich, CT: Information Age Publishing.
- Hoy, W. K., Tarter, C. J., & Woolfolk-Hoy, A. (2006). Academic optimism of schools: A force for student achievement. *American Educational Research Journal*, 43(3), 425–446.
- Huff, S. (2008). Digging deep into data. In A. Buffum & C. Erkens (Eds.), *The collaborative administrator: Working together as a professional learning community*. Bloomington, IN: Solution Tree.
- Hurwitz, M., & Hurwitz, S. (2015). *Leadership is half the story: A fresh look at followership, leadership, and collaboration*. Toronto, Canada: Rotman-UTP Publishing.
- Israel, M. (2003). Teachers observing teachers: A professional development tool for every school. *Education World, March*. Retrieved from http://www.educationworld.com/a_admin/admin/admin297.shtml
- Jackson, A. W., & Davis, G. A. (2000). *Turning points 2000: Educating adolescents in the 21st century*. New York, NY: Teachers College Press.

- Jacobs, J., & Yendol-Hoppey, D. (2010). Supervisor transformation within a professional learning community. *Teacher Education Quarterly*, *37*(2), 97–114.
- Jacques, P. H., Garger, J., Brown, C. A., & Deale, C. S. (2009). Personality and virtual reality team candidates: The roles of personality traits, technology anxiety and trust as predictors of perceptions of virtual reality teams. *Journal of Business and Management*, *15*(2), 143–159.
- Jeffries, F. L., & Becker, T. E. (2008). Trust, norms, and cooperation: Development and test of a simplified model. *Journal of Behavioral and Applied Management*, *9*(3), 316–336.
- Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, *44*(2), 238–251. doi: 10.2307/3069453
- Johnson, D. W., & Johnson, F. P. (2009). *Joining together: Group theory and group skills* (10th ed.). Columbus, OH: Pearson.
- Johnson, J., Truxillo, D. M., Erdogan, B., Bauer, T. N., & Hammer, L. (2009). Perceptions of overall fairness: Are effects on job performance moderated by leader-member exchange? *Human Performance*, *22*(5), 432–449.
- Johnson, S. D., Suriya, C., Yoon, S. W., Berrett, J. V., & La Fleur, J. (2002). Team development and group processes of virtual learning teams. *Computers & Education*, *39*(4), 379–393.
- Jolly, A. (2008). *Teams to teach: A facilitator's guide to professional learning teams*. Oxford, OH: National Staff Development Council.
- Jones, D. A., & Martens, M. L. (2009). The mediating role of overall fairness and the moderating role of trust certainty in justice–criteria relationships: The formation and use of fairness heuristics in the workplace. *Journal of Organizational Behavior*, *30*(8), 1025–1051.

- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23(3), 531–546.
- Kaplan, L. S., & Owings, W. A. (2003). No Child Left Behind: The politics of teacher quality. *Phi Delta Kappan*, 84(9), 687–693.
- Katz, J. H., & Miller, F. A. (2013). *Opening doors to teamwork and collaboration: 4 keys that change everything*. San Francisco, CA: Berrett-Koehler Publishers.
- Kim, W. C., & Mauborgne, R. A. (1995). A procedural justice model of strategic decision making: Strategy content implications in the multinational. *Organization Science*, 6(1), 44–61.
- Kim, W. C., & Mauborgne, R. A. (1996). Procedural justice theory. In S. Ghoshal & D. Westney (Eds.), *Organization Theory and the Multinational Corporation*. London, England: St. Martin's Press.
- Kochanek, J. R. (2005). *Building trust for better schools: Research based practices*. Thousand Oaks, CA: Corwin Press.
- Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, 37(3), 656–669.
- Kramer, R. M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology*, 50(1), 569–598.
- Kruse, S. D., & Seashore-Louis, K. (1993). *Developing professional community in new and restructuring urban schools*. Paper presented at the University Council for Educational Administration, Houston, Texas.
- Kruse, S. D., & Seashore-Louis, K. (1995). *Professionalism and community perspectives on reforming urban schools*. Thousand Oaks, CA: Corwin.

- Langfred, C. W. (2004). Too much of a good thing? Negative effects of high trust and individual autonomy in self-managing teams. *Academy of Management Journal*, 47(3), 385–399.
- Lee, A. Y., Bond, G. D., Russell, D. C., Tost, J., González, C., & Scarbrough, P. S. (2010). Team perceived trustworthiness in a complex military peacekeeping simulation. *Military Psychology*, 22(3), 237–261.
- Leithwood, K., & Seashore-Louis, K. (1999). *Organizational learning in schools*. Amsterdam: Swets Leitlinger.
- Leona, C. (2011). The missing link in school reform. *Phi Delta Kappan*, 93(3), 7.
- Levin, H. M. (1994). The necessary and sufficient conditions for achieving educational equity. In R. Berne & L. Picus (Eds.), *Outcome equity in education*. Thousand Oaks, CA: Corwin.
- Levine, J. M., & Moreland, R. L. (1990). Progress in small group research. *Annual Review of Psychology*, 41(1), 585–634.
- Levine, T. H. (2011). Features and strategies of supervisor professional community as a means of improving the supervision of preservice teachers. *Teaching and Teacher Education*, 27(5), 930–941. doi: 10.1016/j.tate.2011.03.004
- Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review*, 23(3), 438–458.
- Lindbeck, A., & Nyberg, S. (2006). Raising children to work hard: Altruism, work norms, and social insurance. *The Quarterly Journal of Economics*, 121(4), 1473–1503.
- Lipnack, J., & Stamps, J. (1997). *Virtual teams: People working across boundaries with technology* (2nd ed.). New York, NY: Wiley.

- Little, J. W. (1990). Conditions of professional development in secondary schools. In M. W. McLaughlin, J. E. Talbert, & N. Bascia (Eds.), *The contexts of professional teaching in secondary schools: Teachers' realities* (pp. 187–223). New York, NY: Teachers College Press.
- Little, J. W., Gearhart, M., Curry, M., & Kafka, J. (2003). Looking at student work for teacher learning, teacher community, and school reform. *Phi Delta Kappan*, 85(3), 185–192.
- Loughry, M. L., & Tosi, H. L. (2008). Performance implications of peer monitoring. *Organization Science*, 19(6), 876–890.
- Lujan, N. A. N., & Day, B. (2010). Professional learning communities: Overcoming the roadblocks. *Delta Kappa Gamma Bulletin*, 76(2), 10–17.
- MacDonald, E. (2013). *The skillful team leader: A resource for overcoming hurdles to professional learning for student achievement* (Vol. xvii). Thousand Oaks, CA: Corwin Press and Learning Forward.
- Malhotra, D., & Murnighan, J. K. (2002). The effects of contracts on interpersonal trust. *Administrative Science Quarterly*, 47(3), 534–559.
- Marks, M. A., & Panzer, F. J. (2004). The influence of team monitoring on team processes and performance. *Human Performance*, 17(1), 25–41.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26(3), 356–376.
- Martin, R. (2002). *The responsibility virus*. New York, NY: Basic Books.
- Marx, G. (2010). *Professional learning communities: Guidance for high school principals*. Paper presented at The Principals' Partnership. Retrieved from www.allthingsplc.info/files/uploads/easternmichiganuniversity.pdf

- Mayer, K. J., & Argyres, N. S. (2004). Learning to contract: Evidence from the personal computer industry. *Organization Science*, *15*(4), 394–410.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), 709-734.
- McGrath, J. E. (1984). *Groups: Interaction and Performance*. Englewood Cliffs, NJ: Prentice Hall.
- McLaughlin, M. W., & Talbert, J. E. (2001). *Professional communities and the work of high school teaching*. Chicago, IL: University of Chicago Press.
- McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. New York, NY: Teachers College Press.
- Meeks-Gardner, J. M., Powell, C. A., & Grantham-McGregor, S. M. (2007). Determinants of aggressive and prosocial behaviour among Jamaican schoolboys. *West Indian Medical Journal*, *56*(1), 34–41.
- Miles, R. E., & Creed, W. D. (1995). Organizational forms and managerial philosophies: A descriptive and analytical review. In B. M. Staw & L. L Cummings (Eds.), *Research in organizational behavior* (pp. 333–372). Greenwich, CT: JAI Press.
- Miles, R. E., & Snow, C. C. (1992). Causes of failure in network organizations. *California Management Review*, *34*(4), 53–72.
- Milner, A. R., Sondergeld, T. A., Demir, A., Johnson, C. C., & Czerniak, C. M. (2012). Elementary teachers' beliefs about teaching science and classroom practice: An examination of pre/post NCLB testing in science. *Journal of Science Teacher Education*, *23*(2), 111–132. doi: 10.1007/s10972-011-9230-7

- Mitchell, C., & Sackney, L. (2000). Profound improvement: Building capacity for a learning community. *School Effectiveness and School Improvement, 13*(4), 453–462.
- Moolenaar, N. M., & Sleegers, P. J. C. (2010). Social networks, trust, and innovation: The role of relationships in supporting an innovative climate in Dutch schools. In A. J. Daly (Ed.), *Social Network Theory and Educational Change*. Cambridge, MA: Harvard Education Press.
- Naumann, S. E., & Bennett, N. (2000). A case for procedural justice climate: Development and test of a multilevel model. *Academy of Management Journal, 43*(5), 881–889.
- Nehring, J., & Fitzsimons, G. (2011). The professional learning community as subversive activity: Countering the culture of conventional schooling. *Professional Development in Education, 37*(4), 513–535.
- Nelson, T., Slavitt, D., Perkins, M., & Hathorn, T. (2008). A culture of collaborative inquiry: Learning to develop and support professional learning communities. *The Teachers College Record, 110*(6), 1269–1303.
- Newcomb, T. (1943). *Personality and social change: Attitude formation in a student community*. New York: Holt, Rinehart, and Winston.
- Nooteboom, B. (2002). *Trust: forms, foundations, functions, failures, and figures*. Northampton, MA: E. Elgar Publishing.
- O'Day, J. (2002). Complexity, accountability, and school improvement. *Harvard Educational Review, 72*(3), 293–329.
- Petty, A. (2015, August 28). The high professional cost of your inability to trust. *Government Executive*. Retrieved from <http://www.govexec.com/excellence/promising-practices/2015/08/high-professional-cost-your-inability-trust/119714/>

- Pfeffer, J. (1983). Organizational demography. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 3, pp. 1–52). Greenwich, CT: JAI Press.
- Piccoli, G., & Ives, B. (2003). Trust and the unintended effects of behavior control in virtual teams. *MIS Quarterly*, 27(3), 365–395.
- Pirson, M., & Malhotra, D. (2011). Foundations of organizational trust: what matters to different stakeholders?. *Organization Science*, 22(4), 1087–1104.
- Price, M. E. (2006). Monitoring, reputation, and ‘greenbeard’ reciprocity in a Shuar work team. *Journal of Organizational Behavior*, 27(2), 201–219.
- Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- Reed, M. I. (2001). Organization, trust and control: A realist analysis. *Organization Studies*, 22(2), 201–228.
- Reina, D., & Reina, M. (1999). *Trust and Betrayal in the Workplace*. San Francisco, CA: Berrett-Kohler.
- Richardson, J. (1999, August/September). Norms put the Golden Rule into practice for groups. *Tools for Schools*, 3(1), 1–2. [Newsletter]. National Staff Development Council.
- Robert, L. P., Denis, A. R., & Hung, Y. T. C. (2009). Individual trust and knowledge-based trust in face-to-face and virtual team members. *Journal of Management Information Systems*, 26(2), 241–279.
- Rode, J. (2010). Truth and trust in communication: Experiments on the effect of a competitive context. *Games and Economic Behavior*, 68(1), 325–338.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23(3), 393–404.

- Rousseau, V., Aubé, C., & Savoie, A. (2006). Teamwork behaviors: A review and an integration of frameworks. *Small Group Research, 37*(5), 540–570.
- Rusman, E., Van Bruggen, J., Sloep, P., Valcke, M., & Koper, R. (2013). The mind's eye on personal profiles: A cognitive perspective on profile elements that inform initial trustworthiness assessments and social awareness in virtual project teams. *Computer Supported Cooperative Work, 22*(2-3), 159–179.
- Sako, M. (1992). *Prices, Quality, and Trust: Inter-firm Relations in Britain and Japan*. Cambridge, NY: Cambridge University Press.
- Salas, E., Sims, D. E., & Burke, C. S. (2005). Is there a “Big Five” in teamwork? *Small Group Research, 36*(5), 555–599.
- Saphier, J., Gower, R. R., & Haley-Speca, M. A. (1997). *The skillful teacher: Building your teaching skills*. Acton, MA: Research for Better Teaching.
- Sarkar, M. B., Aulakh, P. S., & Cavusgil, S. T. (1998). The strategic role of relational bonding in interorganizational collaborations: An empirical study of the global construction industry. *Journal of International Management, 4*(2), 85–107.
- Saunders, M. (2010). *Organizational trust: A cultural perspective*. Cambridge, NY: Cambridge University Press.
- Schein, E. H. (1968). Organizational socialization and the profession of management. *Sloan Management Review, 30*(1), 53–64.
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review, 32*(2), 344-354.
- Schriber, J. B., & Gutek, B. A. (1987). Some time dimensions of work: Measurement of an underlying aspect of organization culture. *Journal of applied psychology, 72*(4), 642.

- Schwarz, R. (1994). *The skilled facilitator: Practical wisdom for developing effective groups*. San Francisco, CA: Jossey-Bass.
- Seligman, A. B. (1997). *The problem of trust*. Princeton, NJ: Princeton University Press.
- Sendjaya, S., & Sarros, J. C. (2002). Servant leadership: Its origin, development, and application in organizations. *Journal of Leadership & Organizational Studies*, 9(2), 57–64.
- Snow-Geronimo, J. L. (2005). Professional development in a culture of inquiry: PDS teachers identify the benefits of professional learning communities. *Teaching and Teacher Education*, 21(3), 241–256.
- Solomon, C. M. (2001, June 1). Managing virtual teams. *Workforce*. Retrieved from <http://www.workforce.com/articles/managing-virtual-teams>
- Sparks, D. (2013, November 6). Why professional development without substantial follow-up is malpractice. Dennis Sparks on Leading and Learning [web blog]. Retrieved from <http://dennissparks.wordpress.com/2013/11/06-why-professional-development-without-substantial-follow-up-is-malpractice/>
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change*, 7(4), 221–258. doi: 10.1007/s10833-006-0001-8
- Stoll, L., McMahon, A., & Thomas, S. (2006). Identifying and leading effective learning communities. *Journal of School Leadership*, 16(5), 611-623.
- Syer, J., & Connolly, C. (1996). *How teamwork works: The dynamics of effective team development*. London, England: McGraw-Hill.

- Toole, J. C., & Seashore-Louis, K. (2002). The role of professional learning communities in international education. In Leithwood. (Ed.), *The second international handbook of educational leadership* (pp. 245–279). Dordrecht, Neth: Kluwer.
- Tschannen-Moran, M. (2001). Collaboration and the need for trust. *Journal of Educational Administration, 39*(4), 308–331.
- Tschannen-Moran, M. (2004). *Trust matters: Leadership for effective schools*. San Francisco, CA: Jossey-Bass.
- Tschannen-Moran, M., & Hoy, W. K. (1998). Trust in schools: A conceptual and empirical analysis. *Journal of Educational Administration, 36*(4), 334–352.
- Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research, 70*(4), 547–593.
- Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin, 63*(6), 384–399.
- Tuckman, B. W., & Jensen, M. A. C. (1977). Stages of small-group development revisited. *Group & Organization Management, 2*(4), 419–427.
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91. doi: 10.1016/j.tate.2007.01.004
- Walther, J. B., & Bunz, U. (2005). The rules of virtual groups: Trust, liking, and performance in computer-mediated communication. *Journal of Communication, 55*(4), 828–846. doi: 10.1111/j.1460-2466.2005.tb03025.x
- Webber, S. S. (2008). Development of cognitive and affective trust in teams a longitudinal study. *Small Group Research, 39*(6), 746–769.

- Weinberg, D. B., Cooney-Miner, D., Perloff, J. N., Babington, L., & Avgar, A. C. (2011). Building collaborative capacity: Promoting interdisciplinary teamwork in the absence of formal teams. *Medical Care, 49*(8), 716–723.
- Wells. (2015). Ensuring equity in teaching to the new standards—A case study. *Leadership, 45*(2), 8–11.
- Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Wheelan, S. A., & Kesselring, J. (2005). Link between faculty group: Development and elementary student performance on standardized tests. *Journal of Educational Research, 98*(6), 323–330.
- Yamashita, M. Y. (2011). *How does high stakes testing influence teachers' classroom instruction? Institutional pressures and classroom instruction*. (Doctoral dissertation.) University of Pittsburgh, Pittsburgh, PA.
- Yeatts, D. E., & Hyten, C. (1998). *High-performing self-managed work teams*. Thousand Oaks, CA: SAGE.
- Young, V. M. (2006). Teachers' use of data: Loose coupling, agenda setting, and team norms. *American Journal of Education, 112*(4), 521–548.
- Zaccaro, S. J. (2012). Individual differences and leadership: Contributions to a third tipping point. *The Leadership Quarterly, 23*(4), 718–728.
- Zenger, T. R., & Lawrence, B. S. (1989). Organizational demography: The differential effects of age and tenure distributions on technical communication. *Academy of Management Journal, 32*(2), 353–376.