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Professional Learning Communities and Collective Mindfulness

by

Melissa J. Johnson

A dissertation submitted to the faculty of Bethel University
in partial fulfillment of the requirements for the degree of
Doctor of Education

Saint Paul, MN
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Approved by:
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Abstract

The purpose of this study was to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. The School Professional Staff as Learning Community Questionnaire (SPSLCQ) and School Mindfulness Scale (M-Scale) collected data from K-12 faculty in high-poverty schools across Minnesota. Results of the *t*-test indicate there was a difference between the level of collective mindfulness and faculty perceptions of professional learning communities in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools. Collective mindfulness increased in high-achieving, high-poverty schools and faculty perceptions of professional learning communities increased in low-achieving or average-achieving, high-poverty schools. Results of the Pearson's *r* correlation indicated that there was a negative statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools: the higher the faculty perceptions of professional learning communities, the lower the level of collective mindfulness. Study findings did not align with previous research in the field which suggest further research is needed to learn about the negative relationship between professional learning communities and collective mindfulness within high-poverty educational settings and continue to fill the research gap.

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Chapter 1: Introduction

Introduction to the Problem

Educators across the United States strive to increase student achievement, especially for students from high-poverty backgrounds (Moore, Kochan, Kraska, & Reames, 2011). Minnesota has some of the largest achievement gaps in the country between low-income students and their more affluent peers, and Minnesota Comprehensive Assessment (MCA) data point to the need for improved student performance in the Free or Reduced-price Lunch subgroup (McNeil, 2014). Socioeconomic status has been found to be a contributing factor to academic underperformance (Ortiz & Sibinga, 2017). With one in five U.S. students living in poverty, educational researchers have found that high levels of poverty are one of the most significant complicating factors of student populations (Ladd, 2012).

Student achievement in standardized testing depends on a myriad of factors (White et al., 2016). The pressures of accountability to state standards as well as dwindling funding to schools are driving the need for greater resources in U.S. educational institutions to address the growing diverse and complicated student populations (Odden, 2002). Historically, programs such as Title I were created to additionally fund high-poverty schools in order to counteract these odds. Title I funding is designed to provide further learning opportunities to help low-achieving students meet or exceed state standards in core academic subjects. From the U.S. Department of Education's most recent information regarding Title I participation in the 2009-10 school year, more than 56,000 public schools received Title I funding. From the 2009-10 school year data, more than 21 million U.S. students received Title I funding: 59% in kindergarten through fifth grade, 21% in grades 6-8, 17 % in Grades 9-12, three percent in preschool, and less than one percent ungraded (U.S. Department of Education, 2015).

High-poverty schools tend to have greater stress in teachers, students, and administrators due to not only the environment but also the institutions' accountability to the federal government as a Title I funded school (Darling-Hammond et al., 2016). Despite additional funding from Title I, high-poverty schools struggle to sustain employment of highly qualified teachers and administrators to teach within the greater emotionally and physically stressful environments (Simon & Johnson, 2015). High-poverty schools have a greater rate of teacher turnover, which prevents effective, long-term professional development for educators in these high-uncertainty environments (Simon & Johnson, 2015). The turnover is especially unfortunate because professional development for teachers is one of the most meaningful movers in student achievement (Capraro et al., 2016; Gulamhussein, 2013).

Statement of the Problem

Despite a national push toward greater educational equity in the last decade, inequity in U.S. schools remains a persistent issue: the U.S. Department of Education found that 45% of high-poverty schools received less state and local funding than other schools in their district (U.S. Department of Education, 2011). American researchers and lawmakers are committed to identifying the sources for the deficit, initiate reform efforts to improve the education system, and significantly reduce or eliminate the achievement gap (Shoffner, 2016). In 2016, the federal Every Student Succeeds Act (ESSA) was passed by the Obama administration to answer the call for reform. Despite this reform, leaders in U.S. schools are no closer to finding pathways for significant advancement in student achievement in high-poverty schools (Reardon, 2013). Students often enter high-poverty schools with weak academic backgrounds and poor study skills as well as with the detrimental effects of systemic poverty and environmental violence (Kraft et al., 2015). To counteract such factors, high-poverty schools need professional development

structures that directly support student achievement to overcome the odds against their academic success (Simon & Johnson, 2015).

One highly effective professional development structure is the professional learning community (PLC) model (Dooner et al., 2008; Philpott & Oates, 2016). PLCs are teacher-led, job-embedded, professional development sessions where teachers share best practices in teaching, analyze student data, and collaborate for improved student achievement (Minnesota Department of Education, 2017). Researchers found that when schools follow the PLC professional development model, teachers have higher expectations for student achievement and improved quality of classroom instruction, and student achievement levels are higher (Louis & Marks, 1998; Morrisey, 2000). Professional learning communities combine teaching and professional development that produce "complex, intelligent behavior in all teachers" (Sparks, 2005, p. 156).

When schools conduct professional development opportunities based on best practices such as professional learning communities, teacher behaviors change, which in turn improves student learning (Capraro et al., 2016). Professional development for teachers ranges from improving pedagogical and content knowledge to fostering professional dispositions or habits of mind (Roeser, Skinner, Beers, & Jennings, 2012). If schools promote habits of mind in their professional development for teachers, they create organizations that manage the unexpected at early stages, which strengthens the organization's resiliency and those who work in it (Hoy, Gage, & Tarter, 2006). High-poverty schools experience factors of uncertainty three times more than their more affluent counterparts and would benefit from a professional development model that promotes these habits of mind (Kraft et al., 2015).

Mindfulness techniques are time-honored methods to create positive habits of mind, which can transform professional development in education (Ortiz & Sibinga, 2017). Individual mindfulness practice has gained recognition in the educational world as a way to prevent burnout and develop compassion in teachers (Whitesman & Mash, 2016). Mindfulness can exist in a group, not as a faculty engaging in personal mindfulness practices such as meditation or yoga, but as collective mindfulness.

Collective mindfulness in schools is modeled on Weick's (1999) High-Reliability Organizations like air-traffic control, nuclear power plants, and similar structures. Like high-poverty schools, these organizations deal with a high level of uncertainty and therefore need a management system in order to respond quickly and effectively to that uncertainty. Collective mindfulness depends on five aspects: focus on mistakes, reluctance to simplify, sensitivity to teaching and learning, commitment to resilience, and deference to expertise in problem-solving (Hoy, Gage, & Tarter, 2006).

Despite the existing literature regarding the effectiveness of professional learning communities and mindfulness in professional development, students experiencing poverty are not achieving at the same level as their wealthier peers (McNeil, 2014). On the 2018 Grade 3 Reading Minnesota Comprehensive Assessment (MCA), 68% of non-Free or Reduced-price lunch students scored above or at the state reading standards compared with only 38% of Free or Reduced-price lunch students, an achievement gap of 30% mirrored in the Grade 8 Math MCA from the same year (Grunewald & Nath, 2019).

In 2015, the Minnesota Department of Education identified a troubling conclusion from their examination of the rising equity gap in the state: "schools in the highest poverty quartile are more likely to have inexperienced, unqualified and out-of-field teachers than schools in the

lowest poverty quartile" (p. 15). Minnesota teachers perceive themselves and their colleagues as ill-equipped to work with the most in-need student populations. Table 1.1 shows perceptions of Minnesota teachers taken from a 2018 survey. Survey participants answered the question: "How prepared are people in your school district to teach these specific types of students?" Response options were "not prepared, somewhat prepared, and well or mostly prepared" (Wilder Research, 2019, p. 17). In order to provide teachers in high-poverty schools with quality professional development that would significantly move student achievement, educational leaders in Minnesota must look at high-poverty schools as potential High-Reliability Organizations, and as such, develop their knowledge of collective mindfulness and its relationship to professional learning communities.

Table 1

Minnesota School District Perceptions of Teacher Preparedness to Teach Special Student Populations

Special Student Population	N	Percentage of school districts reporting "well or mostly prepared"
Low-income students (those eligible for free or reduced-price lunch)	299	58.5%
Students currently or previously in foster care	290	35.9%
Homeless students	285	25.3%
English Language Learners	285	24.9%
Immigrant Students	274	14.2%
Refugee Students	269	9.3%

Note: N=number of district respondents (Wilder Research, 2019, p. 17)

Research Questions and Hypotheses

The purpose of this study was to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools.

RQ1: What statistical difference, if any, exists in the faculty perceptions of professional learning communities in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

- $H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.
- $H1_a$: There is a statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

RQ2: What statistical difference, if any, exists between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

- $H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.
- $H2_a$: There is a statistical difference between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

RQ3: What statistical relationship, if any, exists in the faculty perceptions of professional learning communities and level of collective mindfulness in high-poverty schools?

- $H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

- $H3_a$: There is a statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

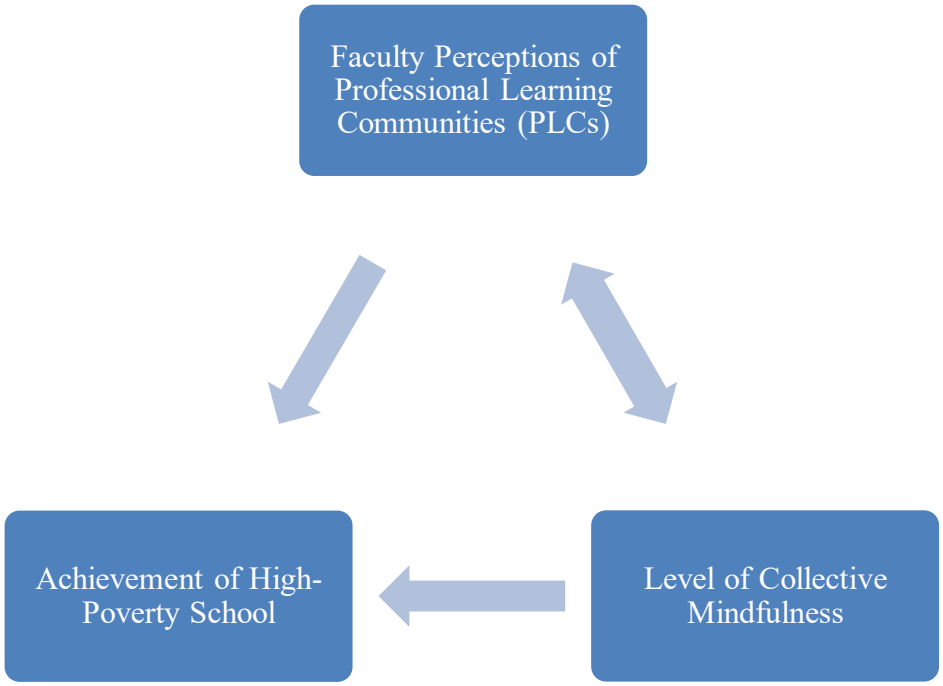

Figure 1: Logic Model for Research Questions.

Significance of the Study

School leaders.

In a mixed-method study in 2013, researchers found a positive relationship between student success, as measured by the state competency assessments, and principal mindfulness, as measured by an instrument called the M-Scale (Kearney, Kelsey, & Herrington, 2013). Researchers have found a link between mindful leadership and organizational trust (Kearney, Kelsey, & Herrington, 2013), but no current research exists exploring the relationship between professional learning communities, collective mindfulness, and student achievement. An analysis of the professional development model of professional learning communities and collective mindfulness in high-reliability organizations such as high-poverty schools may

provide guidance to leaders in these institutions so that they intentionally put structures into place in order to bolster student achievement.

Teachers.

Teacher stress and teacher turnover in high-poverty schools are significantly higher than in greater-income schools (Moore, Kochan, Kraska, & Reames, 2011). Teacher attrition in high-poverty schools impedes professional development models such as professional learning communities (Simon & Johnson, 2015). Professional learning communities promote collaboration among teachers: the professional development model nurtures relationships between new and veteran educators, fosters job-embedded professional development, and encourages collective efficacy among teaching faculty (Hoy, Tarter, & Hoy, 2006). Schools that have a high level of perceived professional learning communities build capacity for learning in the entire organization (Sackney & Walker, 2006). In schools with effective PLC models, teachers believe that their ideas are improvable and of value to the community (Popp & Goldman, 2016). Findings from this study may provide suggestions for teacher satisfaction and retention through effective PLC structures.

Students.

The income achievement gap is now greater than the racial achievement gap in the United States and is already significantly large when students begin Kindergarten (Reardon, 2013). Exemplary professional learning communities promote increased student achievement for all students (Ning, Lee, & Lee, 2015; Popp & Goldman, 2016). Due to the odds stacked against them, students from high-poverty backgrounds would benefit from an educational environment where collective mindfulness is an underlying structure so the environment remains highly reliable (Hales & Chakravorty, 2016; Milosevic, Bass, & Combs, 2018). Students in high-

poverty schools benefit from teachers who model behavior of resilience and collective efficacy (Hoy, Tarter, & Hoy, 2006; Lawlor, 2014; Ortiz & Sibinga, 2017). Continuous professional development influences daily educational experience and long-term academic achievement for all students. Findings from this study may propel school districts and school leadership to prioritize sustained teacher education to better support high-poverty students.

Definitions of Terms

Collective Mindfulness

Collective mindfulness, also known as mindful organizing, is the theory of an organization's ability to respond to unexpected factors in an environment of high-uncertainty. This ability to respond effectively is driven by the team's awareness of discrete details and reaction to possible disastrous consequences (Weick & Sutcliffe, 2006).

Free or Reduced-price Lunch

Free or Reduced-priced Lunch (FRPL) is a program for students who come from a high-poverty environment. Those with household income at or below 130% of the U.S. poverty line are eligible for free meals, and those with household incomes between 130-185% of the U.S. poverty line are eligible for reduced-price meals (United States Department of Agriculture, 2017).

High-Reliability Organizations (HROs)

High-Reliability Organizations are traditionally in a field such as air traffic control, nuclear power plants, and aircraft carriers where, due to a high level of risk and uncertainty, are successful in avoiding expected disasters. More recently, researchers in healthcare and educational organizations have explored moving to the HRO system in order to anticipate and manage the high level of unexpected factors in those fields (Eck, 2011a).

Minnesota Comprehensive Assessment (MCA)

The Minnesota Comprehensive Assessments (MCA) is a state test that help districts measure student progress toward Minnesota's academic standards and meet federal and state legislative requirements. Students are administered subject-specific tests: Reading, Grades 3-8, 10; Math, Grades 3-8, 11; and Science, Grades 5, 8, and once in high school (Minnesota Department of Education, 2018).

Poverty Line

The United States measures poverty with an instrument devised in 1963. The official poverty instrument compares a family's pre-tax market income against a poverty threshold: three times the cost of a minimally adequate food diet. The U.S. adjusts the poverty line each year based on the updated Consumer Price Index (CPI) in conjunction with household age, size, and composition (Pac, Nam, Waldfogel, & Wimer, 2017).

Professional Learning Communities (PLCs)

Professional learning communities are models intended to change school culture and improve student achievement through job-embedded, year-long professional development. PLCs consist of groups of teachers who regularly meet to collectively review and discuss student learning, adjust instructional practices, and address individual student needs for higher student achievement (Minnesota Department of Education, 2017).

Conclusion

Schools with large population of students from high-poverty backgrounds need an organizational system to manage the elevated levels of stress and uncertainty of student learning needs (Bellamy, 2011; Bellamy, Crawford, Marshall, & Coulter, 2005). School leaders would benefit from learning how High-Reliability Organizations operate and create professional

development to meet the needs of high-poverty students through collective mindfulness. Chapter 2 presents a deeper review of the literature on high-poverty schools, mindfulness, professional learning communities, and collective mindfulness. A discussion of the study's methodology, study sample, data collection and analysis are presented in Chapter 3. Results of the analysis are presented in Chapter 4, and a discussion of the results follows in Chapter 5.

Chapter 2: Literature Review

Introduction

This chapter explores major themes in the research literature related to the factors that contribute to academic achievement in high-poverty schools. Chapter 2 provides a research base for this study through an exploration of high-poverty K-12 schools in the United States, the background and best practices in professional learning communities, the basis of mindfulness, and the organizational theory of Collective Mindfulness.

High-Poverty Schools

One in five children in the U.S. comes from homes below the poverty line, and another 20% of children live in near poverty conditions (Yoshikawa, Aber, & Beardslee, 2012). The achievement gap between the rich and the poor in the United States is now far larger than the achievement gap between white students and students of color (Ladd, 2012). This economic inequality hinders educational outcomes and possible upward social mobility for students from high-poverty conditions (Reardon, 2013).

Following the national pattern, the state of Minnesota has some of the highest achievement gaps in the country between low-income students and their more affluent peers. According to the Department of Education, Minnesota had 856,687 students enrolled in K-12 public schools in the 2016-2017 school year. Out of that population, 330,272 (38.6%) of students were eligible for free or reduced-price lunch, a federally-funded program used to gauge the poverty level in a region or district (Minnesota Department of Education, 2018). In Minnesota, eligibility for the federal free or reduced-price lunch program is the proxy for poverty (U.S. Department of Health and Human Services, 2019).

Students who enter schools from high-poverty homes typically bring poor health and limited access to safe home environments, quality preschools, and after-school activities including tutoring and educational enrichment (Ladd, 2012). As a result of the housing market for low-income families or homelessness, children from high-poverty environments change living situations and schools more often than their more affluent peers (Ladd, 2012). Low socioeconomic status correlates to a number of educational issues for students such as reduced parental involvement, behavior misconduct, delay in cognitive development, predisposition to unhealthy behavior, and dysfunctional emotional processing (Ortiz & Sibinga, 2017).

Low-poverty schools are 89 times more likely than high-poverty schools to perform in the top third of their state (Tilley, Smith, & Claxon, 2012). Students in high-poverty schools have lower reading skills compared to students in the same age group and have a higher risk for negative reading outcomes (Aikens & Barbarin, 2008; Espinosa, 2005). Results of a recent study indicated a negative relationship between socioeconomic status (SES), race and academic standardized test scores, gaining greater significance by older grades (White et al., 2016). Students experiencing poverty were more likely to drop out of school versus low-income students and not obtain a diploma (Tilley, Smith, & Claxon, 2012).

Teacher turnover in high-poverty schools.

Teachers serve as the most important school factor that impacts student achievement, which requires high-poverty educational institutions to implement best practices of teacher induction and professional development to keep qualified teachers (Ladd, 2012). Many teachers leave within the first five years of their service not because of their students from low-income backgrounds, but due to a lack of personal and professional support (Bernay, 2014; Simon & Johnson, 2015). Teachers in high-poverty schools are more likely to have poor classroom

management and negative interactions with their students, eroding positive behavioral supports for these students with immense educational challenges (Stichter et al., 2008; Stormont et al., 2006).

New and less experienced teachers add to educational challenges in high-poverty schools due to the lack of consistency in teacher professional development. High-poverty schools frequently have teachers with lower qualifications and less teaching experience than schools with more economically advantaged students (Ladd, 2012). In a 2015 study by the Department of Education, Minnesota schools in the highest poverty quartile and the highest minority quartile were more likely to have inexperienced, unqualified and out-of-field teachers. Due to teacher turnover in high-poverty schools, teachers often lack the community of learning and may be hesitant to form professional learning communities (Simon & Johnson, 2015).

In addition to the educational loss of teacher attrition in schools, it is estimated that teacher turnover costs school districts upwards of $2.2 billion per year and disproportionally effects high-poverty schools (Alliance for Excellent Education, 2014). The cost of replacing a teacher in an urban district exceeds $20,000 per teacher, placing further burden on hard-to-staff, high-poverty schools (Carver-Thomas & Darling-Hammond, 2017). These financial hardships lead to staff instability which in turn negatively impact student learning: “High turnover rates at schools make it hard to accumulate professional capital, hinder the implementation of programs, contribute to low levels of trust among stakeholders, and make staff and student culture fragile” (Aguilar, 2018, p. 4). The financial burden does not stop at the school or district level, as some researchers view the persistence of these educational achievement gaps as impacting the U.S. economy with the equivalence of a permanent national recession (McKinsey & Company, 2009).

Successful strategies in high-poverty schools.

Researchers have identified strategies to aid student success in high-poverty schools such as instructional supports that include professional development, socioemotional and psychological supports, and parental engagement (Kraft et al., 2015). In order for professional development to be successful in an institution, the community of that institution must build capacity for learning: the ability of a school, educator, and students to grow, progress, or improve (Sackney & Walker, 2006). Teachers who choose to stay in high-poverty schools cite high quality professional development as an incentive to remain (Simon & Johnson, 2015).

Additional factors supporting student achievement in high-poverty schools are based on collaboration: collaborative professional development (Capraro et al., 2015), teacher teams that foster collective efficacy (Hoy, Tarter, & Hoy, 2006; Simon & Johnson, 2015), and administration that views the high-poverty educational organization as an open system (Kraft et al., 2015). Schools must also be aware of and react to their surroundings as their context changes. As open systems, schools are strongly influenced by their environment, since healthy open systems "continuously exchange feedback with their environments, analyze that feedback, adjust internal systems as needed to achieve the system's goals, and then transmit necessary information back out to the environment" (Yang, Yan, & Yang, 2012, p. 233). Professional development in high-poverty schools must be contextualized for student needs in order to be effective (Reddy et al., 2018), since "educators cannot serve students well if their schools try to shut out the environment in which those students live" (Kraft et al., 2015, p. 780).

Professional Learning Communities

Professional learning communities (PLCs) provide collaborative and sustainable professional development opportunities for teachers. In a 2016 study of systematic professional

development in a diverse urban district, researchers found that educators needed to participate in a minimum of 14 hours of professional development a year in order to show enhanced student outcomes (Capraro et al., 2016). In the same study, teachers improved their pedagogical practice by learning from their colleagues' quotidian experiences and were able to see an increase in student achievement. Organizational structures that encourage open systems such as professional learning communities cultivate teacher collaboration on learning goals (Ming, 2002). When schools are organized into PLCs, teachers set higher expectations for student achievement, students perceive teachers will help them achieve those goals through higher quality teaching, and achievement levels are higher (Louis & Marks, 1998).

Effective professional development through professional learning communities must encourage content knowledge, pedagogical practice, understanding child development, and fostering of professional dispositions and habits of mind that allow for mental flexibility and emotional regulation (Roeser, Skinner, Beers, & Jennings, 2012). According to a Scottish study of the professional development model, successful professional learning communities need five key components, supporting Hord's seminal work on PLCs: shared values and vision, collective responsibility, reflective professional inquiry, collaboration, and promotion of group as well as individual learning (Philpott & Oates, 2016). Professional learning communities offer inexpensive, highly efficient and rewarding professional development opportunities for the improvement of schools, pedagogical practice, and student achievement (Schmoker, 2005).

Hord's Five Components of Successful Professional Learning Communities

Shirley Hord's work in professional learning communities began in the 1990s when she published a white paper that identified five components of successful PLCs: shared values and vision, shared supportive leadership, collective learning and its application (originally called

"collective creativity"), supportive conditions, and shared personal practice (1997). Schools considering a PLC model should view these five components as interrelated and relationships between school leaders and the faculty as a foundation for the interplay between the five components (Morrisey, 2000).

Shared values and vision.

Organizational vision and resources should be intertwined in educational settings (Sorenson & Goldsmith, 2018). Sharing a vision across a district goes beyond merely agreeing on an initiative for change or where leaders allocate resources. It is a "mental image of what is important to an individual and to an organization" (Hord, 2010, p. 671). According to one PLC researcher, the title of professional learning communities defines itself: "A school that operates as such engages the entire group of *professionals* in coming together for *learning* within a supportive, self-created *community*" (Morrisey, 2000, pp. 3-4, author's emphasis). This self-definition is the underlying shared vision and values of professional learning communities in schools.

Professional learning communities share the vision of increased student achievement and the value of learning in a group. According to a study regarding educational institutions and collegial trust, teachers in professional learning communities perceive their school to be more effective, and the shared responsibility in their learning process allows the teachers to solve problems (Gray, Kruse, & Tarter, 2016). Professional learning communities build knowledge through collaborative effort and an understanding that teacher ideas are not only improvable but also of importance to the school community (Popp & Goldman, 2016).

Shared supportive leadership.

A factor in successful professional learning community models is the role of educational leadership. In professional learning communities, school leaders must engage within the system as fellow learner attending professional development (Carpenter, 2014). In a 2015 case study, researchers identified that when school leadership consistently checked in with teacher professional learning communities, administrators were able to rebuild trust in schools where it had previously been lacking (Brown, 2015). If school leaders poorly manage a professional learning community model due to an absence of trust, lack of shared and supportive leadership, or little knowledge of how to work with data, the professional development model will be ineffective (Carpenter, 2014).

Administration has a great influence in the process of change in an educational environment. When the administration decides to transform their professional development model to professional learning communities, their role is to actively nurture staff development and participate in the learning as equals without dominating the PLC (Hord, 2010). Since schools are often hierarchical organizations, the faculty sees the school leader as an expert, or "omnicompetent" (Carmichael, 1982). This perceived omnicompetence hinders staff from presenting divergent views from that of the school leader (Hord, 2010).

In a professional learning community, teachers are empowered to assume leadership roles, collectively learn and problem solve with their peers in a professional learning community in an educational organization that fosters shared supportive leadership (Morrisey, 2000). Researchers found that when teachers share the role of leadership in the professional learning community, they increase their ownership of the educational organization through this shared leadership (Philpott & Oates, 2016).

Collective learning and its application.

Hord (2010) described professional development in professional learning communities as intentional collective learning. Collective learning became a focus in education after Peter Senge's *The Fifth Discipline* (1990), written initially for business environments, exhorted leaders to find opportunities for faculty to continually "learn how to learn together" (p. 3). This intentional learning in the community is based on inquiry: dialogue amongst teaching staff in which colleagues engage in reflection about teaching and learning which leads to targeting issues in students and their own classroom practices (Louis & Kruse, 1995). Inquiry in PLCs "move beyond discussion of revising the schedule or establishing new governance procedures to focus on areas that can contribute to significant school improvement—curriculum, instruction, assessment, and the school's culture" (Morrisey, 2000, p. 6).

Teachers who participate in professional learning communities must learn from and within the educational community (Sackney & Walker, 2006). Professional learning communities require teachers to interact with other teachers, and this collaboration creates the teachers' sense of belonging in the educational institution's community (Lee, Zhang, & Yin, 2011). In a professional learning community environment, knowledge is not an individual pursuit but instead transitions from the individual to the organization resulting in a positive effect on the collegiality of teachers (Ning, 2015). Furthering collegiality within the educational organization, the school leader is also a fellow learner attending professional development in the PLC structure (Carpenter, 2014).

Supportive conditions.

Hord (2010) identified two types of supportive conditions for successful professional learning communities: physical conditions and people capacities. Physical conditions range from

time for collaborative learning and inquiry, size of the school and its impact on the staff's physical proximity for collaboration, structure for effective communication, and opportunities for teacher leadership (Louis & Kruse, 1995). Supportive physical conditions include the availability of resources for sustained professional development and organizational structure for reduction of teacher isolation (Boyd, 1992). PLCs may find new ways to manage resources: "to find innovative ways to create the necessary time and resources to allocate to whole-staff learning, problem solving, and decision making" (Morrisey, 2000, p. 7).

People capacities, the second type of supportive conditions for PLCs, are more relational than physical conditions. People capacities that support professional learning communities are high levels of trust among faculty, openness to receive criticism and improve, supportive leadership from administration and others in teacher leader roles, and ongoing, targeted, and high-quality professional development (Hord, 2010). Morrisey (2000) adds that people capacities are "positive educator attitudes, widely shared vision or sense of purpose, norms of continuous critical inquiry and improvement, respect, trust, and positive, caring relationships" (p. 7).

Shared personal practice.

From the educational design dating back to the 19th century, teaching has traditionally been a highly individual and often isolated profession (Anrig, 2013). In order to join the collaborative management systems of the 21st century, schools must encourage their teachers to engage in critical personal reflection about their teaching practices and open their classrooms to their colleagues for examination (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010). Teachers who engaged in personal reflection and shared what they learned with their colleagues viewed themselves as architects of reshaping school culture and creating new teacher leadership opportunities (American Federation of Teachers, 2013). The National Council of Teachers of

English (NCTE, 2006) posited that shared personal practice in professional learning communities can combat teacher attrition and other exhausting effects of the profession:

> Effective professional development fosters collegial relationships, creating professional communities where teachers share knowledge and treat each other with respect. Within such communities, teacher inquiry and reflection can flourish, and research shows that teachers who engage in collaborative professional development feel confident and well prepared to meet the demands of teaching. (p. 10)

Teachers found their practice became more student-centered and interpersonal relationships improved with their teaching colleagues through engagement in professional learning communities (Vescio, Ross, & Adams, 2008). From these positive relationships between members of professional learning communities, teachers shared their pedagogical practice with their colleagues mitigating teacher isolation (Morrisey, 2000). Researchers in high-performing, high-poverty schools found collaborative teaching structures ensuring that teachers worked together instead of individually (Chenoweth, 2009). Through shared personal practice, teachers transformed personal knowledge "into a collectively built, widely shared, and cohesive professional knowledge base" (Fulton, Yoon, & Lee, 2005, p. 4).

Connecting PLCs and Mindfulness

Michael Fullan, an educational consultant and systems change expert, posited that turning educational systems into learning communities would allow the organization to holistically view educational change as a way of life rather than a series of reactions to policies (1993). Educational organizations, especially those who serve high-poverty students, must view themselves as open systems and as such, need high-quality professional development to become more interdependent (Kraft et al., 2015). Researchers in high-stress environments such as high-

poverty schools suggest that mindfulness could play a positive role in fostering interdependence, stress management skills, and group resilience (Ortiz & Sibinga, 2017).

Basis of Mindfulness

Meditation-based mindfulness.

Mindfulness, a foundational piece of Eastern spirituality for thousands of years, is a practice that cultivates mental flexibility and emotional regulation. In the 1970s, a young American named Jon Kabat-Zinn studied with Thich Nhat Hanh, a famous Vietnamese Buddhist monk, and through that experience brought mindfulness back to the Western world. Schooled in Western medicine and Eastern mindfulness techniques, Kabat-Zinn went on to create Mindfulness-Based Stress Reduction (MBSR), a program that he implemented in medical environments in order to give patients a drug-free way to work with stress, pain, and depression. As the "Father of Western Mindfulness", he defines the practice as "paying attention to your experience from moment to moment" (Kabat-Zinn, 2013, p. 58).

Like Kabat-Zinn's Mindfulness-Based Stress Reduction program, mindfulness is now a booming international business, spanning the globe in the form of books and periodicals, retreat programs, computer applications, and conferences for educators, medical and business professionals. Mainstream ideas of mindfulness traditionally stem from Eastern spirituality, focusing on the practice of meditation in order to pay attention to what is going on in the world without judgment (Sell, 2008). Meditation is the practice of focusing on one's breath or reciting a mantra silently or aloud, continuously bringing one's attention back to the focal point during the meditation (Mipham, 2003). Besides meditation, mindfulness techniques range from journaling, prayer, or calligraphy, to contemplative movement such as yoga, dance, or martial

arts. The purpose of mindfulness techniques is to practice breaking down the barriers between inner and outer experiences.

Mindfulness in Education

Langerian mindfulness.

Despite a long tradition of contemplative practice in Western religion, some U.S. citizens view meditation as a practice too infused with Eastern religion. This issue has been especially contentious in schools where administration has implemented mindfulness in the form of yoga or meditation for students with struggling with behavior issues. However, there is a lesser-known, secular form of mindfulness developed by a psychologist Ellen Langer (Langer, 2014). Langer's work with mindfulness began in the 1980s in regards to human psychology, but she quickly branched out into the field of education and how to measure non-meditation-based forms of mindfulness. Langerian mindfulness depends on discernment between being "mindful" and being "mindless."

In a 2016 case study, Davenport and Pagnini studied implementation and utilization of Langerian mindfulness strategies in order to see if they increased socioemotional learning and 21st century skills such as critical thinking, creativity, and communication in elementary school classrooms. Langerian mindfulness strategies are not meditation-based, and instead teach the practitioner to consider multiple solutions to fit multiple contexts.

Mindfulness is non-linear by design and fosters the capability to view situations from multiple perspectives which in turn raises additional questions and scenarios (Sherretz, 2011). Teachers are able to model these multiple perspectives by team-teaching and working in professional learning communities: collaborating to inquire various reasons for poor student behavior and achievement by consideration of multiple solutions (Davenport & Pagnini, 2016).

Benefits of mindfulness for children in education.

Researchers have been exploring mindfulness in education since the 1990s, with most early research concentrating on the use of meditation-based techniques with children from pre-Kindergarten age to high school. Research with meditation-based techniques focused on students who struggled with behavioral issues from trauma and abuse (Ortiz & Sibinga, 2017). Students who have low social skills benefit from Mindfulness-Based Interventions (MBIs) and initial research with MBIs in low social skills groups have shown an increase in prosocial behavior (Meiklejohn et al., 2012). A study from the University of Wisconsin indicated that students who participated in a Mindfulness-Based Intervention showed larger gains in teacher-reported prosocial behavior compared with the control group (Flook, Goldberg, Pinger, & Davidson, 2015).

Using mindfulness with children teaches them to approach ideas from a divergent and context-based method, which could increase 21st century skills such as creativity, collaboration, communication, problem-solving and critical thinking (Davenport & Pagnini, 2016; Voogt & Roblin, 2012). Mindfulness encourages socioemotional learning such as self- and social awareness, relationship management skills, and responsible decision-making in elementary-aged classrooms children by teaching the students to self-regulate their attention and change their perceptions of curiosity, openness, and acceptance (Klingbeil et al., 2017). Mindfulness education minimizes the impact of bullying, helps students with learning disabilities, benefits students who experience high emotion and stress, and increases levels of empathy as well as feeling of community (Broderick & Jennings, 2012; Grant, 2014; Napoli & Bonifas, 2011; Thomas, 2013).

Benefits of mindfulness for teachers.

Mindfulness-Based Interventions benefit students by building empathy for others and have also proven results for teachers who practice mindfulness techniques (Whitesman & Mash, 2016). Primary school teachers who used Mindfulness-Based Stress Reduction (MBSR) techniques in their classrooms saw a decrease in their own stress levels, as well as an enhanced ability to practice non-reactivity to stressful situations (Gold et al., 2010). As a reflective practice, mindfulness requires educators to be aware of not only their actions towards their students, but also their actions towards themselves such as balancing their work and inner life (Griggs & Tidwell, 2015).

In a qualitative study from Australia, Burrows (2015) found that one of the habits of mind which cultivates positive relationships among teachers is the dissolution of dual ("us" versus "them") modalities of thought, further suggesting the need for mindfulness in professional development. A study of the Cultivating Awareness and Resilience in Education (CARE) program from the Garrison Institute revealed that mindfulness training for teachers improved their sense of well-being, teaching self-efficacy, classroom management and supportive relationships with students (Meiklejohn et al., 2012). Further studies of the CARE teacher training, one with experienced teachers and the second with mentors and student teachers, suggest a positive link to increased mindfulness levels and well-being in both teacher groups (Jennings et al. 2011). Roeser, Skinner, Beers, and Jennings (2012) proposed that teachers who practice mindfulness develop habits of mind that allow them to engage with relationship management skills in crisis situations.

Benefits of mindfulness in educational leadership.

In a mixed-method study, researchers found that when an educational institution has mindful leadership, faculty trust positively increases (Kearney, Kelsey, & Herrington, 2013). The principals who had been identified as mindful leaders were interviewed as to how they were able to maintain this mindfulness. Kearney, Kelsey, and Herrington (2013) identified four factors in mindful leaders: reflection, building relationships, perpetual renewal, and mindful allocation of time. Findings by Hoy, Gage, and Tarter (2006) further supported the importance of mindfulness in educational leadership and trust as a school condition that fosters habits of mind as well as relationship building in professional development.

Collective Mindfulness

The vast majority of mindfulness research has focused on the benefit to the individual child or adult who practice mindfulness, but mindfulness can exist in a group under certain conditions. Sell (2008) explored mindfulness in a group therapy setting with the following benefits: that cultivating mindfulness in a large group setting provides a rich landscape in which to practice paying attention to what is happening in the present moment due to the number of participants, as well as being able to see oneself in that rich landscape and how to positively contribute to the community.

Theoretical Framework of Collective Mindfulness

Weick, Obstfeld, and Sutcliffe began to study Mindful Organizations in 1999 during their work with High-Reliability Organizations (HROs). High-Reliability Organizations operate in high hazard environments such as nuclear power plants and air traffic controllers. These organizations must be able to recognize unforeseen circumstances and be able to adapt to those dangers in order to maintain reliability. Weick et al. identified the five factors that produce

organizational mindfulness: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and under-specifications of structures.

Preoccupation with failure.

Despite possible negative connotations with the word "failure," mindful organizations seek to return to Kabat-Zinn's (2013) definition of paying attention to experiences from moment to moment. High-reliability organizations bring attention to three indicators of failure. First, they look for small failures that may be signposts for additional and possible larger failures elsewhere in the organization. Second, mindful organizations strive to predict and practice discernment regarding mistakes that might happen in the future. Third, these learning communities acknowledge that their perception of the organization is incomplete since it is viewed through a limited lens (Weick & Sutcliffe, 2015).

Research suggests that part of an organization's preoccupation with failure demands evaluating processes that are already in place to prevent mistakes as a way to establish a failure baseline (Hales & Chakravorty, 2016). Preoccupation with failure requires the organization to have a "redundancy of assignments, because two or more individuals are more likely to notice difficulties than one" (Bellamy et al., 2005, p. 392). Research in healthcare and other high-reliability organization indicates that teams are an essential part of HROs due to the ability to assess one another's performance, give immediate feedback, and coordinate activities based on shared goals (Baker, Day, & Salas, 2006).

Reluctance to simplify interpretations.

Since perceptions of one's own or a group's experience is limited by nature, mindfulness training allows the practitioner to step back from the situation and examine further interpretations. High-reliability organizations believe that "simplification obscures unwanted,

unanticipated, unexplainable details and in doing so, increases the likelihood of unreliable performance" (Weick & Sutcliffe, 2015, p. 64). This obscuration via simplification harkens back to Langerian mindfulness: that imagining certain outcomes of scenarios lulls the practitioner into mindless behavior instead of moment-to-moment awareness. Moment-to-moment awareness depends on organizations establishing thoughtful, data-driven processes as well as considering each problem's unique context as the problem arises (Hales & Chakravorty, 2016).

Members of high-reliability organizations practice categorization of issues so that they see problems as a result of several solvable elements instead of one unwieldy obstacle. In order to categorize, the organization must establish a hierarchy of inquiry to explore existing elements when "intent, vigilance, and hard work" (Resar, 2006, p. 1681) are not producing effective results before they move on to consider more "sophisticated concepts of design, failure detection, and failure mitigation" (Resar, 2006, p. 1681). Based on the hierarchy of inquiry, members of teams in high-reliability organizations need the flexibility to quickly adapt to the solvable element at hand, or other team members integrated into or exited out depending on the situation (Baker, Day, & Salas, 2006).

Sensitivity to operations.

Due to the possibility of mindless failures, mindful organizations depend on being sensitive to the elements of the institution's operations. In the context of a high-reliability organization, sensitivity is defined not as tender feelings, but a combination of awareness, alertness, and action. Practitioners of this type of sensitivity are grounded in the present moment and are able to perceive what is happening despite plans or intentions for the future (Weick & Sutcliffe, 2015).

Those involved in high-reliability organizations are especially sensitive to the three causes of further failure: ignorance, casualness, and distraction. Similar to the benefits found with mindfulness studies in education (Burrows, 2015), sensitivity to operations allows members of the high-reliability organization to dissolve dual, or "us" versus "them", ways of thinking. Members of HROs do not employ "not my job" modalities of thought, leading to ignorance of what is happening in the greater picture of the organization, but rather treat their individual role as a formal, not casual, contribution to the important work at hand. This interdependence within the organization allows members to be aware of distractions not only for themselves, but also for their colleagues.

Commitment to resilience.

Due to its potential benefits for students and teachers, resilience has been an important concept in educational research for the last 30 years. In the context of high-reliability organizations, the term resilience can be viewed through its etymological basis of "jumping back": HROs are not free from mistakes, but mistakes do not dismantle the institution (Eck, 2011b). Resilience is an understanding that what the organization learns from the past as both relevant and irrelevant: during a crisis, information about and descriptions of the ever-changing risk level are continuously gathered and updated (Aven & Krohn, 2014). Resilience during or after errors is different from anticipation of those errors: resilience is a "combination of keeping errors small, of improvising workarounds that keep the system functioning, and of absorbing change while persisting" (Weick & Sutcliffe, 2015, p. 97). In order to manifest this definition of resilience, high-reliability organizations strive to consistently embed general and specific professional development for their interconnected team members.

High-reliability organizations further cultivate resilience in their members by managing "uncertainty and risk not only proactively and reactively, but more importantly interactively (in real time)" (Khorsandi, 2014, p. 871). HRO member responses allows the organization to see the interactive nature of their work and strengthen their ability to "meet unforeseen events and surprises" (Aven & Krohn, 2014, p. 3). Organizations also learn from continuity, as opposed to unexpected events: maintaining, observing, and evaluating consistent high-achieving processes is not "mindlessness", but learning from what is already successful (Hernes & Irgens, 2012).

Under-specifications of structures.

Every member of the team in a high-reliability organization is responsible for the awareness needed to work with the issues of the present moment. As a result, leadership in HROs must be mindful of the expertise of each member, as well as be able to defer to said expertise in moments of both minute and larger errors. When managing the unexpected, high-reliability organizations strive to involve the most highly qualified team member, despite their hierarchy, in making sense of what is happening as well as making decisions regarding possible solutions (Weick & Sutcliffe, 2015). Aven and Krohn (2014) defined under-specifications of structures in high-reliability organizations as "awareness and sensitivity for discerning the details important for obtaining a high level of performance and avoiding catastrophes" (p. 4). This discernment must continually and quickly happen due to the dynamic and regularly evolving five factors of high-reliability organizations.

Collective Mindfulness in Education

In their study regarding mindfulness and school trust, researchers applied Weick's (1999) five factors of Mindful Organizations to the educational world (Hoy, Gage, & Tarter, 2006). Since schools are also institutions that should be able to identify dangers and adapt to unforeseen

circumstances as early as possible, these researchers found that the theory of Mindful Organizations applies to educational institutions and renamed it Collective Mindfulness. The five habits of mind that Weick (1999) identified from Mindful Organizations must be a part of professional development in order to strengthen institutional resiliency (Hoy, Gage, & Tarter, 2006).

Hoy, Gage, and Tarter (2006) modeled the renamed theory of Collective Mindfulness on Weick's (1999) Mindful Organizations' characteristics, but revised the language to be inclusive for the educational environment: focus on mistakes, reluctance to simplify, sensitivity to teaching and learning, commitment to resilience, and deference to expertise in problem solving. Missing from the current research is the bridge between these five factors of Collective Mindfulness and how to incorporate these factors into the professional development of high-uncertainty educational environments.

As "there is no acceptable level of loss for a high-reliability organization", high-reliability schools must consider any student not making educational gains as a failure (Eck, 2011a). "Failure" exists at different baselines: schools at 45% proficiency have a different baseline than one at 85%, but they are still both experiencing failure (Resar, 2006). Schools need structures and skilled staff in place to analyze existing data which point out failure that "often go unnoticed, building at the edges until failures are inevitable" (Bellamy et al., 2005, p. 393).

One of the most solvable elements that educational organizations face is ensuring high instructional quality and decreasing inconsistent instruction (Eck, 2011a). When teachers and administrators operate "mindlessly", the default way of thinking is to find patterns in the organization, lulling them into incorrectly categorizing what they observe into what they "think

they know". In fact, what research points to as best practice in teaching and learning in education is often not executed with high fidelity, leading to mindless failure (Eck, 2011b).

Collective mindfulness in professional learning communities.

Eck (2011b) posits that "sensitivity to operations may be the guiding principle to drive the effective implementation of professional learning communities" (p. 38). Professional learning communities who utilize the HRO concept of sensitivity to operations would be able to identify and empower educational stakeholders who are "closest to the event with the ability and responsibility to push the button or throw the switch" (Eck, 2011b, p. 38), allowing a significant decrease in response time which may otherwise lag when waiting for a response from higher up the organizational chain-of-command. High-reliability organizations require defined sets of goals, one of Hord's (1997) aspects of effective professional learning communities, communicated at and collaborated on all levels of the institutional community (Stringfield, Reynolds, & Schaeffer, 2011).

In an exploration of the interplay between the community and the need for individual expression, results show that schools should plan for tension that arises from professional learning communities as collective social inquiry and therefore need structures in place in which this conflict may safely play out (Dooner, Mandzuk, & Clifton, 2008). In a professional learning community, group norms allow teachers to meet together in a safe space and share knowledge. An established authority on professional learning community structure and benefits, Hord (2009) encouraged teachers to have group norms, or appropriate conversation modes, to facilitate conversation in professional learning communities. These group norms may also encourage the five components of Collective Mindfulness, since teachers need to feel as if they can point out where uncertain events may arise, leading to the institution sooner dealing with the problem.

Chapter 3: Methodology

Introduction

This study focused on high-poverty schools in Minnesota and explored collective mindfulness, student achievement, and faculty perceptions of professional learning communities. Research demonstrates a significant link between mindful leadership and organizational trust (Kearney, Kelsey, & Herrington, 2013) and documents the positive impact professional learning communities have on student achievement (Capraro et al., 2016; Roeser, Skinner, Beers, & Jennings, 2012), but limited research exists exploring the interconnectedness between professional learning communities, collective mindfulness, and student achievement.

Research Method and Design

This study utilized a quantitative cross-sectional survey design in order to analyze collective mindfulness, student achievement, and professional learning communities in high-poverty schools in Minnesota. The population included teachers from K-12 high-poverty schools across Minnesota. These teachers completed an online survey that measured collective mindfulness and faculty perceptions of specific components in their professional learning communities.

When a researcher needs to conduct data collection on a wide scale, quantitative research is the preferred method (Patten, 2014). This study's quantitative research design utilized a large sampling of test subjects in order to make predictions regarding a general group of people (Roberts, 2010). The quantitative researcher creates distance from the test subjects using standards of validity and reliability, so results are considered more unbiased and objective, which allows the researcher to generalize findings to a larger population (Creswell, 2014; Pyrczak, 2014).

Theoretical Framework

Weick and Sutcliffe's (1999) work with High-Reliability Organizations (HROs) laid the foundation for Hoy, Gage, and Tarter's (2006) theory of collective mindfulness, which examined five aspects of an educational institution: focus on mistakes, reluctance to simplify, sensitivity to teaching and learning, commitment to resilience, and deference to expertise in problem solving (Hoy et al., 2006). Hord's (1997) work in professional learning communities identified five components of successful PLCs: shared values and vision, shared supportive leadership, collective learning and its application, supportive conditions, and shared personal practice.

For this study, the five aspects of collective mindfulness and Hord's (1997) five components of successful professional learning communities serve as a ground for exploring student achievement in high-poverty schools which are historically educational environments with high uncertainty. The following theoretical model illustrates that student achievement in high-poverty schools, considered high-reliability organizations due to their levels of high uncertainty, would be bolstered by the presence of the five aspects of collective mindfulness and Hord's (1997) five components of successful professional learning communities.

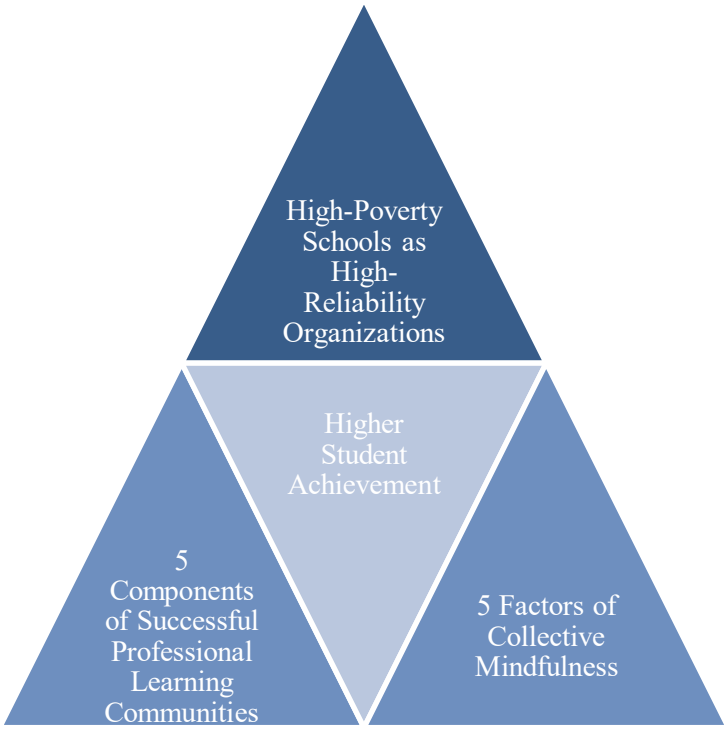

Figure 2: Theoretical Model for Research Questions

Research Questions and Hypotheses

The purpose of this study was to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools.

RQ1: What statistical difference, if any, exists in the faculty perceptions of professional learning communities in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

- $H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

- $H1_a$: There is a statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high-poverty schools.

RQ2: What statistical difference, if any, exists between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

- $H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.
- $H2_a$: There is a statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.

RQ3: What statistical relationship, if any, exists in the faculty perceptions of professional learning communities and level of collective mindfulness in high-poverty schools?

- $H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.
- $H3_a$: There is a statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

Variables

The independent variables are the faculty perceptions of professional learning communities (PLCs) in their schools as measured by the School Professional Staff as Learning Community Questionnaire (SPSLCQ) score and the level of collective mindfulness as measured by the School Mindfulness Scale (M-Scale) score. The dependent variable in this study was

student achievement proficiency as measured by the Minnesota Comprehensive Assessment scores in Reading and/or Math.

Instrumentation and Measures

This study used three data sets in order to examine what interconnectedness, if any, exists between student achievement, faculty perceptions of professional learning communities, and collective mindfulness. Two primary data sets were collected from faculty in high-poverty schools using two measures: Hoy's (2004) M-Scale which measures collective mindfulness in each school and the School Professional Staff as Learning Community Questionnaire (SPSLCQ), which measures faculty perceptions of the professional learning communities in their schools. Minnesota Comprehensive Assessment (MCA) from 2017 was used as secondary data to determine student achievement levels.

School mindfulness measurement (M-scale).

In order to measure the collective mindfulness of each high-poverty school, the School Mindfulness Scale (M-Scale) was utilized. The M-Scale is a 14-item survey formatted in the Likert-type scale. Faculty members were asked to respond to each item that describes school behavior based on Weick's (1999) theory of collective mindfulness along a six-point scale from strongly disagree (1) to strongly agree (6). The 14 items are based on the definition of collective mindfulness determined by five properties (Hoy, Gage, & Tarter, 2006):

- Focus on mistakes
- Reluctance to simplify
- Sensitivity to teaching and learning
- Commitment to resilience
- Deference to expertise in problem-solving

The reliability of the M-Scale has tested consistently .90 or higher. Hoy, Gage, and Tarter (2004) supported the construct validity in three factor analyses.

The M-Scale's scoring key is as follows:

Step 1: Score items 2, 3, 6, 9, 10, 12, 13 as: Strongly Disagree =1 to Strongly Agree =6

Step 2: Reverse score items 1, 4, 5, 7, 8, 11, 14; score as: Strongly Disagree =6 to Strongly Agree =1

Step 3: Compute an average school item score (ASIS) for each item: For each item, add scores for all individuals on the item and divide by number of individuals.

Step 4: Compute the school score: Add all 14 average school item scores (ASIS) and divide by 14 (number of items).

Step 5: The higher the score, the greater the school mindfulness.

For this study, Hoy allowed the researcher to compute the school scores as two entities: all selected high-achieving, high-poverty schools and all selected low-achieving or average-achieving, high-poverty schools. The full questionnaire as well as written permission from the author was obtained (see Appendix A).

School professional staff as learning community questionnaire (SPSLCQ).

In order to measure the faculty perceptions of professional learning communities of each high-poverty school, the School Professional Staff as Learning Community Questionnaire (SPSLCQ) was utilized. Created by Shirley Hord (1997), the instrument is based on the following PLC components:

- School administrators participate democratically with teachers sharing power, authority, and decision making.

- The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.
- The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.
- Peers review and give feedback based on observing one another's classrooms in order to increase individual and organizational capacity.
- School conditions and capacities support the staff's arrangement as a professional learning organization.

After conducting a field test with 690 teachers in 21 schools throughout Kentucky, Tennessee, Virginia, and West Virginia, researchers found the correlation between the SPSLCQ and the "School Climate Questionnaire", a similar climate instrument, was 0.7489 ($p < .001$), determining fairly high reliability for the SPSLCQ. Correlation test results can vary from 0.00 to 1.00, with 1.00 indicating perfect reliability (Patten, 2014). In the same field test, researchers measured the internal consistency of the SPSLCQ through the use of Cronbach's alpha, which was 0.94 (Hord et al., 1999). The SPSLCQ is scored as a sum ranging from 17 to 85 points: the higher the total score, the more positively the school is viewed as a professional learning community. The full questionnaire as well as written permission from the copyright holder was obtained (see Appendix B).

Minnesota comprehensive assessments.

The MCA (Minnesota Comprehensive Assessment) is the state accountability test administered yearly to public school students from grades three through eleven. The Minnesota Department of Education utilized a panel comprised of teachers and members of the Minnesota Academic Standards Committee in order to evaluate the test items based on content and state

standards alignment (Minnesota Department of Education, 2017). The Human Resources Research Organization, an agency not affiliated with the Minnesota Department of Education, determined there is reasonable evidence for content validity for both the Math and Reading test items on the Minnesota Comprehensive Assessment (Deatz, Smith, Thacker, Dickinson, Levinson, & Nemeth, 2013; Nemeth, Thacker, Deatz, Buckland, Fry, Hardoin, & Wiley, 2011).

The U.S. Department of Education defines high-poverty schools as those where 75% or greater of the students are eligible for free or reduced-price lunch, a federally-funded program used to gauge the poverty level in a region or district (2018). Each year, the Star Tribune, a Minneapolis-based newspaper, identifies high-poverty schools that are "Beating the Odds" using a statistical analysis of math and reading results from the Minnesota Comprehensive Assessments (MCAs). The analysis calculates an expected proficiency rate for each school based on poverty level. Those schools with an actual proficiency score at least 10% higher than the expected score are considered Beat the Odds schools. In this study, Beat the Odds are referred to as high-achieving schools, and those that performed As Expected or Below Expected are referred to as low-achieving or average-achieving.

Field test.

A field test occurred through sharing the full Qualtrics survey with three experts in school leadership research. The purpose of field testing is to improve the questions, format, and scales and establish the content validity of the survey: the expert judgment of the instrument's scale for the stated purpose (Creswell, 2014; Orcher, 2014). The field test for this study determined that instructions were clear, gathered feedback from the research experts regarding the Qualtrics survey, and measured the participants' level of burden. The researcher did not analyze any data from the field test but utilized the expert feedback to improve the Qualtrics survey.

Sampling Design

The survey was disseminated to teachers in 150 high-poverty schools in Minnesota: the 75 schools identified as high-achieving, and 75 schools identified as low-achieving or average-achieving. The set of 75 schools identified as low-achieving or average-achieving was randomly selected from all high-poverty schools in Minnesota after the high-achieving schools were taken out of the sample.

Data Collection Procedures

Survey data.

A data collection survey was developed using Qualtrics software. Upon approval from Bethel University's Institutional Review Board (IRB), a request for principal permission (Appendix C) with an informed consent letter (Appendix D) and a link to the Qualtrics survey (Appendix E) was emailed to each principal. The email explained the purpose of the study, why principals and teachers were selected for the study, and a brief discussion of participant rights. Principals forwarded the same Qualtrics survey link to each teacher in the school building or instructed the researcher to forward the survey link to the teacher email list from the district directory. A reminder email with a link to the survey was sent one week following the initial email to all principals, reminding them to forward the email to his/her teacher email distribution list if they had not done so (Appendix F).

The 33-question Qualtrics online survey comprised of the M-Scale and the SPSLCQ was distributed to two sets of teachers in Minnesota. In order that the two instruments were not combined, the Qualtrics survey had separate descriptions at the commencement of each instrument's survey items. The first set of teachers was from the 75 schools identified by the Star Tribune as Beat the Odds, or high-achieving schools on MCAs in Reading, Math, or both in

2017. The second set of teachers was from 75 high-poverty schools in Minnesota that performed As Expected or Below Expected, identified as low-achieving or average-achieving, on MCAs in Reading, Math, or both in 2017. Surveys with identical questions were coded as A and B; survey A distributed to high-achieving schools and survey B distributed to average-achieving and low-achieving schools.

Data Analysis

Quantitative data from the Qualtrics survey were analyzed using the Statistical Package for the Social Sciences (SPSS). Once data were collected, descriptive statistics were run to examine response rates and distribution characteristics. Further support from a quantitative analysis consultant was also used in order to successfully analyze the data.

Data analysis for research questions.

Frequency distributions were run to gather descriptive statistics (for example, mean standard deviation, range, N) on measures of interest. A *t*-test was utilized for data analysis from the following two null hypotheses:

- $H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.
- $H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

A Pearson *r* test was utilized for data analysis from the following null hypothesis:

- $H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

Limitations and Delimitations

Every study contains limitations beyond the control of the researcher (Roberts, 2010). The first limitation of this quantitative research study is potentially low response rates (Creswell, 2014; Patten, 2014). Due to this possibility, the researcher contacted all schools with a follow-up e-mail communication found in Appendix F.

A second limitation is collecting self-reports from principals and teachers in high-poverty schools. Both measures, the M-Scale and the SPSLCQ, ask staff to self-report their perceptions regarding collective mindfulness and their professional learning communities. Muijs (2011) stated that self-report surveys may be less reliable because subjects might report what they wish to be true, rather than their reality. As survey responses will be voluntary and anonymous, a lack of honesty in responses poses little concern in this study.

A third limitation concerns the interpretation and generalizability of the findings (Muijs, 2011); those who respond to surveys generally tend to be those who are interested in the topic of study or research in general (Creswell, 2014; Orcher, 2014). Likewise, they may choose not to participate due to low student achievement or mediocre staff morale, thus potentially skewing the results. Even with the obstacle of this sampling type, this study begins to offer insight into the research questions.

A fourth limitation is that the study only elicited feedback regarding perceptions of collective mindfulness and professional learning communities in high-poverty schools from teachers and principals. A comprehensive view of the school community includes perspectives of many stakeholders such as students, families, and members of the educational environment; however, for the purpose of investigating the relationship with the stated variables, perceptions were limited to those of teachers and principals.

A fifth limitation is that survey use for the study did not allow the researcher to control the environment or develop a deeper understanding of the relationships between the teachers and teachers, and teachers and the principal (Muijs, 2011). The time investment to complete the survey was approximately 10-15 minutes, a time frame that limited gathering in-depth information compared to an extended face-to-face interview or observation.

A sixth limitation is that the findings were specific to this sample and were limited in generalizability. Only school districts in Minnesota were assessed, so this study does not reflect schools nationwide. The study did not consider nonpublic schools, whose faculty perceptions may be different than their public or charter school colleagues. This study only included a purposive research sample of 150 high-poverty schools in Minnesota. Therefore, the breadth of the study is limited to only high-poverty schools, and the collective mindfulness and professional learning community data from mid- to low-poverty schools are not represented in this study.

Ethical Considerations

The purpose of research is to advance the knowledge in the interest area, not set back research due to unethical methods (Pyrczak, 2014). As such, researchers must include careful planning for ethical methods (Jackson & Taylor, 2007; Orcher, 2014; Roberts, 2010). Important aspects of research ethics are voluntary participation, human rights, collection, analysis, interpretation of data, respect for research site, and writing and disseminating the research (Bogdan & Biklen, 2007; Roberts, 2010).

The three principles within the Belmont Report, respect for people, justice, and decision-making (U.S. Department of Health & Human Services [HHS], 1979), and all guidelines given in the Collaborative Institutional Training Initiative (CITI) training guided the planning and conducting of this study. After the proposal was approved by the dissertation advisor and

readers, the researcher applied for Institutional Review Board (IRB) approval from the Bethel University IRB Committee. Compliance with the IRB regulations requires the application of ethical research methods: an equitable selection of subjects, minimization of harm to subjects, informed and voluntary consent, anonymity and confidentiality.

Justice was upheld in this study as it sought to maximize the common good for all so that all educational organizations would benefit. The selection of the sample was based on their relationship to the research question: no bias was present in the selection of individuals nor were any subjects be coerced into participating in this study. The first question in the online survey was the consent form found in Appendix D informing the survey participants of the study's purpose, the voluntary nature and risks of the study, their right to privacy, and how the data collected about them will be kept confidential (Patten, 2014). Participants were not be able to participate in the study without consent (Appendix D). The online survey did not trace IP addresses and survey data were kept confidential and only be used for this study. The study's language, as well as the reporting of the study, sought to be unbiased. There was fairness of distribution of survey results (HHS, 1979) as it would not benefit one group nor deny another group of privilege.

Chapter 4: Results

Introduction

The purpose of this study was to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. Participants in the study were teachers in Minnesota high-poverty schools from the elementary to high school level who filled out an online survey sent via email. This chapter describes demographic information about the sample, results of the online survey, and survey data analysis. The research questions and hypotheses are reviewed in depth and a summary of the findings is presented.

Review of Variables

Limited research exists exploring the interconnectedness between professional learning communities, collective mindfulness, and student achievement; therefore, this study serves to expand the knowledge of possible differences and relationships. The independent variables were the faculty perceptions of professional learning communities (PLCs) in their schools as measured by the School Professional Staff as Learning Community Questionnaire (SPSLCQ) score and the level of collective mindfulness as measured by the School Mindfulness Scale (M-Scale) score. The dependent variable was student achievement proficiency as measured by the Minnesota Comprehensive Assessment scores in Reading and/or Math in 2017.

Sample

The survey was disseminated to teachers in 150 high-poverty schools in Minnesota: 75 schools identified as high-achieving, and 75 schools identified as low-achieving or average-achieving from 2017 MCA scores in Reading and Math. The set of 75 schools identified as low-

achieving or average-achieving was randomly selected from all high-poverty schools in Minnesota after the high-achieving schools were removed from the sample.

From the surveys sent to teacher email lists in the 150 schools, 134 teachers participated in the study. Out of those 134 surveys, 21 surveys were not included in the analyses due to five surveys left blank, three participants responded "no" to the consent form, and 13 participants only answered question one, "My principal often jumps to conclusions", and subsequently did not continue the survey. The analysis sample was N=113.

Of the 113 useable surveys, 90 participants provided demographic information (see Table 2). Nearly 47.0% (46.7%) of participants were from the Minnesota Metro Area, 50.0% were from the Greater Minnesota Area, and 3.3% were located elsewhere. For school level, 77.8% of teachers worked at the elementary school level, with 4.4 % and 11.1% at the Middle and High School level, respectively. Demographic items were the last two questions on the survey, which 23 participants (20.4%) of the sample left blank.

Table 2: *Survey Demographics*

School Location	N	%
Minnesota Metro Area	42	46.7
Greater Minnesota Area (non-Metro)	45	50.0
Other	3	3.3
Total	90	100.0
School Level	**N**	**%**
Elementary	70	77.8
Middle School	4	4.4
High School	10	11.1
Other	6	6.7
Total	90	100.0

Research Questions

RQ1: What statistical difference, if any, exists in the faculty perceptions of professional learning communities in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

RQ2: What statistical difference, if any, exists between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

RQ3: What statistical relationship, if any, exists in the faculty perceptions of professional learning communities and level of collective mindfulness in high-poverty schools?

Review of Analyses

A *t*-test yields a comparison of two groups in terms of outcomes (Roberts, 2010). In order to compare groups in $H1_o$ and $H2_o$, a *t*-test was utilized for data analysis from the following two null hypotheses:

- $H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.
- $H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

A Pearson *r* correlation test informs the researcher regarding the direction and magnitude of relationship between two variables measured on a ratio scale (Roberts, 2010). A Pearson *r* correlation test was utilized to analyze data between the two variables from the following null hypothesis:

- $H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

Hypotheses with Findings

Frequency distributions were run to provide descriptive statistics (mean, standard deviation, range, N) on measures of interest. Of the 113 useable surveys, 90 participants answered the 17 questions of the SPSLCQ-Staff Professional as Learning Community instrument. 23 participants (20.4%) left the SPSLCQ questions blank.

As seen in Table 3, the mean M-Scale score for all participants (N=113) was 4.4 on a possible scale of 1 to 6 with a Standard Deviation of 0.8. M-Scale scores ranged from 2.3-6.0. The higher the M-Scale score, the higher perceived collective mindfulness. The mean SPSLCQ score for all participants (N=90) was 38.9 on a possible scale of 17-85 with a Standard Deviation of 9.5. SPSLCQ scores ranged from 17.0-70.0. The highest score (70.0) was 15 points less than the highest possible SQSLCQ score of 85. The higher the SPSLCQ score was, the higher the faculty's perception of the school's professional learning community.

Table 3: *Descriptions of Measures*

Measure	N	Mean	Standard Deviation	Range
M-Scale Collective Mindfulness Score	113	4.4	0.8	2.3-6.0
SPSLCQ Staff Professional as Learning Community Score	90	38.9	9.5	17.0-70.0

Research Question One

$H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.

$H1_a$: There is a statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high-poverty schools.

Table 4 shows the statistical findings for $H1_o$ and $H1_a$, comparing the faculty perceptions of professional learning communities between the two groups: high-achieving, high poverty schools and low-achieving or average-achieving, high-poverty schools (N=90). Twenty-six participants were from low-achieving or average-achieving, high-poverty schools and 64 participants were from high-achieving, high-poverty schools. Teachers from low-achieving or average-achieving, high-poverty schools had a higher SPSLCQ score, (M=43.0), compared to those from high-achieving, high-poverty schools (M=37.2). This difference was significant, t (88) = 2.7, p = 0.008. The p-value is statistically significant and as such, the null hypothesis $H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools is rejected.

Table 4: *Independent Samples Test for SPSLCQ- Staff Professional as Learning Community Measure (N=90)*

						95% CI	
Poverty Level of School	N	Mean	Standard Deviation	*t*-value	*p*-value	Lower	Upper
Low- or Average-Achieving	26	43.0	9.6	2.7	0.008	1.5	10.0
High-Achieving	64	37.2	9.0				

Research Question Two

$H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.

$H2_a$: There is a statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.

Table 5 shows the statistical findings for $H2_o$ and $H2_a$, comparing the faculty perceptions of collective mindfulness between the two groups: high-achieving, high poverty schools and low-achieving or average-achieving, high-poverty schools (N=113). Thirty-five participants were from low-achieving or average-achieving, high-poverty schools and 78 participants were from high-achieving, high-poverty schools. Teachers from low-achieving or average-achieving, high-poverty schools had a lower M-Scale score, (M=4.0), compared to those from high-achieving, high-poverty schools (M=4.6). This difference was significant, t (111) = -3.9, p <0.001. The p-value is statistically significant; therefore, the null hypothesis $H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools is rejected.

Table 5: *Independent Samples Test for M-Scale-Collective Mindfulness Measure*

Poverty Level of School	N	Mean	Standard Deviation	*t*-value	*p*-value	Lower	Upper
Low- or Average-Achieving	35	4.0	9.6	-3.9	<0.001	-0.9	-0.3
High-Achieving	78	4.6	9.0				

Research Question Three

$H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

$H3_a$: There is a statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

Table 6 presents the results of the Pearson r correlation test used to analyze data between the two independent variables: the M-Scale score (faculty perceptions of collective mindfulness) and the SPSLCQ score (faculty perceptions of professional learning communities). There was a significant negative relationship between the two variables (r=-0.7, p < .001). This indicates that as the SPSLCQ scores increase the M-Scale scores decrease and vice versa. The relationship was statistically significant (p = <0.001); thus, the null hypothesis $H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools is rejected.

Table 6: *Pearson r correlation for M-Scale and SPSLCQ (N=90)*

	SPSLCQ Staff Professional as Learning Community Score	
Measure	*r*	*p*-value
M-Scale Collective Mindfulness Score	-0.7	<0.001

Conclusion of Results

The results of RQ1 suggest that there is a significant statistical difference in faculty perceptions of professional learning communities between high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools. Teachers from low-achieving or average-achieving, high-poverty schools had higher perceptions of PLCs compared to those from high-achieving, high-poverty schools. Results of RQ2 indicate that there is a significant statistical difference in collective mindfulness between high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools. Teachers from high-achieving, high-poverty schools had a higher collective mindfulness score than low-achieving or average-achieving, high-poverty schools. The results of RQ3 suggest that there is a statistically

significant negative relationship the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools: as PLC scores increased, mindfulness scores decreased and vice versa. A more detailed summary and interpretation of the findings are outlined in Chapter 5.

Chapter 5: Discussion, Implications, Recommendations

The final chapter of this dissertation provides an overview of the study, a review of the research questions, and subsequent findings of the statistical analysis of data. Conclusions and implications for practice are explored. Finally, recommendations for further research and concluding comments are presented.

Overview of the Study

The purpose of this study was to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. Participants in the study were teachers in Minnesota high-poverty schools from the elementary to high school level who filled out an online survey sent via email. This survey collected two primary data sets from faculty in high-poverty schools using two measures: Hoy's M-Scale which measured collective mindfulness in each school and the School Professional Staff as Learning Community Questionnaire (SPSLCQ), which measured faculty perceptions of the professional learning communities in their schools. The Minnesota Comprehensive Assessment (MCA) from 2017 was used as secondary data to determine student achievement levels in order to distinguish low-achieving or average-achieving, high-poverty schools from high-achieving, high-poverty schools.

Comparisons of M-Scale and SPSLCQ levels were made through the use of two *t*-tests between low-achieving or average-achieving, high-poverty schools and high-achieving, high-poverty schools. Relationship between M-Scale and SPSLCQ levels in high-poverty schools was determined through the use of the Pearson *r* correlation test.

Research Questions

Three central questions were addressed within this study:

RQ1: What statistical difference, if any, exists in the faculty perceptions of professional learning communities in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

RQ2: What statistical difference, if any, exists between the level of collective mindfulness in high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools?

RQ3: What statistical relationship, if any, exists in the faculty perceptions of professional learning communities and level of collective mindfulness in high-poverty schools?

Summary of Findings

Table 7 reviews the finding for each null hypothesis in the study.

Table 7: *Hypotheses and Findings*

Hypothesis	*p*-value	Decision
$H1_o$: There is no statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high poverty schools.	0.008	Reject
$H2_o$: There is no statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.	<0.001	Reject
$H3_o$: There is no statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.	<0.001	Reject

There was a significant statistical difference (p=0.008) in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or

average-achieving, high poverty schools, thus rejecting $H1_o$. Teachers from low-achieving or average-achieving high-poverty schools had a higher SPSLCQ score (43.0 average) compared to those from high-achieving, high-poverty schools (37.2 average), a result which was contrary to expected due to existing research suggesting that professional learning communities foster higher student achievement.

There was also a significant statistical difference (p=<0.001) in the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools, rejecting $H2_o$. Teachers from high-achieving, high-poverty schools had a higher M-Scale score (4.6 average) compared to those from low-achieving or average-achieving high-poverty schools (4.0 average), a result which was expected from research indicating that high-achieving, high-poverty schools would have an increased level of collective mindfulness. These results support the alternate hypotheses for both RQ1 and RQ2:

- $H1_a$: There is a statistical difference in the faculty perceptions of professional learning communities of high-achieving, high poverty schools and low-achieving or average-achieving, high-poverty schools.
- $H2_a$: There is a statistical difference between the level of collective mindfulness in high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools.

Finally, there was a significant statistical relationship (p<0.001) in the faculty perceptions of professional learning communities and the level of collective mindfulness in high poverty schools, thus rejecting $H3_o$. These results support the alternate hypothesis for RQ3.

- $H3_a$: There is a statistical relationship in the faculty perceptions of professional learning communities and the level of collective mindfulness in high-poverty schools.

However, the correlation was negative (r=-0.7) which indicates that as the SPSLCQ scores increased, the M-Scale scores decreased. This result was contrary to expected results due to existing research on high-poverty schools as high-reliability organizations and therefore subject to the framework of collective mindfulness. Current studies have indicated the need for professional learning communities to foster collective mindfulness yet the results of this study suggest the relationship may not be mutually beneficial.

Conclusions

Analysis in this study found that there is a significant difference in the faculty perceptions of professional learning communities and level of collective mindfulness between high-achieving, high-poverty schools and low-achieving or average-achieving, high-poverty schools. The levels of collective mindfulness were significantly higher in high-achieving, high-poverty schools. Teachers from high-achieving, high-poverty schools had a higher M-Scale score (4.6 average) compared to those from low-achieving or average-achieving high-poverty schools (4.0 average), a result which was expected from the literature review.

Teachers from low-achieving or average-achieving high-poverty schools had a higher SPSLCQ score (43.0 average) compared to those from high-achieving, high-poverty schools (37.2 average), a result which was contrary to previous research. Teachers serve as the most important school factor impacting student achievement, which requires high-poverty educational institutions to implement best practices of teacher induction and professional development to keep qualified teachers (Ladd, 2012). Minnesota schools in the highest poverty quartile and the highest minority quartile are more likely to have inexperienced, unqualified and out-of-field teachers (Minnesota Department of Education, 2015). Given that teacher turnover in high-

poverty schools is more likely, teachers often lack the community of learning and may be hesitant to form professional learning communities (Simon & Johnson, 2015).

Collaborative professional development and teacher teams that foster collective efficacy such as PLCs (Capraro et al., 2015; Hoy, Tarter & Hoy, 2006; Simon & Johnson, 2015), and administration that views the educational organization as an open system (Kraft et al., 2015) serve as effective systems supporting student achievement in high-poverty schools. Organizational structures that encourage open systems such as professional learning communities cultivate teacher collaboration on learning goals (Ming, 2002). However, the results of the analysis of $H1_o$ data suggests that high faculty perceptions of professional learning communities do not equate higher student achievement.

Analysis also found a significant negative relationship in the faculty perceptions of professional learning communities and level of collective mindfulness in Minnesota high-poverty schools. This relationship indicates that as the SPSLCQ scores increased measuring PLCs, the M-Scale scores decreased measuring collective mindfulness, a result which was contrary to expected results based on previous PLC and collective mindfulness research.

One possibility for the contrary Pearson *r* results is that as processes become more reliable through organizing such as professional learning communities, collective mindfulness may not be needed (Resar, 2006). As open systems, schools are strongly influenced by their environment, since healthy open systems "continuously exchange feedback with their environments, analyze that feedback, adjust internal systems as needed to achieve the system's goals, and then transmit necessary information back out to the environment" (Yang, Yan, & Yang, 2012, p. 233). Open systems allow school leadership who practice awareness react to their surroundings as their context changes.

The second possibility for the contrary Pearson *r* results that arose in reviewing available research on collective mindfulness and professional learning communities was that the SPSLCQ instrument measuring PLCs and the M-Scale measuring collective mindfulness may have inherent contradictory properties. Table 8 compares the two instruments' factors.

Table 8: *Factors of the SPSLCQ and M-Scale*

SPSLCQ-Staff Professional as Learning Community Questionnaire	M-Scale- School Mindfulness Measurement
1. Shared Values and Vision	1. Focus on Mistakes
2. Shared Supportive Leadership	2. Reluctance to Simplify
3. Collective Learning and Its Application	3. Sensitivity to Teaching and Learning
4. Supportive Conditions	4. Commitment to Resilience
5. Shared Personal Practice	5. Deference to Expertise in Problem Solving

At first glance, it may seem that these two instruments' foundational factors act as a natural complement to each other. However, the fourth factor of the SPSLCQ-Staff Professional as Learning Community Questionnaire regarding supportive conditions may be a key to further understanding of the significant negative relationship in the faculty perceptions of professional learning communities and level of collective mindfulness in Minnesota high-poverty schools. Collective mindfulness is a necessary system for a high-reliability organization which by nature holds increased levels of uncertainty and stress. Hord's (1997) definition of supportive conditions in the SPSLCQ was that school conditions and capacities support the staff's arrangement as a professional learning organization. In other words, the survey question "The size, structure, and arrangements of the school facilitate staff proximity and interaction" from the

SPSLCQ may have an entirely different meaning to a teacher at a high-poverty school in urban Minnesota than to a teacher at a high-poverty school in rural Minnesota.

Implications for Practice and Recommendations for Future Research

The findings, assumptions, limitations, and delimitations of this study are cause for further research in the field of professional learning communities and collective mindfulness in high-poverty schools. First, the sample size of the study was an unknown number of potential staff responses from 150 high-poverty schools in Minnesota. While the invitation to participate in the study was sent to the 150 high-poverty schools, the response rate from individual teachers was low. Additionally, of the 113 useable surveys, 90 participants answered the 17 questions of the SPSLCQ-Staff Professional as Learning Community instrument. 23 participants (20.4%) left the SPSLCQ questions blank. It is possible that the 23 participants' responses to the SPSLCQ instrument measuring faculty perceptions of professional learning communities could have influenced the correlation between PLCs and collective mindfulness. There is a universal need for greater teacher participation in studies regarding student achievement in high-poverty schools so that educational leadership may create better professional development to meet the needs of these students.

Resar (2006) also stressed the need for benchmarking in high-poverty schools and the reliability gap: collective mindfulness factors may be incorrectly applied if the proper processes have not been put into place first. Further research regarding the relationship between professional learning communities and collective mindfulness must indicate where a high-poverty school's benchmark of reliable processes is before moving on to the more complex collective mindfulness organizing factors such as reluctance to simplify. Due to the increased levels of uncertainty and stress in high-poverty schools, the concept of supportive conditions

may also need benchmarking in further research. Further research exploring the negative relationship between faculty perceptions of professional learning communities and level of collective mindfulness in Minnesota high-poverty schools may consider using an alternative quantitative instrument to measure professional learning communities such as Omnibus T-Scale which specifically measures faculty perceptions of school supportive conditions.

In light of the positive relationship between collective mindfulness and student achievement in high-poverty schools, two recommendations are presented. First, school leadership in high-reliability organizations should consider systematic professional development for teachers in mindfulness. Roeser, Skinner, Beers, and Jennings (2012) proposed that teachers who practice mindfulness develop habits of mind that allow them to engage with relationship management skills in crisis situations. For this professional development to be impactful and successful, educational leaders should incorporate the professional learning community facet of shared supportive leadership: the school leader is also a fellow learner attending professional development, furthering collegiality within the educational organization (Carpenter, 2014). Existing research indicates a positive relationship between student success and principal mindfulness as well as between mindful leadership and organizational trust (Kearney, Kelsey, & Herrington, 2013).

Second, more qualitative studies are needed to research the lived experience of teachers in high-poverty, high-collective mindfulness schools. This qualitative research should be conducted through phenomenology: focusing on the purposive sample while addressing the five aspects of school mindfulness. Missing from the current research is the bridge between these five factors of Collective Mindfulness and how to incorporate these factors into the professional

development of high-uncertainty educational environments which may be achieved through qualitative research.

Concluding Comments

The income achievement gap is now greater than the racial achievement gap in US schools. Research indicates that exemplary professional learning communities promote increased student achievement for all students (Ning, Lee, & Lee, 2015; Popp & Goldman, 2016). Due to the uncertainty facing students from high-poverty backgrounds, schools would benefit from an educational environment where collective mindfulness is an underlying structure so the environment remains highly reliable. Research regarding professional learning communities has continued for decades but research exploring high-poverty schools as high-reliability organizations has just begun within the last few years. Further research is needed regarding the existing and possible structures of collective mindfulness within educational settings in order to reduce the achievement gap for high-poverty students.

References

Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education, 27*(1), 10-20.

Aven, T., & Krohn, B. S. (2014). A new perspective on how to understand, assess and manage risk and the unforeseen. *Reliability Engineering and System Safety, 121*, 10.

Baron, L. (2016). Authentic leadership and mindfulness development through action learning. *Journal of Managerial Psychology, 31*(1), 296-311.

Bellamy, G. T. (2011). High reliability & leadership for educational change. *Noteworthy Perspectives: High Reliability Organizations in Education*, 11.

Bellamy, G. T., Crawford, L., Marshall, L. H., & Coulter, G. A. (2005). The fail-safe school challenge: Leadership possibilities from high reliability organizations. *Educational Administration Quarterly, 41*(3), 30.

Benn, R., Akiva, T., Arel, S., Roeser, R., & Eccles, J. (2012). Mindfulness training effects for parents and educators of children with special needs. *Developmental Psychology, 48*(5), 1476-1487.

Bernay, R. S. (2014). Mindfulness and the beginning teacher. *Australian Journal of Teacher Education, 39*(7).

Birdie, A. (2015). Mindfulness and its role in workplace. *Indian Journal of Positive Psychology, 6*(4), 432-435.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., . . . Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230-241.

Broderick, P., & Jennings, P. (2012). Mindfulness for adolescents: A promising approach to

supporting emotion regulation and preventing risky behavior. *New Directions for Youth Development, 2012*(136), 111-126.

Brown, G., III. (2015). Strong one lasting one: An elementary school principal's ability to establish a positive school culture by building trust. *Journal of Cases in Educational Leadership, 18*(4), 309-316.

Burrows, L. (2015). Inner alchemy: Transforming dilemmas in education through mindfulness. *Journal of Transformative Education, 13*(2), 127-139.

Capraro, R. M., Capraro, M. M., Scheurich, J. J., Jones, M., Morgan, J., Huggins, K. S., . . . Han, Sunyoung. (2016). Impact of sustained professional development in STEM on outcome measures in a diverse urban district. *The Journal of Educational Research, 109*(2), 1-16.

Carpenter, D. (2015). School culture and leadership of professional learning communities. *International Journal of Educational Management, 29*(5), 682-694.

Carson, S., Shih, M., & Langer, E. (2001). Sit still and pay attention? *Journal of Adult Development, 8*(3), 183-188.

Christianson, M. K., Sutcliffe, K. M., Miller, M. A., & Iwashyna, T. J. (2011). Becoming a high reliability organization. *Critical Care, 15*(314), 5. doi:10.1186/cc10360

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Davenport, C., & Pagnini, F. (2016). Mindful learning: A case study of Langerian mindfulness in schools. *Frontiers in Psychology, 7*, 1372.

Dooner, A-M., Mandzuk, D., & Clifton, R. A. (2008). Stages of collaboration and the realities of professional learning communities. *Teaching and Teacher Education: An International Journal of Research and Studies, 24*(3), 564-574.

Eck, J. H. (2011a). Becoming the best in the world at educating our students. *Noteworthy Perspectives: High Reliability Organizations in Education,* 9, 1-5.

Eck, J. H. (2011b). Best in the world: high performance with high reliability. *Noteworthy Perspectives: High Reliability Organizations in Education,* 9, 36-44.

Flook, L., Goldberg, S. B., Pinger, L., & Davidson, R. J. (2015). Promoting prosocial behavior and self-regulatory skills in preschool children through a mindfulness-based kindness curriculum. *Developmental Psychology, 51*(1), 44-51.

Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London, England: Falmer Press.

Gold, E., Smith, A., Hopper, I., Herne, D., Tansey, G., & Hulland, C. (2010). Mindfulness-based stress reduction (MBSR) for primary school teachers. *Journal of Child and Family Studies, 19*(2), 184-189.

Grant, L. (2014). Hearts and minds: Aspects of empathy and well-being in social work students. *Social Work Education*, *33*(3), 338-352.

Gray, J., Kruse, S., & Tarter, C. J. (2016). Enabling school structures, collegial trust and academic emphasis. *Educational Management Administration & Leadership, 44*(6), 875-891.

Griggs, T., & Tidwell, D. (2015). Learning to teach mindfully: Examining the self in the context of multicultural education. *Teacher Education Quarterly, 42*(2), 87-104.

Grunewald, R., & Nath, A. (2019). A statewide crisis: Minnesota's education achievement gaps. *States News Service*, 13 Oct. 2019.

Hales, D. N., & Chakravorty, S. S. (2016). Creating high reliability organizations using mindfulness. *Journal of Business Research, 69*(8), 2873-2881.

Hernes, T., & Irgens, E. J. (2012). Keeping things mindfully on track: Organizational learning under continuity. *Management Learning, 44*(3), 13.

Hord, S. M. (2009). Professional learning communities: Educators work together toward a shared purpose. *Journal of Staff Development, 30*(1), 40-43.

Hoy, W. K., Gage, C. Q., & Tarter, C. J. (2004). Theoretical and empirical foundations of mindful schools. In W. K Hoy and C. Miskel (Eds.), *Educational administration, policy, and reform: Research and measurement.* Greenwich, CN; Information Age.

Hoy, W. K., Gage, C. Q., III, & Tarter, C. J. (2006). School mindfulness and faculty trust: Necessary conditions for each other? *Educational Administration Quarterly*, *42*(2), 236-255.

Hoy, W. K., Tarter, C. J., & Hoy, A. W. (2006). Academic optimism of schools: A force for student achievement. *American Educational Research Journal, 43*(3), 425-446.

Kabat-Zinn, J. (2013). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness.* (Revised and updated ed.). New York, NY: Bantam Books.

Karunananda, A., Goldin, P., & Talagala, P. (2016). Examining mindfulness in education. *International Journal of Modern Education and Computer Science, 8*(12).

Kearney, W. S., Kelsey, C., & Herrington, D. (2013). Mindful leaders in highly effective schools: A mixed-method application of Hoy's m-scale. *Educational Management Administration & Leadership, 41*(3), 316-335.

Khong, B. (2009). Expanding the understanding of mindfulness: Seeing the tree and the forest. *The Humanistic Psychologist, 37*(2), 117-136.

Khorsandi, J., & Aven , T. (2013). A risk perspective supporting organizational efforts for achieving high reliability. *Journal of Risk Research, 13*(17), 13.

King, M. B. (2002). Professional development to promote schoolwide inquiry. *Teaching and Teacher Education, 18*(3), 243-257.

Klein, A. (2011). Poor schools found to get shortchanged; "Comparability of state and local expenditures among schools within districts: A report from the study of school-level expenditures". *Education Week, 31*(13), 4.

Klingbeil, Renshaw, Willenbrink, Copek, Chan, Haddock, . . . Clifton. (2017). Mindfulness-based interventions with youth: A comprehensive meta-analysis of group-design studies. *Journal of School Psychology*, 63, 77-103.

Kraft, M. A., Papay, J. P., Johnson, S. M., Charner-Laird, M., Ng, M., & Reinhorn, S. (2015). Educating amid uncertainty: The organizational supports teachers need to serve students in high-poverty, urban schools. *Educational Administration Quarterly, 51*(5), 753-790.

Kyte, D. (2016). Toward a sustainable sense of self in teaching and teacher education: Sustainable happiness and well-being through mindfulness. *McGill Journal of Education, 51*(3), 1143-1162.

Ladd, H. F. (2012). Education and poverty: Confronting the evidence. *Journal of Policy Analysis and Management*, *31*, 203-227.

Langer, E. (2000). Mindful learning. *Current Directions in Psychological Science, 9*(6), 220-223.

Langer, E. (2014). *Mindfulness / Ellen J. Langer.* (25th anniversary ed.). Boston, MA: Da Capo Press.

Langer, E., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of Social Issues, 56*(1), 1-9.

Lawlor, M. S. (2014). Mindfulness in practice: Considerations for implementation of mindfulness-based programming for adolescents in school contexts. *New Directions for Youth Development, 2014*(142), 83-95.

Lee, J. C., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education, 27*(5), 820-830.

Leland, M. (2015). Mindfulness and student success. *Journal of Adult Education, 44*(1), 19-24.

Levinthal, D. & Rerup, C. (2006). Crossing an apparent chasm: Bridging mindful and less-mindful perspectives on organizational learning. *Organization Science, 17*(4), 502-513.

Louis, K. S., & Marks, H. (1998). Does professional learning community affect the classroom teachers' work and student experience in restructured schools? *American Journal of Education*, *106*(4), 532– 575.

Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., . . . Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness, 3*(4), 291-307.

Milosevic, I., Bass, A., & Combs, G. (2018). The paradox of knowledge creation in a high-reliability organization: A case study. *Journal of Management, 44*(3), 1174-1201.

Morrissey, M. S. (2000). *Professional learning communities: An ongoing exploration*. Retrieved from http://www.sedl.org/pubs/change45/plc-ongoing.pdf.

Napoli, M., & Bonifas, R. (2011). From theory toward empathic self-care: Creating a mindful classroom for social work students. *Social Work Education*, *30*(6), 635-649.

Ning, H. K., Lee, D., & Lee, W. O. (2015). Relationships between teacher value orientations, collegiality, and collaboration in school professional learning communities. *Social*

Psychology of Education: An International Journal, 18(2), 337-354.

Ortiz, R., & Sibinga, E. (2017). The role of mindfulness in reducing the adverse effects of childhood stress and trauma. *Children (Basel, Switzerland), 4*(3).

Patten, M. L. (2014). *Understanding research methods: An overview of the essentials* (9th ed.). Glendale, CA: Pyrczak Publishing.

Philpott, C., & Oates, C. (2016). Professional learning communities as drivers of educational change: The case of learning rounds. *Journal of Educational Change*, *18*(2), 209-234.

Popp, J. S. & Goldman, S. R. (2016). Knowledge building in teacher professional learning communities: Focus of meeting matters. *Teaching and Teacher Education, 59*, 347-359.

Pyrczak, Fred. (2014). *Evaluating research in academic journals: A practical guide to realistic evaluation* (6th ed.). Glendale, CA: Pyrczak Publishing.

Reddy, L., Dudek, A., Peters, C., Alperin, M., Kettler, S., & Kurz, A. (2018). Teachers' and school administrators' attitudes and beliefs of teacher evaluation: A preliminary investigation of high poverty school districts. *Educational Assessment, Evaluation and Accountability, 30*(1), 47-70.

Reiser, J. E., Murphy, S. L., & McCarthy, C. J. (2016). Stress prevention and mindfulness: A psychoeducational and support group for teachers. *Journal for Specialists in Group Work, 41*(2), 117-139.

Resar, R. (2006). Making noncatastrophic health care processes reliable: Learning to walk before running in creating high-reliability organizations. *Health Services Research, 41*(4p2), 1677-1689.

Roberts, S., & Pruitt, E. (2003). *Schools as professional learning communities: Collaborative activities and strategies for professional development.* Thousand Oaks, CA: Corwin

Press.

Roeser, R. W., Skinner, E., Beers, J., & Jennings, P. A. (2012). Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives, 6*(2), 167-173.

Sackney, L., & Walker, K. (2006). Canadian perspectives on beginning principals: Their role in building capacity for learning communities. *Journal of Educational Administration, 44*(4), 341-358.

Schmoker, M. (2005). No turning back: The ironclad case for professional learning communities. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. 135-154). Bloomington, IN: Solution Tree Press.

Sell, B. (2008). Cultivating mindfulness in the large group. *Group, 32*(4), 261-272.

Sherretz, C. E. (2011). Mindfulness in education: Case studies of mindful teachers and their teaching practices. *Journal of Thought, 46*(3-4), 79-96,104.

Sparks, D. (2005). Leading for transformation in teaching, learning, and relationships. In R. DuFour, R. Eaker, & R. DuFour (Eds.). *On common ground: The power of professional learning communities* (pp. 155–175), Bloomington, IN: Solution Tree Press.

Stringfield, S., Reynolds, D., & Schaeffer, E. C. (2011). Toward highly reliable, high-quality public schooling. *Noteworthy Perspectives: High Reliability Organizations in Education*, 6-23.

Thomas, C. (2013). Role of mindfulness in reducing challenging behaviour. *Learning Disability Practice, 16*(10), 33-37.

Tilley, T. B., Smith, S. J., & Claxton, R. L. (2012). Success despite socioeconomics: A case study of a high-achieving, high-poverty school. *Journal of School Public Relations,*

*33(*4), 292-317.

Vanblaere, B., & Devos, G. (2016). Relating school leadership to perceived professional learning community characteristics: A multilevel analysis. *Teaching and Teacher Education, 57*(C), 26-38.

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*(2008), 80-91.

Vogus, T., & Welbourne, T. (2003). Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations. *Journal of Organizational Behavior, 24*(7), 877-903.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies, 44*(3), 299-321.

Weick, K., Obstfeld, D., & Sutcliffe, K. M. (1999). Organizing for high reliability: Processes of collective mindfulness. *Crisis Management*, 31-66.

Weick, K., & Putnam, T. (2006). Organizing for mindfulness: Eastern wisdom and western knowledge. *Journal of Management Inquiry, 15*(3), 275-287.

Weick, K. & Sutcliffe, K. M. (2015). *Managing the unexpected: Sustained performance in a complex world.* Hoboken, NJ: John Wiley & Sons, Inc.

White, G., Stepney, C., Hatchimonji, D., Moceri, D., Linsky, A., Reyes-Portillo, J., . . . Spaulding, W. (2016). The increasing impact of socioeconomics and race on standardized academic test scores across elementary, middle, and high School. *American Journal of Orthopsychiatry, 86*(1), 10-23.

Whitesman, S., & Mash, R. (2016). Examining the effects of a mindfulness-based distance learning professional training module on personal and professional functioning: A qualitative study. *BMC Medical Education, 16*(1).

Wilder Research in collaboration with PELSB (2019). 2019 biennial Minnesota teacher supply and demand. Retrieved from https://mn.gov/pelsb/assets/2019%20Supply%20and%20Demand%20Report_tcm1113-370206.pdf

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: Implications for prevention. *American Psychologist*, *67*, 272-284.

Zimmerman, A. (2018). Considering the prospect of cultivating mindfulness in teacher education. *Issues in Teacher Education, 27*(1), 57-72.

Appendices

Appendix A

School Mindfulness Measurement (M-Scale): The M-Scale is a 14-item Likert-type scale. Teachers are asked to respond to each item, descriptions of behavior, along a 6-point scale from strongly disagree (1) to strongly agree (6). Fourteen items are based on definition of collective mindfulness determined by five properties: a focus on mistakes, reluctance to simplify, sensitivity to teaching and learning, commitment to resilience, and deference to expertise in problem solving (Hoy et al., 2006).

1. My principal often jumps to conclusions.
2. When a crisis occurs the principal deals with it so we can get back to teaching.
3. In this school teachers welcome feedback about ways to improve.
4. Teachers do not trust the principal enough to admit their mistakes.
5. The principal of this school does not value the opinions of the teachers.
6. My principal is an expert on teaching and learning.
7. Teachers in this school jump to conclusions.
8. People in this school respect power more than knowledge.
9. Teachers in my building learn from their mistakes and change so they do not happen again.
10. My principal negotiates faculty differences without destroying the diversity of opinions.
11. Too many teachers in my building give up when things go bad.
12. The principal welcomes challenges from teachers.
13. When things go badly teachers bounce back quickly.
14. Most teachers in this building are reluctant to change.

Written Permission to Use Organizational Mindfulness Scale (M-Scale)

Dear Missy,

Your scoring proposal seems reasonable if your advisor and committee approve.

Good luck.

Wayne

Wayne K. Hoy

Fawcett Professor Emeritus in

Education Administration

The Ohio State University

www.waynekhoy.com

On August 7, 2019, at 8:59 AM, Missy Johnson <mjj63646@bethel.edu> wrote:

Dear Dr. Hoy,

About a year ago, I received permission from you to use the M Scale research instrument in order to measure the level of Collective Mindfulness in high-poverty schools in Minnesota. I will be defending my proposal next week and had some feedback from my advisor and two readers who recommended that I ask your permission to score the M Scale not by individual school due to potentially low survey participation, but by Group A (all 75 high-achieving, high-poverty schools in MN, who "beat the odds" of achievement) and Group B (random 75 average- or low-achieving, high-poverty schools in MN). Would that be acceptable for me to use the M Scale instrument in that manner?

Thank you for your time!

Best,

Missy Johnson

Hi Missy-

You have my permission to use the Organizational Mindfulness Scale (M-Scale) in your research.

Good Luck.

Wayne

Wayne K. Hoy

Fawcett Professor Emeritus in

Education Administration

The Ohio State University

www.waynekhoy.com

7655 Pebble Creek Circle, #301

Naples, FL 34108

Email: whoy@mac.com

Phone: 239 595 5732

On Sep 1, 2018, at 4:26 PM, Missy Johnson <mjj63646@bethel.edu> wrote:

Dear Dr. Hoy,

I am a doctoral candidate in K-12 Educational Leadership in Saint Paul, Minnesota. I am writing to ask you permission to use the M-Scale Research Instrument in order to measure the level of Collective Mindfulness in high-poverty, high-achieving schools in Minnesota for my dissertation

titled “Professional Learning Communities and Collective Mindfulness”. My dissertation is under the direction of Dr. Tracy Reimer at Bethel University, Saint Paul, MN.

Thank you for your time and consideration, and I look forward to hearing from you soon.

Best,

Missy Johnson

mjj63646@bethel.edu

Appendix B

School Professional Staff as Learning Community Questionnaire (SPSLCQ)

The School Professional Staff as Learning Community Questionnaire (SPSLCQ) instrument is based on the following PLC components:

1. School administrators participate democratically with teachers sharing power, authority, and decision making.
2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.
3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.
4. Peers review and give feedback based on observing one another's classrooms in order to increase individual and organizational capacity.
5. School conditions and capacities support the staff's arrangement as a professional learning organization.

Teachers are asked to respond to each description of behavior along a 5-point scale.

Component 1: School administrators participate democratically with teachers sharing power, authority, and decision making.

5	4	3	2	1
1a. Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and		Administrators invite advice and counsel from staff and then make decisions themselves.		Administrators never share information with the staff nor provide opportunities to be involved in decision making.

making decisions about school issues.				
1b. Administrators involve the entire staff.		Administrators involve a small committee, council, or team of staff.		Administrators do not involve any staff.

Component 2: The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.

5	4	3	2	1
2a. Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.		Visions for improvement are not thoroughly explored; some staff members agree and others do not.		Visions for improvement held by the staff members are widely divergent.
2b. Visions for improvement are always focused on students, teaching, and learning.		Visions for improvement are sometimes focused on students, teaching, and learning.		Visions for improvement do not target students, teaching, and learning.
2c. Visions for improvement target high-quality learning experiences for all students.		Visions for improvement address quality learning experiences in terms of students' abilities.		Visions for improvement do not include concerns about the quality of learning experiences.

Component 3: The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

5	4	3	2	1
3a. The entire staff meet to discuss issues, share information, and learn with and from one another.		Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.		Individuals randomly discuss issues, share information, and learn with and from one another.
3b. The staff meet regularly and frequently on substantive student-		The staff meet occasionally on substantive student-		The staff never meet to consider substantive educational issues.

centered educational issues.		centered educational issues.		
3c. The staff discuss the quality of their teaching and students' learning.		The staff does not often discuss their instructional practices nor its influence on student learning.		The staff basically discuss non-teaching and non-learning issues.
3d. The staff, based on their learnings, make and implement plans that address students' needs, more effective teaching, and more successful student learning.		The staff occasionally act on their learnings and make and implement plans to improve teaching and learning.		The staff do not act on their learnings.
3e. The staff debrief and assess the impact of their actions and make revisions.		The staff infrequently assess their actions and seldom make revisions based on the results.		The staff do not assess their work.

Component 4: Peers review and give feedback based on observing one another's classrooms in order to increase individual and organizational capacity.

5	**4**	**3**	**2**	**1**
4a. Staff members regularly and frequently visit and observe one another's' classroom teaching.		Staff members occasionally visit and observe one another's teaching.		Staff members never visit their peers' classrooms.
4b. Staff members provide feedback to one another about teaching and learning based on their classroom observations		Staff members discuss non-teaching issues after classroom observations.		Staff members do not interact after classroom observations.

Component 5: School conditions and capacities support the staff's arrangement as a professional learning organization.

5	4	3	2	1
5a. Time is arranged and committed for whole staff interactions.		Time is arranged but frequently the staff fail to meet.		Staff cannot arrange time for interacting.
5b. The size, structure, and arrangements of the school facilitate staff proximity and interaction.		Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.		The staff take no action to manage the facility and personnel for interaction.
5c. A variety of processes and procedures are used to encourage staff communication.		A single communication method exists and is sometimes used to share information.		Communication devices are not given attention.
5d. Trust and openness characterize all of the staff members.		Some of the staff members are trusting and open.		Trust and openness do not exist among staff members.
5e. Caring, collaborative, and productive relationships exist among all staff members.		Caring and collaboration are inconsistently demonstrated among the staff members.		Staff members are isolated and work alone at their task.

Written Permission to Use School Professional Staff as Learning Community Questionnaire (SPSLCQ)

Hi Melissa,

Thank you for your copyright permission request. Kindly answer the following question, and we will forward your request to our legal department for review.

- Do you plan to make any modifications to the School Professional Staff as Learning Community Questionnaire (SPSLCQ)? If so, please provide a brief description of the changes you plan to make.

As soon as we have received answers to these questions, we will forward your request to our legal team. If your request is approved, you will receive a license agreement for your signature, which we will ask you to sign and return to us. You may expect a response within 14 business days.

SEDL, which merged with the American Institutes for Research, does not charge a copyright fee for use of its works for educational, scholarly, or nonprofit purposes.

Thank you, Melissa.

Best,

Kim

Kim O'Brien

Editor and Copyright Specialist

Publication and Creative Services

1120 E. Diehl Road, Suite 200

Naperville, Illinois 60563

kobrien@air.org

630-649-6723 | Direct Line

Subject: AIR Copyright Request Form

The following e-mail was received from the AIR "Copyright Request Form" page:

From: Melissa Johnson

E-mail: mjj63646@bethel.edu

CONTACT INFORMATION:

First Name = Melissa

Last Name = Johnson

E-mail = mjj63646@bethel.edu

Job Title = Doctoral Candidate

Org = Bethel University

Mailing Address = 252 Winona St. West

City = Saint Paul

State = MN

Zip = 55107

Country = USA

Tel = 6512719159

DESCRIPTION OF THE SEDL MATERIAL:

Title = School Professional Staff as Learning Community Questionnaire (SPSLCQ)

Authors = Shirley M. Hord

Full-text or Excerpt = Full-text

PROPOSED USE:

Proposed Use = Include in another publication

Pub Type = Dissertation

School Attending = Bethel University

School Location = Saint Paul, MN

Pub Title = Professional Learning Communities and Collective Mindfulness

Pub Date = 2019

Time Frame = School year 2018-2019

---End of Copyright Request---

Appendix C

E-mail of Introduction

Dear Educator,

I am a doctoral candidate at Bethel University, located in St. Paul, MN. I am writing to request your assistance with a research project I am conducting. The purpose of this study is to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. The goal of this research is to provide supported information for continual improvement in our schools.

I appreciate and value your contribution to this study. Teacher participation consists of completing one survey rating faculty perceptions of the school's professional learning community and the school's level of collective mindfulness. Your responses are completely anonymous and your confidentiality will be maintained throughout this study. Be assured that no individual responses will be disclosed. There are no anticipated risks related to your participation. It is estimated that completing the survey will take about 10 minutes.

If you have any questions about this study, you may contact me (mjj63646@bethel.edu), or my advisor, Dr. Tracy Reimer (t-reimer@bethel.edu). This study has been reviewed and approved by the Bethel University Institutional Review Board (IRB).

The survey will close on Wednesday, October 16th, 2019.

Thank you for your work each day in our public schools and for helping me in this valuable study.

Principal- Please forward this e-mail to your teacher email distribution list so that their responses can be gathered as part of the study.

Click HERE to take the survey: https://bethel.qualtrics.com/jfe/form/SV_87BbfBoMsxJhyRL

Sincerely,

Missy Johnson
Bethel University Doctoral Candidate
mjj63646@bethel.edu

E-mail of Introduction (Version 2 of Survey)

Dear Educator,

I am a doctoral candidate at Bethel University, located in St. Paul, MN. I am writing to request your assistance with a research project I am conducting. The purpose of this study is to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. The goal of this research is to provide supported information for continual improvement in our schools.

I appreciate and value your contribution to this study. Teacher participation consists of completing one survey rating faculty perceptions of the school's professional learning community and the school's level of collective mindfulness. Your responses are completely anonymous and your confidentiality will be maintained throughout this study. Be assured that no individual responses will be disclosed. There are no anticipated risks related to your participation. It is estimated that completing the survey will take about 10 minutes.

If you have any questions about this study, you may contact me (mjj63646@bethel.edu), or my advisor, Dr. Tracy Reimer (t-reimer@bethel.edu). This study has been reviewed and approved by the Bethel University Institutional Review Board (IRB) with the approval code of 082919-01.

The survey will close on Wednesday, October 16th, 2019.

Thank you for your work each day in our public schools and for helping me in this valuable study.

Principal- Please forward this e-mail to your teacher email distribution list so that their responses can be gathered as part of the study.

Click HERE to take the survey:

https://bethel.qualtrics.com/jfe/form/SV_8AIfjNGcueMwzqZ

Sincerely,

Missy Johnson
Bethel University Doctoral Candidate
mjj63646@bethel.edu

Appendix D

Informed Consent

Welcome to the research study! For my Doctorate in Education, I am interested in exploring Professional Learning Communities, Collective Mindfulness, and student achievement. You will be presented with information relevant to Professional Learning Communities and Collective Mindfulness and asked to answer 31 questions. Please be assured that your responses will be kept completely confidential.

The study should take you 10-15 minutes to complete, and your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail mjj63646@bethel.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- ☐ I consent, begin the study
- ☐ I do not consent, I do not wish to participate

Appendix E

(Survey A) Click HERE to take the survey:
https://bethel.qualtrics.com/jfe/form/SV_87BbfBoMsxJhyRL

(Survey B) Click HERE to take the survey:

https://bethel.qualtrics.com/jfe/form/SV_8AIfjNGcueMwzqZ

Appendix F

Reminder Email to Principals

Dear Educator,

I am a doctoral candidate at Bethel University, located in St. Paul, MN. I am writing to request your assistance with a research project I am conducting. The purpose of this study is to examine faculty perceptions of professional learning communities, collective mindfulness, and student achievement in high-poverty Minnesota schools. The goal of this research is to provide supported information for continual improvement in our schools. Recently you received an email from me regarding participation in my research.

I understand this time of year is a flurry of assessments, observations, and operational management. I am hopeful that your teachers might consider participating in my data collection in order to better help understand how High-Reliability Organizations operate and create professional development to meet the needs of high-poverty students through collective mindfulness.

I appreciate and value your contribution to this study. Teacher participation consists of completing one survey rating faculty perceptions of the school's professional learning community and the school's level of collective mindfulness. Your responses are completely anonymous and your confidentiality will be maintained throughout this study. Be assured that no individual responses will be disclosed. There are no anticipated risks related to your participation. It is estimated that completing the survey will take about 10 minutes.

If you have any questions about this study, you may contact me (mjj63646@bethel.edu), or my advisor, Dr. Tracy Reimer (t-reimer@bethel.edu). This study has been reviewed and approved by the Bethel University Institutional Review Board (IRB) with the approval code of 082919-01.

The survey will close on Wednesday, October 23rd, 2019.

Thank you for your work each day in our public schools and for helping me in this valuable study.

Principal- Please forward this e-mail to your teacher email distribution list so that their responses can be gathered as part of the study.

Click HERE to take the survey:

https://bethel.qualtrics.com/jfe/form/SV_8AIfjNGcueMwzqZ

Sincerely,

Missy Johnson
Bethel University Doctoral Candidate
mjj63646@bethel.edu