THE MEANING AND MEASURE OF SCHOOL MINDFULNESS: 
AN EXPLORATORY ANALYSIS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for 
the Degree Doctor of Philosophy in the Graduate 
School of The Ohio State University 

By 

Charles Quincey Gage, III, B.A., M.Ed.

* * * * *

The Ohio State University 
2003

Dissertation Committee:

Professor Wayne K. Hoy, Adviser
Professor Anita Woolfolk Hoy
Professor Scott R. Sweetland
Professor Franklin B. Walter

Approved by 

Adviser 
College of Education
ABSTRACT

The purpose of this inquiry was threefold: first, to conceptualize the construct of mindfulness in public schools; second, to operationalize school mindfulness; and third, to develop and test a path model relating mindfulness to faculty trust, enabling school structure, principal disposition toward mindfulness, and collective efficacy.

After successfully accomplishing the first two objectives, a path model was advanced to explain the relationships among variables under study. The model proposed direct relations between school mindfulness and collective efficacy, enabling school structure, and principal’s disposition towards mindfulness. Furthermore, it anticipated three positive indirect relations: school mindfulness and faculty trust in the principal, through enabling structure; faculty trust in clients, through collective efficacy; and faculty trust in colleagues, through enabling structure with school mindfulness.

The path model was tested with a diverse sample of 75 middle schools in Ohio. The results provided partial support for the model. Significant relationships were found between school mindfulness and both faculty trust in clients and collective efficacy. Further, as anticipated, faculty trust in the principal, enabling school structure and school
mindfulness also yielded significant results; however, the paths between the principal’s disposition toward mindfulness and school mindfulness and faculty trust in colleagues and enabling structure were not significant.

Finally, the practical, research, and theoretical implications of the findings were discussed. The results of the study were encouraging and are seen as a beginning not an end. A more refined and elaborated model of mindfulness that includes student achievement is the next step in the research agenda. Ultimately, the challenge of designing schools to improve student learning is a paramount objective and school mindfulness seems an important piece of that puzzle.
Dedicated to my wife, Laura, and two children,

Selby and Chase. Thank you for

supporting me in my efforts.
ACKNOWLEDGMENTS

As I reflect upon the events in my life that have led up to this point, I have many people to thank. First, my wife Laura who has been a constant source of support for me by keeping the marriage, kids, and pets alive during the last four years. She has edited many papers, been a great listener to stories and events from class and research, hosted many study groups in our home, and put up with me during the last four years. The sacrifices she has shouldered have upheld me and allowed me to attain my goals. Thank you, Laura, for being the best wife and friend to me during these trying years. My efforts could not have sustained such results without your blessing and support.

I want to recognize and thank my mother and father, Karen and Charlie Gage, and my in-laws, Marty and Tom Lentz, for their support. Without their encouragement, editing, babysitting, discussion, insights, and financial support this accomplishment would not have been possible. The bittersweet fact that my dad is not alive to see the end result of my efforts is disappointing. I think he would be pleased, however, with the results. Thank you Mom, Tom, and Marty for all you continue to do for me and my family in Dad’s absence.

Dr. Hoy, my advisor, has been a mentor extraordinaire. The faith he had in me and my abilities have been incredible. The road I took to the doctorate is the road less
traveled. I appreciate his willingness to invite me in as an advisee while not being a full
time student, supporting me, and advising me to finally take a year and concentrate on
my studies. It is this sage advice that has permitted me to come this far. I truly appreciate
the time, effort, and resources you poured out to me when I was reluctant to sever the
comfort of full time employment and take the leap of faith that allowed me to finish my
research.

I thank Dr. Walter, Dr. Woolfolk Hoy and Dr. Sweetland who were all faculty
members I looked up to while taking my coursework. They subsequently were part of my
committee and gave me advice as my study was unfolding. Dr. Walter advised me as a
practitioner, mentor, and friend. He was with me as I made the decision to apply for an
advanced degree program five years ago, and continued to be there as a constant
supporter and advocate for me. His leadership qualities I continue to hold in the highest
esteem. Dr. Sweetland helped develop and vet the items for the questionnaire I used for
my study and continually checked up on me during the data collection and many writing
phases and drafts of this study. Dr. Woolfolk Hoy was a constant support by providing
advice on theory and practical writing tips. Her editing help and advice was invaluable.

Although many other professors and colleagues have indeed helped me along the
way I feel obligated to single out a few. Tim Cybulski supplied stimulating conversation
and a work ethic which acted as a great source of inspiration to me last year. Mike
Nicholson supplied a keen awareness of computer modeling programs, data analysis, and
data manipulation to guide me through and save many hours of frustration at the
computer. Thank you Mike! I also want to recognize my cohort members; Amy, April,
Chris, Jim, and Sally; who helped me through the core courses by creating study groups and breaking up the task of studying by suggesting nourishment. A lot can be accomplished with chocolate and caffeine.

The support staff at Ohio State made this process so personal. They provided advice on what deadlines were important, which departments to go to find information, processing my university paychecks and correcting it when it contained errors, organizing supplies, providing coffee, making the university bureaucracy as clear as humanly possible, and generally being interested in me and my work. Diane Baugher, Deb Zabloudil, Helen Higgins, Carol Norris, Dianne Efsic, Karmella Spears, and Nadine Denton I thank you all.

Lastly I want to acknowledge my kids who provided me with the will and determination to want to better myself to provide a better life for them. Thank you Selby and Chase for being such great kids while I was away from home either physically or mentally so many nights over the last few years. I hope this work will in turn inspire you.
VITA

September 11, 1969..............................Born – Bluefield, WV

1991 ..............................................B.A., Business
                                           Wittenberg University
                                           Springfield, Oh

1995 ..............................................M.Ed., Early to Middle Childhood Devel.
                                           The Ohio State University
                                           Columbus, Oh

1995-2002 ......................................Science, Math & Social Studies Teacher,
                                           Brookpark, MS
                                           Grove City, Oh

2002-2003 ......................................Novice G. Fawcett Graduate Scholar,
                                           The Ohio State University

2003-present ................................. Assistant Principal
                                           Barrington Elementary School
                                           Upper Arlington, Oh

FIELDS OF STUDY

Major Field:  Education

Minor Field:  Research Methods in Human Resource Development
TABLE OF CONTENTS

| Abstract | ii |
| Dedication | iv |
| Acknowledgements | v |
| Vita | viii |
| List of Tables | xii |
| List of Figures | xiii |

Chapter 1: Introduction ................................................................. 1
  Problem statement ........................................................................ 2
  Independent variables .................................................................. 2
    Trust ....................................................................................... 2
    Enabling school structure ........................................................ 3
    Collective teacher efficacy ....................................................... 4
  Dependent variable ..................................................................... 4
  Research questions ...................................................................... 5
  Research hypotheses .................................................................... 5
  Definition of terms ...................................................................... 6
  Assumptions ............................................................................... 9
  Limitations ................................................................................. 9
  Summary ..................................................................................... 10

Chapter 2: Literature Review and Hypotheses ..................................... 11
  Individual Mindfulness ............................................................... 11
    Behaviorists approach to individual mindfulness theory .......... 13
    Physiological approach to individual mindfulness theory ...... 19
    Cognitive approach to individual mindfulness theory .......... 24
    Conclusions about individual mindfulness ............................. 27
  Organizational mindfulness ........................................................ 29
    Preoccupation with failure ...................................................... 31
    Reluctance to simplify .......................................................... 32
    Sensitivity to operations ......................................................... 33
    Commitment to resilience ....................................................... 35
    Deference to expertise ............................................................ 37
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mindfulness summary</td>
<td>38</td>
</tr>
<tr>
<td>Trust</td>
<td>39</td>
</tr>
<tr>
<td>Benevolence</td>
<td>40</td>
</tr>
<tr>
<td>Reliability</td>
<td>41</td>
</tr>
<tr>
<td>Competence</td>
<td>41</td>
</tr>
<tr>
<td>Honesty</td>
<td>42</td>
</tr>
<tr>
<td>Openness</td>
<td>42</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>43</td>
</tr>
<tr>
<td>Confidence</td>
<td>43</td>
</tr>
<tr>
<td>Splintered Trust</td>
<td>44</td>
</tr>
<tr>
<td>Revenge and reconciliation</td>
<td>46</td>
</tr>
<tr>
<td>Trust in school relationships</td>
<td>48</td>
</tr>
<tr>
<td>Trust summary</td>
<td>50</td>
</tr>
<tr>
<td>Efficacy</td>
<td>50</td>
</tr>
<tr>
<td>Teacher efficacy</td>
<td>50</td>
</tr>
<tr>
<td>Another conceptual strand—self efficacy</td>
<td>53</td>
</tr>
<tr>
<td>Bandura inspired instruments</td>
<td>57</td>
</tr>
<tr>
<td>Bandura’s teacher efficacy scale</td>
<td>60</td>
</tr>
<tr>
<td>Social effects on efficacy</td>
<td>60</td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>62</td>
</tr>
<tr>
<td>Other research perspectives on collective efficacy</td>
<td>67</td>
</tr>
<tr>
<td>Measuring Collective Efficacy</td>
<td>72</td>
</tr>
<tr>
<td>Studies of Collective Efficacy in Schools</td>
<td>76</td>
</tr>
<tr>
<td>Bureaucracy</td>
<td>79</td>
</tr>
<tr>
<td>Formalization and hierarchy</td>
<td>80</td>
</tr>
<tr>
<td>Centralization</td>
<td>83</td>
</tr>
<tr>
<td>Enabling school structure</td>
<td>84</td>
</tr>
<tr>
<td>Some practical illustrations</td>
<td>88</td>
</tr>
<tr>
<td>Enabling structures summary</td>
<td>90</td>
</tr>
<tr>
<td>Theoretical rationale and hypotheses</td>
<td>91</td>
</tr>
<tr>
<td>Path model of the relationships between variables</td>
<td>97</td>
</tr>
<tr>
<td>Chapter 2 summary</td>
<td>98</td>
</tr>
<tr>
<td>Chapter 3 Methodology</td>
<td>99</td>
</tr>
<tr>
<td>Sample</td>
<td>99</td>
</tr>
<tr>
<td>Research instruments</td>
<td>100</td>
</tr>
<tr>
<td>Development of the mindfulness instrument</td>
<td>100</td>
</tr>
<tr>
<td>Item generation</td>
<td>100</td>
</tr>
<tr>
<td>Panel of experts</td>
<td>101</td>
</tr>
<tr>
<td>Field test</td>
<td>101</td>
</tr>
<tr>
<td>Pilot study 1</td>
<td>102</td>
</tr>
<tr>
<td>Pilot study 2</td>
<td>103</td>
</tr>
<tr>
<td>Sample 2</td>
<td>105</td>
</tr>
<tr>
<td>Instrument</td>
<td>105</td>
</tr>
<tr>
<td>Data collection</td>
<td>106</td>
</tr>
<tr>
<td>Chapter 5 Discussion of results</td>
<td>135</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Summary of findings</td>
<td>136</td>
</tr>
<tr>
<td>Discussion</td>
<td>138</td>
</tr>
<tr>
<td>Principal’s disposition towards mindfulness and school mindfulness</td>
<td>138</td>
</tr>
<tr>
<td>Faculty trust in clients, collective efficacy, and school mindfulness</td>
<td>140</td>
</tr>
<tr>
<td>Faculty trust in colleagues, enabling school structure, and school mindfulness</td>
<td>141</td>
</tr>
<tr>
<td>Faculty trust in the principal, enabling school structure, and school mindfulness</td>
<td>143</td>
</tr>
<tr>
<td>Theoretical, practical, and research implications</td>
<td>144</td>
</tr>
<tr>
<td>Theoretical and research implications</td>
<td>144</td>
</tr>
<tr>
<td>Practical Implications</td>
<td>150</td>
</tr>
<tr>
<td>Conclusion</td>
<td>152</td>
</tr>
<tr>
<td>List of References</td>
<td>154</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 4 Results</th>
<th>117</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample of middle schools</td>
<td>117</td>
</tr>
<tr>
<td>Descriptive statistics for research variables</td>
<td>118</td>
</tr>
<tr>
<td>Examination of the variables</td>
<td>119</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>119</td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>121</td>
</tr>
<tr>
<td>Trust</td>
<td>123</td>
</tr>
<tr>
<td>Enabling school structure</td>
<td>124</td>
</tr>
<tr>
<td>Principal's disposition toward mindfulness</td>
<td>126</td>
</tr>
<tr>
<td>Correlations</td>
<td>127</td>
</tr>
<tr>
<td>A test of the path model for school mindfulness</td>
<td>131</td>
</tr>
<tr>
<td>Conclusions</td>
<td>134</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>106</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective teacher efficacy</td>
<td>110</td>
</tr>
<tr>
<td>Trust</td>
<td>111</td>
</tr>
<tr>
<td>Enabling school structure</td>
<td>113</td>
</tr>
<tr>
<td>Principal’s disposition towards mindfulness</td>
<td>114</td>
</tr>
<tr>
<td>Data collection</td>
<td>115</td>
</tr>
<tr>
<td>Data analysis</td>
<td>115</td>
</tr>
<tr>
<td>Summary</td>
<td>116</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5 Discussion of results</th>
<th>135</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of findings</td>
<td>136</td>
</tr>
<tr>
<td>Discussion</td>
<td>138</td>
</tr>
<tr>
<td>Principal’s disposition towards mindfulness and school mindfulness</td>
<td>138</td>
</tr>
<tr>
<td>Faculty trust in clients, collective efficacy, and school mindfulness</td>
<td>140</td>
</tr>
<tr>
<td>Faculty trust in colleagues, enabling school structure, and school mindfulness</td>
<td>141</td>
</tr>
<tr>
<td>Faculty trust in the principal, enabling school structure, and school mindfulness</td>
<td>143</td>
</tr>
<tr>
<td>Theoretical, practical, and research implications</td>
<td>144</td>
</tr>
<tr>
<td>Theoretical and research implications</td>
<td>144</td>
</tr>
<tr>
<td>Practical Implications</td>
<td>150</td>
</tr>
<tr>
<td>Conclusion</td>
<td>152</td>
</tr>
<tr>
<td>List of References</td>
<td>154</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Rotated factor matrix: Analysis of mindfulness dimensions.</td>
<td>107</td>
</tr>
<tr>
<td>3.2</td>
<td>Correlations of mindfulness with predictor variables.</td>
<td>109</td>
</tr>
<tr>
<td>4.1</td>
<td>Comparison of sample and state’s middle school population.</td>
<td>118</td>
</tr>
<tr>
<td>4.2</td>
<td>Descriptive statistics of research variables.</td>
<td>119</td>
</tr>
<tr>
<td>4.3</td>
<td>Factor analysis and comparison of mindfulness scale in pilot and final study.</td>
<td>121</td>
</tr>
<tr>
<td>4.4</td>
<td>Collective efficacy factor structure compared with Goddard (2002).</td>
<td>122</td>
</tr>
<tr>
<td>4.5</td>
<td>Trust factor structure compared to Hoy and Tschannen-Moran (2003).</td>
<td>123</td>
</tr>
<tr>
<td>4.6</td>
<td>Enabling school structure factor structure compared to Hoy and Sweetland (2001b).</td>
<td>125</td>
</tr>
<tr>
<td>4.7</td>
<td>LMS-8 index factor loading adapted from Bodner’s (2000) LMS-21</td>
<td>127</td>
</tr>
<tr>
<td>4.8</td>
<td>Bivariate correlations in the study.</td>
<td>128</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Theoretical model of collective efficacy of teachers</td>
<td>68</td>
</tr>
<tr>
<td>2.2</td>
<td>Characteristics of enabling and hindering structures</td>
<td>87</td>
</tr>
<tr>
<td>2.3</td>
<td>Theoretical path model of school mindfulness</td>
<td>98</td>
</tr>
<tr>
<td>4.1</td>
<td>Theoretical model explaining the relationship between trust, collective</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>efficacy, enabling school structure, and school mindfulness</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Theoretical model explaining the relationship between trust, collective</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>efficacy, enabling school structure, and faculty mindfulness</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Theoretical model explaining the relationship between trust, collective</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>efficacy, enabling school structure, and principal mindfulness</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Theoretical model explaining the relationship between faculty trust in the</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>principal, fully functional teaching team, enabling school structure, school</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mindfulness and achievement</td>
<td></td>
</tr>
</tbody>
</table>
Today’s school administrators face a myriad of challenges from a multitude of factors. As the demands on schools grow, administrators are challenged to make sense of the information they receive. How information is processed and change is implemented varies from individual to individual and from school to school. School populations also differ greatly from district to district and from school to school. Looking for a common thread that runs through such a diverse landscape can be daunting. The concepts of mindfulness, trust, enabling school structure, and collective efficacy permit one to view the school through a lens that portrays the school as a dynamic and often novel environment. In such an environment there is much that can be done to improve the functionality of the staff and students.

The concept of mindfulness was born out of eastern philosophy and brought into popularity over 30 years ago by Ellen Langer and her associates. How much ostensibly thoughtful action is best described as mindless (Langer, Blank, & Chanowitz, 1978)? This question was posed to explore the effects of mindless and mindful activities in
everyday life and how people process the world around them. The results of Langer’s years of study are astounding. Mindful activity has not only added increased awareness but also affects health and life longevity (Langer, 1989).

Weick and Sutcliffe (2001) brought the concept of mindfulness to the organizational level and explained it in terms of High Reliability Organizations (HROs). Schools can use HROs as a model for important organizational change. By taking the concepts of focusing on failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise, schools can improve functioning and increase mindfulness of the organization.

Problem Statement

Conceptually, mindfulness has a natural connection to other school organizational variables. The purpose of this study is to explore such relationships and link mindfulness to the study of school organizations. The independent and dependant variables will be discussed below.

**Independent Variables**

The major independent variables for the present study are well researched and have strong empirical underpinnings in the field of educational administration. They include: trust, enabling school structure, and collective efficacy.

**Trust.** Within the construct of trust there have been three main referents of trust identified in the literature that come to bear on the current study: faculty trust in colleagues, faculty trust in the principal, faculty trust in clients (parents and students) (Hoy & Tschannen-Moran, 2003). The concept of trust is important within any organization because it is the moral glue that holds the organization together, for without
trust the productivity of the organization will decrease (Hoy & Tschannen-Moran, 2003). Trust is a critical ingredient in learning (Rotter, 1967), which makes it of particular interest to educators because teaching and learning are the primary functions of schools. Trust has been tied to well-functioning schools and school effectiveness (Goddard, Tschannen-Moran, & Hoy, 2001; Hoffman, Sabo, Bliss, & Hoy, 1994; Hoy, Sabo, & Barnes, 1996; Hoy, Tarter, & Wiltkoskie, 1992; Smith, Hoy, & Sweetland, 2001; Tarter, Sabo, & Hoy, 1995).

**Enabling School Structure.** Enabling bureaucracies (schools structures) have also been linked to well-functioning schools (Hoy & Sweetland, 2000, 2001b). In enabling school structures, teachers trust each other more, demonstrate professional autonomy, are not bound by constrictive rules, and do not feel a sense of powerlessness (Hoy, 2003). Enabling school structures create an atmosphere where teachers can work cooperatively with each other and the administration, rather than being hindered by the bureaucracy. Rules and regulations are not coercive and do not hinder progress. Rather, such rules are flexible guidelines that allow a give-and-take that enables schools to achieve their missions and goals (Hoy, 2003).

Principal behavior is very different in an enabling school, as opposed to a coercive school. The principal will bend rules so that the mission of the school is advanced and the teaching and learning process is not disrupted. Rules are not used to bolster the power of the principal or to punish deviant teacher behavior; rather such rules are guides that the principal uses to further the vision of the school. If structures are in
place that block the vision, the principal works to change or replace them with others that are more suitable. Principals who operate in an enabling structure are generally open, cooperative, and flexible (Hoy, 2003).

**Collective efficacy.** Teachers’ sense of collective efficacy is born out of the findings of Bandura’s (1977, 1997) work on self-efficacy. The assertion of his efforts is that competence is guided and enhanced by personal competency beliefs and the factors that influence them. Self-efficacy theory extends human agency beyond personal and physiological factors to the environment and contextual situations. This notion is powerful and positively related to teachers’ willingness to overcome obstacles they encounter in their work. Collective teacher efficacy has also been established as a better predictor of student achievement than SES in some studies (Goddard, 2001, 2002a; Hoy, Sweetland, & Smith, 2002; Hoy, Smith, & Sweetland, 2002). In sum, these three independent variables, trust, enabling structure, and collective efficacy, are all important in determining well-functioning schools.

**Dependent Variable**

It is important to link the independent variables to the latest educational construct of mindfulness. Mindfulness, for the purposes of the present study, will be the dependent variable. It is believed that these four concepts are correlated with one another and that mindful schools must have the elements of trust, an enabling structure, and a sense of collective efficacy; that is, the three independent variables are necessary but not sufficient conditions for mindful schools.

The purpose of this study is threefold. The first purpose is to develop the concept of mindfulness as it relates to schools. This will be done by exploring the work of Ellen
Langer (1989, 1992) and others to develop an understanding of individual mindfulness. Once determined, the focus will continue to the work of Weick and Sutcliffe (2001) in order to develop an understanding of how the concept of mindfulness can be understood at the organizational level. Second, the construct will be operationalized for the study of schools. A check of the validity of the measure will then be performed. Third is to test a series of original hypotheses and a path model relating mindfulness to the important school constructs of trust, collective efficacy, and enabling school structure.

Research Questions

The development of this study and the outcome are concerned with several different questions. What referents of trust are related to mindfulness? How are enabling school structure and mindfulness related at the organizational level? What principal characteristics are related to fostering a sense of mindfulness in the school? What is the relationship between teachers’ sense of collective efficacy and the mindfulness of the school building? After a careful review of the literature, a path model including trust, enabling school structure, collective efficacy, and mindfulness will be developed to attempt to answer the above questions.

Research Hypotheses

The preceding section’s questions give rise to a number of research hypotheses that will steer the empirical research of this study. Reciprocal causality is assumed for each hypothesis, that is, that the causality is bidirectional. For example, the mindfulness of the principal should facilitate the mindfulness of the school but conversely the organizational mindfulness of the school may foster increased principal mindfulness. A rationale for these hypotheses will be developed in greater detail in chapter 2.
\( H_1 \) A principal’s disposition toward mindfulness is positively related to school mindfulness.

\( H_2 \) Faculty trust in the principal directly facilitates enabling school structure and indirectly, through enabling structure, influences school mindfulness.

\( H_3 \) Faculty trust in the colleagues directly facilitates enabling school structure and indirectly, through enabling structure, influences school mindfulness.

\( H_4 \) Faculty trust in the clients directly facilitates collective teacher efficacy and indirectly, through collective efficacy, influences school mindfulness.

These hypotheses suggest relationships that will give rise to a path model that will be developed and refined by the review of the literature for each of the major variables in the study. This research is not only interested in the bivariate relationships, but also in the complex interactive underpinnings of the theoretical relationships of the variables within the proposed path model.

Definition of Terms

Automaticity occurs when actors automatically react to situations without forethought or cognitive processing.

Collective efficacy refers to a group’s beliefs and perceptions “concerned with the performance capability of a social system as a whole” (Bandura, 1997, p. 469).

Collective teacher efficacy “is a construct measuring beliefs about the collective (not individual) capability of a faculty to influence student achievement; it refers to the perceptions of teachers that the efforts of the faculty of a school will have a positive effect on student achievement” (Goddard, Hoy, & Woolfolk-Hoy, 2000, p. 486).
Commitment to resilience refers to a dimension of organizational mindfulness; it causes the organization to bounce back after setbacks occur.

Conditional learning refers to information that is learned conditionally or in a way that is not static but flexible. An example would be introducing a new piece of equipment to a science class, presenting it in a way that left the use of it flexible to other possible uses. A test tube “could be” used for holding liquid, as well as many other uses.

Deference of expertise refers to a dimension of organizational mindfulness which recognizes the expertise among the members of the organization and actively seeks their advice when problems arise.

Enabling structure is “a hierarchy of authority and a system of rules and regulations that help rather than hinder the teaching-learning mission of the school” (Hoy, 2003).

Focus on teaching and learning refers to a dimension of organizational mindfulness, where the prime objective of schools is on the teaching and learning of students.

Middle schools, for the purposes of this study, refer to schools that have grades 5, 6, 7, and 8, or any combination of these grades only. A building containing grades 3, 4, and 5 would not fit this description, whereas a 5-6 building would.

Mindfulness is when observers have an open state of mind, in which they are actively engaged in the present, noticing information as new and flexible to different context (Langer, 2000).

Mindlessness is acting like an automaton programmed to react to new situations based on past experiences instead of the present (Langer, 2000).

Over-learning occurs when one can perform a task without cognitive processes. Examples might include brushing teeth, driving a car, tying a tie, or tying shoes.
Premature cognitive commitments describe information that is learned in a one-time, irrelevant manner. The information is accepted uncritically. The information is committed in a set to one predetermined use and other possible uses are rendered inaccessible (Langer, 1992).

Preoccupation with mistakes refers to a dimension of organizational mindfulness, where people in the organization are constantly on the lookout for mistakes and vigilantly seeking solutions for them.

Reluctance to simplify interpretations refers to a dimension of organizational mindfulness that embraces the complexity of issues and events that surrounds the organization, rather than trying to simplify and reduce them.

Self-efficacy “refers to beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3).

Social cognitive theory refers to assumptions and concepts that explain human behavior using the notion of triadic reciprocal causation, that is, interactions of the person, the environment, and their behavior as it is filtered through and controlled by the concept of human agency (adapted from Bandura, 1997).

Teacher efficacy is “the teacher’s belief in his or her capacity to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233).

Trust is “an individual’s or a group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (Hoy & Tschannen-Moran, 2003, p. 185-186).
Assumptions

The basic assumption in this study is that teacher perceptions are accurately portraying the staffs’ feelings and intentions as well as the principals’ actions. In studies on self-efficacy it has been shown that individuals’ ideas are successful indicators of their behavior when self-rating efficacy beliefs (Bandura, 1997). Collective efficacy, trust, mindfulness, and enabling school structure are all measured using the staffs’ perceptions about themselves and others by use of a survey instrument, so the assumption is made that these perceptions are accurate and candid because the responses were anonymous. It was also assumed that having multiple observations of the same school improves the accuracy of the measure, so an effort was made to survey the entire staff.

Limitations

This study was limited to middle schools in Ohio. Although the sample taken was not randomized, care was given to have a representative sample by collecting data from rural, urban, and suburban schools. Although the sample was diverse, generalizations to larger school populations, to other grade levels, or to school populations outside of Ohio should be done with caution.

The scope of this study was limited to include the three independent variables of trust, enabling school structure, and collective efficacy. These were chosen due to a strong theoretical link to mindfulness. However, other school-related variables may very well have a relationship with mindfulness. These might include leadership style, academic press, teacher longevity, teacher effectiveness, and social capital. The author of the present study eagerly awaits other researchers to include mindfulness in future studies.
Summary

The study of educational administration is broad and often changing. Chapter 1 outlined the present study as it pertains to developing a new construct of organizational mindfulness in schools as it relates to other well-established variables in the field, namely trust, enabling school structure, and collective efficacy. Hypotheses pertaining to the relationships between the variables in the study were made and discussed. A list of terms was generated and defined to ease the readers’ understanding of the concepts. Finally, a discussion of the limitations and assumptions of the study was made. The following chapter will include a thorough exploration and review of the extant literature that pertains to the previously mentioned variables as well as a rationale of the hypotheses.
CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES

This chapter provides the conceptual and historical development of mindfulness, collective efficacy, enabling school structure, and trust. The evolution of mindfulness will be addressed before discussing the other variables. Within the mindfulness section of this chapter, a brief review of mindfulness definitions and some notable effects of mindfulness precede a survey of the concept's development since inception. A discussion of individual mindfulness will precede organizational mindfulness. Separate analysis of collective efficacy, enabling school structure, and trust are then presented. Finally, the chapter concludes with a set of hypotheses and a parsimonious path model.

Individual Mindfulness

Mindfulness as a construct conjures up a multitude of different images and thoughts. Conventionally mindfulness is thought to be regardful, attentive, or heedful (Mish, 1988). Historically mindfulness was associated with eastern philosophies. Buddhism considered mindfulness as a basic approach to the spiritual journey (Trungpa, 1976). Mindful meditation practices are called vipassana, or insight meditation. By focusing one’s attention on one point, omphaloskepsis, a sense of calmness and stability, is achieved (Kabat-Zinn, 1993). In the field of healthcare, mindfulness has been used to
increase benefits of patient care and longevity in elderly populations. Giving patients
more choice in their care has been shown to have significant results on stress reduction
and longevity (Langer 1989; Langer, Janis, & Wolfler, 1975). The fields of business and
education have also more recently begun to study this construct (Langer, 2000; Langer &
Moldoveanu, 2000a, 2000b; Ritchart & Perkins, 2000; Weick & Sutcliffe, 2001; Weick,
Sutcliffe, & Obstfeld, 1999).

Mindfulness and its counterpart, mindlessness, have been explored empirically
for the last 30 years. Mindfulness is the condition in which observers have open states of
mind, in which they are actively engaged in the present, noticing information as new and
flexible to different contexts (Langer, 2000). Mindlessness, conversely, is when one acts
like an automaton programmed to react to new situations based on past, instead of
present, experiences (Langer, 2000). Mindfulness has also been defined as “the
combination of ongoing scrutiny of existing expectations, continuous refinement and
differentiation of expectations based on newer experiences, willingness, and capability to
invent new expectations that make sense of unprecedented events, a more nuanced
appreciation of context and ways to deal with it, and identification of new dimensions of
context that improve foresight and current functioning” (Weick & Sutcliffe, 2001 p. 42).
Being in a mindful state requires that one is open to see information as new, being
sensitive to context, open to creating new categories, and seeing things from more than
one perspective (Langer, 1989a). Mindfulness is best understood as the process of
drawing novel distinctions (Langer & Moldoveanu, 2000b). Mindlessness is the opposite
end of the continuum. Mindlessness relies on previously-learned information and actions
that can be performed without much cognition or forethought.
Behaviorist Approach to Individual Mindfulness Theory

The theory of mindfulness has been developed over the last 30 years primarily by Ellen Langer and her colleagues. In the early studies Langer and colleagues were interested in why people often seem to operate mindlessly and the ramifications of such actions. Mindfulness, as a construct, was born out of the work of Robert Abelson and his work on scripted behavior (Langer & Abelson, 1972), the idea that most semantic information in social interaction never reaches the consciousness and that social cognition is directed by activating standard behavioral scripts (Langer, 1992). People generally react to social settings by placing themselves into the context of a structure built out of their previous interactions. For example, when someone is approached by another who needs help, he/she reacts in a way that fits the script of behavior that is already set from previous similar situations. Help is typically offered if that is the scripted pattern of behavior, even if the person is as incapable as the first person. When shopping at the grocery one may typically ask another for help locating an item. Without knowing, an initial reaction is to offer help. Such behavior is an example of scripted behavior to help.

Langer, Blank, and Chanowitz (1978) took the studies of scripted behavior and decided to focus more on the consequences of the absence of conscious awareness of such scripted information. They were interested in the molar level deficiencies of mindlessness. “In psychology, ‘molar’ refers to processes at a relatively high level of psychological or neural organization, by contrast with ‘molecular’ explanations, which focus on very low level processes, such as the behavior of individual neurons” (Thomas, 2002). Langer (1975) first began to make the connection between the mindless scripted
behaviors to a conscious awareness of information when studying scripts for skilled behavior in chance situations. People used the familiar behavior scripts when they were faced with a situation dealing with chance, such as lottery; however, when they were asked to imagine their behavior in the same situation, they did not rely on the behavior scripts. Langer was interested in the question, “Why are persons able to process important semantic information when they are asked to imagine a social context and yet unable or unwilling to process this same information when they are actually placed in the context?” (Langer, 1992, p. 290).

To answer this question Langer began looking for contexts that triggered the actor out of a mindless script-based reaction into a more conscious and mindful state of mind. Langer and Lois Imber (1979) looked at the effects over-learning had on conscious awareness. Their hypothesis was that as a learned task becomes more familiar it becomes increasingly inaccessible to consciousness. They used pejorative labels to call into question the competence of people’s ability to complete over-learned tasks. A list of task components was provided one group of subjects to prevent the loss of conscious awareness brought on by over-learning, decreasing vulnerability in reaction to pejorative labels (Langer, 1992). By doing this, subjects became more conscious, or mindful, of the task and thus less likely to lose their ability to be successful at completing the task than when it was completed mindlessly (Langer & Imber, 1979). The study did find that conscious awareness of a task can save people from falling into mindless scripted behavior; however, another interesting finding came out of this study. If people have a
single exposure to the task it can also leave the information available to conscious recall. Chanowitz and Langer (1981) called this single exposure mindlessness a *premature cognitive commitment.*

Chanowitz and Langer (1981) wanted to see the effect a perceived disability had on performance of subjects in the study. A fictitious disorder was presented to two groups. For one group the disability was presented in a factual way which gave them no reason to consider the information further; the other group was presented the information in a way that caused them to give conscious consideration. Each group was then told they had the disorder. The group that learned about the disability without consideration performed significantly worse than the other group on the follow-up task requiring abilities that were limited by the disorder (Chanowitz & Langer, 1981).

Premature cognitive commitments describe information that is learned in a one-time, irrelevant manner. The information is accepted uncritically. The information is committed in a set to one predetermined use and other possible uses are rendered inaccessible (Langer, 1992). When future recall of information learned in this rigid and inflexible way is needed, the person is unable to reconsider the information and the result is that it is often used out of context and mindlessly. Typically, when one learns new information, it is usually presented as fact. A possible example is: at 32 degrees Fahrenheit rain will turn to snow. This is a fact that many learned early and accepted as true. One might hear a weather report and see that the high will only be 30 degrees. Snow is anticipated, but it continues to rain. Mindlessly accepting a simple explanation for when it can snow, the consideration of other factors that might have an effect on the precipitation such as upper atmospheric temperature, barometric pressure, temperature
inversions, just to name a few, are ignored. When information is accepted as fact, one
does not have the occasion to challenge this information; it is often learned as a
premature cognitive commitment. When such information is needed out of context by
mindlessly accepting the information at face value one does not make appropriate
adjustments to thinking to fit new situations. Langer says it best describing the results of
the two studies:

The rigid single-mindedness that results from premature cognitive
commitments is the same as that which results from mindless
overlearning. In both cases the individual becomes insensitive to the
context-dependent nature of behavior. In both cases the individual is
oblivious to the novel subtleties in the target situation. Because such
scripted behavior can occur through a single exposure, premature
cognitive commitments are distinguished from similar cognitive
constructs, such as habit, functional fixedness, or overlearning, which
develop over time (Langer, 1992 p. 292).

It is hard to be mindful of every possible situation, and sometimes behavioral
scripts enacted in a mindless way can facilitate performance of a given task. By
substituting an ability script for the disability script Langer and colleagues were able to
increase performance. This idea was explored by Langer and Weinman (1981) when
testing whether more conscious thought was actually debilitating. In an interview setting
of people in an unemployment line in Boston, Massachusetts, participants were asked to
describe both a novel and a familiar situation. Unsurprisingly, Langer and Weinman
found that people’s ability to describe a novel situation (what is it like to be unemployed
in Alaska) was increased when given time to think, but surprisingly they found that when
people were given time to think about familiar situations (what is it like to be
unemployed in Boston) their performance was inhibited (Langer & Weinman, 1981).
Over-analyzing can be costly to the cognitive efficiency of the subjects. Thus certain tasks that are performed mindlessly keep subjects from engaging in excessive and redundant self-referent thought (Langer, 1992). Tiger Woods would be distracted if he had to think mindfully each time he swung his golf club. He can mindlessly use information learned in countless previous swings, allowing his mind to be attentive to other factors about the game that require more mindful thinking. However, Langer contends that even when success is achieved, it may come at a cost because a mindful approach that likely could improve performance could be disregarded (Langer, 1992). Langer and Piper (1987) looked at these missed opportunities through a series of studies.

The subject of conditional learning was studied in a series of experiments conducted by Langer and Piper (1987). In the first study they introduced items to subjects of one group in an unconditional way. Subjects were told for what the items were used. The item of interest was an unfamiliar rubber object that was called a dog’s toy. The conditional group was introduced to the items in a way that suggested what the items “could” be used to do. The item in question was introduced by saying this could be a dog’s toy. The researchers then created the need for an eraser using the assumption that the subjects in the unconditional group would accept the information uncritically and form a premature cognitive commitment about the items and not be able to come up with alternative uses for them. This was the case; significantly more subjects were able to come up with the novel use of the rubber object when it was introduced in a conditional context.

Two similar experiments were conducted where subjects had to use unknown objects in novel ways with comparable significant results. However, when asked to
imagine novel uses for the same object, there was no difference between the unconditional and conditional groups (Langer & Piper, 1987). Langer and Piper hypothesize that imagination and conditional learning have similar effects, bringing previously inaccessible information to conscious awareness.

Other studies explored the relationship among conditional learning, mindful learning, and memory. One study examined the direct relationship and found that on measures of recall and recognition, conditional learning was better than unconditional learning (Langer, 1992). Another study looked at the indirect relationship. Subjects were young or old and hearing or deaf. The hypothesis was that the hearing young will outperform the deaf young on memory tests, because of problems caused by the disability, but the hearing older group will not outperform the older deaf group. The premature cognitive commitment associated with memory and getting older factored into this hypothesis. It was hypothesized that the deaf population may be more mindful due to their disability. The results show that the older deaf population outperformed the older hearing subjects (Langer, 1992).

The prospect of negative long term effects of mindlessness continued to intrigue Langer and her colleagues. Langer, Perlmutter, Chanowitz, and Rubin (1988) studied the effects that premature cognitive commitments developed in childhood had on alcoholism in adulthood. They found that adults who had more than one negative experience with alcoholism as a child significantly improved their chances for successful treatment of the problem. Four groups of outpatients in an alcohol treatment facility were compared. As children, these groups either: (1) had no experience with adult models of heavy alcohol consumption, (2) had only positive experiences with adult alcohol consumption, (3) had
several distinct types of negative experience or (4) had only one negative experience. Their hypothesis that the group that formed a premature cognitive commitment of a single adult model were less likely to be able to be successful in treatment was confirmed.

The combined experimental results suggest that mindful individuals are able to take advantage of opportunities to which mindless individuals are unaware. These behavioral results are an indirect measure of the effects of mindfulness. Mindfulness can be evidenced more directly by looking at the physiological functioning of individuals. “Rather than claiming that mindfulness promotes adaptive behavior, I prefer to make the stronger claim that the body starts to die as the mind ceases to deal with novelty” (Langer, 1992, p. 295). Many studies have shown that prior to death patients experience a terminal drop in cognitive abilities. Langer (1992) suggests there is a causal relationship to cognitive ability and illness, not the other way around.

Physiological Approach to Individual Mindfulness Theory

Langer and her colleagues have performed many empirical studies on aged subjects who reside in nursing homes where most of their daily decisions are made by their caregivers. Interested in what such lifestyles do to memory, quality of life, and longevity Langer and colleagues began to conduct simple experiments to probe further. Two studies were designed to explore whether environmental factors, not age alone, affect the level of cognitive ability of the older population (Langer, Rodin, Beck, Weinman, & Spitzer, 1979). They used memory as a determinate of cognitive ability. Instead of determining whether there is a decline in memory ability in the aged, they
explored to what they could attribute this loss. They hypothesized that social and environmental factors, rather than just biological factors, influenced memory directly. In the first study 54 nursing home residents participated in the study. They were divided into three groups: (a) high reciprocal disclosure, (b) low reciprocal disclosure, (c) no treatment control. The high reciprocal group was visited by an interviewer who was introduced as a college student who began the interview by sharing with the residents personal information about him/herself. The low reciprocal group was introduced in the same way, but instead of sharing personal information about themselves, they asked the resident to share information about their lives. The control group had no interaction. The hypothesis that the high disclosure group would score higher on a memory test was confirmed (Langer et al., 1979).

The second study consisted of 45 nursing home residents who were randomly assigned to three groups: (a) contingency group, (b) non-contingency group, (c) no treatment control. In the contingency group the residents were visited nine times over a three-week period. On each visit they were asked memory questions about their daily activities and they were rewarded for each correct response with poker chips. Subjects were able to use the poker chips at the end of the study to redeem prizes, the more chips the better the prize. The non-contingency group was asked the same questions, but the chips in this case were not used as rewards, but mementoes of the visit. They too were allowed to use them for a prize at the end of the study, but the number of chips was not tied to the size of the prize. The control group was visited and pre-tested and told they would be visited and tested again in three weeks. They too were offered a prize. The hypothesis that the contingency group would outperform the others was confirmed. The
memory of the subjects was significant, but the more surprising finding came two and a half years later. Langer, Beck, Janoff-Bulman, and Timco (1984) contacted the original subjects and found that significantly fewer of the contingency group had died compared to the other two groups.

Another study was performed to explore the physiological effects of mindfulness in the elderly population. A group of 17 subjects between 70 and 75 were self-selected to participate in a five-day retreat (Langer, 1992). The experiment was set up to simulate how these men lived 20 years ago. They were taken out of their current homes and placed in a setting that resembled how things appeared 20 years earlier. Magazines, books, movies, and group exercises were used to promote the perception that the subjects were living 20 years in the past. Discussions used present tense when referring to past events, in order for subjects to put themselves in the past. A control group was also taken on retreat, but the past tense was used to discuss the past and the environment was set in the present. The findings were that both groups had significant gains from the pre-test to post-test, but the experimental group had several significant gains over the control group. There was a greater gain in cognitive ability, as measured by the Digit Symbol Substitution subtest of the Wechsler Adult Intelligence Scale, and greater improvement on measures of joint flexibility, posture, manual dexterity, and near point vision for the experimental group over the control (Langer, 1992).

The question of whether cognitive intervention could promote longevity prompted another study (Alexander, Langer, Newman, Chandler, & Davies, 1989). Seventy-three elderly residents from eight nursing homes were studied to determine the difference in effects of mindfulness training, transcendental meditation (TM), and relaxing to a control
The subjects were randomly assigned to one of four groups: control, relaxation-only, transcendental mediation, and mindfulness training. All subjects, except the control, were asked to sit with eyes closed for 20 minutes twice a day and practice their instructions. The relaxation-only group was only to sit and relax, the TM group was to repeat a mantra to facilitate restful alertness, and the mindfulness group used guided attention exercises along with unstructured mental activity (Alexander et al., 1989).

The hypothesis that the mindfulness training would be conducive to health and increase longevity was confirmed. Eighteen months after the study began, nurses who cared for the patients and were blind to the subject experimental conditions rated the subjects on their mental health. The mindfulness group and the TM group received significantly higher ratings. More importantly, 36 months after the experiment first began the survival rates for the mindfulness and the TM groups were significantly higher than the other groups and the average survival rates of all the residents in the eight nursing homes sampled for the study.

Mindfulness and TM both may have beneficial health effects; there is a difference that was found between the two strategies. This comes from the measures of impatience and perceived control. The mindfulness group scored significantly higher than all three other groups on the revised Internal Locus of Control Scale (Alexander et al., 1989). However, the mindfulness group failed to differ from the other four groups on measures of self-reported impatience. The TM group was the only group to differ on measures of impatience. “Rather than accepting a given situation, the mindful group appeared interested in mastering it. Perceived control is not just feeling comfortable. It is not
merely meeting the routine and expected with success but also seeking novel challenges that strengthen one’s sense of internal control” (Langer, 1992, p. 298).

Langer contends that perceived control and mindfulness result in greater risk taking. “When one is willing to gamble, i.e., to risk the status quo in an attempt to achieve even greater success, one is open to opportunities that others would overlook. As a result, from the actor’s perspective, risk taking is mindful” (Langer, 1992, p.299).

When comparing self-disclosure to playing the slots, they might not appear similar, but each is a form of risk taking. Langer studied the links between risk taking behavior and its effects on consciousness.

Senility is often thought of as an age-related loss of conscious awareness. Langer and her colleagues (Langer, Beck, Janoff-Bulman, & Timco, 1984) thought that behaviors that are labeled as senility are often adaptive responses to over-routinized environments. Their hypothesis was that those who have been labeled senile by the medical community were individuals who were willing to accept the social risk of noticing aspects of the environment that the rest of us think are trivial (Langer et al., 1984). They are willing to see things differently and to create categories that the non-senile residents are not. The senile group was able to identify more novel uses of familiar objects than the control group. When blindly rating the subjects, judges rated the senile group as significantly more creative than those without senility. Consistent with other measures of mindfulness, after accounting for disease as a covariate, Langer et al. found that the group labeled senile outlived the control group.
Cognitive Approach to Individual Mindfulness Theory

To understand how mindfulness is different than other concepts it is important to distinguish between concepts such as set, expectation, labels and roles, as well as habit, functional fixedness, and automaticity. Each of these concepts carries similar elements of limited information processing as mindfulness, but is different (Langer, 1992). Mindless behavior occurs when conscious attention to a few cues comes to represent scripted behavior. Langer (1992) makes the distinction:

Sets, labels, expectations, roles, etc., like scripts, work to direct attention to certain information and consequently away from other information. Although minimal information processing may occur as a result of these factors, they do not necessarily produce mindlessness. In fact, scripts, roles, sets, labels and the like may be enacted mindlessly or mindfully (p. 300).

Often one looks at phenomena and tries to make sense of it without having the complete picture. Kahneman and Tevrsky (1972) refer to representativeness heuristic, or the tendency for people to see a systematic tendency in randomness. Observers tend to overanalyze random patterns to make sense of them. By focusing on information that is readily available, one mindlessly directs attention away from much other less available information (Langer, 1992).

Bias of representativeness may limit our awareness, but such actions may focus our attention to a more mindful awareness and to novelty. An example involved the physicians who first recognized the signs of the AIDS epidemic. They noticed a few young patients who had prematurely died of pneumonia, which was uncommon for this age group, but intuitively it appeared to be an abnormal rise in occurrence. Statistically the sample they had was too small to draw any conclusions, so had they announced an
epidemic they would have been faulted for representative bias. However, failing to notice this rise would have made them mindless to one of the most far-reaching medical phenomena of the century (Langer, 1992).

By using the bias to draw attention to novel information that would otherwise go unnoticed, it is enacted mindfully. “The mindfulness of this attention to novelty is independent of whether the new information is interpreted in conformity with normative standards or, as with those labeled senile, is viewed as maladaptive. In this respect mindfulness differs fundamentally from other descriptions of global cognitive processes, such as intelligence, that rely on standards of optimal performance” (Langer, 1992, p. 300). Mindfulness occurs when expectations are not met. These might be affected when external factors disrupt routine or when routine behavior no longer fits past experience.

Mindfulness is similar to automaticity, habit, and functional fixedness because it is a constant behavior that occurs with little or no conscious awareness. However, mindfulness differs from the others because it does not necessarily require repetition. Mindlessness/mindfulness theory (Langer, 1992) also differs from the other concepts because mindfulness does not assume effortful capacity-limiting mental processes. There is no concept of limited capacity in mindfulness. It assumes that all limited capacity is a result of mindless acceptance of premature cognitive commitments. As shown by Langer, Rodin, Beck, Weinman, and Spitzer (1979) both short and long term memory can be improved through contextual variables; therefore, the amount of information processed consciously is also variable.

Mindfulness/mindful theory is also distinguished from the others by how information is viewed. Both mindfulness and controlled processing require one to
interpret information consciously; however, mindfulness requires categorization of the information before it is processed. “Controlled processing is the conscious processing of information within a given context. Mindfulness is a conscious awareness of the larger context through which information is understood” (Langer, 1992, p 301). An example is looking at one’s performance on a standardized test. Processing the information of the statistical information may be considered crucial for understanding the context of the results. However, to mindfully analyze the results requires one to keep in perspective other results, implication of the results, comparing the results with previous performance, and also being able to interpret the results. One who acts mindfully will have a more nuanced and broader perspective of the situation at hand. Being aware of the many contexts in which environmental cues can be processed is the essence of mindfulness. In the context of typing, the symbol “l” can be viewed as a lowercase “l” or as a one. Being aware of the various interpretations of the symbol is being mindful; not seeing other contexts is mindless.

Automatic processing was also compared to mindlessness. Automatic processing causes one to compare stimulus to response, often but not always, without conscious awareness. Repetition is also a requirement for automatic processing, unlike mindlessness. Mindlessness does not require repetition, nor is the information accessible to consciousness. A premature cognitive commitment may have been the root of the mindless behavior, so it is rendered inaccessible to conscious thought. The fact that water freezes at 32 degrees Fahrenheit is a fact that many have accepted as a premature cognitive commitment. Observers of this fact do not consider alternative perspectives unless challenged. What about mineral water? Does the freezing point change?
Mindlessly, most would say not. “This inattention to context resulting in an inability to view information from several alternative perspectives is characteristic of a mindless state of mind” (Langer, 1992, p. 302).

Thus far the research suggests that mindfulness/mindlessness may be crucial for both cognitive and physiological functioning. Being conscious of the psychological and physiological effects of scripted behaviors can allow one to break free of the premature cognitive commitments attached to these scripted behaviors. A mindful state of mind blurs the boundaries of the psychological and the physiological. The mind-body distinction, Langer argues (1992), is one of the most deeply ingrained premature cognitive commitments in western culture. She goes further to suggest that by believing in the natural limitations of the body and the mind people severely limit their potential by unconsciously self-restricting performance. The debilitating effects of mindlessness permeate all facets of life, including cognitive performance and longevity (Langer, 1989a). By becoming more aware of behavioral scripts individuals can begin to tear down the premature cognitive commitments that hold them back. “Attention to both the situational factors and the individual factors that occasion conscious awareness of our potential freedom from self-imposed limitations may provide helpful information allowing for the restructuring of our own premature cognitive commitments” (Langer, 1992, p. 302). Individuals who break free of these contexts can begin to gain more control over the traps that contain them.

Conclusions about Individual Mindfulness

Mindfulness can be viewed from the different perspectives of behaviorist, physiological, and cognitive. The question of where this construct fits into the literature
base in psychology has been raised (Folks, 1985). Appropriately enough for the
construct, the answer is all and none. Mindfulness can be approached from many
different perspectives, but to understand all the nuances, one needs to step away from the
current literature and create a new category.

Mindful individuals have three basic qualities: they create new categories, they
are open to new information, and they are aware of more than one perspective (Langer,
1989a). Creating new categories allows individuals to break free of their premature
cognitive commitments. Openness to new information allows for an understanding of
different perspectives. Seeing information from more than one perspective allows for the
individual to be sensitive to alternative explanations and find novelty in all situations.

Bodner (2000) describes four states of mindfulness:

1. Engagement
2. Novelty seeking
3. Novelty producing
4. Flexibility

These are similar to the three basic qualities described by Langer. Engagement and
novelty seeking relate to the degree and manner of how the individual approaches the
environment. One who is engaged is aware of the environment and him/herself and the
relationship between the two. The environmental details viewed by the engaged person
are seen through the lens of how the big picture relates back to self. Approaching the
environment as an opportunity to learn and specifically seeking out these opportunities is
the basis of novelty seeking.

Novelty producing and flexibility determine how information about the
environment is processed. Constantly reassessing and reconstructing understanding based
on environmental changes is the basis of mindfulness. Flexibility allows one to see the
situation from many different perspectives, opening alternative explanations of causes and effects of a single situation. Flexibility also allows for one to be able to change his/her perspective easily. “A mindfully flexible person is implicitly aware of the social construction of reality and believes that all knowledge is bounded by social context” (Bodner, 2000 p. 15). Novelty producers take these insights to produce new and alternative explanations and new associations are created. This differs from flexibility in that novelty producing adds new information or associations, whereas flexibility does not. It might be said that in order to produce novelty one must be flexible, but the opposite is not necessarily true.

Bodner (2000) created a scale to measure one’s personal disposition toward mindfulness based on the four dimensions of mindfulness described above. More about this measure will be discussed in the methodology section in chapter 3.

By using the four principles of mindful individuals, one can influence his/her cognitive approaches, behavior patterns, and probably most importantly, longevity and health. Using such information about the individual it is possible to project these qualities onto the collective. Larger entities such as groups or organizations can also be thought of as mindful. It is evidenced in the research that a mindful perspective can enhance many areas of one’s life. The same notion can be hypothesized to the organization. If mindful individuals are more healthy than mindless individuals then the same should be true for groups and organizations.

Organizational Mindfulness

Langer’s work on mindfulness of individuals has been insightful to the current understanding of the construct. While it is helpful to have an understanding of
mindfulness at the individual level, when studying schools, individual mindfulness does not provide a full picture. Adding to the understanding of mindfulness is Weick and Sutcliffe (2001) and Weick, Sutcliffe, and Obstfeld (1999). They describe a theoretical notion of mindfulness of the organization as a whole, as collective mindfulness. Mindful organizations are manifested in High Reliability Organizations (HROs). HROs are organizations like nuclear reactors, municipal power grids, aircraft carriers, and others where, in the event of a disaster there would be devastating repercussions.

According to Weick, Sutcliffe and Obstfeld (1999) HROs have five main dimensions that set them apart from other organizations. “Processes in HROs are distinctive, though not unique, because they focus on failure rather than success, inertia as well as change, tactics rather than strategy, the present moment rather than the future, and resilience as well as anticipation” (Weick, Sutcliffe, & Obstfeld, 1999, p. 86). They also made the case that HROs strive for reliability through processes of cognition as much as processes of production. The five dimensions of organizational mindfulness were reworded by Weick and Sutcliffe (2001) as hallmarks of high reliability:

1. Preoccupation with failure
2. Reluctance to simplify
3. Sensitivity to operations
4. Commitment to resilience
5. Deference to expertise.

However stated, it is clear that HROs are functioning at a more heightened level of excellence than most organizations. The key to these dimensions of HROs is what other organizations can learn and adapt to their own functioning.
Preoccupation with Failure

The concept of being preoccupied with failure might at first glance seem counter-productive or a notion that goes against many organizational practices. Historically organizations have focused on their successes and used them as leverage for more successes. Whenever enticing new business, organizations almost always related their successes, not their failures, to potential clients. Schools are no different; they tend to share successes, but are reluctant to “air dirty laundry.” Schools and districts are complemented for doing well on state measurements and punished for not doing well. If success is the desired outcome, it seems that focusing on the success to attain the goal would be prudent.

Conversely, Weick and Sutcliffe (2001) argue that focusing on success breeds complacency, arrogance, and laziness. By looking only at successes organizations start to see more data that confirm expectations and tend to dismiss data that fail to confirm expectations. If success is the motivator and the goal, the organization will start to live out a self-filling prophecy that identifies only the data that confirms the organizational goals, ignoring or down-playing data that point to the contrary. By ignoring or failing to notice small latent failures an organization is bound to have clouded judgment when larger problems arise. When these failures are allowed to grow they are often harder to control than when caught early.

When an organization is preoccupied with failure it treats any lapse as a symptom of something wrong with the system. HROs encourage reporting errors and often reward it. Employees in many organizations try to cover up their mistakes, while HROs celebrate the chance to analyze mistakes. They elaborate on near-misses and find ways to fix the
system so such mistakes do not happen again, while other organizations pat themselves on the back for avoiding disaster. They are aware of the liabilities of success and avoid becoming too satisfied with their achievements, while other organizations gloat and celebrate their success. They are aware of the risks of widening safety margins and they avoid drifting into automatic processing, while others see these as two good ways to increase profit margin and streamline systems (Weick & Sutcliffe, 2001). By being preoccupied with internal failures an organization is able to catch potential problems before they blossom into larger more systematic failures. They are able to “nip problems in the bud.”

Reluctance to Simplify

The notion of simplification is widespread today. Collectively there is more information available to organizations than ever before. The ability to synthesize and simplify this information is often sought and celebrated. Sound bites from the media and internally in organizations are the norm. The executive summary has become a desired and often required part of complex studies. What is left out is often the information that allows a more nuanced appreciation for the task at hand. The details bring clarity and substance to argument and bolster points of view. By simplifying less, organizations see more (Weick & Sutcliffe, 2001).

By creating a reluctance to simplify culture, an organization does not limit itself by cutting out often key information. HROs and other organizations deal with an increasingly complex, unstable, unknowable, and unpredictable world (Weick & Sutcliffe, 2001). It should be the goal of every organization to capitalize on the information available, not limit it. HROs accomplish this by hiring people with diverse
experiences to expand boundaries. They encourage skepticism of conventional wisdom and old ways of accomplishing tasks. They also negotiate differences of opinion without destroying diversity of opinions.

Schools, like other organizations, look for ways to simplify their operations. Whether it is in areas of curriculum, budgets, personnel, benefits, or maintenance, organizations look for ways to streamline operations. According to mindfulness theory organizations should create new categories and produce novel ways of approaching problems. By being reluctant to simplify, structures are created to solve problems with more parts of the puzzle. Such complexity creates organizations that have a more diverse set of operating procedures to manage the unexpected.

An example of an organization that is reluctant to simplify might be a school decision-making body. In many schools this might include the principal, assistant principal, and department heads. As far as the organizational structure is concerned, these people should be the ones on such a committee. However, if the same school used reluctance to simplify as a goal, one might see other members on the committee including: students, parents, community leaders, custodial staff, other teachers or classified staff. This group of people will share a more diverse opinion on the ideas brought forward than the more streamlined group of traditional school leaders. The decisions they make will consider the perspectives of all the stake-holders rather than the limited scope of the school administration.

Sensitivity to Operations

Most managers would probably agree that being sensitive to the operation of the organization is important. However, how many corporate executives can specifically
speak to what is happening on the front line of the organizations they lead? How many school leaders can discuss specifically what is happening in the classrooms throughout the buildings they lead? HRO’s distinguish themselves from other organizations by being attentive to the “front line” because this is where the work gets done (Weick & Sutcliffe, 2001). They are concerned with situational structures rather than strategic structures. The structural model that many organizations use is hierarchical. The workers are the base, the managers are higher up the chain of command, and the leader sits on the top of the ladder.

During disasters the hierarchal model does not function well because of many factors, most importantly the timely flow of information. Firemen in a fire do not have time to get orders from superiors in the command post, so they assess the danger and use their training to get the job done. This is how many teachers also handle unexpected events in their classrooms. Many incident command systems are set up in a three tier command: bronze, silver, and gold. The bronze team is involved with routine tasks on the frontline; in schools this would be the teachers and department heads. The silver team coordinates the allocation of resources and equipment; in schools this would be the building level administration. The gold team is in charge of overall policy and incident response and making sure that policy-based decisions are carried out; in schools this would be the central office, superintendent, and the board of education’s responsibility (Weick & Sutcliffe, 2001). This structure works well in a crisis because it keeps the commanders away from meddling too much in the operation.

HROs have a similar format, but they implement it differently. They try to let expertise, not hierarchies, drive the system. More about expertise will be discussed later.
They also take the symbolic color codes and reverse them. The bronze, mundane, frontline team is now the symbolic gold team that defines and drives the rest of the system. The information flows backward from the frontline to the “big-picture planners” (Weick & Sutcliffe, 2001). The operations run the organization. In HROs the key to effective performance is maintaining situational awareness. “When operations are treated as gold, this means that small interruptions in operations get undivided widespread attention” (Weick & Sutcliffe, 2001 p. 63). Such attention to operations allows small problems to get caught in their infancy before they get to be bigger and harder to contain.

HROs also differ from crisis command teams because they do not let hierarchies become dysfunctional bureaucracies. They allow everyone involved to get immediate information and instruct everyone to work with a common goal of maintaining the needs of the operation. They are attuned to the big picture and allow more people in the organization to be in the information loop (Weick & Sutcliffe, 2001).

Schools can adapt this model to determine the real time needs of the teachers and students. Administration is there to make sure the operation of the building, teaching and learning, is implemented effectively and in a timely manner. If everyone in the building is attentive to the needs of the operation, the school is run more smoothly; theoretically the school will function more effectively. Identifying problems when they happen is the key advantage to being sensitive to operations.

Commitment to Resilience

The previous three sections discussed what an organization can do to stay mindful and catch unexpected events before they become major problems. The current section
and the next will discuss what an organization must do to stay mindful if unexpected events occur and the structures that should be in place to contain them and control the fall-out from such events.

Resilience in business is important and should be important in schools as well. A business that is not resilient could have unexpected events eventually close it down, so a motivation to bounce back quickly should exist in all organizations. Schools are different from businesses because ineffective schools often continue to run. However, by borrowing the concept of resilience a school can become more effective by creating an urgency to bounce back and to become more resilient. Weick and Sutcliffe (2001) define the commitment to resilience as the organization’s ability to “detect, contain and bounce back from those inevitable errors that are part of an indeterminate world” (p.14).

There is a contrast with how to deal with unexpected events described by Wildavsky (1991). One way is by anticipation; the other is to use reliance. In the face of unexpected risks, if organizations choose anticipation they “sink resources into specific defenses against particular anticipated risks” (Wildavsky, 1991 p. 220). This is analogous to getting vaccinated. The risk of smallpox is increasing, so putting resources into getting vaccinated might be a good way to anticipate the risk and take steps to control losses. In schools, Hepatitis B and Influenza are risks; so many districts have nurses available for free vaccinations to anticipate great injury or loss of work from sick staff members. Anticipation of risks makes sense when risks are highly predicable and remedies are relatively safe and cost effective.

For many organizations, including HROs, the risks are too numerous to count. To anticipate which one will become manifest is practically impossible. Resilience makes
sense in this situation because risks are so uncertain and unpredictable and the remedies have the potential to do harm. There are also some risks that are not even considered. The World Trade Center bombing on September 11, 2001 is a case in point. Anticipating the risk would have been cost prohibitive in constructing the building and running the air transportation system; additionally, imagining that such an event would occur was impossible for most. By being resilient an organization invests in knowledge and command over resources in order to marshal an adaptable response to unexpected events (Weick & Sutcliffe, 2001). This is done by maintaining a commitment to improving self-knowledge, relational knowledge, content knowledge, and capabilities to act in a thinking manner. Schools become more effective in dealing with the unexpected events by embracing the premise of commitment to resilience.

Deference to Expertise

Expertise is a concept that is hard to measure in many situations. People have expertise due to natural abilities, training, and experience. The problem many organizations have is the untapped expertise in the organization that often goes unused and unnoticed. Identifying and using this expertise is often difficult and sometimes impossible due to time constraints on decision making. Because many people in organizations are defined by formal titles and job descriptions and the centralized notion of bureaucracies is so strong, it is easy to see why expertise can be so illusive.

Many organizations function using a top down model of decision making and flow of information. “Errors at higher levels tend to pick up and combine with errors at lower levels, thereby making the resulting problem bigger, harder to comprehend, and more prone to escalation” (Weick & Sutcliffe, 2001 p. 16). Conversely, HROs take
decision making and push it down and around the organization. They believe that decisions that affect the front line should be made by the actors on the front line, because they are the ones with the expertise. Formal titles, experience, and positions come second to expertise. It is not the person with the most experience or the formal title who makes the decisions; expertise is the guiding force. The problem is moved around or “migrated through” the organization until the person or people with the expertise to solve it, encounter it and make the problem their own.

In schools the premise of deferring to expertise might manifest itself as a teacher being involved in scheduling, curriculum planning, or ordering. The administrations should ask the question, “Who is the right decision maker for this decision?” instead of automatically making all the organizational decisions. There will be instances when the administrator is the right person to decide, but there will also be times where he/she is not. Being flexible in approaching decision making with openness to the process is a key element of mindfulness. Deference to the experts in the organization, regardless of title and position, is the prevailing concept in understanding organizational mindfulness.

Mindfulness Summary

There is room in schools for the development of individual and organizational mindfulness at all levels in the hierarchy. Using the construct of individual mindfulness, faculty members can look for ways to make themselves more sensitive to the four dimensions described by Bodner (2000): engagement, novelty seeking, novelty producing, and flexibility. Schools can also strive to build structures that allow for organizational mindfulness to permeate their ranks. By focusing on mistakes, being reluctant to simply interpretations, being sensitive to teaching and learning, committing
to resilience, and deferring to the expertise in its ranks, a school or school systems can function more mindfully. One of the questions to be answered by this study is: what kinds of structures or school climates foster the concept of mindfulness?

This study hopes to explore and describe the concept of mindfulness in schools for the first time by examining the relationship between this variable and the well established constructs of trust, collective efficacy and enabling school structure. Understanding the relationships between these variables and mindfulness will stand as a base line study of what mindfulness means in schools. The review of literature will now focus on the other three pertinent variables – trust, collective efficacy, and enabling school structure.

Trust

Trust is a concept that may be overlooked in the discussion of organizational climate and culture. However, without trust the organization begins to crumble. It is the philosophical glue that binds the relationships and different facets of an organization together. For the purposes of the current study, trust is important to the relationships between variables, where without it the other constructs are not able to work to their fullest potential. Rotter (1967) considered trust as a critical ingredient to all human learning. When considering schools this statement carries even more credence because learning is the school’s central goal.

Trust is a construct that on the surface everyone intuitively understands. However, it is hard to agree on a definitive definition of trust. It is probably easier to recognize the absence of trust in a relationship. People can typically and readily identify distrust in
others, but trust is more elusive. Baier (1994) likened trust to air; we do not notice it until it is gone or polluted, and then we realize just how important it is.

There is a myriad of definitions of trust in the literature. Most of these have a common thread of beliefs that individuals and groups of people act in the best interest of the concerned party. Interdependence is a key factor to trust, said simply; trust cannot exist without reliance upon both parties involved (Rouseau, Sitkin, Burt, & Camerer, 1998). The absence of interdependence in the relationship negates the need for trust. Another common thread in the literature is the presence of vulnerability, which is created by interdependence (Baier, 1986; Bigley & Pearce, 1998; Coleman, 1990; Mayer, Davis, & Schoorman, 1995; Mishra, 1996). Hoy & Tschannen-Moran (2003) consider trust a multifaceted construct that changes depending on the context. The five facets of trust they posit are: benevolence, reliability, competence, honesty, and openness. A brief description of these follows. Included in this discussion are two other facets found in the literature: vulnerability and confidence.

**Benevolence**

Benevolence is “confidence that one’s well-being or something one cares about will be protected and not harmed by the trusted party” (Hoy & Tschannen-Moran, 2003 p. 183). This facet of trust is the belief that one will not take advantage of another’s vulnerability, even if the opportunity to do so exists.

There are numerous ways benevolence can manifest itself in schools. As teachers, administrators, and school personnel, parents’ trust is crucial. Parents trust in the schools’ benevolence not to take advantage of their students. Conversely, teachers must trust in the benevolence of the students. The absence of this mutual trust and this
interdependence will have productivity costs in the classroom. If this facet of trust is not established, much of a teacher’s time and energy must go into monitoring expected or imagined student misbehavior (Hoy & Tschannen-Moran, 2003). Benevolence is a key ingredient to the goodwill that establishes healthy interpersonal relationships.

**Reliability**

“Reliability combines a sense of predictability with benevolence” (Hoy & Tschannen-Moran, 2003, p184). When considering predictability, absent of benevolence, one can accurately predict behavior. However, without the element of benevolence, a trustful situation could not occur because predictability means the actor could be predicted to act negatively. Predictability is a key ingredient in a trustful relationship; however, if the person is predictably dishonest, malicious, spiteful, nasty, and cruel then trust is not established. When predictability is coupled with benevolence, then reliability is established and trust is fostered. Once reliability is established there is no need to waste time or energy worrying about whether the person in question will be working to serve the best interests of the trusting party.

**Competence**

One can establish reliability and benevolence, but if competence is not present then neither is trust. Some expectation of skill is always involved in a relationship. The situation might be as simple as delivering a package. If poor map reading skills, poor driving skills, and the propensity to get lost are norm, then trust is not present. The person in question must have the skills needed to perform the task, if not, trust will be weakened, even when the best intentions of success are incorporated. In schools competence is extremely important to the process of teaching and learning. Teachers rely on the
principal’s competence to communicate effectively a clear vision for the school, provide proper resources, and effectively manage the building in a manner that is consistent to learning. Principals rely on the teachers’ abilities to effectively provide accurate content and age-appropriate methods to foster student learning, as well as being able effectively to manage classrooms. Students rely on the teachers’ and principal’s competence to provide a safe and nurturing environment in which to learn. An absence of the ability to deal competently with situations erodes perceived competence and trust.

**Honesty**

When one thinks of a person he or she trusts, a quality that often comes to mind is honesty. In the words of Rotter (1967), trust is “the expectancy that the word, promise, verbal or written statement of another individual or group can be relied upon” (p. 651). “Honesty is a person’s character, integrity and authenticity” (Hoy & Tschannen-Moran, 2003, p 185). Honesty is built when statements by a person validate “what really happened” in a given situation and when promises of future actions are kept and completed. The absence of honesty chafes the trust in a relationship.

**Openness**

Openness in a relationship is a two-way street. An open relationship makes people vulnerable to one another. Openness is characterized by the sharing of relevant and important information. This information could be concerning organizational matters or personal matters, but the idea that the people sharing are giving of themselves (Mishra, 1996). This information is shared in the belief that it will not be used in malice against
the person who shared it. Said another way, trust is established and an understanding of
benevolence is implicit. Hoy and Tschannen-Moran (2003) elucidate that openness
signals reciprocal trust.

_Vulnerability_

One of the most important facets of trust is the concept of vulnerability or the
willingness to take a risk. Trust has been likened to gambling in that one who enters into
a trusting relationship sees the potential gain as outweighing the potential losses
(Deutsch, 1958). By trusting, one is made vulnerable to another and a calculation of risks
and benefits occurs in a way that is similar to gambling. Viewed from another angle, if
there are no potential pitfalls or possibilities of negative effects upon entering into an
event, then trust is not needed (Gambetta, 1988). The dyadic nature of trust was
explained by Zand (1972) when he described the interpersonal orientation of trust as the
unilateral choice one makes to become vulnerable to another. The common tread of
vulnerability runs through every trusting relationship.

_Confidence_

The last facet of trust discussed by Hoy and Tschannen-Moran (2003) is
confidence. Confidence is bolstered by trust in the environment. If one has confidence he
has the expectation that the institutions of the world are stable. Confidence connotes
assuredness in oneself, one’s beliefs, and institutions. However, this is different from
trust. Trust and confidence are closely related concepts that are often hard to distinguish
from one another. The distinction lies in that confidence is not necessarily planned or
thought out; however, trust considers “what-ifs” and alternatives (Luhmann, 1988). If
confidence of an individual is rattled then one will typically blame external forces on this
breach of confidence. Breaches of trust, however, are typically attributed to more internal factors of betrayal and regret, a more deeply felt experience. These two concepts are interrelated in such ways that it is difficult to separate them totally.

These seven important facets of trust build upon each other and all are required to achieve a working trust. The absence of one or more of these seven facets erodes the trust and maintains guarded relationships where speculation of intentions is the norm. Healthy organizations rely heavily on the concept of trust. In the following sections a further development of the construct of trust will ensue.

Splintered Trust

In the previous section the author described trust as a multi-faceted construct. However, a discussion of the degrees of splintered trust or the absence of trust is warranted. Lewicki and Bunker (1996) describe trust as it develops through a relationship in three stages. The stages detailed are: calculus-based trust, knowledge-based trust, and identification-based trust relationships. The explanation of the three stages of trust will be coupled with corresponding violations of trust.

Calculus-based trust is the first type of trust relationship. This might be evidenced in business transactions. These types of relationships are relatively new or underdeveloped. There is usually a quid pro quo exchange of goods, services, and ideas involved with these types of relationships. When a breach of trust occurs in a calculus-based trust relation there is usually not much fallout due to the low level of emotional and cognitive attachment with both parties. If a trust violation occurs the relationship can usually terminate without much penalty or emotional strain (Lewicki & Stevenson, 1997). This can be likened to one’s relationship with a service provider. If promises are
not met, as a consumer one can walk away and give business to someone else without much emotional attachment. This may cause some ill will and bad feelings, but the emotional cost is minimal.

The next type of trust relationship described by Lewicki and Stevenson (1997) is knowledge-based trust. It is based on a high degree of closeness and exchange of information. Courtship might be the best way to describe this type of trust-based relationship. Knowledge-based trust relationships are further developed, in that the participants are engaged in a heightened level of communication involving character and emotional issues as a function of building a level of predictability and expectancy about another person’s actions. Splintering the trust in this type of relationship involves the perception that one party or the other willfully violated the trust or acted with untrustworthy conduct. Splintering the trust in this type trust relationship is associated with moderate amounts of cogitative and emotional strain, some of which will be long-lived.

Identification-based trust is the highest level of trust-based relationship. This type of trust takes considerable time and effort to develop and is linked to the other person’s desires and intentions (Lewicki & Stevenson, 1997). An example of this type of trust is a marriage. There is deep cognitive and emotional involvement in the other person in identification-based trust. The splintering of this type of trust relationship will have devastating effects on the other’s sense of self. Outrage and revenge are possible retaliations to this type of trust betrayal.
Revenge and Reconciliation

In the previous section the author discussed three different types of trust violations – calculus-based, knowledge-based, and identification-based. However, violations of trust are not contained in a vacuum; there is usually a reaction to violations of trust. Beis and Trip (1996) posit numerous revenge tactics to trust violations: doing nothing, revenge fantasies, private confrontation, identity restoration, social withdrawal, feuding, and forgiveness. These and unmentioned others could be the responses to trust violations. From doing nothing to feuding, the initial response of the violated person might to be consider all the above responses. However, these responses also carry repercussions of their own in an organization. Doing nothing and succeeding beyond the violation is often a response employed by those who want to turn the experience into something positive (Mathews, 1988). Another scenario causes the betrayer of the trust to be shunned by the person who was betrayed, creating a difficult situation in the work environment if these two are required to work together. This can lead to withholding vital organizational information and resources, causing a decline in productivity. If the revenge escalates to feuding, possible scenarios could include sabotage and potential career termination.

There are many trust violations that might induce revenge or be harmful to the organization. Beis and Tripp (1996) discuss rule violations as potentially harmful due to impending revenge. These might include honor violations, lying, malingering, divulging information given in confidence, changing the rules after the fact, and contract breaches (Beis & Tripp, 1996). Furthermore, it can be said that social identity trust violations, which might include slander, insults, false accusations, and public criticism might also
cause harm to an organization beyond that of the individuals involved in the dispute. Education and other industries have instituted formal grievance processes in order to reduce the incidence of maladaptive revenge behaviors that arise from breaches in trust.

An alternate to revenge that is a superior way to deal with breaches in trust emerges when the person who has been violated decides to reconcile the breach with forgiveness. By doing this, the person restores some trust and tries to mend the relationship by avoiding destructive statements and continuing the maladaptive behavior (Bies & Tripp, 1996). Forgiveness in this setting must be more than an attitude; it must be coupled with statements and actions that convey reconciliation. Words to the effect of “I forgive you” go a long way in mending a broken trust (Solomon & Flores, 2001).

After the forgiveness has been conveyed it is important for the person who betrayed the trust to own up to the trust violation. Lewicki and Bunker (1996, p131) outline a four-step process that needs to occur to make that happen: (1) recognize that the violation occurred, (2) determine what caused the violation and admit to having caused the event, (3) admit that the act was destructive, and (4) accept responsibility for how the actions affected the situation. It takes the efforts of both parties involved to repair broken trust. The process will take time and energy and each party will need to be committed to the fact that the relationship is worth saving (Lewicki & Bunker, 1996).

Broken trust can lead to many problems between individuals which can spill over to organizational issues. The best hope for leaders is to insure that the trust is kept strong and that every attempt to reconcile breaches in trust is made.
Trust in School Relationships

Without others trust is not needed. Trust is tied to relationships with people and is essential to building interpersonal relationships (Hughes, 1974). Without others trust in oneself is the only thing left, and arguably trust in oneself is not trust at all. For the purposes of this study, an interest in faculty trust will be cultivated. Hoy and Tschannen-Moran (2003) define trust as “an individual’s or a group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (p. 185-186). Within their study, Hoy and Tschannen-Moran (2003) describe three referents of faculty trust that are of interest in the present study: (1) faculty trust in colleagues, (2) faculty trust in the principal, and (3) faculty trust in clients (parents and students). It has been found that due to the high correlation between trust in students and trust in parents in each study conducted, these two referents are often referred to as trust in clients (Hoy & Tschannen-Moran, 2003).

On a theoretical level the importance of these three referents of faculty trust is transparent. Without trust in each stakeholder the faculty, and thus the organization, will be at a disadvantage. In order to build the meaningful relationships required for a well-functioning organization the faculty must be able to trust these groups.

In schools, trust is most important because schools rely on taxpayer funds. The community’s norms and ideals are being transmitted to arguably the most important asset of the community – the children (Tschannen-Moran & Hoy, 1998). The community has a huge stake in the schools and trusts the staff of the schools to act in the best interest of the students and the community. Not only is it important to have the trust from external sources, but internal trust is a key ingredient for successful schools. There have been
several survey instruments developed to measure faculty trust reported in the literature (Hoy & Kupersmith, 1985; Hoy & Tschannen-Moran, 1999, 2003; Smith, Hoy, & Sweetland, 2001). These instruments were written to encompass five of the seven facets of trust discussed above – openness, benevolence, reliability, honesty and competence – for each of the three referents – trust in clients, colleagues, and the principal. They measure the collective level of trust or mistrust in a building.

In one of the earlier studies of trust in schools, the researchers developed trust scales that concentrated on three types of faculty trust: trust in colleagues, trust in the principal, and trust in the school organization (Hoy & Kupersmith, 1985). Their findings indicated a positive correlation between the three types of trust with each other as well as a positive correlation with principal authenticity. Hoy and Tschannen-Moran (1999) found similar results in their study. Both studies also concluded that the scales measured three different aspects of faculty trust.

Faculty trust in colleagues and the principal has been linked to healthy and open high schools, and academic press has been positively associated with trust in clients (Smith et al., 2001). A significant relationship was found in middle schools between faculty trust in colleagues and faculty trust in the principal in another study (Hoffman, Sabo, Bliss, & Hoy, 1994). Open behavior of the principal also correlated significantly with greater levels of faculty trust. These concepts are all related to healthy schools as described by Hoy, Sabo and Barnes (1996). In the elementary schools faculty trust in colleagues (Hoy, Tarter, & Wiltkoskie, 1992), faculty trust in clients (Goddard, Tschannen-Moran, & Hoy, 2001) and faculty trust in the principal (Tarter, Sabo, & Hoy, 1995) are all coupled to school effectiveness.
Trust Summary

As demonstrated by both empirical and theoretical discussions, trust is an important construct that cannot be overlooked in schools. The five facets of trust, benevolence, honesty, reliability, competence, and openness, all add to the amount of trust in a relationship. Trust is considered necessary to build effective and efficient organizations. Schools have a particular and crucial interest in building trust due to the nature of their mission and the relationship they must foster with the community. Splintered trust can evolve into a critical and often crisis situation. Administrators who develop trust in their organization are likely well served and rewarded by the time they invest in this endeavor.

The three referents of faculty trust, in the principal, colleagues, and clients (parents and students), build a multi-dimensional construct that has strong correlations with well-functioning schools. The degree to which a faculty has trusting relationships with its constituents and each other fosters more open and cooperating environments.

Efficacy

Collective efficacy of teachers is a concept that is born out of the work of Banudra in social cognitive theory (1982, 1986, 1997). Before discussion of this concept a brief overview of teacher efficacy and self efficacy is warranted.

Teacher Efficacy

The theoretical basis for research on efficacy beliefs began over 35 years ago. Based on Rotter’s (1966) locus of control theory, two items were added to an extensive questionnaire developed by the RAND organization (Armor et. al., 1976). The first RAND item was “when it comes right down to it, a teacher really can’t do much because
most of a student’s motivation and performance depends on his or her home
environment” (p.73). The second RAND item was “if I really try hard, I can get through
to even the most difficult or unmotivated students” (p.73). These items were strongly
correlated to differences in reading achievement among minority students (Armor, et. al., 1976).

The two RAND items were summed and the resultant score was called teacher
efficacy (TE). Thus the new concept was born. The concept had two dimensions. The
first item above measured the general teaching efficacy (GTE). Teachers who strongly
agreed with this item are assumed to have low GTE. They believe that external factors
trump any power teachers have in schools (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Teachers with high GTE believe that teachers and schools have a great amount of
power over external factors that influence schools today. Examples may include conflict,
community substance abuse, class, race, and gender.

The second item above measured personal teaching efficacy (PTE). This
dimension measured teachers’ confidence in their individual abilities necessary to
overcome factors that make it difficult for students to learn. PTE addressed, in less
general terms than GTE, a single teacher’s belief about his/her own abilities to overcome
obstacles, not beliefs about the profession in general.

Concern about the two-item measure for teacher efficacy was evident, so efforts
began to develop a more extensive measure (Rose & Medway, 1981, Guskey, 1981,
Ashton et al., 1982). Three efforts to design more comprehensive measures of the
construct are discussed below.
Rose and Medway (1981) designed a measure of teacher efficacy called the Teacher Locus of Control (TLC) using a 28-item dichotomous forced choice format. The TLC was significantly related to the individual RAND items of PTE and GTE as well as the summed RAND items (TE). Furthermore Rose and Medway (1981) found that the TLC was also better at predicting teacher behavior than Rotter’s (1966) Internal–External (I-E) Scale (Tschannen-Moran et al., 1998). The study showed that teachers who were high in internal responsibility, no matter if they taught in under-privileged or privileged settings, were less likely to give disciplinary commands, more likely to call on non-volunteer students and more likely to engage the students in more self-directive tasks (Rose & Medway, 1981).

Gutskey (1981) also developed a 30-item instrument to measure Responsibility for Student Achievement (RSA). Respondents were to distribute 100 points evenly on the scale that ranged from the event that was controlled by the teacher to the event that was controlled by forces outside the teachers’ control; external factors. This scaling was derived from a similar strategy applied by Duby (1979). Gutskey (1981) found significant positive correlations between responsibility for student success and failure and teacher efficacy as well as intercorrelations between overall responsibility and responsibility for student success and failure (r = .72 and -.81). His conclusions were that positive and negative performance outcomes represented different dimensions, not ends of the same continuum, so each of these dimensions played a role in teachers’ perceptions of efficacy. Teachers had a higher amount of efficacy in their ability to influence positive results than in their ability to prevent negative results.
A third group of researchers wanted to expand the two RAND items to increase reliability, while keeping the narrow focus of the original measure. The Webb Efficacy Scale (Ashton et al., 1982) was the result. A seven-item forced-choice format was chosen to reduce social desirability bias and to reduce ego-defensive response. The results were that teachers who scored higher on the Webb Scale had fewer negative interactions in their teaching style.

These groups and others continued to expand and refine the concept of teacher efficacy fueled by the success of the RAND studies. Such groups continued to follow the work of Rotter (1966) to develop the construct, which used locus of control as it theoretical base. Another strand, however, was born out of the work of Bandura’s cognitive social theory (1977). It is through this other strand that the current understanding of the concept of self-efficacy is based.

*Another Conceptual Strand—Self Efficacy*

Bandura (1997) used social cognitive theory to describe self-efficacy and differentiate it from other variables such as self esteem, outcome expectancy, locus of control, and self-concept. He described perceived personal self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). “Self-efficacy is a future oriented belief about the level of competence a person expects he or she will display in a given situation” (Tschannen-Moran et al., 1998, p. 207). Self-efficacy beliefs allow people to put forth great effort in attaining goals, being resilient when confronted with setbacks, succeeding over adversity, and controlling events in their lives (Bandura, 1997). People’s belief in
the ability to make changes allows them to be more tenacious in their endeavors. Teacher efficacy developed as a more specific concept directed at the self-efficacy teachers had for the teaching tasks they faced.

“Self-efficacy has to do with self-perception of competence rather than actual level of competence” (Tschannen-Moran et al., 1998, p. 211). This concept becomes important when people decide on courses of action they take or do not take based on these beliefs and when they put forth effort to perform a given task. When people over or under-estimate their abilities, it affects how much effort they will put into a task. “A capability is only as good as its execution. The self-assurance with which people approach and manage difficult tasks determines whether they make good or poor use of their capabilities. Insidious self-doubts can easily over-rule the best of skills” (Bandura, 1997, p. 35). When there is a constant doubt of abilities, the first sign of failure will cause an actor to give up or write a task off as too difficult. High efficacy beliefs cause the same person to see a task through, even though abilities do not always dictate success. “In most cases, slightly overestimating one’s actual capabilities has the most positive effect on performance” (Tschannen-Moran et al., p. 211). Parents and teachers have been coaching their children on this same premise for years: if you believe you can do it, you probably can.

Self-efficacy, according to Bandura (1997), differs from the Rotter’s (1966) locus of control because self-efficacy is concerned with one’s beliefs about future performance rather than whether the performance of actions will produce a given outcome. Self-efficacy is a strong predictor of behavior, whereas, locus of control is a weak predictor. Internal locus of control is concerned with a person’s belief that a successfully
accomplishing a given task will produce a certain outcome; however, it says nothing of
the person’s ability to perform the task. Running a 5:20 mile for 26 miles will result in a
2:19:50 marathon time, good enough to qualify for the men’s U.S. Olympic Time Trials
for the marathon. If one has the ability to run a mile at a 5:20 pace, it does not necessarily
mean he believes in his ability to compete at a level that will take him to the Olympics.
Internal locus of control speaks to whether a person’s performance could result in a
particular outcome; self-efficacy speaks to one’s beliefs about whether the person can do
the performance in a given situation. Many people can probably run the distance, but
arguably efficacy is what pulls them through. Bandura (1997) sees these two concepts not
as the same concept measured at different levels, but as wholly different constructs.

Bandura (1997) discusses four sources of efficacy: mastery experiences,
physiological and emotional states, vicarious experiences, and social persuasion. The
most powerful of these is mastery experience. When a teacher’s perceptions are that an
activity was successfully implemented, this feeds efficacy, positively affecting
expectations of future performance. Conversely, perceived failure on tasks negatively
affects efficacy, lowering expectations for future performance. Physiological and
emotional states play a lesser but still important role. Anxiety or excitement can lead to a
feeling of mastery or incompetence depending on how the feelings are interpreted
(Tschannen-Moran et al., 1998).

If the skills required to perform a task are modeled by someone else with whom
the observer can closely identify, these are referred to as vicarious experiences. A
stronger identification with the model will have a stronger impact on the efficacy beliefs.
Vicarious experience can have both positive and negative impacts on efficacy beliefs.
Said simply, if a model performs poorly, efficacy is decreased. If the model performs well, the efficacy beliefs are increased (Tschannen-Moran et al., 1998).

Pep-talks, performance feedback from a supervisor, encouragement from colleagues, discussions in the media on positive teacher performance, and other similar situations are forms of social persuasion. Social persuasion alone is limited in its effects on efficacy beliefs, but when coupled with the other three sources, social persuasion can contribute to the efficacy beliefs of individuals. The potency of the persuasion is reliant on the trust, credibility, and expertise of the source (Bandura, 1986).

Self-efficacy is also a key to self-regulation of motivation. The cognitive generation of motivation guides people’s courses of action through anticipation and forethought (Bandura, 1993). Through cognitive and efficacy processes people create scenarios and form beliefs about what they can or cannot do. Based on these beliefs they set goals and courses of action to realize their potential. Motivation is fed by these beliefs of efficacy (Bandura, 1993). Cognitive motivation can be divided into three distinct categories: casual attributes, outcome expectancies and cognized goals, corresponding to attribution theory, expectancy theory, and goal theory respectively. These influence causal attributes. Highly efficacious people relate their failures to insufficient effort, whereas the inefficacious attribute failures to low ability (Bandura, 1993). These causal relationships affect motivation. If one has low efficacy, regardless of ability, he or she will likely attribute failures to low ability, have less motivation, and be less resilient in the tasks performed.

The affective component of efficacy speaks to one’s ability to cope with and control emotions, particularly those of doubt and anxiety. “People’s belief in their
capabilities affect how much stress and depression they experience in a threatening or difficult situation, as well as their level of motivation” (Bandura, 1993, p.132).

Efficacious people do not conjure up thoughts of self-doubt and failure when stressors or threats arise. But inefficacious people experience high anxiety and stress when threats arise. “The stronger the instilled sense of coping self-efficacy, the bolder people are in taking on taxing and threatening activities” (Bandura, 1993, p.133)

*Bandura Inspired Instruments*

Just as groups began to create instruments from the two original RAND and locus of control conceptualization of Rotter (1966), the same phenomena occurred with RAND and the conceptualization of Bandura. Gibson and Dembo (1984) developed a 30-item measure of teacher efficacy containing two relatively uncorrelated factors: (PTE), which reflects self-efficacy and (GTE), which Gibson and Dembo believed measures outcome expectancy, though other researchers disagreed. The existence of these two factors has been confirmed by other groups of researchers with alphas for PTE that range from .75 to .81 and for GTE from .64 to .77 (Anderson, Greene, & Loewen, 1988; Burley, Hall, Villeme, & Brockmeier, 1991; Hoy and Woolfolk, 1993; Moore & Esselman, 1992; Saklofske, Michaluk, & Randhawa, 1988; Sookdak & Podell, 1993).

After continued research with the Gibson and Dembo instrument, it became apparent that several items were loading on both factors or not at all. This led some researchers to shorten the measure to only those items with single loadings or with higher loadings (Soodak & Podell, 1993; Woolfolk & Hoy, 1990; Hoy & Woolfolk, 1993).
Hoy and Woolfolk (1993) used one such measure and reduced the items to ten, five for GTE and five for PTE, and found reliability to be similar to the longer versions of the instrument (.77 for PTE and .72 for GTE).

It was predicted by Gibson and Dembo (1984) that teachers who scored high on both GTE and PTE would be:

- active and assured in their responses to students and that these teachers would persist longer, provide a greater academic focus in the classroom, and exhibit different types of feedback than teachers who had lower expectations of their ability to influence student learning. Conversely, teachers who scored low on both general and personal efficacy were expected to give up readily if they did not get results. Research generally has supported these predictions (Tschannen-Moran et al., 1998, p. 213).

Other researchers have also searched for ways to measure teacher efficacy. Long and short, general and specific forms have been used. Ashton, Buhr, and Crocker (1984) began with the assumption that teachers’ efficacy beliefs are context specific as they developed the Ashton vignettes. Each vignette describes a teaching situation in specific context. Teachers are then asked how they would perform in the given situation, from “extremely ineffective” to “extremely effective.” They also tested teachers from the perspective of another teacher in the situation and had them rate from “much less effective than most teachers” to “much more effective than most teachers.” The second example described above, using norm-referenced comparisons to other teachers, was significantly related to the two RAND items, however the other, self-referenced items, were not (Ashton et al., 1984, Ashton & Webb, 1986).

Other researchers used combinations of several different measures. Midgley, Feldlaufer, and Eccles (1989) used a five-item measure consisting of one original item, two borrowed items from academic futility (Brookover et al., 1978), the personal efficacy
item from the RAND study, and one item from the Webb scale. These items were
summed across the five items with an alpha of .65. They found significant differences in
personal efficacy between elementary and middle schools math teachers.

Other research groups used another two-item measure of self-efficacy in concert
with a two-item measure of satisfaction and unfortunately combined the items into a
single measure due to the high level of correlation between them. This incident befuddled
many because efficacy and satisfaction are distinctly different concepts, making it harder
for the body of literature to come to agreed conclusions about efficacy (Lee, Dedick, &
Smith, 1991; Newmann, Rutter, & Smith, 1989).

Yet another group asked a single question to measure efficacy “To what extent do
you feel successful in providing the kind of education you would like to provide for this
class?” (Raudenbush, Rowan, & Cheong, 1992). They found that when secondary
teachers had higher perceived control over classroom and school policy there was a
significantly higher measure of self-efficacy. Teacher’s efficacy was also significantly
related to teachers who were “well prepared” or “less than very well prepared.” Honors
and academic track classroom teachers were higher in efficacy than non-academic
classes, especially for math and science teachers.

With the conceptual confusion surrounding the concept of teacher efficacy, it has
been difficult to come to a consensus of an appropriate measure of the construct. Many
different measures of various lengths and with various levels of specificity and generality
and complexity have failed to strike a proper balance adequate enough to placate the
debate.
Bandura’s Teacher Efficacy Scale

Bandura (1997) created his own 30-item efficacy scale with seven subscales: efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate. This was an attempt to measure efficacy across the range of the multiple tasks a teacher is asked to perform without getting too narrow or specific. Bandura (1997) found that most measures of efficacy were too general to be effective in measuring tasks that are context specific over a broad population; however, the risk of becoming too specific in measures of efficacy was also a danger. “Discerning what is the most useful level of specificity depends on the purposes of the research, but either extreme – highly general or highly specific – may pose problems for researchers” (Tschannen-Moran et al., 1998, p. 219). It is suggested that to determine the level of specificity, one should examine the effects of context on teacher efficacy.

Social Effects on Efficacy

The concept of reciprocal determinism is produced when behavior, personal factors including cognition and belief structures, and the environment interact to influence each other (Bandura, 1997). Within the social cognitive theory it makes sense to examine the relationships between the school context (environment) and the teacher’s efficacy beliefs (personal factors). The research shows that teacher efficacy beliefs can change from situation to situation. These changes can be seen in different subject levels, grades, or even class periods (Tschannen-Moran et al., 1998).
Student or class level effects measure teachers’ efficacy beliefs over the day from class to class. Raudenbush, et al. (1992) and Ross, Cousins, and Gadalla (1996) found that levels of efficacy change from class to class. Teachers tended to be less efficacious when teaching non-academic track courses and more efficacious when teaching honors class (Raudenbush et al., 1992). These findings support the idea that PTE is context specific and not a generalized expectancy. The context can even be more specific than a school building or students served by the building; however, school-level effects do appear to influence efficacy beliefs.

School climate, principal behaviors, sense of community, and decision-making structures all can affect the efficacy beliefs of individual teachers (Tschannen-Moran et al., 1998). Moore and Esselman (1992) found a correlation between teachers’ perception of school atmosphere and GTE and PTE as measured by the Gibson and Dembo (1984) instrument. A strong academic press for achievement has also been positively correlated with GTE and PTE as measured by the Gibson and Dembo (1984) instrument (Hoy & Woolfolk, 1993). Furthermore, a study using High School and Beyond data found that sense of community in a school was the greatest predictor of teacher’s efficacy levels (Lee et al., 1991).

Principal behavior and leadership have also been linked to teacher efficacy. In buildings where disorder was kept to a minimum, efficacy increased (Lee et al., 1991). Principals who modeled appropriate behavior and offered rewards based on performance had teachers with higher GTE and PTE scores. Principals who used their status to buffer teachers from disruptive factors, but allowed teachers flexibility over their classroom
affairs, fostered greater efficacy beliefs in teachers. Being able to create a sense of common purpose among teachers was also a principal trait tied to higher GTE (Hipp & Bredeson, 1995).

Teachers’ ability to share in decision making has a positive effect on efficacy. Teachers with the freedom to make decisions affecting their classrooms had a higher GTE than teachers denied that freedom. Teachers who influenced school-based decisions and had fewer perceived impediments to teaching had a stronger PTE (Moore & Esselman, 1992). Receiving positive feedback on teacher performance, collaboration with other teachers, parental involvement in the schools, and school wide coordination of student behavior are all factors that had significant associations with teacher efficacy (Rosenholtz, 1989). Aston and Webb (1986) studied school structure in the middle-aged schools and found that teachers in schools with a middle school structure had a higher sense of efficacy than teachers in a junior high structure. Some of the factors associated with diminished teacher efficacy in school structures were excessive demands, poor morale, inadequate salaries, low status, and lack of recognition (Aston & Webb, 1986).

Collective Efficacy

A natural outgrowth from self-efficacy and teacher efficacy led researchers to study the school structure and climate of buildings as these factors pertain to the collective efficacy beliefs of the teachers. School level efficacy is of particular interest in this study. Collective efficacy speaks to the extent to which perceptions of efficacy are shared among teachers in a building (Tschannen-Moran et al., 1998). At the collective level, efficacy beliefs are social norms and perceptions that can be strengthened, not depleted, through their use (Hoy & Miskel, 2001). Teachers in schools where staff
conversations are of the impossible task of educating students and the obstacles in their way will likely have diminished collective efficacy beliefs. Schools where teacher conversations are about collaboration and ways to motivate and improve the students they teach experience enhanced levels of collective efficacy. Such staff beliefs enhance the school culture so that new staff or novice teachers are inducted in a way that increases levels of collective efficacy. Such increases occur whether the new teachers’ efficacy beliefs are high or low. Conversely, new staff members who are socialized into a building with low levels of collective efficacy will tend to have a net reduction of their efficacy beliefs.

Bandura (1993), in his landmark study of collective efficacy, discusses four major sources of self-efficacy that feed the collective: cognitive, motivational, affective, and selection processes. Cognitive function shapes efficacy beliefs because, according to Bandura (1993), “most courses of action are initially shaped in thought” (p. 118). He argues that efficacy beliefs shape the type of anticipatory scenarios people create and rehearse. In order to accomplish goals, skills and self-beliefs are needed to succeed. The same argument transfers to the collective.

People are not only manipulators of their environment, but also part of the environment, and they are manipulated by the environment in which they live. Organizations are similar. People, as well as organizations, are free to make choices. Bandura (1993, 1997) argues that these choices are partly controlled by efficacy beliefs. Many of the efficacy-based choices can have long-lasting effects on the life-path of the individual and the organization. An example Bandura (1993) uses is selection of a career. The stronger the efficacy beliefs of the individual, the more potential career paths are
These strong efficacy beliefs will also induce greater staying power in the decisions individuals make concerning successes and failures on the path to their chosen career. Such an example can be transferred to the collective. The more efficacious the organization is, the greater the number of opportunities that will be made available to the collective. Organizations, like individuals, have the ability to learn. The courses of actions taken from this learning have powerful and lasting affects. If strong collective efficacy beliefs bolster decisions, arguably better decisions will be the result. Staff will also be more resilient in attaining goals and bouncing back after setbacks.

Efficacy-regulated processes play key roles in setting the course of intellectual development in the collective. Bandura sees three principal ways in which perceived efficacy operates to contribute to academic development: “students’ beliefs in their efficacy to regulate their own learning and to master different subject matter, individual teachers’ beliefs in their efficacy to motivate and promote learning in their students and staffs’ collective sense of efficacy that their schools can accomplish significant academic progress” (Bandura, 1993, p. 135). The last of these belief systems, staffs’ collective sense of efficacy, is of major concern for this study.

The studies discussed in the previous section are related to teachers’ sense of efficacy. However, the collective teacher efficacy of a building can have major ramifications on the culture and climate of the school as an organization. “Teachers operate collectively within an interactive social system rather than as isolates. The belief systems of staffs create school cultures that can have vitalizing or demoralizing effects on how well schools function as a social system” (Bandura, 1993, p.141). By collectively judging themselves as powerless to get students to achieve academic success, staff can
engender a sense of academic futility in their school. Schools that collectively judge themselves as capable of academic success permeate a positive atmosphere in their schools which allows academic success to follow (Bandura, 1993).

By using the schools as the unit of analysis, rather than the teachers, Bandura and others have been able to show how collective efficacy contributes to academic achievement (Bandura, 1993, 1997; Goddard, 2001, 2002a, 2002b; Hoy, Smith, & Sweetland, 2002; Hoy, Sweetland, & Smith, 2002). Two approaches in measuring this data have been used. In one approach teachers’ efficacy beliefs about their individual classrooms and their ability to promote learning are aggregated at the school level. The second approach assesses teachers’ beliefs about their school’s abilities as a whole. The second approach will be used in this study, for the reasons described next.

Much of what happens in schools is loosely coupled. Individual teachers go into their rooms and teach students and the students learn. In this situation, measuring efficacy at the individual level and aggregating the data at the school level makes sense. However, some endeavors require high interdependence in the system, such as aligning curricula and team approaches to teaching. In high interdependence situations, measuring efficacy at the organizational level makes more sense. In general, school systems rank at an intermediate level of interdependence, so measurements at the school-level are the focus for this research. Many of the contributions to academic progress are at the individual teacher level, but there is evidence that shows that schools involve organizational interdependencies that contribute to teachers’ sense of collective efficacy (Bandura, 1993). This being the case, organizational level efficacy can be a strong indicator of healthy climates in schools (Hoy & Miskel, 2001).
The level of collective efficacy waxes and wanes depending on different grade levels. Bandura (1993) found that teachers have relatively low efficacy beliefs to promote student learning in the entry level grades (K). This may be because of the perceived unpreparedness of the students for classroom instruction and the low level of academic demands. The collective efficacy beliefs to promote student learning increase in teachers as students become more socialized in the school routines and when academic demands on the students are still relatively low (grades 1-2). Finally, as academic demands increase and scholastic difficulties become more prominent, “teachers view their schools as declining in instructional efficacy” (Bandura, 1993, p.141).

Bandura (1993) used a path model to test hypotheses relationships between verified indices of teacher and student body characteristics, collective efficacy and prior levels of student achievement in reading and mathematics. He found that “adverse characteristics of student body populations reflecting largely socioeconomic disadvantage erode schools’ sense of instructional efficacy” (Bandura, 1993, p.142). Said simply, the higher the share of economically-disadvantaged students and the higher student turnover rate and absenteeism, the lower the staffs’ belief in their efficacy to produce academic results and the worse the schools perform academically (Bandura, 1993). However, low racial composition and ethnic diversity are weakly linked to prior achievement and have no direct influence on collective efficacy beliefs or on future achievements. Bandura found that teaching longevity does have a small positive effect on school achievement, but these teachers have a pessimistic image of the schools’ collective instructional efficacy. Most significantly, however, the findings of this study showed that staffs’
collective sense of efficacy to promote student learning contributed more to academic achievement than socio-economic status (Bandura, 1993). Bandura concluded:

Adverse student body characteristics influence schools' academic attainments more strongly by altering faculties’ beliefs about their collective efficacy to motivate and educate their students than through direct effects on school achievement. Indeed, with staffs that firmly believe by their determined efforts, students are motivatable and teachable whatever their background, schools heavily populated with minority students of low socioeconomic status achieve at the highest percentile ranks based on national norms of language and mathematical competencies. (p. 143)

It is the finding that collective efficacy can be a better predictor of student achievement than socio-economic status (SES) which prompted researchers to become interested in this relatively under-studied concept.

Because SES is difficult to change and has a direct relationship to student achievement, administrators have long looked for similar variables that can be used to predict student achievement as well. Collective efficacy of teachers provides such a predictor. Furthermore, this variable, unlike SES, arguably can be influenced by leadership, giving school leaders a positive place to affect change in schools. By influencing the collective efficacy of their staff, leaders can make a change in the student achievement.

Unfortunately, Bandura (1993, 1997) did not report psychometric or descriptive data, instrumentation, or sample sizes that correspond to his findings. The interest in his study opened the door for researchers to strive to confirm the findings of Bandura (1993).

Other Research Perspectives on Collective Efficacy

Goddard, Hoy, and Woolfolk Hoy (2000) were the next researchers to explore the construct of collective teacher efficacy. They put forth three important contributions to
the study of the construct. First, a model of collective teacher efficacy was created based on Bandura’s Social Cognitive Theory (1986, 1997) and the teacher efficacy model put forth by Tschannen-Moran et al. (1998) (see figure 2.1). Second, Goddard and his colleagues created an instrument to measure teachers’ perception of collective efficacy beliefs in their schools. Third, they conducted a study to validate Bandura’s (1993) contention that collective teacher efficacy has a positive effect on student achievement and to test a new instrument to measure the construct.

Due to the significance of this important study confirming Bandura’s (1993) work, a detailed analysis of this work is warranted. As shown in the Figure 2.1 the model proposed by Goddard et al. (2000) is very similar to the teacher efficacy model proposed

![Figure 2.1. Theoretical Model of Collective Efficacy of Teachers. Source (Adapted from Goddard et al., 2000, p 486).](image-url)
by Tschannen-Moran et al. (1998). In fact, the model is essentially the same, save the inclusion of collective language instead of individual teacher language. Goddard et al. define collective teacher efficacy as “the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students” (2000, p 480).

The model begins with sources of collective efficacy of teachers. These are essentially the same as teacher efficacy sources, including mastery experiences, verbal persuasion, vicarious experiences, and affective states. The only difference is at the conceptual level. These sources are processed at the organizational level rather than the individual teacher level. To illustrate, Goddard et al. (2000) likened mastery experiences to the collective in the same way it relates to the individual by stating that successes build the staff’s collective efficacy and failures undermine it. Just as in teacher efficacy, the successes cannot come too easily or frequently, or failure will produce disappointment. Teachers as a group achieve successes and failures in their building; being able to overcome difficulties with persistent effort will probably produce a more resilient sense of collective efficacy in a staff.

Mastery experience is not the only way a staff can build its collective efficacy. Vicarious experiences can increase collective efficacy. In a large district there are often several different school buildings at each level. One building experiencing high levels of success can vicariously affect others and strengthen the others level of collective teacher efficacy. Such experiences are not exclusively relegated to the same district. Teachers can gain vicarious experience through contact with others in staff development, university course work, and by studying best practices in relevant research literature. “Organizations learn by observing other organizations” (Hoy & Miskel, 2001, p.154).
Verbal persuasion can have similar positive effects, as in teacher efficacy, however conceptualized at the organizational level. The faculty can be changed and efficacy beliefs strengthened through a variety of different methods. Reporting successes to the group, attending professional development, pep talks, positive notes in mailboxes, and similar gestures can work to increase levels of collective efficacy. A more cohesive group will have better the chance of being changed by verbal persuasion (Hoy & Miskel, 2001).

Affective states concern organizations as they do individuals. Schools react to stress, just as individuals do. More efficacious organizations can endure higher levels of stress, crisis, and pressure than less efficacious organizations (Hoy & Miskel, 2001). Indeed, the reactions of more efficacious schools are also more productive and resilient in their efforts to cope and adapt to disruptive forces. A less efficacious organization will become dysfunctional and will react in ways that promote failure. The affective states of the organization will determine how problems and challenges are perceived and dealt with by the organization. More efficacious organizations will have resiliency to overcome their challenges, while less efficacious organizations may not.

These four sources of efficacy are instructional to an explanation of how collective efficacy is constructed in an organization, but other key factors in the model are equally as critical. How information is analyzed and interpreted is crucial to development of collective teacher efficacy. Cognitive processing and interpretation of this material based on the four sources explained above is essential for the development of the efficacy beliefs of an organization.
Analyzing the teaching task and assessing competence of teachers is the next segment of the model’s framework. These tasks interact with each other, as shown by the double arrow in Figure 2.1. It is this interaction that causes the emergence of collective efficacy beliefs. By assessing the teaching task, teachers must analyze the teaching task at the individual and the school level, comparing themselves and what they do with others and what they do. Inferences are made about the challenges of teaching in their particular school. “Teachers analyze what constitutes successful teaching in their school, what barriers or limitations must be overcome, and what resources are available to achieve success” (Goddard et al., 2000, p 485). By assessing teaching competence, teachers take into account the teaching task and assess the competency of the faculty. They do this by making explicit judgments about their colleague’s competence in light of the specific teaching tasks of their school. Because these two domains are so closely related it is difficult to separate their interdependence on one another. It is through this interplay that collective efficacy emerges (Goddard et al.).

To summarize collective teacher efficacy in the model, it is assumed that the interpretation and analysis of the four sources of collective efficacy, namely mastery experience, vicarious experience, verbal persuasion, and affective factors, lead to influencing collective teacher efficacy beliefs. These four sources feed the culture of the school’s teachers and bolster their collective efficacy. The four sources of collective efficacy are analyzed and interpreted in a cognitive function that is informed by the specific teaching task and teaching competence of the building. The interplay between analyzing the teaching task and assessing the teaching competence of the other teachers and themselves, allows teachers to estimate the collective efficacy of the building. It is
the collective perceptions of the teachers’ efficacy that form the collective teacher efficacy measure. The consequences of these beliefs are noteworthy.

Goddard et al. (2000) theorized that the consequences of high collective efficacy among a teaching staff would lead to better performance, the acceptance of more challenging tasks and goals, and strong organizational effort. The consequences of low efficacy are, as expected, the opposite: low effort, the propensity to give up more easily, and lower levels of performance. These consequences, whether performance is high or low, provide feedback to the organization and fuel the collective efficacy beliefs. It is this feedback that makes this model consistent with Bandura’s (1993, 1997) postulation of triadic reciprocal causation as it applies to the organization. Once these beliefs are established in a staff, they are relatively stable. It takes extensive effort to make significant changes in collective efficacy beliefs once they have been established.

*Measuring Collective Efficacy*

The theoretical framework of this model allowed Goddard et al. (2000) to create an instrument to measure the collective efficacy of teachers. The formation of the Collective Teacher Efficacy Scale (CTES) is the second contribution of the Goddard et al. study. The decision was made to use a group orientation in the wording of statements rather than individual orientation. Collective teacher efficacy is a construct measuring the teachers’ beliefs about collective (not individual) abilities teachers have to influence student achievement. The items used were to measure individual perceptions about the group so this decision was appropriate. By using the group orientation, individuals can rate themselves as well as others with the same item. An example of individual wording might be: I am able to affect change in students I teach. The same item worded for a
group orientation might look like this: teachers in this building are able to affect change in the students they teach. An individual teacher’s perception about the collective, including herself, is captured by using the group-oriented statement. This decision is supported in the research literature (Porter, 1992; Sirotnik, 1980).

The Collective Teacher Efficacy Scale (CTES) is a 21-item instrument with a 6-choice Likert type response method that ranges from *strongly disagree* to *strongly agree*. The items were aggregated at the school level, to produce a school mean score for each of the 21 items. Evidence suggested from the pilot test and the data collection that only one factor common existed to measure collective teacher efficacy. Efforts were made to check the validity and reliability by measuring other social process constructs in concert with collective efficacy. Goddard et al. (2000) found that their measure was positively related to such constructs as (1) aggregated teacher efficacy as appraised by Bandura’s (1993) measure, (2) aggregated personal teacher efficacy assessed by Hoy and Woolfolk’s (1993) adaptation from Gibson and Dembo’s measure, and (3) faculty trust in colleagues. However, the collective teacher efficacy was negatively related to teacher powerlessness and it was found that academic press was unrelated.

The third major accomplishment of this study was the results. Goddard et al. (2000) used Hierarchal Linear Modeling (HLM) to analyze the data compiled from 47 elementary schools from a large urban mid-western school district. The findings of the study were consistent with the findings of Bandura (1993), that collective teacher efficacy had a significant positive relationship to student achievement.

Additionally, the authors outlined several important findings. First, they confirmed their model’s theoretical interaction between analyzing the task and assessing
competence of teaching. Second, they affirmed their prediction that collective teacher
efficacy was positively related between school differences in student achievements. More
specifically, they found that a one point increase in collective efficacy scale score related
to an 8.62 average increase in mathematics achievement and an 8.49 average increase in
reading achievement. Third, they predicted that collective efficacy perceptions are
systematically related to student achievement (Goddard, et al., 2000). Although the
population sampled was an urban environment, they suggested that there should be
similar results with non-urban populations. Fourth, this study extends the work of
Bandura’s Social Cognitive Theory to the organizational level. Finally, they explained
why collective teacher efficacy might have such a strong influence on the achievement
performance in schools. Specifically, they addressed the underpinnings of school norms
that have influences on the actions and achievements of schools (Goddard et al.).

This study went far in exploring and explaining the construct of collective teacher
efficacy. However, there is much left undone and many more facets of collective efficacy
to explore. Some of these areas of study and questions will be answered in the subsequent
studies discussed.

Goddard (2001) used data collected from 452 teachers working in 47 elementary
schools in a large mid-western school district. This study concentrated on three
unanswered questions from the Goddard et al. (2000) study. First, Goddard explored the
relationship between mastery experience and collective efficacy. Second, he explored the
relationship between collective efficacy and student achievement, by controlling for past
student achievement. Third, he explored the relationship between faculty consensus and
collective efficacy. The findings were consistent with Bandura (1993, 1997).
Goddard (2001) found substantial variability between schools in collective efficacy; however, mastery experience was a significant predictor of teachers’ perceptions of collective efficacy. This finding was consistent with Bandura’s (1993, 1997) social cognitive theory which had mastery experience as a source of collective efficacy.

For the second research question, Goddard (2001) found a significant and positive relationship between collective efficacy of teachers and student achievement, even when prior student achievement and demographics were controlled. This finding was also supported by Bandura’s (1997, p. 479) contention that emergent properties are operative if care is taken to control for individual difference and variability within groups. Goddard notes that collective efficacy, while not manipulated in this study, was tied to a strong relationship with student achievement in a multi-level analysis.

Consensus of the faculty on collective efficacy was found not to be a significant predictor of student achievement. Consequently, it is the mean score of the faculty that provided predictive qualities concerning student achievement. As counter-intuitive as this may seem, it is a premise accepted by many scholars who support central tendency as a predictor. It is not the variability in the measurement that controls the results, rather results are controlled by the median or mean. Goddard (2001) likens such a comparison to political elections, where the popular choice usually satisfies the median voters, while the extremes are disappointed. The same case is made for collective efficacy of a faculty; the popular responses of the faculty satisfy the median, while the faculty members on either extreme are brought into the majority by canceling each other out.
Studies of Collective Efficacy in Schools

The previous three studies have focused on defining and measuring the construct of collective efficacy; however, there was concern about the association between teacher efficacy and collective efficacy. Since we have evidence to link both teacher efficacy and collective efficacy to student achievement, Goddard and Goddard (2001) explored the theoretical relationship between these two strong predictors. Using the same data set from Goddard et al. (2000) and Goddard (2001), the authors explored the variables of teacher and collective efficacy in concert with other school related variables including socioeconomic status (SES) and student achievement using HLM. The results of the study showed that as fluctuations in teacher efficacy appeared across the schools, collective efficacy was the only predictor variable that remained significant. Compared to collective efficacy, SES and student achievement remained statistically insignificant (Goddard & Goddard, 2001, p 814).

Another interesting question tested by Goddard and Goddard (2001) was the amount of variability explained by the various models. With only SES and SA loaded into the model, less than 25% of the variability among schools in teacher efficacy is explained. Compare this to collective efficacy, explaining nearly 75% of the variation in teacher efficacy. The results suggested that statistically speaking, no other variable is as good at predicting teacher efficacy as collective efficacy. It is not surprising to see such high correlations between the two constructs and this study confirms the theoretically obvious link between them. The underpinnings of social cognitive theory are supported in this notion that social influence shapes self-efficacy. Goddard and Goddard (2001) stated:
“When teachers tend to think highly of the collective capacity of the faculty, they may sense an expectation for successful teaching and hence work to be successful themselves” (p. 815-816).

These studies highlighted the power of collective efficacy in relationship to student achievement and tie it to an already well-grounded variable of teacher efficacy. However, much is yet to be explored about the construct. The current studies begin to capture more of the nuances surrounding the variable. The most current studies on collective efficacy were performed by Goddard (2002b); Hoy, Sweetland and Smith (2002); and Hoy, Smith and Sweetland (2002). These will be discussed next.

Two questions raised by Goddard (2002b) are: (1) What does an efficacious school look like? and (2) What organizational practices do these schools have? “We still lack knowledge, however, about how the practices of collectively efficacious schools differ from those of less efficacious schools” (p. 173). Goddard explored variables such as teacher influence, which is the capacity teachers have to exert influence over school decisions (p. 175). Using this as a dependent variable, he predicted a positive relationship with collective efficacy.

Using HLM, the sample of 428 teachers from 45 elementary schools in a large mid-western school district was analyzed. The results supported the above prediction. Said another way, collective efficacy of teachers has a significant positive relationship and is a predictor of differences among schools in which faculty had an influence over decisions. As in Goddard’s previous work, collective efficacy was the only significant variable in the model. However, collective efficacy only accounted for 24 percent of the
variance of teacher influence, which suggested other unidentified variables also could
have significant relationships. There are important theoretical and practical implications
for Goddard’s findings.

The theoretical underpinnings suggest the importance of “enablement to the
exercise of collective agency. For groups to make a difference they must have the means
to do so” (Goddard, 2002b p.181). Such statements suggest that leaders who suppress
collaboration and the voice of the group will create an atmosphere of hopelessness. Such
actions will cause the group to feel as if change is out of their control. Compare this to a
leader who is supportive and enables the group to exert influence on decisions. Such an
approach tends to increase levels of collective efficacy in the group.

The practical significance of Goddard’s (2002b) study is for school leaders to
recognize the factors that build collective efficacy and lead in a way that fosters this
growth. Incorporating shared decision-making is not easily done. It must be implemented
with care. Goddard warned that collective efficacy is not built by simply turning over
decisions to the faculty; however, within structured experience a skilled leader can begin
to build these frameworks into the organization.

Goddard’s (2002b) study broadens the understanding of the construct of collective
efficacy, building understanding from collective efficacy’s relationship with student
achievement, and giving practical ideas for building collective efficacy in school
organizations. His results, however, as productive as they may be leave the literature with
more unanswered questions about the powerful construct of collective efficacy.

A team of three researchers, Hoy, Smith et al. (2002), studied 97 high schools in
Ohio. They were concerned with whether socioeconomic status (SES) and academic
press (AP) had positive effects on student achievement as well as collective efficacy. In
turn, they also explored whether collective efficacy had a positive influence on
mathematics achievement. Their results supported the previous findings and provided
evidence that collective efficacy had a larger positive influence on student achievement
that did SES and AP. Using a subset of 55 rural schools from the same data set as above,
Hoy, Sweetland et al. (2002) further investigated their model. Their findings were similar
to the original, finding that collective efficacy of teachers was the best predictor of
student achievement in their model.

These two studies further support the notion that collective efficacy of teachers is
a more reliable predictor of student achievement than SES. Furthermore, collective
efficacy is a construct that has an effect on teacher performance and behaviors that lead
to higher student achievement. Teachers with high efficacy are more resilient and will
push on in the face of adversity, believing in the notion that they are able to have an
impact on student performance. The norms and culture of the school are positively
influenced by collective efficacy, creating a culture of teachers who believe that what
they do really makes a difference in the lives of their students.

The area of collective efficacy is in its infancy and much more research and many
more questions need to be asked and answered about this powerful construct. The next
section will focus on the construct of bureaucracy as it leads into a discussion of enabling
school structures.

Bureaucracy

Bureaucracy is generally a pejorative term used to describe an organization that is
inefficient and wrought with problems. Weber (1947) describes characteristics of a
classic bureaucracy as containing a hierarchical authority structure, division of labor, objective standards, technical competence, being impersonal, and having rules and regulations. Like it or not, most schools structures are designed on such a bureaucratic model. The criticisms of this organizational model run deep and wide and include the focus on conformity (Gouldner, 1954), blocking of communication (Blau & Scott, 1962), alienation and exploitation of workers (Scott, 1980), limitations to innovation (Hage & Aiken, 1970), and turning a cold shoulder to their constituents (Scott, 1980). In schools, state bureaucracies are often criticized as a barrier which hinders local districts from implementing educational programs that can better meet community needs. “The common thread running through all these criticisms is human frustration with unresponsive structures, rigid rules, and mindless policies” (Hoy, 2003, p. 87).

The prevailing and overwhelming criticism for bureaucracy must also be viewed with a dose of realism. Any organization needs some form of structure to hold it together. Bureaucratic structures provide formal procedures and a chain of command that reduces chaos and increases efficiency if properly implemented (Hoy, 2003). For the purposes of this study, the concept of enabling structures of bureaucracy will be discussed and explained; examples of enabling structures will be offered; and eventually enabling structures will be linked to the concept of mindfulness described previously.

*Formalization and Hierarchy*

Schools are large institutions that employ many people and offer services to countless others. Without some kind of organizing structures chaos would be the norm. Hoy (2003) discusses the dark and bright sides of bureaucracy as portrayed in the literature. The dark side discusses alienation, discontent, rigidity, and dullness; whereas
the brighter view highlights commitment, flexibility, responsibility, and effectiveness (Adler, 1999; Hoy & Miskel, 2001; Hoy & Sweetland, 2001b). One might ask the question, how can one construct have such a large and diverse outcome? One answer may lie in the type of school structure that is implemented and accepted throughout the organization. A discussion of these various types of structures will be discussed.

“Formalization is the extent to which the organization has written rules, regulations, procedures, and policies” (Hoy, 2003, p. 88). Gouldener (1954) presents two types of formalization, representative and punishment centered. Adler and Borys (1996) offer similar dimensions of formalization, however, using different terms: coercive and enabling. How an organization designs and implements its organizational structure may be guided by just how coercive or enabling the formal structure.

An organization with coercive formalization will be highly punitive and generate alienation rather than commitment from their employees. The focus is on punishing deviance as an alternative to rewarding exemplary behaviors and productive practices. The heart of the coercive formalization is forcing subordinates to abide by formal rules and regulations by punishing them for noncompliance. Coercive formalization has been positively related to stress, absenteeism, and alienation in addition to having a negative relationship with job satisfaction and innovation both in schools and in industry (Arches, 1991; Hoy, 2003; Hoy & Sweetland, 2000; Kakabadse, 1986; Rousseau, 1978; Anderson, 1968). Administrations that use coercive formalization discipline teachers for any breach of contract, no matter how small. Such behavior can create a hostile work environment where teachers work to the letter of the contract.
All behavior cannot be governed by rules; furthermore, coercive rules can stifle dynamic interactions and open communication. Coercive formalization “frustrates two-way communication, are rigid and autocratic, define problems as restraints, foster mistrust, demand consensus, punish mistakes, and fear the unexpected. In sum, they demand blind obedience to the rules” (Hoy, 2003, p. 89).

On the contrary, enabling formalization creates a very different set of organizational expectations and structures. Rules are seen as flexible rather than rigid and are created to solve problems rather than punish mistakes. Adler and Borys (1996) depict enabling formalizations as ones that help subordinates deal with surprises and unexpected crises, by having the flexibility to substitute expert judgments for formal rules. Remaining rule-bound may keep subordinates in a comfort zone; however, rules stifle creative solutions and suppress original ways to deal with the novelty of situations (Hoy, 2003). Enabling formalization stresses professional judgment and substitutes for formal rules when problem solving. Administrators are willing to negotiate with teachers and use the rules as flexible guidelines for policies and procedures. All enabling approaches create a more open environment where teachers are more comfortable in their positions and are willing to “go the extra mile” for the school.

With an enabling formalization structure, problems are seen as opportunities and communication is open and encouraged. Trust is an essential element for the functioning of organizational learning and problem solving. Differences are celebrated and divergent opinions shared. Indeed, enabling structures require participation and collaboration with the goal of improvement always present. This is contrasted to coercive structures, where rule-bound actions are repressive and steadfast. Adler (1999) posits that the types of
decisions made in a rule-bound coercive environment are more likely to have adverse consequences that those made in an enabling environment, not necessarily because of the rules, but because of the lack of freedom to think outside the constraints of the rules.

Centralization

Another bureaucratic theme is centralization. Aiken and Hage (1968) describe centralization as the degree to which employees are involved in the decision-making structure of the organization. Highly centralized organizations tend to push decisions to the top, contrasted with low centralization which allows a decision-making process that is distributed throughout the organization. “Hierarchy of authority, high centralization is a classic characteristic of bureaucracy; authority is concentrated at the top and flows down the chain of command” (Hoy, 2003, p. 89). A continuum of centralization can be portrayed from hindering to enabling.

Hindering centralization is typified as a structure which hinders rather than assists subordinates in solving problems and completing tasks at work. Hindering hierarchy stunts innovation and growth. Administrators use their power in this model to control and discipline teachers (Hoy, 2003). Much productivity is lost in hindering structures because of excessive game playing and attention to artificial standards rather than making conclusions about the courses of action that will be most beneficial to the students (Hoy, Blazovsky, & Newland, 1983). When outside pressures push on hindering organizations the result is a tightening of the organizational structure which leads to over-standardization and a more autocratic supervision model (Mintzberg, 1989). Such action can create a more dysfunctional work environment for the organization, decreasing effectiveness. The structures in schools can be complex, requiring some type of hierarchy
to centralize the coordinated efforts of their staffs. However, a hindering structure breeds dissatisfaction, alienation and hostility (Hoy et al., 1983). Administrators who employ a hindering kind of hierarchy are destined to stifle creative problem solving, creating an environment which is less effective.

The other end of the continuum is enabling centralization, which fosters an atmosphere that helps solve problems rather that hindering (Hoy, 2003). Although it is still important to have a hierarchical structure, the structure is more flexible and allows subordinates and superiors access to work across the boundaries of the formal authority. Enabling hierarchy gives subordinates the ability to share in the process of managing by creating a formal structure which is more loosely coupled and more flexible rather than being rigid and controlling. Administrators who employ enabling structures use their formal authority to support teachers, creating structures to facilitate teaching and learning (Hoy, 2003). Teachers, in turn, react in a more positive and cooperative manner towards the authority in the schools and the organizational atmosphere is less controlling and more supporting.

Enabling School Structure

Schools and school systems can be very large and complex organizations. Reform efforts suggest that flat school structures are beneficial; however, the realities of teacher unions, boards of education, administrative duties and positions such as superintendents, assistant superintendents, curriculum directors, principals, assistant principals, department heads, athletic directors, teachers, aides, cooks, custodians, bus drivers, and support staff dictate the need for a hierarchical model of school structure to be employed. Rhetoric of reform discusses school and teacher participation in site-based management
and teacher empowerment; however, the basic structure of schools remains hierarchical. Other school-based reform efforts that emphasize standards-based education and the Baldrige Education Framework for school management require such a hierarchy to function.

Like mindfulness, bureaucracy runs on a continuum that ranges from hindering to enabling (Hoy, 2003). While it may be impossible to have a hierarchy that enables one hundred per cent of the time, pushing the organization towards that end of the continuum is the goal. There could be situations where coercive hierarchy is actually needed, such as a life or death emergency. Or there might be times when an enabling structure can be taken advantage of by subordinates with less than truthful motives (Hoy, 2003 p. 94). Hoy and Sweetland (2000) emphasize that it is the kind not the amount of centralization that is important. Formalization and hierarchy can be enabling rather than coercive or hindering. Said simply, hierarchy in itself is not bad, it is how administrators choose to implement their authority. They can choose many points along the continuum and if organizations embrace hierarchies with feeling and passion, the structure can become enlivened, productive, and useful (Hirschhorn, 1997).

Research on school structure has focused on centralization and formalization and the results have shown these two concepts to be very closely correlated. The formalization and centralization combine to form a unitary continuum of structure (Hoy & Sweetland, 2000; 2001b). When rules are coercive so is hierarchy, and vice versa.

Enabling school structure has also been empirically tied to other school variables such as trust among teachers and between teachers and the principal (Hoy & Sweetland, 2000). These relationships, built on trust, negate the need for truth-spinning and other
devious actions among staff members. The degree of role conflict is reduced in an
enabling school structure, because trust and truthfulness make rigid roles antiquated and
awkward (Hoy, 2003). “In brief, trust, truthfulness, and limited role conflict were
hallmarks of enabling organizations” (Hoy, 2003, p 91). This finding has been
demonstrated in enabling schools regardless of school size, SES, and being in an urban
setting (Hoy & Sweetland, 2001b). Enabling structure has also been positively tied to
collegial trust in teachers and negatively associated with teacher powerlessness, rule
dependence and hierarchical dependence (Hoy & Sweetland, 2000). Administrators who
create enabling school structures create a culture and staff with more autonomy, more
trust, and who are not bound by rules and a sense of powerlessness (Hoy, 2003).

Hoy (2003) offers a prototype for enabling school structure where there is “a
hierarchy of authority and a system of rules and regulations that help rather than hinder
the teaching-learning of the school” (p.91). He goes further to explain that although
hierarchies are typically hindering in nature that does not have to be the case. He
describes a school structure where principal and teachers can work in a cooperative
nature keeping intact the roles by working across the recognized authority boundaries.
Rules and regulations are not steadfast, but are flexible guidelines to solving school
related problems. These systems ultimately produce procedures and mechanisms that
support the work of the teachers, rather than enhance the principal’s power (Hoy, 2003, p.
91). Teachers in this kind of environment will develop a sense of commitment to the
school and an atmosphere of trust.

Hoy (2003) also offers a prototype for hindering structure, which lies on the other
end of the enabling-hindering continuum. Such a structure is bound by rules and
regulations that hinder and are coercive and create a rigid authority structure. In this structure the hierarchy is maintained and has as its primary goal the control and compliance of subordinates. Teacher behavior must be maintained, closely supervised, and monitored by a rigid hierarchy and by rules and regulations that are used to control and punish teachers for deviance. The result of such structures is evidenced where teacher performance is dictated by the fear of punishment. Trust is undermined and replaced with a power structure that bolsters the authority of the principal and undermines cooperative work of the teachers. A culture of trust and support is replaced by a culture of conflict, alienation, and fear (Hoy, 2003).

Figure 2.2, contrasting the characteristics of enabling structures and hindering structures, is presented below. When viewed from the schools’ perspective one must consider these characteristics on a continuum. In each instance a building might be at

<table>
<thead>
<tr>
<th>Characteristics of enabling structures</th>
<th>Characteristics of hindering structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Problems are seen as opportunities</td>
<td>• Problems are seen as obstacles</td>
</tr>
<tr>
<td>• Trust is fostered</td>
<td>• Mistrust is produced</td>
</tr>
<tr>
<td>• Differences are valued</td>
<td>• Consensus is required</td>
</tr>
<tr>
<td>• Learning from mistakes</td>
<td>• Punitive view of mistakes</td>
</tr>
<tr>
<td>• Unexpected situations are expected</td>
<td>• Unexpected situations are feared</td>
</tr>
<tr>
<td>• Problem solving is facilitated</td>
<td>• Muddled problem solving</td>
</tr>
<tr>
<td>• Cooperation is enabled</td>
<td>• Promote control and compliance</td>
</tr>
<tr>
<td>• Innovation is encouraged</td>
<td>• Status quo is maintained</td>
</tr>
<tr>
<td>• Being flexible</td>
<td>• Being rigid</td>
</tr>
</tbody>
</table>

Figure 2.2: Characteristics of enabling and hindering structures (Adapted from Hoy, 2003, p. 92).
different points on the continuum for the different characteristics. Administrators are well advised to keep these in mind, structuring decisions they make to push the buildings they lead towards a more enabling, rather than coercive structure.

*Some Practical Illustrations*

Considering all the different structures in schools and the effects they have on the subordinates, it is instructive to give some practical examples to emphasize the importance of enabling rather than coercive or hindering structures. Examples include end of the year check-out procedures, budgetary matters, and building access.

School districts typically have codified procedures that must be met at the end of the year before teachers leave for summer break. Many of these procedures have requirements such as turning in grades, final exam copies and keys, room organization, and returning building keys. These items typically need to be done by the end of the last teacher work day.

From these rules principals can create an enabling structure that understands the pressures on teachers at the end of the year or they can establish a hindering structure where rules are rigid and punitive. A structure that enables would be flexible and cooperative, understanding of teachers with other duties and focus on the students’ needs. Enabling structure, for example, might use the deadlines as a more flexible guideline that would allow teachers to do a more thorough job initiating the end of the year procedures. Such procedures allow teachers to focus on the students and their work until the end of the academic year. Allowing teachers to stretch the checkout procedure into the next
week would allow this to happen. If there are rigid deadlines for grades, teachers should be informed of the less flexible rules and allowed to prioritize their work.

Contrast this with the administrator who takes the rules and creates a rigid structure that demands that all the teachers be ready to check out of the building on the date specified by the contract. Teachers will then be pressured to have their rooms ready and all grading completed in a rushed environment. This may lead to high stress levels, cutting corners, or getting the students to become involved in the process, taking time away from instruction. Also, teachers who have other duties within the school, such as coaches, technology coordinators, club leaders, and librarians are forced to get both their rooms and the other responsibilities together all at once. The hindering structure may affect the quality of instruction and open the school up to more mistakes due to the rushed environment.

Another example is building access, not only access to the building, but access to equipment in the building that is crucial to the teaching and learning process, like copiers, computers, and printers. Strict rules that restrict building access to normal hours of operation during the weekdays can retard the efforts of teachers who need access to their rooms or school materials. On the contrary, if teachers are provided with building keys and access is unfettered, then a more flexible and cooperative work environment is reinforced.

School accounting systems tend to be rigid and inflexible. However, a slight change in policy can create a much more flexible system. The state of Utah had adopted a practice of distributing support for instructional expenses to each public school teacher. In order for a teacher to gain access to this money he/she purchased items and saved
receipts until the end of the year when the money would be reimbursed. Schools were in
charge of maintaining this system. Such a system puts the burden of expense on the
teacher and possibly deters them from getting what they need because of the long wait for
reimbursement. Similarly, teachers might wait to purchase items until the end of the year,
which would be closer to the time they could get reimbursement.

A slight change in the policy may have a more enabling effect. If the school issues
a check to all teachers at the beginning of the year the teachers would have the money in
order to buy the items all at once or throughout the year. The requirement for saving
receipts would still be in place, but the burden would shift from individual teachers to the
district to fund the supplies. This policy would also make it easier for the person in
charge of reconciling the account at the end of the year. Instead of getting a deluge of
receipts at the end, he/she would receive them throughout the year. This more flexible,
enabling structure is yet another example of how administrators can look to each
structure in the school or district and ask the question, does this structure enable or hinder
the teaching and learning process? The answer will dictate appropriate courses of action.

*Enabling Structures Summary*

The model of bureaucracy began with formalization and centralization, each of
which ran on a continuum from enabling to coercive. The notion of bureaucracy is not
bad in and of itself; however, the kind of bureaucracy makes a large difference in its
effectiveness. Empirical evidence suggests that enabling bureaucracies are correlated
with trust and teacher effectiveness. Prototypes of both enabling and hindering structures
were offered and contrasts of the two were presented. Finally, examples of both types of
structures were presented to bolster the understanding of the construct.
Theoretical Rationale and Hypotheses

The theoretical underpinnings of the current study are rich and far-reaching. The previous review of the literature gives rise to interesting connections of the variables. Although a path model is developed to guide the research, reciprocal causality is assumed for each hypothesis, that is, that the causality is bidirectional. For example, the principal’s disposition toward mindfulness should facilitate the mindfulness of the school but conversely the organizational mindfulness of the school may foster an increase in the principal’s disposition toward mindfulness.

The construct of mindfulness is theoretically intriguing. When considering the literature review, two factors that define school mindfulness emerge: mindfulness of the faculty and mindfulness of the principal. Mindfulness of the school is a composite of both the two dimensions.

Faculty mindfulness is concerned with the perceptions the faculty has about the school’s ability to act mindfully. There are five important facets to which the perceptions of mindfulness are connected (Weick & Sutcliffe, 2001); first, being preoccupied with mistakes in the building and looking for ways to fix them early. The key is to find mistakes when they are small, before they get out of control. Second, teachers will have a reluctance to simplify interpretations about the functioning of the building. Schools are large and complex and cannot be understood unless the complexity is embraced. Being able to bring out the subtle nuances in the relationships among students, faculty and administration and bringing them to bear on the school’s structure will create a more
mindful school. Third, the faculty must be sensitive to the operations of the school, namely, the task of teaching and learning. Faculty who are not aware of school operations will not be able mindfully to approach important decisions that affect the teaching and learning process. Fourth, mindful school faculties are committed to resilience; they are able to detect, contain and bounce back from mistakes (Hoy, 2003). Fifth, a deference to expertise is promoted among faculty members so that the best person to make decisions is on hand to make it. These five facets collectively represent the school faculty’s mindfulness.

Mindfulness of the principal describes a school principal’s behavior that searches out novel situations and makes changes that others do not consider. The five facets of principal mindfulness follow the same framework as the faculty mindfulness. The faculty sees the principal searching out small mistakes and taking action before they become crises. The principal of a mindful school embraces complexity and takes action to allow for minority opinions to be heard. By focusing on teaching and learning the principal is sensitive to the operations of the building. In mindful schools the principal is resilient and he/she makes an effort to search out faculty expertise. The combination of these two factors, faculty perceptions about school mindfulness and faculty perceptions about principal mindfulness, creates the construct of school mindfulness.

It is important to draw a distinction between principal’s personal disposition towards mindfulness and faculty perceptions of principal mindfulness, one of the two factors of school mindfulness. Principal behavior as perceived by the staff may differ from the principal’s personal dispositions toward the construct of mindfulness. District structure and the nature of school bureaucracies may cause such differences. However, it
may be theoretically possible for such differences to exist; it is believed that a principal
disposition toward mindfulness will have a positive impact on school level mindfulness.
A principal’s disposition towards mindfulness includes attitudes towards flexibility,
seeking novelty, producing novelty, and engagement. Consistent with the theoretical
explanations advanced by Weick and Sutcliffe (2001), mindful schools have elements of
the five facets of mindfulness discussed above. The principal’s role and dispositions are
essential to the development of a school’s climate and culture of mindfulness. Thus, the
following hypothesis is offered:

\[ H_1: \text{A principal’s disposition toward mindfulness is positively related to school}
\text{mindfulness.} \]

In order for the school to build an enabling school structure, the faculty must be
able to communicate frankly with themselves and the principal. Open and honest
dialogue requires a trusting environment. If there are questions about the benevolence,
reliability, competence, honesty, vulnerability and confidence one person has in another,
the degree of trust will wane (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Trust is
also a key concept of this study. The literature identified three referents of faculty trust –
faculty trust in the principal, in colleagues, and clients (parents and students) (Tschannen-

First, faculty trust in the principal is essential for authentic relationships. Without
a trusting relationship with the principal, the faculty will tend to hide mistakes. Such
behavior allows small problems to grow into larger ones. Enabling school structure relies
on helping teachers to learn from mistakes. Such behavior is unlikely unless teachers and
principals trust each other. A trusting relationship between the faculty and the principal
promotes a learning environment in which differences are valued, not punished. Without faculty trust the principal is more likely to demand consensus, punish mistakes, promote control and compliance, and be bound to the status quo. Thus, it seems reasonable to postulate that faculty trust in the principal is a necessary condition for the development of an enabling school structure. If the faculty do not trust the principal, it seems likely that the principal will not trust the faculty. Such mistrust in all quarters leads to dysfunction and virtually insures hindering structures.

Faculty trust is also needed among the colleagues. Without trust cooperative working relations are strained. Teachers hide information from each other and are reluctant to share ideas. Constantly watching one’s back for fear of retribution and sabotage are consequences of splintered faculty (Tschannen-Moran et al., 1998). Such faculty members are suspicious and mistrust each other. This distrust causes the faculty to become bound by the status quo and fearful and suspicious of change. The faculty embraces rigid structure rather than risks cooperation. As with faculty trust in the principal, faculty trust in colleagues seems a necessary condition for the development of flexible and enabling structures.

The structure within the school is important for the school’s functioning. If rules are coercive and structures are hindering, the climate of the building will be impacted in a negative way (Hoy & Sweetland, 2001b). In schools with a restrictive school structure the staff are less likely to engage in cooperative activities and do not have an open relationship with administration. These restrictive school structures tend to make
focusing on mistakes, deferring to expertise, committing to resilience, being sensitive to operations and keeping problems complex – the five facets of mindfulness – exceedingly difficult.

Conversely, an enabling school structure in which communication and dialogue are supported and cooperation is encouraged should have a positive impact on school mindfulness. In order for mindfulness to occur at the organizational level, more enabling school structure is needed. In enabling structures problems are seen as opportunities to learn rather than issues to be avoided. Enabling structures are flexible and like mindful schools value differences. Enabling schools facilitate problem solving and seem likely to encourage decision making based on expertise, as is the case in mindful schools (Hoy, 2003). The similarities and the complementarity of the two concepts suggest that enabling school structure is positively related to school mindfulness.

The conclusion is straightforward. Both faculty trust in colleagues and faculty trust in the principal directly facilitate the development of an enabling school structure and indirectly supports school mindfulness. Moreover, enabling school structure is a necessary condition for promoting school mindfulness. The argument leads to the following two hypotheses:

**H₂** Faculty trust in the principal directly facilitates enabling school structure and indirectly, through enabling structure, influences school mindfulness.

**H₃** Faculty trust in the colleagues directly facilitates enabling school structure and indirectly, through enabling structure, influences school mindfulness.

Collective teacher efficacy has been shown to have a positive effect on student achievement (Bandura, 1993; Goddard, Hoy, & Woolfolk-Hoy, 2000). The sources of
collective teacher efficacy – mastery experience, verbal persuasion, vicarious experience, and affective states – likely have an important impact on culture and climate of a school. Culture reflects the mindfulness of the school building. The consequences of collective efficacy, discussed earlier in the chapter, also likely impact the level of school mindfulness. Collectively, when teachers believe in their conjoint capabilities to organize and execute courses of action required to produce high levels of student achievement, then such beliefs translate into more focused and effective approaches to the teaching and learning task (Bandura, 1997). Mastery experience, for instance, seems positively related to sensitivity to the teaching and learning process. The faculty will be better able to choose lessons that are appropriate for presenting the concepts to students.

Schools with high levels of collective teacher efficacy also tend to be more resilient. The faculty will be more willing to try multiple methods of instruction, bounce back after adversity and be better able to motivate students (Goddard, Hoy et al., 2000). The teaching task is less daunting in schools where collective efficacy is high, so adverse conditions are more manageable and efforts to bounce back are more persistent. Thus it seems likely that high collective efficacy facilitates an increase in the mindfulness of the school.

Faculty trust in clients (students and parents) also likely impacts the level of collective efficacy. A low level of trust in clients impedes the development of high collective efficacy. For instance, if teachers believe that students are sneaky and dishonest, then their ability to take courses of action that increase achievement will likely be negatively affected because more time will be spent on secondary issues of discipline and control rather than the primary objective of teaching and learning. A faculty who
trusts their clients will likely build stronger relationships with students and parents. Such relationships enable teachers to work harder, be resilient, and be willing to risk innovative strategies in their teaching activities. Such efforts will build mastery and vicarious experiences among the staff and boost levels of efficacy. When parents and students are trusted, the threat of mistakes reduces and parents will likely praise teachers for their devotion to the students. Such praise from parents will provide verbal persuasion and boosts levels of collective efficacy.

To summarize the argument advanced, faculty trust in clients directly facilitates the development of collective efficacy, which in turn supports school mindfulness. The assumption is that faculty trust in clients is a necessary condition for promoting collective efficacy, which triggers the development of school mindfulness. To be more specific, the following hypothesis is proposed:

**H4: Faculty trust in the clients directly facilitates collective teacher efficacy and indirectly, through collective efficacy, influences school mindfulness.**

Path Model of the Relationships between Variables

The rationale and hypotheses posited above give rise to the creation of a system of variables that explains the development of school mindfulness. The system is pictorially described by the path model in figure 2.3. Each variable depicted in the boxes is measured by the operational definitions in chapter Three. The arrows represent a directional relationship with the variable. Consistent with the hypotheses above, the model predicts a positive relationship between principal’s disposition toward mindfulness and school mindfulness. Faculty trust in clients has a direct positive relationship with collective teacher efficacy and an indirect positive relationship with school mindfulness.
Faculty trust in the principal and faculty trust in colleagues both directly facilitate an enabling school structure and indirectly, through enabling structure, have a positive effect on school mindfulness.

Figure 2.3: Theoretical Path Model of School Mindfulness. Source: Author

Chapter 2 Summary

A review of the literature on mindfulness, faculty trust, collective efficacy, and enabling school structure comprised the primary intention of this chapter. These reviews provided a history of each construct, an empirical and theoretical understanding of each construct, and a platform from which to develop a rationale for the relationships among the variables in the form of a path model. The model was then advanced as a pictorial description of the relationships between the constructs. The following chapter will examine the methodology used to test the hypotheses and the model.
CHAPTER 3

METHODOLOGY

To test the hypotheses and path model developed in the last chapter, data were collected from a set of 75 middle schools in Ohio. The sampling, instrumentation, data collection, and data analysis procedures are described below.

Sample

The sample for this research was comprised of 75 middle schools in Ohio. Steps were taken to solicit participation of urban, suburban and rural schools. Schools having 15 or more certified teachers and containing grades five through eight were considered for the study. Due to the cost and travel time this study concentrated on the following Ohio counties: Clark, Delaware, Fairfield, Fayette, Franklin, Green, Licking Madison, Marion, Montgomery, Pickaway, and Union. According to data files downloaded from the Ohio Department of Education website, 168 schools qualify for this study, out of 788 middle schools in the state. Most of the qualifying schools have a 6-8, 5-6, or 7-8 structure. A phone script and letter were constructed to standardize the recruiting process to solicit participants.
Research Instruments

Four variables were of primary concern for this study: mindfulness, collective teacher efficacy, enabling school structure, and trust. The measures for trust (Hoy & Tschannen-Moran, 2003), enabling structures (Hoy & Sweetland, 2001b), collective teacher efficacy (Goddard, 2001), and principal’s disposition toward mindfulness (Bodner, 2000) are valid and reliable instruments that have been developed by others. A measure for school mindfulness, however, was specifically developed for this study. Before describing the existing constructs, the process used to develop the school mindfulness instrument will be explained.

Development of the Mindfulness Instrument

The theoretical base from which the mindfulness items were conceived was developed primarily by Weick and Sutcliffe (2001) and Langer (1989a) and described in chapter 2. The items in the instrument were developed in collaboration with University faculty, other researchers, and practicing teachers to conceive of mindful structures in schools. The development of the instrument went through a series of phases before the final product was produced. First, a pool of items was generated. Second, a panel of experts reacted to the items. Third, items were field tested with teachers. Fourth, two pilot studies were performed to identify and refine the factor structure. Finally, reliability and validity of the instrument were tested (Hoy, Gage, & Tarter, 2003). These steps will be described in greater detail in the following sections.

Item Generation

Initially, 111 statements were conceived by two researchers, approximately 20-25 for each of the five dimensions of mindfulness. These statements were subsequently
given to two professors of education, other researchers, teachers, and administrators in central Ohio to review for clarity and face validity. Samples of the items for each of the five facets of mindfulness appear below:

- Mistakes are seen as important sources of information. (Focus on failure)
- Teachers are encouraged to have a difference of opinion. (Reluctance to simplify)
- My principal is involved in instructional decisions. (Sensitivity to operations)
- When things go badly, the teachers bounce back quickly. (Resilience)
- Teachers in this school value expertise more than authority. (Expertise)

The items attempted to capture mindful schools with concise, accurate descriptors of teacher behavior and attitudes.

Panel of Experts

A team of three university professors and a Ph.D. student was gathered to check the content validity of the statements. The goal was to determine which questions captured the theoretical notion of mindfulness. Only items for which there was agreement among the panel were selected for the pilot tests. The 111 statements were reduced to 67 statements, between 11 and 16 statements for each dimension of mindfulness. A six point Likert-type scale was devised for the respondents to rate each statement from strongly disagree (1) to strongly agree (6).

Field Test

Prior to the formal testing, an informal field test was conducted to check the instrument for clarity in directions and item wording. A small group of experienced teachers and administrators was asked to take the questionnaire concentrating on the ease of responding to the instrument. A few changes were made, but in general feedback was positive. The instrument was regarded as concise, simple and direct; it remained intact.
Pilot Study 1

Following the item generation, panel review, field test, and revisions the 67 item questionnaire was piloted as an exploration of the measure and structure. The instrument was given to 101 teachers, representing over 90 schools, in central Ohio and North Carolina chosen by a convenience sample.

The purpose of this study was to develop a set of reliable and valid measures for mindfulness. The data were analyzed using a principal components analysis with a varimax rotation. Initially the items were forced into a five factor solution, based on the theoretical framework used for item generation. However, the conceptual underpinnings of this solution were not supported. Virtually all of the five components had items with high loadings from more than one conceptual strand of mindfulness. In order to make a more parsimonious solution additional principal component analysis were run with the following guidelines:

1. Unless there was a strong conceptual rationale to maintain the item in subsequent analysis, items with high (above .40) loadings on two or more factors were removed,
2. Items required a minimum loading of .50 on one factor to remain,
3. Parsimony, or simple structure, was the goal, so items had to have high loadings on one factor and low on all others.

Preceding through the subsequent iterations of principal component analysis, two dominant factors emerged, rather than the original five. It was discovered that the five elements of the conceptual framework were not independent aspects of mindfulness. These two factors explained 48% of the total variance and 34 items, of the 67 original, remained.

Considering the two factor solution, it became apparent that conceptually one factor was explaining aspects of the principal mindfulness and the other explained
mindfulness of the faculty. The prevailing factors were also found to each contain virtually all of the five aspects of mindfulness. Alpha coefficients were 0.95 for the principal mindfulness factor and 0.84 for the faculty mindfulness factor.

*Pilot Study 2*

Using the findings from the first pilot study, more items were added to each of the two factors in an attempt to insure that all five aspects of mindfulness were included in each factor. In order to balance the instrument care was taken to re-word some items so that two negatively stated items were included with at least two positively stated items for each of the 10 dimensions of the instrument. Some of the redundant items were removed leaving twenty items for each factor, totaling 40 for the entire instrument.

The items on the revised questionnaire were as follows (Hoy, Gage, & Tarter, 2003):

**Sensitivity to Teaching and Learning (Principal)**

- My principal often provides feedback about teaching and learning.
- My principal is an expert on teaching and learning.
- My principal does not really know what is happening in most classrooms.
- My principal is removed from classroom activities.

**Commitment to Resilience (Principal)**

- When things go badly, the principal bounces back quickly.
- Administrator burnout is a problem in this school.
- When a crisis occurs the principal effectively deals with it, so we can get back to teaching.
- In times of crisis, my principal takes too much time to deal with the situation.

**Reluctance to Simplify (Principal)**

- My principal negotiates differences among faculty without destroying the diversity of opinions.
- My principal often jumps to conclusions.
- Teachers in my building are encouraged to share information.
- The principal of this school does not value the opinions of the teachers.
Expertise (Principal)

- The principal welcomes challenges from the teachers.
- The principal in this building defers to the knowledge of the teachers.
- Teachers in my building are encouraged to share information.
- The principal of this school does not value the opinions of the teachers.

Focus on Failure and Mistakes (Principal)

- In this school teachers communicate their mistakes freely with the principal.
- Teachers do not trust the principal enough to admit their mistakes.
- Mistakes are seen as important sources of information.
- In my building we focus on problem solving no matter who is to blame.

Sensitivity to Teaching and Learning (Faculty)

- Teachers in my building waste a lot of time.
- In this school teachers with teaching problems can usually find someone to help resolve them.
- Most teachers in this building are reluctant to change.
- In this school teachers welcome feedback about ways to improve.

Commitment to Resilience (Faculty)

- When things go badly, the teachers bounce back quickly.
- Too many teachers in my building give up when things go bad.
- This school has difficulty rebounding from mistakes.
- People in this school can rely on each other even when things are tense.

Reluctance to Simplify (Faculty)

- Diversity of ideas is celebrated in my building.
- Teachers negotiate differences among each other without destroying the diversity of opinions.
- Teachers in this school often jump to conclusions.
- Teachers don’t tolerate differences of opinion in this school.

Expertise (Faculty)

- Teachers in this school value expertise more than authority.
- In our school the people who are most qualified to make a decision, make it.
- People in this school respect power more than knowledge.
- In our school, many decisions are made by those not qualified to make them.

Focus on Failure and Mistakes (Faculty)
• Teachers in my building learn from their mistakes and change things so they do not happen again.
• Mistakes are seen as opportunities to improve rather than signs of weakness.
• In my building teachers hide mistakes.
• Teachers in my building are hesitant to admit personal failure for fear of retribution.

With the revised mindfulness instrument ready, a second pilot study was conceived. Principal components analysis was a useful tool in data reduction with the first pilot; however, for the second pilot, principal factor analysis with a varimax rotation was utilized to refine the instrument further. Moreover, a preliminary check on the instrument’s predictive validity was needed. This was facilitated by including measures that were predicted to be strongly related to mindfulness: enabling school structure and collective teacher efficacy. Both of which were hypothesized to be positively correlated to school mindfulness.

Sample 2. The sample of this study was more diverse and larger than the first. The data set against which the mindfulness instrument was tested came from 103 different schools including 193 teacher responses from central Ohio, Oklahoma, North Carolina, Michigan, western New York, and Virginia. Professors from The Ohio State University, St. Johns University, University of Michigan, Oklahoma State University, North Carolina State University, University of Texas at San Antonio, and The College of William and Mary contributed to the study by agreeing to help collect the data.

Instrument. Along with the 40 mindfulness statements 12 items to measure enabling school structures and 12 items to measure collective efficacy were added to the instrument. The additional items were used to check the instrument’s predictive validity. The enabling school structure scale can be found in Hoy and Sweetland (2001b) and the
collective teacher efficacy scale can be found in Goddard, Hoy and Woolfolk Hoy (2000).

*Data Collection.* Data were collected in the fall of 2002 from 103 different schools in seven states. The questionnaire was administered to 193 teachers by colleagues who selected them from their classes and from randomly selected local schools. Special care was given to ensure that no more than two teachers from a single school responded to the instrument. Some schools were represented by only one teacher.

*Results.* A principal axis technique with a varimax rotation was used to analyze the 40 mindfulness items. Similar to the results in the first pilot study, two unique factors were found. Principal mindfulness loaded on the first factor and faculty mindfulness loaded on the second factor. Without exception all of the 40 items loaded on the theoretical factors for which they were designed, 20 for principal mindfulness and 20 for faculty mindfulness.

Once the factors were determined, care was given to further analyze the factor structure. For instance, six items had substantial dual loadings and were culled from the group. Once re-factored the remaining 34 items gave an even cleaner factor structure for the two factors.

The goal of reducing the instrument in size without disrupting the factor structure or the integrity of the measurement qualities was continued. The three guiding principles that direct to this end are as follows:

1. Simple structure was to be maintained; items with high loadings on only one factor.
2. Instrument reduction was a goal by choosing the 20 best items such that each of the five dimensions of mindfulness was represented in each factor by a negative and a positive statement.
3. Conceptually all items needed to make sense by loading on their respective factor.

106
<table>
<thead>
<tr>
<th>Item</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>The principal welcomes challenges from teachers.</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>When a crisis occurs the principal deals with it so we can get back to teaching.</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>My principal negotiates faculty differences without destroying the diversity of opinions.</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>The principal of this school does not value the opinions of the teachers.</td>
<td>-.73</td>
<td></td>
</tr>
<tr>
<td>My principal is an expert on teaching and learning.</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>My principal often jumps to conclusions.</td>
<td>-.71</td>
<td></td>
</tr>
<tr>
<td>Teachers do not trust the principal enough to admit their mistakes.</td>
<td>-.69</td>
<td></td>
</tr>
<tr>
<td>Mistakes are seen as important sources of information.</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>In times of crisis it takes my principal too much time to effectively deal with the situation.</td>
<td>-.68</td>
<td></td>
</tr>
<tr>
<td>My principal does not really know what is happening in most classrooms.</td>
<td>-.58</td>
<td></td>
</tr>
<tr>
<td>When things go badly teachers bounce back quickly.</td>
<td></td>
<td>.74</td>
</tr>
<tr>
<td>Teachers in my building learn from their mistakes and change so they do not happen again.</td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>In this school teachers welcome feedback about ways to improve.</td>
<td></td>
<td>.66</td>
</tr>
<tr>
<td>Teachers negotiate differences among each other without destroying the diversity of opinions.</td>
<td>.33</td>
<td>.63</td>
</tr>
<tr>
<td>Too many teachers in my building give up when things go bad.</td>
<td></td>
<td>-.58</td>
</tr>
<tr>
<td>Teachers in this school value expertise more than authority.</td>
<td></td>
<td>.54</td>
</tr>
<tr>
<td>Most teachers in this building are reluctant to change.</td>
<td></td>
<td>-.53</td>
</tr>
<tr>
<td>Teachers in this school often jump to conclusions.</td>
<td></td>
<td>-.49</td>
</tr>
<tr>
<td>People in this school respect power more than knowledge.</td>
<td></td>
<td>-.32 -.47</td>
</tr>
<tr>
<td>In my building teachers hide mistakes.</td>
<td></td>
<td>-.38 -.45</td>
</tr>
<tr>
<td>Cumulative Variance</td>
<td>28.39</td>
<td>48.03</td>
</tr>
<tr>
<td>Alpha Coefficient</td>
<td>.92</td>
<td>.85</td>
</tr>
</tbody>
</table>

Table 3.1: Rotated Factor Matrix Factor: Analysis of Mindfulness Dimensions: Source: Author

The results of the factor analysis are reported on figure 3.1 above. To support the construct validity of the instrument, each item loaded on the appropriate factor. Virtually all the items had high loading on only one factor; however, three items had loadings that were higher than 0.30 (see figure above) on both. Strong reliabilities for each factor were computed, .92 for the factor measuring principal mindfulness and .85 for the factor measuring faculty mindfulness.
The predictive validity of the instrument was then examined to see if mindfulness indeed was positively related to collective teacher efficacy and enabling school structure. A separate examination of these relationships will follow.

Mindful schools and enabling school structures clearly have similar characteristics. Trust, openness, flexibility, cooperation, and organizational learning are all needed for each (Hoy, Gage, & Tarter, 2003). Moreover, problem solving, collaboration, and anticipating the unexpected typify mindfulness and enabling school structures. Mindfulness is concerned with failure or mistakes, a theme not shared by enabling school structures. Successful structures in schools can lead to a path of their own destruction, in that success often breeds complacency (Weick & Sutcliffe, 2001). Teachers and principals who are successful often attribute their success to themselves rather than luck or circumstance. Mindful schools continuously scan for problems treating success as a byproduct of their ability to catch problems early; not so for enabling structures. Nonetheless, the prevailing similarities of the constructs remain. Indeed, the results of the analysis show a strong positive correlation between the two constructs. Enabling school structure had a significant correlation of $r = .56$ ($p< .01$) with faculty mindfulness, $r = .87$ ($p< .01$) with principal mindfulness, and $r = .83$ ($p< .01$) with the school mindfulness, the combined indices of faculty and principal mindfulness.

Collective teacher efficacy is the shared perception held by the teachers that the faculty’s combined efforts can have a positive effect on student learning. As reported by Goddard, Hoy, and Woolfolk Hoy (2000), accepting challenging goals, resilience in the face of failure, strong organizational effort, and persistence are all consequences of collective teacher efficacy. These are also shared by mindful schools (Hoy et al. 2003).
Trust in colleagues, low conflict, and teachers’ sense of autonomy over their work are all additional consequences of high collective teacher efficacy; these elements also relate to mindfulness. As a result, schools with high levels of mindfulness were predicted to also have high collective teacher efficacy and the results concur. As predicted, collective teacher efficacy had a significant positive correlation of $r = .65$ ($p < .01$) with faculty mindfulness, $r = .47$ ($p < .01$) with principal mindfulness, and $r = .62$ ($p < .01$). The results of the correlations are summarized in figure 3.2.

<table>
<thead>
<tr>
<th>Variables</th>
<th>FM</th>
<th>PM</th>
<th>SM</th>
<th>ES</th>
<th>CE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mindfulness (FM)</td>
<td>.85*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Mindfulness (PM)</td>
<td>.54**</td>
<td>.92*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Mindfulness (SM)</td>
<td>.84**</td>
<td>.91**</td>
<td>.92*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enabling Structure (ES)</td>
<td>.56**</td>
<td>.87**</td>
<td>.83**</td>
<td>.93*</td>
<td></td>
</tr>
<tr>
<td>Collective Efficacy (CE)</td>
<td>.65**</td>
<td>.47**</td>
<td>.62**</td>
<td>.58**</td>
<td>.89*</td>
</tr>
</tbody>
</table>

**p < .01
*: Alpha coefficients of reliability are on the diagonal

Table 3.2: Correlations of Mindfulness with predictor variables. Source: Author.

The predicted results of the relationship between the constructs of mindfulness, collective efficacy, and enabling school structure confirmed the hypotheses of this pilot study and bolster the validity of school mindfulness as conceptualized in this study. A discussion of the other variables in the study will follow.

**Collective Teacher Efficacy**
To measure collective teacher efficacy an instrument developed by Goddard (2001) was employed. This 12-item Likert-type scale was culled out of a longer 21-item form developed by Goddard et al. (2000). The shorter form was highly correlated to the longer form ($r = .983$), “suggesting little change resulted from the omission of almost 43% of the items” (Goddard, 2001, p. 107).

The construct’s two sub-dimensions were represented in equal proportions in the instrument. Six items, three positively related and three negatively related, to analysis of the teaching task (TA) and six items, three positively related and three negatively, related to assessment of teaching competence (GC). The items were analyzed using principal axis factor analysis. A one factor solution was found, with all the factor coefficients reported above .67, with 64.10 per cent of the variance explained (Goddard, 2001 p.107). Finally, the one factor solution of the 12-item scale was high in internal consistency, producing an alpha of 0.94 (Goddard, 2002).

The 12-item instrument developed by Goddard (2002) used a six point Likert-type response set with a range from strongly disagree (1) to strongly agree (6). Some examples of items are depicted below. *These students come to school ready to learn*, describes a positive example from analysis of the teaching task. A negative example from analysis of the teaching task includes: *students here just aren’t motivated to learn*. A positive example from assessment of teaching competence is: *teachers in this school are able to get through to difficult students*. A negative example of assessment of teaching competence is: *teachers here don’t have the skills needed to produce meaningful student learning*. As stated above, the reliability and validity of this instrument has been previously established (Goddard, 2001).
Trust

The trust scale used in the present study, omnibus t-scale, had its foundations with Hoy and Kupersmith (1985). This study concluded with three aspects that were studied: faculty trust in the principal, in colleagues, and the school organization to be moderately correlated with one another. Hoy and Tschannen-Moran (1999) built a scale from the findings of Hoy and Kupersmith to investigate the three aspects of trust further. This new scale added a new dimension of trust to the already existing elements of faculty trust in the principal and faculty trust in colleagues. This new dimension was faculty trust in clients (students and parents). The scale was based off the notion of one’s willingness to become vulnerable to another party. Five facets of trust emerged from the theoretical base from which the scale was designed: benevolence, reliability, competence, honesty, and openness (Hoy & Tschannen-Moran, 1999). A 37-item Likert-type instrument containing six possible responses, from strongly disagree (1) to strongly agree (6), emerged.

The scale was tested for content validity by a panel of experts and field tested for face validity. A pilot study was performed to ascertain reliability and further test validity. The instrument underwent factor analysis to determine reliability and a high Cronbach alpha emerged for each of the three dimensions of trust. A content analysis was performed to ensure that each of the five facets of trust was represented in the scale. Predictive validity was tested against the variables of powerlessness, self-estrangement, and school conflict, all of which were predicted to have negative correlations. Teacher-efficacy was shown to have a positive correlation to faculty trust. Each of the five facets also varied together. These results indicated that the t-scale is a reliable and valid...
measure of faculty trust in the principal, colleagues, and clients (Hoy & Tschannen-Moran, 1999).

The scale was further reduced to a short form (Hoy & Tschannen-Moran, 2003). This scale retains the validity and reliability of the original scale, by use of 26-items. For the purposes of this study the short form, omnibus t-scale, was used. The scale is broken down into three parts containing between eight and ten items each. The subscales are described below.

The omnibus t-scale used the same six point Likert-type response set as the longer form. One of the three dimensions of the omnibus t-scale is faculty trust in clients (parents and students). Two positive examples of this dimension are: teachers in this school trust their students, and students in this school care about each other. A negative example includes: students in this school are secretive. Trust in colleagues is the second dimension. Positive items include: teachers in this school typically look out for each other and even in difficult situations, teachers in this school can depend on each other. A negative example of faculty trust in colleagues is: teachers in this school are suspicious of each other. The last dimension of faculty trust is trust in the principal. Positive examples of this dimension include: the teachers in this school have faith in the integrity of the principal and the principal in this school typically acts in the best interests of the teachers. A negatively worded statement includes: the principal doesn’t tell the teachers what is really going on (Hoy & Tschannen-Moran, 2003).

Enabling School Structure
The scale to measure enabling school structures was designed to include the two primary aspects of the construct: formalization and centralization. Hoy and Sweetland (2000) created a 24-item Likert-type instrument to measure the two different dimensions of school structure, formalization and centralization. The succeeding factor structure of the instrument was unable to produce a two factor solution, producing a one factor solution for enabling school structures. The instrument yielded an alpha level of .94 and .96 as a coefficient of reliability for the two samples respectively. To test predictive validity the measure was correlated positively to Aiken and Hage’s (1968) classic scales of centralization and formalization.

Building on their previous work Hoy and Sweetland (2001b) designed a more parsimonious measure of enabling school structure. Form ESS was culled to a twelve-item instrument, from the original 24 items. There are six enabling items and six hindering items on the scale. The validity, reliability, and stability of the original scale remained intact. The ESS explained 64% of the variance and had an alpha level of .95 (Hoy & Sweetland, 2001b). The construct and predictive validities of the shorter form were found to be correlated to faculty trust in the principal (Hoy & Tschannen-Moran, 1999), truth spinning (Hoy & Sweetland, 2001a), and role and conflict scales (Rizzo, House, & Lirtzman, 1970).

The 12-item instrument was employed in the present study. This instrument employed a five point response set with a range from never (1) to always (5). Some examples of the different categories of the short form are described below. An item depicting enabling formalization is: *administrative rules in this school are guides to solutions rather than rigid procedures*. A coercive formalization example includes:
administrative rules in this school are substitutes for professional judgments. The administrative hierarchy of this school enables teachers to do their job is an example of an enabling centralization item from the ESS instrument. While a hindering centralization item includes: in this school the authority of the principal is used to undermine teachers.

Principal’s Disposition Towards Mindfulness

The Langer Mindfulness Scale (LMS) was developed by Bodner (2000) to measure an individual’s level of mindfulness. For the purpose of this study, the measure was used to determine an individual principal’s disposition towards mindfulness. This construct is different than principal mindfulness as described above because principal mindfulness is an aggregated faculty rated measure, whereas principal’s disposition towards mindfulness is an individual’s belief towards mindfulness.

Bodner (2000) developed a 21-item scale which uses a seven point response set ranging from strongly disagree (1) to strongly agree (7), with a response for neutral (4). The theoretical framework from which the instrument was built uses the same four dimensions proposed by Bodner (2000) above. The dimensions include engagement, novelty seeking, novelty producing, and flexibility. Bodner (2000) reports an average coefficient alpha of internal consistency of the LMS as 0.88 and presents some initial validity evidence (Bodner, 2000). Further analysis by Bodner (personal communication) indicated that the 21 item measure had strong construct validity as demonstrated in a confirmatory factor analysis. Some examples from the instrument are: I “get involved” in almost everything I do (engagement), I am very curious (novelty seeking), I generate few novel ideas (novelty producing – negative), I am always open to new ways of doing things (flexibility).
Data Collection

Data for mindfulness, collective efficacy, enabling school structures, and trust were collected using a survey instrument. A team of researchers conducted on-site visits to schools to collect data during regularly scheduled faculty meetings, after making appointments with the principal. Principals were contacted by phone to solicit their school’s involvement in the study and appointments were made for the researchers to visit the school.

During the meeting a script was read by the researchers to explain the instrument and insure the faculty anonymity. Faculty was encouraged to complete the instrument with frankness. Due to the large number of items, two forms were used, each containing different scales. The researchers were careful to disseminate the forms so that half of the faculty completed one form while the other half completed the other form. Because all data were aggregated at the school level, the splitting of the faculty was possible. Once all forms were completed they were collected and the researchers thanked the faculty for their participation.

Data Analysis

The unit of measure for the present study is the school, not individual teachers or administrators; therefore, teachers’ responses were aggregated at the school level. One software package was instrumental in the aggregation and analysis of the data and the testing of the model; it was Statistical Package for the Social Sciences (SPSS) Version 11.5 for Windows.

Initially, principal axis factor analysis was employed to confirm the factor structure of the variables. Due to the innovation of the mindfulness scale this will be of
particular importance. The factor structure of the other instruments was also confirmed as well. Descriptive statistics were analyzed next, to ensure the data was not corrupt. Range, means, standard deviation, and reliability coefficients were examined for each scale. Intercorrelations were generated to test bivariate relationships of the hypotheses. The hypotheses were then tested using partial correlations to control for SES as a control.

Summary

This chapter presented the methodology of the present study. First, a description of the sample was discussed. Second, operational definitions of the variable were discussed and research instruments employed by the study were introduced. Third, data collection protocols were presented. Finally, data analysis techniques were briefly introduced and discussed.
CHAPTER 4

RESULTS

This chapter reports the results from the analysis of the data collected for the current study. The sample is described first. Second, each variable is presented with its respective descriptive statistics. Third, each of the research hypotheses is tested using correlational analysis and then a more refined test of the underlying theory is performed using multiple regression analysis to test the path model developed in chapter 2. Finally, the last section presents additional findings from the data that are not directly linked with the model posited in the current study.

Sample of Middle Schools

Survey data from 75 out of 788 middle schools in the state of Ohio were collected. These schools were distributed in 11 Ohio counties. Although the sample selected was not random, care was taken to ensure urban, suburban, and rural schools’ participation in the study. Currently, the distribution of middle schools in Ohio is 39% rural, 34% urban, and 27% suburban. Correspondingly, the study’s schools are distributed across 19% rural, 41% urban, and 40% suburban settings. Out of the 612 school districts in the state, 43 participated in the study. Staff completed a total of 2,600 useable surveys.
Further comparisons between the state and study’s participants are found on table 4.1. Such comparisons include student enrollment, average teacher salary, average teacher experience, average number of teachers on staff, and teacher attendance. Measures for these demographic indicators were downloaded from the Ohio Department of Education’s website.

<table>
<thead>
<tr>
<th>Demographic Indicator</th>
<th>Current Study</th>
<th>State average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Enrollment</td>
<td>596</td>
<td>518</td>
</tr>
<tr>
<td>Average Teacher Salary</td>
<td>$44,886</td>
<td>$43,016</td>
</tr>
<tr>
<td>Average Teacher Experience</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Average Number of Teachers on Staff</td>
<td>39 teachers</td>
<td>35 teachers</td>
</tr>
<tr>
<td>Percentage of Teacher Attendance</td>
<td>96%</td>
<td>96%</td>
</tr>
<tr>
<td>n/N</td>
<td>75</td>
<td>788</td>
</tr>
</tbody>
</table>

Table 4.1: Comparison of Sample and State’s Middle Schools

Based on the comparisons between the sample set and the state population of middle schools, it is reasonable to suggest the characteristics of the sample set and the state population of middle schools is similar. However, one must consider the chosen method of sampling, non-random, when generalizing the findings to populations outside the sample set. Generalizations to the population of middle schools in Ohio or the nation in general should be made with caution.

Descriptive Statistics for Research Variables

The descriptive computations for each variable are presented in table 4.2. Ranges, means, and standard deviations were examined to determine if any unusual finding were
present. No unusual finding existed to prevent the use of further statistical analysis. The following section will present a deeper examination of the variables employed by the current study.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
<td>4.12</td>
<td>.64</td>
<td>2.57</td>
<td>2.84</td>
<td>5.42</td>
</tr>
<tr>
<td>Enabling school structure</td>
<td>3.66</td>
<td>.35</td>
<td>1.40</td>
<td>2.89</td>
<td>4.29</td>
</tr>
<tr>
<td>Principal’s disposition towards Mindfulness</td>
<td>5.64</td>
<td>.58</td>
<td>2.71</td>
<td>4.14</td>
<td>6.86</td>
</tr>
<tr>
<td>School Mindfulness</td>
<td>4.11</td>
<td>.44</td>
<td>2.22</td>
<td>3.12</td>
<td>5.34</td>
</tr>
<tr>
<td>Trust in clients</td>
<td>3.53</td>
<td>.62</td>
<td>2.53</td>
<td>2.19</td>
<td>4.73</td>
</tr>
<tr>
<td>Trust in colleagues</td>
<td>4.46</td>
<td>.44</td>
<td>2.38</td>
<td>3.25</td>
<td>5.63</td>
</tr>
<tr>
<td>Trust in principal</td>
<td>4.42</td>
<td>.73</td>
<td>3.08</td>
<td>2.63</td>
<td>5.70</td>
</tr>
</tbody>
</table>

Table 4.2: Descriptive statistics of research variables.

Examination of the Variables

The current section will concentrate on the variable construction for the study. Mindfulness, collective efficacy, trust, enabling school structure, and principal’s disposition towards mindfulness will be addressed in separate sections.

Mindfulness

The construct of mindfulness is new to the field of education administration; therefore, it is important to confirm the factor structure of the instrumentation for construct validity. The field test and pilot studies discussed in chapter 3 reported a stable, valid, and reliable instrument; however, further confirmation of the factor structure is warranted. School mindfulness is the combined measurement of faculty mindfulness and principal mindfulness as reported by faculty members on a 20-item survey instrument.
School mindfulness refers to the faculty’s collective assessments of principal behavior and their own behavior. The assumption is made that their perceptions are frank and accurate.

Factor analysis was performed on all 20 items of the mindfulness scale and compared to the pilot test results (see table 4.3). Principal axis factoring was the extraction method used and a Varimax orthogonal rotation with Kaiser Normalization was applied to all 20 items. The factor loadings were consistent and stable in comparison to the pilot study discussed in chapter 3.

Factor one describes how the faculty perceives the principal’s behavior regarding mindfulness. This factor had strong loadings with all items loading between .56 and .92. There was one dual loading for the first factor. The Cronbach alpha level for factor one was .96 and it explained 53 per cent of the variance.

Factor two describes how the faculty perceives their own behaviors regarding mindfulness. This factor also had strong factor loadings between .55 and .91; however, three dual loadings occurred in factor two. The correlation between the two factors is .56. The Cronbach alpha level for factor two was also .96. The cumulative variance explained by both factors is 66 per cent.

The factor analysis and Cronbach alpha results support the stability, construct validity, and reliability of the mindfulness subscales. The use of the mindfulness scale developed for this study was supported in this sample; however, the author encourages further use of the scale to replicate these results.
Table 4.3: Factor analysis and comparison of Mindfulness Scale in pilot and final study.

Collective Efficacy

The collective efficacy scale used in this study was the short form developed by Goddard (2002). The results of the factor structure reported by Goddard are compared with the current study in Table 4.4. Factor analysis was performed on all 12 items using
principal axis analysis. No rotation was needed due to the one factor structure. Goddard also reported a one-factor solution for collective efficacy and the results for the current study support his findings.

<table>
<thead>
<tr>
<th>Item</th>
<th>Goddard</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers in this school are able to get through to difficult students.</td>
<td>.79</td>
<td>.87</td>
</tr>
<tr>
<td>Teachers here are confident they will be able to motivate their students.</td>
<td>.91</td>
<td>.95</td>
</tr>
<tr>
<td>Teachers in this school really believe every child can learn.</td>
<td>.76</td>
<td>.88</td>
</tr>
<tr>
<td>If a child doesn’t want to learn teachers here give up.</td>
<td>-.67</td>
<td>-.84</td>
</tr>
<tr>
<td>Teachers here don’t have the skills needed to produce meaningful learning.</td>
<td>-.73</td>
<td>-.76</td>
</tr>
<tr>
<td>These students come to school ready to learn.</td>
<td>.91</td>
<td>.96</td>
</tr>
<tr>
<td>Homelife provides so many advantages to students here are bound to learn.</td>
<td>.75</td>
<td>.91</td>
</tr>
<tr>
<td>Students here just aren’t motivated to learn.</td>
<td>-.84</td>
<td>-.95</td>
</tr>
<tr>
<td>The opportunities in this community help ensure that these students will learn.</td>
<td>.80</td>
<td>.93</td>
</tr>
<tr>
<td>Learning is more difficult at this school because students are worried about their safety.</td>
<td>-.86</td>
<td>-.82</td>
</tr>
<tr>
<td>Drug and alcohol abuse in the community make learning difficult for students</td>
<td>-.82</td>
<td>-.90</td>
</tr>
<tr>
<td>Teachers in this school do not have the skills to deal with student disciplinary problems.</td>
<td>-.73</td>
<td>-.69</td>
</tr>
</tbody>
</table>

| Percentage of variance | 64.10 | 78.41 |
| Alpha coefficient      | .94   | .97   |

Table 4.4: Collective Efficacy factor structure compared with Goddard (2002).

Strong factor loadings between .69 and .96 support the factor structure and bolster the validity and stability of the collective efficacy short form measure. These results also support the case that this measure, while developed and used in high schools, can also be used for middle school populations. The Cronbach alpha level for the measure was .97 and the factor explains 78.41 per cent of the variance.
**Trust**

The items used to measure faculty trust were developed by Hoy and Tschannen-Moran (2003). Hoy and Tschannen-Moran (2003) report factor loadings for samples

<table>
<thead>
<tr>
<th>Item</th>
<th>Elem. School</th>
<th>High School</th>
<th>Current Middle School</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trust in Principal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teachers in this school have faith in the integrity of the principal.</td>
<td>.92</td>
<td>.92</td>
<td>.92</td>
</tr>
<tr>
<td>The principal in this school typically acts in the best interests of the teachers</td>
<td>.94</td>
<td>.94</td>
<td>.92</td>
</tr>
<tr>
<td>The principal doesn’t tell the teachers what is really going on.</td>
<td>-.89</td>
<td>-.84</td>
<td>-.79</td>
</tr>
<tr>
<td>Teachers in this school trust the principal</td>
<td>.88</td>
<td>.97</td>
<td>.90</td>
</tr>
<tr>
<td>The principal of this school does not show concern for the teachers</td>
<td>-.91</td>
<td>-.84</td>
<td>-.83</td>
</tr>
<tr>
<td>The teachers in this school are suspicious of most of the principal’s actions.</td>
<td>-.86</td>
<td>-.91</td>
<td>-.89</td>
</tr>
<tr>
<td>Teachers in this school can rely on the principal.</td>
<td>.94</td>
<td>.97</td>
<td>.94</td>
</tr>
<tr>
<td>The principal in this school is competent in doing his or her job.</td>
<td>.92</td>
<td>.91</td>
<td>.92</td>
</tr>
<tr>
<td><strong>Alpha coefficient</strong></td>
<td>.98</td>
<td>.98</td>
<td>.98</td>
</tr>
<tr>
<td><strong>Trust in Colleagues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers in this school typically look out for each other.</td>
<td>.91</td>
<td>.83</td>
<td>.88</td>
</tr>
<tr>
<td>Teachers in this school trust each other.</td>
<td>.91</td>
<td>.74</td>
<td>.88</td>
</tr>
<tr>
<td>Even in difficult situations, teachers in this school can depend on each other.</td>
<td>.93</td>
<td>.79</td>
<td>.85</td>
</tr>
<tr>
<td>Teachers in this school have faith in the integrity of their colleagues.</td>
<td>.92</td>
<td>.73</td>
<td>.77</td>
</tr>
<tr>
<td>Teachers in this school are suspicious of each other.</td>
<td>-.89</td>
<td>-.66</td>
<td>-.64</td>
</tr>
<tr>
<td>Teachers in this school do their jobs well.</td>
<td>.71</td>
<td>.43</td>
<td>.57</td>
</tr>
<tr>
<td>When teachers in this school tell you something, you can believe it.</td>
<td>.84</td>
<td>.63</td>
<td>.67</td>
</tr>
<tr>
<td>Teachers in this school are open with each other.</td>
<td>.91</td>
<td>.74</td>
<td>.81</td>
</tr>
<tr>
<td><strong>Alpha coefficient</strong></td>
<td>.93</td>
<td>.93</td>
<td>.97</td>
</tr>
<tr>
<td><strong>Trust in Clients (students and parents)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers in this school trust their students.</td>
<td>.79</td>
<td>.72</td>
<td>.80</td>
</tr>
<tr>
<td>Students in this school can be counted on to do their work.</td>
<td>.90</td>
<td>.83</td>
<td>.84</td>
</tr>
<tr>
<td>Students in this school care about each other.</td>
<td>.89</td>
<td>.80</td>
<td>.84</td>
</tr>
<tr>
<td>Students here are secretive.</td>
<td>-.75</td>
<td>-.30</td>
<td>-.56</td>
</tr>
<tr>
<td>Teachers here believe that students are competent learners.</td>
<td>.75</td>
<td>.81</td>
<td>.82</td>
</tr>
<tr>
<td>Teachers can count on parental support</td>
<td>.91</td>
<td>.82</td>
<td>.89</td>
</tr>
<tr>
<td>Teachers in this school believe what parents tell them.</td>
<td>.84</td>
<td>.72</td>
<td>.79</td>
</tr>
<tr>
<td>Teachers think that most of the parents do a good job.</td>
<td>.90</td>
<td>.90</td>
<td>.85</td>
</tr>
<tr>
<td>Parents in this school are reliable in their commitments</td>
<td>.91</td>
<td>.81</td>
<td>.89</td>
</tr>
<tr>
<td>Teachers in this school trust the parents</td>
<td>.89</td>
<td>.89</td>
<td>.83</td>
</tr>
<tr>
<td><strong>Alpha coefficient</strong></td>
<td>.94</td>
<td>.94</td>
<td>.97</td>
</tr>
<tr>
<td><strong>Cumulative percentage of variance</strong></td>
<td>a</td>
<td>a</td>
<td>85.66</td>
</tr>
</tbody>
</table>

Table 4.5: Trust factor structure compared to Hoy and Tschannen-Moran (2003). a = not reported
taken from both elementary schools and high schools. These findings are compared to the factor loadings from the current study on table 4.5.

Factor analysis was performed on all 26 trust items. Principal axis factoring was the extraction method used and a Varimax orthogonal rotation with Kaiser Normalization was applied to all 26 items. A three-factor solution was found as expected. Faculty trust in the principal had very strong loadings between .79 and .94; faculty trust in colleagues had strong factor loadings between .57 and .88; and faculty trust in clients also had strong factor loadings between .56 and .89. These results support the construct validity and stability of the measure as well as support the use of the measure at the middle school level. The cumulative variance explained was 86 per cent with a Cronbach’s alpha coefficient of reliability reported at .97.

The findings support the continued use of the omnibus T-scale in all levels of public schools from elementary to high school. The next section will turn to analysis of enabling school structure.

*Enabling School Structure*

The survey instrument to measure enabling school structure was developed by Hoy and Sweetland (2001b). Hoy and Sweetland reported data from three samples taken from three separate sampling methods. Sample one (n = 61) was taken from students in an educational administration class at The Ohio State University. Sample two (n = 161) was broader, collected from teachers in five different states representing one teacher from each school at each educational level. Sample three (n = 97) consisted of data taken from high schools in Ohio. These three samples are compared to the current study in table 4.6.
<table>
<thead>
<tr>
<th>Item</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative rules in this school enable authentic communication</td>
<td>.71</td>
<td>.85</td>
<td>.85</td>
<td>.89</td>
</tr>
<tr>
<td>between teachers and students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The administrative hierarchy of this school enables teachers to do</td>
<td>.76</td>
<td>.83</td>
<td>.83</td>
<td>.90</td>
</tr>
<tr>
<td>their jobs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative rules help rather than hinder.</td>
<td>.72</td>
<td>.75</td>
<td>.80</td>
<td>.89</td>
</tr>
<tr>
<td>The administrative hierarchy obstructs student achievement.</td>
<td>-.80</td>
<td>-.75</td>
<td>-.81</td>
<td>-.85</td>
</tr>
<tr>
<td>Administrative rules in this school are used to punish teachers.</td>
<td>-.70</td>
<td>-.74</td>
<td>-.81</td>
<td>-.86</td>
</tr>
<tr>
<td>Administrative rules in this school are guides to solutions rather</td>
<td>.52</td>
<td>.74</td>
<td>.81</td>
<td>.92</td>
</tr>
<tr>
<td>than rigid procedures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The administrative hierarchy of this school facilitates the mission</td>
<td>.69</td>
<td>.69</td>
<td>.86</td>
<td>.84</td>
</tr>
<tr>
<td>of the school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In this school red tape is a problem.</td>
<td>-.53</td>
<td>-.75</td>
<td>-.71</td>
<td>-.49</td>
</tr>
<tr>
<td>The administrative hierarchy of this school obstructs innovation.</td>
<td>-.79</td>
<td>-.72</td>
<td>-.71</td>
<td>-.84</td>
</tr>
<tr>
<td>In this school the authority of the principal is used to undermine</td>
<td>-.75</td>
<td>-.75</td>
<td>-.81</td>
<td>-.81</td>
</tr>
<tr>
<td>teachers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The administrators in this school use their authority to enable</td>
<td>.76</td>
<td>.61</td>
<td>.69</td>
<td>.87</td>
</tr>
<tr>
<td>teachers to do their job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative rules in this school are substitutes for professional</td>
<td>-.53</td>
<td>-.55</td>
<td>-.81</td>
<td>-.88</td>
</tr>
<tr>
<td>judgment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Percentage of variance | 46.80 | 53.60 | 64.40 | 73.30 |
| Alpha coefficient      | .90   | .93   | .95   | .96   |

Table 4.6: Enabling School Structure factor structure compared to Hoy and Sweetland (2001b).

The factor loadings of the current study were strong and ranged from .49 to .92. The percentage of the variance explained by the variable was 73.30 with a Cronbach’s alpha level of .96. These findings, once again, support the stability of the factor structure, reliability, and construct validity of the variable. The findings from the current study also bolster the use of the instrument at the middle school level. These results confirm the results found by Hoy and Sweetland (2001b).
Principal’s Disposition towards Mindfulness

To measure the principal’s disposition towards mindfulness the LMS 21 was employed. The scale was produced by Bodner (2000) and further revised later by him. For psychometrics on the scale see Bodner (2000) for greater detail.

Bodner (2000) reported four factors of the scale: novelty producing, novelty seeking, flexibility, and engagement. To confirm this factor structure, factor analysis was performed on the 21 items of the measure using principal axis factoring. The extraction method used was a Varimax orthogonal rotation with Kaiser Normalization and six factors with eigenvalues over one emerged. However, all of these factors contained elements of each of the four factors described by Bodner (2000). The items loaded in a way that did not make conceptual sense; that is, the six factors were conceptually mixed with one or more of the theoretical dimensions of mindfulness used by Bodner.

It was decided to try to create an index of mindful disposition which included all four theoretical aspects of Bodner’s conception of mindfulness. By using the factor analysis in this study, items were selected that were thought to capture the general essence of mindfulness. In particular, two items from each of the four aspects of Bodner’s mindfulness – engagement, flexibility, novelty seeking, and novelty producing – were selected using both conceptual and empirical considerations. Care was taken to include both positive and negative items – three negative and five positive. Then the new index of personal disposition toward mindfulness was tested using factor analysis. The results demonstrated one strong factor with all four theorized mindfulness aspects. The results are summarized in table 4.7.
Table 4.7: LMS-8 index factor loadings adapted from Bodner’s (2000) LMS 21

All the items in the new index had factor loadings of .38 or higher. Seven of the eight had loading above .51, explaining 42 per cent of the variance. The eight-item scale had a relatively strong correlation of .88 with the original 21-item scale. As a further check of the index’s validity the assertion was made that mindful principals would also be more open than mindless principals. Thus it was assumed that the mindfulness index and the big five openness scale would be positively correlated; in fact, a significant positive Pearson product moment correlation of \( r = .52, p < .01 \) was found. The eight-item measure had a Cronbach’s alpha level of .77. It was decided that the more parsimonious index was more useful in this study, because the factor structure as described by Bodner was not found; therefore, the LMS-8 index used for correlations with the other measures rather than the LMS 21.

Correlations

The current section will describe the correlations between the variables above as they relate to the research hypotheses posited in chapter 2. The hypotheses also suggest
indirect relationships that will be examined as the theoretical path model is tested in the subsequent section.

Table 4.8 presents the correlations between the entire relevant set of variables in the study. Socioeconomic status (SES) as measured by district level free and reduced lunch data obtained by the Ohio Department of Education’s website was added as a control variable. None of the variables was significantly related to SES so it was not included in further analysis.

<table>
<thead>
<tr>
<th></th>
<th>Mind S</th>
<th>CE</th>
<th>ESS</th>
<th>T client</th>
<th>T prin.</th>
<th>T colleg.</th>
<th>Prin. dis.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mind S</td>
<td>.95a</td>
<td>.69**</td>
<td>.66**</td>
<td>.67**</td>
<td>.90**</td>
<td>.73**</td>
<td>-.15</td>
<td>-.02</td>
</tr>
<tr>
<td>CE</td>
<td>.97a</td>
<td>.54**</td>
<td>.97**</td>
<td>.51**</td>
<td>.77**</td>
<td>-.25*</td>
<td>-.09</td>
<td></td>
</tr>
<tr>
<td>ESS</td>
<td>.96a</td>
<td>.55**</td>
<td>.65**</td>
<td>.41**</td>
<td>-.21*</td>
<td>-.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T client</td>
<td>.97a</td>
<td>.49**</td>
<td>.78**</td>
<td>-.25*</td>
<td>-.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T prin.</td>
<td></td>
<td>.98a</td>
<td>.47**</td>
<td>-.16</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T colleg.</td>
<td></td>
<td></td>
<td>.97a</td>
<td>-.20</td>
<td>-.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prin. dis.</td>
<td></td>
<td></td>
<td></td>
<td>.77a</td>
<td></td>
<td></td>
<td></td>
<td>b</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: **Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

a Reliability coefficient (Cronbach’s Alpha)
b = construct is measured by a single indicator, hence no reliability may be calculated

Table 4.8: Bivariate Correlations in the Study

The first hypothesis predicted a positive a relation between a principal’s disposition toward mindfulness and school mindfulness. The correlational evidence does not show significant results to support this claim; the correlation of -.15 was not statistically significant. (see Table 4.8).
The principal’s disposition towards mindfulness was measured by the LMS-8 index and is self-rated by the principal to describe behaviors that are exhibited by him or her. The scale was not found to be significantly related to school mindfulness. School mindfulness is, however, the collective faculty’s assessment on both principal and faculty behaviors as they are related to mindful schools. These results were surprising and puzzling so further investigation into the cause was warranted.

The LMS-8 index has items that describe an open, flexible, novelty-seeking, and novelty-producing person. All are attributes that describe a thoughtful leader and principal. If a principal falls short of these attributes in the eyes of the faculty, but considers him/herself as having these qualities, then a correlation would be difficult to measure.

It is possible that principals of many buildings in the study “faked” good responses in their disposition towards mindfulness because they wanted researchers to believe they were more open, flexible, and novel. The faculty reported perceptions of the principal behavior that were often more rigid and inflexible than the principal wanted to be perceived. Herein resides a potential problem. The faculty sees the principal one way and the principal rates him/herself another way in order to appear more open, flexible, and novel.

Preliminary evidence supports the notion that principal’s reported themselves as more mindful than the behaviors exhibited to the faculty. Using an item by item analysis of statements on each measure that contained the same content, it was determined that the principal in over 50 per cent of the schools rated him/herself as more mindful by two or more scaled response points. In one example the principals responded to the statement “I
like to be challenged intellectually” and the faculty responded to the corresponding statement “The principal welcomes challenges from the teachers”. In all there were five pairs of corresponding pairs and over half the principals consistently rated themselves much higher than their teachers described them as behaving.

Put simply, the principal’s rating was consistently higher than the faculty rating on mindful behavior in over 50 per cent of the schools in the sample. Because the principal of the school was the only individual that could be singled out these preliminary data support the hypothesis that the principal’s desire to appear more mindful in the eyes of the researcher may have caused him/her to fake certain responses. The results weaken the validity of these responses because frankness and forthrightness was an assumption of the data collection for this sample set. In brief, the current procedures did not provide a fair test of the hypothesis.

The next hypotheses predicted that faculty trust in the principal was positively related to enabling school structure, and enabling structure was positively related to school mindfulness. Both hypotheses were supported. The Pearson product moment correlation was $r = .65$, $p<.01$ between faculty trust in the principal and enabling school structure. Similarly, the correlation between enabling school structure and school mindfulness was $r = .66$, $p<.01$.

The predicted correlation between faculty trust in colleagues and enabling school structure was also significant at the .01 level; the higher the faculty trust in colleagues, the greater the enabling school structure ($r = .41$, $p<.01$).

The final two hypotheses predicted that faculty trust in the clients was positively related to collective teacher efficacy, and that collective efficacy was positively
associated with school mindfulness. Again both hypotheses were supported. Faculty trust in clients was strongly correlated with collective efficacy ($r = .97$, $p<.01$); in fact the correlation suggests that the two concepts are inseparable. High faculty trust in clients virtually assures high collective efficacy and vice versa. Also as predicated, collective efficacy and school mindfulness were positively related to each other ($r = .69$, $p<.01$). In brief, all the predicted correlations were supported except for the relation between principal disposition toward mindfulness and school mindfulness, which did not receive an adequate test because of probable measurement problems. All of the correlations are summarized in table 4.8.

A Test of the Path Model for School Mindfulness

Next, a more refined test of these relationships was performed using path analysis. In particular, the theoretical model developed in chapter 2 was tested using multiple regression techniques. Because the principal’s disposition towards mindfulness was not related to school mindfulness and because its measurement was suspect, it was dropped from the model. The first step in testing the revised model (see Figure 4.1) was to regress school mindfulness on collective teacher efficacy and enabling school structure. As predicted both collective efficacy and enabling school structure had direct effects on school mindfulness ($b = .47$, $p<.01$ and $b = .40$, $p<.01$, respectively). Next collective teacher efficacy was regressed on trust in clients. Again, as predicted, faculty trust in clients was directly related to collective teacher efficacy ($b = .97$, $p<.01$) and indirectly, through collective efficacy, related to school mindfulness ($b = .46$, $p<.01$). Finally, faculty trust in the principal as predicted was directly related to enabling school structure ($b = .59$, $p<.01$) and indirectly, through enabling school structure, related to school mindfulness.
mindfulness (β = .24, p<.01); however faculty trust in colleagues was not related to enabling school structure (β = .13, NS). The model received substantial support; only faculty trust in colleagues was not supported as predicted. Further, the model explained 57 per cent of the variance in school mindfulness.

Note: Adjusted R² = .57, * p<.05, ** p<.01

Figure 4.1: Theoretical model explaining the relationship between trust, collective efficacy, enabling school structure, and school mindfulness.

Because school mindfulness is composed of two factors, faculty mindfulness and principal mindfulness, separate tests of the model were performed on each dimension of school mindfulness.

For faculty mindfulness, as predicted, collective efficacy had a direct effect (β = .75, p<.01) but enabling school structure, contrary to prediction, was unrelated to faculty mindfulness. (β = .10, NS). As predicted faculty trust in clients was directed related to teacher efficacy (β = .97, p<.01) and indirectly related to faculty mindfulness (β = .73, p<.01). Moreover, although faculty trust in colleagues was not related to enabling school
structure ($b = .13$, NS) faculty trust in the principal was ($b = .59$, $p < .01$). It is clear that only collective efficacy and faculty trust in clients explain faculty mindfulness. The structure of the school was unrelated to faculty mindfulness. The model explained 64 per cent of the variance in faculty mindfulness. The results are summarized in figure 4.2.

Note: Adjusted $R^2 = .64$, * $p < .05$, ** $p < .01$

Figure 4.2: Theoretical model explaining the relationship between trust, collective efficacy, enabling school structure and faculty mindfulness.

Both collective efficacy and enabling school structure had direct effects on principal mindfulness ($b = .21$, $p < .05$ and $b = .53$, $p < .01$, respectively). Again, as predicted, faculty trust in clients was directly related to collective teacher efficacy ($b = .97$, $p < .01$) and indirectly, through collective efficacy, related to principal mindfulness ($b = .20$, $p < .01$). Finally, faculty trust in the principal as predicted was directly related to enabling school structure ($b = .53$, $p < .01$) and indirectly, through enabling school structure, related to principal mindfulness ($b = .31$, $p < .01$); however faculty trust in colleagues was not related to enabling school structure ($b = .13$, NS). The model
received partial support; only faculty trust in colleagues was not supported as predicted. Further, the model explained 43 per cent of the variance in principal mindfulness (see Figure 4.3).

Note: Adjusted $R^2 = .43$, * $p<.05$, ** $p<.01$

Figure 4.3: Theoretical model explaining the relationship between trust, collective efficacy, enabling school structure and principal mindfulness.

The tests of the models for faculty mindfulness and principal mindfulness demonstrate that collective teacher efficacy is a better predictor of faculty mindfulness than enabling structure, but enabling school structure is a better predictor of principal mindfulness than collective efficacy. Further, only faculty trust in the principal and faculty trust in clients have indirect effects on mindfulness. Faculty trust in colleagues has no direct effect on structure and no indirect effect on mindfulness in general.

Conclusions

This chapter presented the results of the statistical analyses. First, factor analysis was performed to check the factor structure of the instruments employed in the study. Second, correlations and multiple regression analysis of the independent variables in the
study to the dependent variable of mindfulness were performed. Hypotheses were then
tested and analyzed. The principal’s disposition towards mindfulness was not correlated
with school mindfulness. Moreover, the adequacy of the measure of disposition appeared
questionable. Finally, path analyses were performed to provide more refined tests of the
relationships. The findings will be discussed further in chapter 5.
CHAPTER 5
DISCUSSION OF RESULTS

Schools are continually searching for the magical fix for all their problems. The trends come and go and if one is fortunate enough to stay around long enough, he/she can see the trends repeat. Rare is the idea that is truly novel. The construct of mindful schools may be different. Although there are similarities with other constructs, mindfulness provides those who study school leadership with a new multi-dimensional lens to view schools.

The purpose of this study was three-fold. First, school mindfulness was conceptualized. Second, school mindfulness was operationalized. That is, items that fit the five dimensions of the construct were produced, field-tested, and pilot-tested to attain valid and reliable measures of mindfulness in schools. Third, school mindfulness was related to other variables in a path analysis, which was empirically tested. Now, the findings and results will be explored in greater detail.

Summary of Findings

The findings described in Chapter 4 are summarized below:

1. The findings showed no relationship between principal’s disposition towards mindfulness and school mindfulness ($r = -.15$, NS).
2. Faculty trust in the principal, as predicted, was found to have a significant correlation with enabling school structure ($r = .65, p<.01$). Enabling school structure was also significantly correlated with school mindfulness ($r = .66, p<.01$). The analysis of the path model produced significant beta weights between faculty trust in the principal and enabling school structure ($\beta = .59, p<.01$) and between enabling school structure and school mindfulness ($\beta = .41, p<.01$). The indirect relationship between faculty trust in the principal and school mindfulness, as predicted, yielded a significant beta weight ($\beta = .24, p<.01$).

3. Faculty trust in the colleagues was found to have a significant correlation with enabling school structure ($r = .41, p<.01$). Enabling school structure was also significantly correlated to school mindfulness ($r = .66, p<.01$). The analysis of the path model, however, produced a non-significant beta weight between faculty trust in colleagues and enabling school structure ($\beta = .13, \text{NS}$) but significant findings for enabling school structure and school mindfulness ($\beta = .41, p<.01$). The indirect relationship between faculty trust in the principal and school mindfulness was not sustained in these findings ($\beta = .05, \text{NS}$).

4. Faculty trust in clients was found to have a significant relationship to collective teacher efficacy ($r = .97, p<.01$). Collective efficacy also was significantly correlated to school mindfulness ($r = .67, p<.01$). The regression coefficients also suggest a significant and strong relationship between the variables of faculty trust in clients, collective efficacy and
school mindfulness when the other measured variables are controlled. The path between faculty trust in clients and collective efficacy remained significant ($b = .97$, $p<.01$). The path between collective efficacy and school mindfulness was also found to be significant ($b = .48$, $p<.01$). The indirect effect that faculty trust facilitates school mindfulness through collective efficacy was also significant ($b = .47$, $p<.01$).

Discussion

The path model was generally supported, however, two paths were not found to be significant. There was strong evidence presented to support the predicted relationships between faculty trust in the principal, enabling school structure, and school mindfulness. There was also strong evidence to support the theoretical relationship between faculty trust in clients (students and parents), collective efficacy, and school mindfulness.

However, the relationship between the principal’s disposition towards mindfulness and school mindfulness was not confirmed in this sample. Furthermore, the relationship between faculty trust in colleagues and enabling school structure was not supported. Indeed the mixed results are surprising and a little unsettling. The following sections will discuss the model and the pertinent findings along with the ramifications this study has on future endeavors in the field.

Principal’s Disposition towards Mindfulness and School Mindfulness

Mindfulness of individuals has been the topic of study of Ellen Langer and her colleagues for over 30 years. The serendipitous findings of her studies have tied mindful individuals to improved happiness, a new-found purpose for living, and perhaps most importantly, healthful benefits that increase mind function (Langer, 1989a). Langer
suggests three facets of mindful individuals: they create new categories, they are open to new information, and they are aware of more than one perspective (1989a). Bodner (2000) suggests four facets of mindfulness: novelty producing, novelty seeking, flexibility, and engagement. Mindful educators are trusted, are happy, have a purpose, are flexible, and are engaged in the productive work of teaching and learning.

Weick and Sutcliffe (2001) propose that mindful organizations are highly reliable. Such organizations focus on their mistakes, are reluctant to simplify interpretations, are sensitive to operations, are committed to resilience, and defer to experts in the organization. Schools and their leaders can be mindful or mindless.

The juxtaposition of mindful individuals and the mindful organization is at the heart of the first hypothesis advanced and tested by the current study. However, the evidence points to conflicting results. The correlation between the principal disposition toward mindfulness and the mindful school was not supported (r = -.153, NS). In fact, the correlation was negative. The explanation for this unanticipated finding rests on the evidence presented in chapter 4. Importantly, the item analysis captures the likely faking of some principals. Many principals seem to have inflated the self-reports of their mindful dispositions because their faculty describes them as behaving much less mindfully. In fact, it seems reasonable to predict that less mindful principals are likely to pretend that they are more mindful when asked directly.

Evidence to bolster this line of reasoning is seen in the relationships of the other variables in the study. If the faculty’s perception was not accurate it would be difficult to have significant relationships between enabling structure, collective efficacy, and trust. Because the principal results are the only ones that do not correlate and the item analysis
evidence points to the fact that some principals faked their self-rating of their disposition towards mindfulness to look more mindful in the eyes of the researchers, it was concluded that less mindful principals overstated their mindful dispositions.

Faculty Trust in Clients, Collective Efficacy, and School Mindfulness

As predicted, there was significant correlation between the variables of faculty trust in clients (students and parents), collective efficacy, and school mindfulness. Indeed, the collective efficacy of teachers was the best predictor of school mindfulness as indicated by the multiple regression analysis ($b = .48$, $p<.01$).

Faculty trust in clients and collective efficacy were almost perfectly correlated ($r = .97$, $p<.01$). Additionally, the multiple regression analysis also showed an almost one to one relationship between faculty trust in clients and collective efficacy. These results suggest that faculty trust in clients and collective efficacy are inseparable and can be used interchangeably as predictors of mindfulness. Not surprisingly, trust in clients is a strong predictor of collective efficacy.

According to Hoy and Tschannen-Moran (2003), “trust is an individual’s or group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (p. 186). Collective efficacy, in the words of Goddard (2002a), is “the perceptions of teachers in a school that the efforts of the faculty as a whole will have positive effects on students” (p.100). Teachers who have high levels of trust in their clients (students and parents) will most likely believe in their abilities to have a positive influence over their learning.
Conversely, when high levels of trust are not present faculty will have difficulty believing in their abilities to influence students in positive ways. Trust in clients seems a necessary, and perhaps a sufficient, condition of collective efficacy.

Middle schools with high levels of trust in clients will also have high levels of collective teacher efficacy and thus higher levels of mindfulness. Administrators of schools will be well served by efforts to strengthen faculty trust in clients. The effects of these efforts should be felt in terms of school climate and teacher attitudes about what they can achieve in the classrooms.

*Faculty trust in colleagues, enabling school structure, and school mindfulness*

Schools are bureaucratic entities that function in a sea of local, state, and federal regulation. The school administrator’s goal is not only to oversee the education process but also to ensure that these rules and regulations are followed. The approach districts and schools take to implement a policy can look vastly different. In some cases the policy is rigid, unbending, and rule bound. Such structures hinder rather than enable (Hirschhorn, 1997), whereas other schools take a more humanistic approach to regulation and bend to the rules to flexibly apply to their unique situations. In the words of Hoy and Sweetland (2001b) enabling school structures are ones that facilitate problem solving, enable cooperation, are collaborative, flexible, encourage innovation, and protect the participants. Hoy (2003) suggests a “prototype for an enabling structure is a hierarchy of authority and a system of rules and regulations that help rather than hinder the teaching-learning mission of the school” (p. 91).

Faculty trust in colleagues was not related to enabling school structure. This finding in retrospect is not that surprising. Theoretically, a faculty that has a trusting
relationship among its members should have a stronger horizontal relationship. However it is not the faculty who facilitate school structure. Because the influential people who develop the policies are the administration, teachers are limited in their ability to set up enabling structures in their schools. The duty to create such structure is more an administrative function. Perhaps, such policies and procedures may be easier to implement with faculty trust in colleagues but it is not a necessary condition.

Enabling school structure is directly and positively related to school mindfulness ($b = .48, p<.01$). This empirical finding is supported by strong theory. Hoy (2003) makes a case to link these two variables theoretically by drawing close parallels to the properties of each. School mindfulness is measured on a continuum that runs from mindless to mindful and school structure is measured from hindering to enabling. The consequences for mindlessness are reacting by rote, idle thinking, increased automaticity, and less creative problem solving (Langer, 1989a; 1989b; Weick & Sutcliffe, 2001). The consequences for hindering structures can have negative effects on the subordinates in the form of increased absenteeism, stress, alienation, and increased job dissatisfaction (Anderson, 1968; Arches, 1991; Hoy, Blazovsky, & Newland, 1983, Hoy & Sweetland, 2000; Isherwood & Hoy, 1973; Kakabadse, 1986; Rousseau, 1978).

The commonalities between mindfulness and enabling school structure compliment each other by providing a flexible environment that is concerned with openness, cooperation, and organizational learning (Hoy, 2003). Each of these complimentary constructs promotes problem-solving collaboration and looks to anticipating the unexpected (Weick & Sutcliffe, 2001). However, mindfulness differs from enabling structure by focusing on mistakes. Successes often plant the seeds of future
failures. Mindful organizations are ever vigilant for recognizing latent failures before they grow out of control. It is important to keep successes in the proper perspective and not to let the success blind leaders to latent shortcomings, which can grow and undermine effectiveness.

**Faculty Trust in the Principal, Enabling School Structure, and School Mindfulness**

As found in chapter 4, faculty trust in the principal was positively related to enabling school structure ($b = .59, p<.01$). Further, enabling school structure was positively related to school mindfulness ($b = .40, p<.01$). These significant findings are also supported by previous study (Hoy & Tschannen-Moran, 2003).

Trust is the glue that holds organizations together. School principals need to have trust in the faculty to involve staff more fully in decision making and other functions (Hoy & Miskel, 2001). Faculty trust in the principal is also essential for the school’s effectiveness. If the faculty does not have trust in the principal there are ramifications that affect the culture and climate of the building. Broken trust tends to ripple through the culture, and in the words of Hoy and Tschannen-Moran, “distrust also tends to breed distrust” (2003, p. 204). Schools with heightened levels of trust have faculties with less conflict, who do not feel estranged or helpless, and whose efficacy levels are higher (Hoy & Tschannen-Moran, 2003).

The relationship between faculty trust in the principal and enabling school structure is rationally, theoretically, and empirically supported. Without trust in the principal, the faculty would tend to hide mistakes and be sneaky about actions and activities that the principal might disapprove. Such distrust from the faculty would cause a reaction from the principal, which would not create a more open, flexible, and enabling
environment. Indeed, the principal when confronted by such deception will likely focus on rules and closer supervision to control the faculty (March & Simon, 1993). Such an environment would be hindering and coercive rather than enabling. Although distrust tends to breed distrust, trust breeds trust (Hoy & Tschannen-Moran, 2003). The direct positive relationship between faculty trust in the principal and enabling school structure creates a link between these two variables that supports school mindfulness. Enabling school structure and mindfulness were strongly related in theory (Hoy, 2003) and now empirically with the results of the current study.

Theoretical, Research, and Practical Implications

The current section of the chapter will discuss the theoretical, research, and practical implications of the study as well as posit several original hypotheses for future research.

Theoretical and Research Implications

The construct of mindfulness was born out of the work of Ellen Langer and Robert Abelson (1972). The initial question to be answered in their work dealt with the ramifications of scripted behavior. Thirty years later the construct has evolved and grown into one that includes disciplines from psychology to physiology (Langer, 2000). Weick and Sutcliffe (2001) adapted mindfulness for the organization level by delineating five dimensions of mindfulness—focus on mistakes, sensitivity to operations, commitment to resilience, reluctance to simplify, and deference to expertise. Using the five dimensions developed by Weick and Sutcliffe (2001) as a framework, the current study adapted the construct for schools.
The current study was meant to be a preliminary study with a three-fold purpose. First, a theoretical argument for mindfulness was made to link application in public schools. Second, an instrument was devised to measure mindfulness in public schools. Third, a model was developed and tested which connected mindfulness to faculty trust, collective efficacy and enabling school structure. The remainder of the discussion will focus on establishing the other theoretical implications for the study and suggestions for future investigations.

Bolman and Deal (1997) suggest four frames to view organizations—the structural frame, the human resource frame, the political frame, and the symbolic frame. The results from this study related to three of the frames. Variables that fit into the structural frame act as a blueprint for the pattern of expectation and exchanges among internal players and external constituencies. The structural frame acts to enhance or constrain the organization. Rules and regulations that must be met in the organization; they can be rigid or loose; and they can be helpful or hindering. Bolman and Deal (1997) liken the structural frame to the skeletal system in animals; structure is the undergirding that shapes the organization. The results of the current research suggest that what may be critical is not how much structure but rather what kind of structure. Enabling structure may be one key to making organizations and productive.

Collective efficacy and trust fit into the human resource as well as the symbolic frames. The human resource frame is based on a few core assumptions. First, the premise that the organization is built to serve human needs, not the reverse. Second, people and organizations need each other. Organizations need ideas, energy, and talents and people need careers, salaries, and opportunities. Third, fit is important. A bad fit between
organization and individual creates suffering in both entities; a good fit for both provides productivity, satisfying work, and the need to succeed (Bolman & Deal, 1997).

Like other organizations, schools rely heavily on the resources provided by the people in them. Schools are created to serve the needs of the students; however, the needs of the faculty and staff must also be satisfied. The relationship between organization and employee should be mutually beneficial to both entities. Schools need teachers who are qualified, compassionate to student needs, and who support the mission and goals of the school. Teachers need a school organization that supports the development and growth of the teacher in the profession and one that can provide a salary that is competitive so the teacher can live comfortably. The collective efficacy and trust felt by the teacher seem tied directly to how well the school organization is meeting the individual needs of its teachers. Moreover, faculty trust and collective efficacy are symbols of a culture of openness, trustworthiness, and cooperation; in fact, trust and efficacy may be the key shared values in a culture of effectiveness (Hoy & Tschannen-Moran, 1999; Goddard, Tschannen-Moran, & Hoy, 2001).

Mindfulness is a variable that can be construed to fit into several different frames. The obvious links to the structural, human resource, and symbolic frames are supported by the results of the current study. However, further investigations should include variables that fall within the political frame as well. Other variables like: political game playing, leadership style, decision-making strategies, collective bargaining methods, coercive power, rituals, organizational history, induction systems, and ceremonial influence might be considered (Bolman & Deal, 1997; Hoy & Miskel, 2001).
The relationship between mindfulness and such other variables would bolster the strength and extend the scope of mindfulness as a construct. The current study sets the stage and challenge for other researchers in the field to explore and refine mindfulness. For example, based on the current findings, an expanded model that includes student achievement and academic optimism is formulated in Figure 5.1.

![Diagram of theoretical model](image)

Figure 5.1: Theoretical model explaining the relationship between faculty trust in the principal, fully functional teaching team, enabling school structure, school mindfulness, and achievement.

The model advanced expands the theory and uses mindfulness to predict student achievement. Further, a latent variable, academic optimism is suggested by combing the highly interrelated variables of collective efficacy, faculty trust in clients, and academic press (Hoy & Woolfolk Hoy, 2002). The model explains that academic optimism is directly and indirectly, through school mindfulness, related to school achievement.
Moreover, faculty trust in the principal directly facilitates enabling school structure, which is directly and indirectly, through school mindfulness, related to student achievement.

The construct of mindfulness seems heuristic. For example, consider the following list of queries.

1. Bolman and Deal (1997) suggest that there are four frames in organizations; the political was neglected in this analysis. Would future inquiries be well served by including political variables? For example, is school mindfulness negatively related to political game playing?
2. The sample for the current study included only middle schools. Is it reasonable to expect similar results in elementary and high schools?
3. Trust is a variable that intuitively would facilitate mindfulness. Is trust directly rather than indirectly related to mindfulness or does mindfulness create trust?
4. There is now strong evidence linking the variables collective efficacy and enabling school structure to mindfulness. What other variables might be positively or negatively related to mindfulness? For example, are role conflict and role ambiguity related to mindfulness?
5. Does leadership style of the principal have an effect on school mindfulness? For example, does school mindfulness facilitate transformational leadership?

Subsequent investigations might include other predictors of mindfulness. It seems that characteristics that predict mindfulness might be cultural and climate variables as well as motivational variables, social variables, and external variables. Bearing this in mind, the following hypotheses might be considered for future investigations.
1. Schools that have leaders with a collegial leadership style will have higher levels of school mindfulness than schools with leaders who have a coercive leadership style.

2. Schools that promote the arts and creativity will have higher levels of school mindfulness than those that focus on the basics.

3. School mindfulness and professional development for teachers are positively related.

4. Schools where administrators provide ongoing feedback to teachers concerning the teaching and learning process will have higher levels of mindfulness than schools where such feedback is limited.

5. Schools that have an open climate will have higher levels of school mindfulness than schools with closed organizational climates.

6. Schools with a flatter organizational structure have higher levels of mindfulness than those with tall structures; that is, centralization and school mindfulness will be inversely related.

7. The greater the level of school mindfulness, the stronger the community support for the school.

8. Schools that are focused on standards will be less mindful than those with higher level goals.

9. A mindful school structure facilitates mindful teaching and higher student achievement.
These hypotheses are just a sample of the possible links between mindfulness and other organizational variables in the extant literature. Not only does the framework make theoretical and research sense, but it has direct practical implications.

**Practical Implications**

The question of how administrators can use the notion of mindfulness to improve practice is one that also should be considered; in fact, the construct of mindfulness has a host of applications. The framework of mindfulness has an action orientation and focuses on traits leaders and subordinates should have. By focusing on mistakes, being reluctant to simplify interpretations, committing to resilience, being sensitive to operations, and deferring to expert opinions in the organization, administrators can build coalitions and relationships that make the organization stronger.

Faculty trust in the principal and students should help develop a more mindful school culture. For mindfulness to flourish, it seems evident that trust must be part of the school’s culture. In order for the faculty to function mindfully they must feel comfortable enough to approach the administrators with their concerns and ideas and have security to admit mistakes and learn from them.

By focusing on mistakes, being reluctant to simplify, and being sensitive to operations, administrators can often catch problems early before they grow. If problems have already occurred, then the mindful school is committed to resilience and defers to the experts to solve the problems and make decisions. The practical significance of this
approach is evident. By becoming more mindful a school can attend to more of both internal and external problems.

Weick and Sutcliffe (2001) offer several practical suggestions for mindful leadership, some of which of are particularly germane to schools and school leaders. Here are a few practical suggestions for school leaders that derive from Weick and Sutcliffe (2001):

1. *Restate goals as mistakes* that must not occur, which will focus the lens of the organization more directly on such unexpected events.

2. *Create an awareness of vulnerabilities* in the organization. Teachers need to be aware of vulnerability so they are not surprised if unexpected events occur.

3. *Inculcate humility* so educators are not blinded by successes. Although success is good, it can be damaging to the overall health of an organization because it often ushers in complacency.

4. *Welcome the bad day.* Even though teachers often do not like bad days, such experiences are inherently filled with learning opportunities.

5. *Create a mistake-friendly learning culture.* People need to be free to make mistakes and, more importantly, learn from them.

6. *Develop skepticism in the school.* This might at first seem unproductive; skepticism in fact is the opposite of complacency. Teachers who are skeptical will make an effort to confirm or refute information, which in the end is a positive form of redundancy.

7. *Reinvent the wheel.* Many do not want to reinvent the way they do things over and over again; however, each time that a task is revisited the process can be
improved. Additionally, the experiences since the last revisit will be brought to bear on the process.

Mindful schools are ones that develop open and trusting relationships between administration and teachers. Both faculty and principal mindfulness is important, but it seems that in order to develop mindful schools principals need to lead in a mindful way. By encouraging the faculty to play with ideas, create novelty in their classrooms, feel safe in making mistakes, and being resilient a principal can have an important effect on school mindfulness.

Conclusion

This chapter presented a summary of the results of the study and implications of these results as they relate to theory, practice, and research. Several of these implications offer suggestions for administrators to implement in order to generate a more mindful school faculty.

Mindfulness is a concept every school administrator should understand and practice when making important decisions regarding the nature of schools and students in our ever-changing world. With the recent growth of high stakes tests, unfunded mandates from legislators, and a shrinking pool of resources, the five dimensions of mindfulness will aid administrators in their quest to improve teaching and learning. Educators who can implement novel ideas with a fresh perspective, who can take the old ways of doing things and reframe them to make them new, and who challenge others to search out the latent failures in the system will achieve higher levels of mindfulness. Mindfulness has been associated with trust, enabling school structure, and collective efficacy. Moreover, collective efficacy and trust along with SES have been linked to higher levels of
achievement in students (Goddard, 1998; Goddard, Hoy, et. al., 2000; Goddard, Sweetland, et. al., 2000). Although the current study was not concerned with student achievement, the argument can be made that mindful schools should facilitate higher student achievement. Thus, the development and the elaboration of school mindfulness should be seen as a beginning not an end. Ultimately, the puzzle of designing schools to improve student leaning is the paramount goal and school mindfulness seems an important piece of the puzzle.
LIST OF REFERENCES


science: Problems of trust and distrust. The Academy of Management Review, 23,
405-421.

review, San Francisco: Chandler.


& Sons.

Bolman, L. G., & Deal, T. E. (1997). Reframing organizations: Artistry, choice, and

Brookover, W., Schweitzer, J., Schneider, J. M., Beady, C., Flood, P., & Wisenbaker, J.
(1978). Elementary school social climate and student achievement. American
Educational Research, 15, 301-318.


analysis of the mediating role of efficacy in first-year teachers’ experiences,
reactions, and plans. Paper presented at Annual Meeting of the American
Educational Research Association, Chicago.


of a conditions of trust inventory. Journal of Management, 17, 3, 643-663.

modeling dyadic trust in superiors and subordinates. Psychological Report, 55,
19-28.

Chanowitz, B., & Langer, E. J. (1980). Knowing more (or less) than you can show:
Understanding control through the mindlessness-mindfulness distinction. In J.
Garber, & M. E. P. Seligman (Eds.), Human helplessness: Theory and


Moldoveanu, M., & Langer, E. J. (2002). When “stupid” is smarter than we are: Mindlessness and the attribution of stupidity. In Robert J. Sternberg (Ed.), *Why smart people can be so stupid*. New Haven, CT: Yale University Press.


165


