

DISSERTATION

GROUP POTENCY IN GRADUATE LEARNING COMMUNITIES:
ORGANIZATIONAL SUPPORT, GROUP SIZE, AND DURATION OF
MEMBERSHIP

Submitted by

Paul M. Shelton

School of Education

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2008

Copyright by Paul M. Shelton 2008
All Rights Reserved

COLORADO STATE UNIVERSITY

June 9, 2008

WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY PAUL M. SHELTON ENTITLED GROUP POTENCY IN GRADUATE LEARNING COMMUNITIES: ORGANIZATIONAL SUPPORT, GROUP SIZE AND DURATION OF GROUP MEMBERSHIP BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

Committee on Graduate Work

Carole J. Makela, Ph.D.

Don Venneberg, Ph.D.

James Folkestad, Ph.D.

Robert Rademacher, Ph.D.

Jerry Gilley, Ed.D. Adviser

Department Head/Director

ABSTRACT OF DISSERTATION

GROUP POTENCY IN GRADUATE LEARNING COMMUNITIES: ORGANIZATIONAL SUPPORT, GROUP SIZE, AND DURATION OF GROUP MEMBERSHIP

This quantitative study analyzed group potency in graduate learning communities. Group potency is the collective belief that a group can succeed, achieve, and be effective in its endeavor. The study addressed these relationships -- group potency and (a) participants' perception of organizational support, (b) length of time participants have been together, and (c) size of the learning community, and size of the learning community and the perception of organizational support.

The study used a three part questionnaire. The first section identified levels of perceived organizational support and was developed by Eisenberger. The second section measured group potency as developed from Shea and Guzzo. Finally, the third part asked for demographic data.

There were 192 participants from four universities' graduate school cohorts who responded to an electronically distributed questionnaire. The findings were analyzed using Pearson's r and ANOVAs to identify relationships between the variables or differences among groups. Respondents were between the ages of 31 and 50 years (60.2%). Females accounted for 69.3% of the sample. All respondents were completing or had completed either a master's degree or doctoral degree in business, education,

human resources, or organizational development as identified by the participants, not the programs' designation.

The findings suggest that there is a significant relationship between group potency and perceived organizational support. However, there were no significant relationships between length of time of membership and group potency, group size and group potency levels, and group size and levels of perceived organizational support.

The implications for practice are that in graduate school cohorts, group potency can be increased by increasing students' perception that the organization supports it. This is important to practitioners because increased group potency has been demonstrated to decrease attrition rates and increase group performance outputs. Additionally, this research demonstrated that class size and length of time of membership may not be important to creating a cohort with high potency levels.

Paul M. Shelton
School of Education
Colorado State University
Fort Collins, CO 80523
Summer 2008

ACKNOWLEDGEMENTS

The dissertation process is supposed to be an individual work. However, I could not have achieved the end result without help, support, guidance, and care from a number of people.

First, I would like to thank my adviser, Dr. Jerry Gilley. I appreciate your words of wisdom and continued input on the subject of HRD. You have been a wonderful mentor/adviser/friend. Secondly, heartfelt thanks are given to Dr. Carole Makela. I believe that you worked as hard as I did on this dissertation. Your support and thoughtfulness really helped me achieve and become a better person. You were always available and willing to help. To my entire committee, Dr. James Folkestad, Dr. Don Venneberg, and Dr. Robert Rademacher, thank you for your insights and willingness to help.

In addition to the academic support, I had the good fortune of a strong family to help me through this process. First and foremost, I would like to thank my wife, Michelle. Your continued dedication to our family and taking care of the boys for hours on end while I wrote, studied, and edited took a lot of work. I am very grateful for you in my life. As we've spoken, this was a family endeavor and this degree is yours as well. I would like to acknowledge and thank my children, Connor, Tyler, and Austin. You boys are a big reason why I went back to school. Thanks to my mom and Carl for being willing to listen to my frustrations, watch the boys when needed and continued support throughout this process. Thanks to my dad and Trudy for all their support. I am grateful for Linda, Bill, and Gregory for helping Michelle and I with the boys and continually

being supportive. My in-laws, Butch and Jo would drive from California to Colorado just to help when times got too busy. Thank you both for this and your support and motivation and understanding.

To everyone who contributed, I am humbled by the care and dedication shown over the last few years. I believe that I have truly received undeserved blessings by everyone's presence. I hope that I can contribute to all of your lives in such a positive way.

Thank you!

Table of Contents

ABSTRACT OF DISSERTATION	iii
ACKNOWLEDGEMENTS	v
LIST OF TABLES	x
LIST OF FIGURES	xii
CHAPTER 1: INTRODUCTION	1
Background and Historical Perspective	2
Problem Statement and Research Questions	6
Delimitations.....	7
Researcher’s Perspective	7
CHAPTER 2: LITERATURE REVIEW	9
Group Potency	10
<i>Development/Background</i>	10
<i>Higher Education</i>	12
<i>Collaborative and Collective</i>	13
<i>Efficiency and Effectiveness</i>	14
<i>Measurement and Significance</i>	17
Perceived Organizational Support	17
<i>Development/Background</i>	17
<i>Organizational Support Manifested in Higher Education</i>	18
<i>Beneficial Behavior</i>	18
<i>Perceived Organizational Support and Social Network Theory</i>	19
<i>Antecedents and Outcomes</i>	20
Learning Communities	21
<i>Development/Background</i>	22
<i>Higher Education</i>	23
<i>Social Context</i>	23
<i>Stages of Development</i>	24
<i>Benefits</i>	25
Why study these constructs?.....	26

CHAPTER 3: METHODOLOGY	28
Sampling	30
Instrument	30
<i>Group Potency</i>	30
<i>Perceived Organizational Support</i>	32
<i>Demographics</i>	34
Pilot Test	34
Administration and Collection Procedures	35
Data Analysis	36
<i>Reliabilities</i>	37
<i>Research Questions</i>	37
CHAPTER 4: FINDINGS	41
Descriptive Characteristics of Respondents	42
<i>Personal Demographics</i>	42
<i>Educational Demographics</i>	44
<i>Learning Community Demographics</i>	45
<i>Profile Summary</i>	48
Descriptive Analysis of Group Potency and Perceived Organizational Support.....	48
<i>Group Potency</i>	48
<i>Perceived Organizational Support</i>	49
Research Questions and Hypotheses	51
Analysis of Data Comparisons	54
<i>Universities/Programs</i>	54
<i>Gender</i>	58
<i>Group Potency and Organizational Support Item Analyses</i>	58
Summary	60
CHAPTER 5: SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS	62
Findings	63
Conclusions	66
Limitations	70
Future Research	72
Summary	74
REFERENCES	76
APPENDIXES	82

Human Subjects Committee Approval83
Letter of Introduction.....85
Questionnaire87
Cover Letter93
Response Distributions on Organizational Support and Group Potency Items95

LIST OF TABLES

Table

1. Group Potency, Group Efficacy, and Self Efficacy Comparison	12
2. Examples of Group Potency Studies.....	27
3. Reliabilities of Group Potency Scale in Previous Studies	32
4. Reliabilities of Perceived Organizational Support Scale in Previous Studies	34
5. Year Began by University, Frequencies, and Percentages	36
6. Research Questions, Questionnaire Items, and Related Analyses	39
7. Participants (n = 192) across Universities – Frequencies and Percentages	43
8. Gender of Participants by University – Frequencies and Percentages	43
9. Age Range by University – Frequencies and Percentages.....	43
10. Degree Level by University – Frequencies and Percentages.....	44
11. Area of Study by University – Frequencies and Percentages	45
12. Number of Learning Communities Experienced – Frequencies and Percentages	46
13. Length of Time in a Learning Community by University -- Frequencies and Percentages	46
14. Year Began – Frequencies and Percentages	47
15. Learning Community Size – Frequencies and Percentages	47
16. RQ2: Group Potencies’ Means by Length of Time in the Learning Community.....	52
17. RQ3 and RQ4: Group Potency and Organizational Support by Learning Community size	53
18. Organizational Support and Group Potency across Programs	55
19. Post Hoc Comparison of Organizational Support across Programs	56
20. Organizational Support and Group Potency across CSU OPC Years	57
21. Post Hoc Comparison across CSU-OPC Years	57
22. Organizational Support and Group Potency Scores by Gender of Participant	58
23. Differences in Responses by GP Items and Years Part of Learning Community	59
24. Differences in Responses by OS Items and Years Part of Learning Community	60

25. Organizational Support Items Means, Standard Deviation, Frequencies, and Percentages by Program.....	96
26. Group Potency Items, Means, Standard Deviation, Frequencies, and Percentages by Program.....	98

LIST OF FIGURES

Figure 1: Skewness for Group Potency Composite	49
Figure 2: Skewness for Organizational Support Composite.....	51

CHAPTER 1: INTRODUCTION

“I don't believe in team motivation. I believe in getting a team prepared so it knows it will have the necessary confidence when it steps on a field and be prepared to play a good game.” Tom Landry, Dallas Cowboys Head Coach, 1960-1988

Team motivation is not created externally. It comes from within through an inner, shared confidence in the success of the team. Success of a football team is easily measured by scores and team wins. Work teams do not always have a scoreboard or a “win” column from which to measure their success. Tom Landry’s Dallas Cowboys started by losing all 11 games in their first season. Three year later, the Dallas Cowboys started a 20-year winning record. Landry’s belief in team confidence, as stated above, was directly related to his long term success as a coach.

Groups of all types can relate to the above quote. It is not solely external motivation which impacts performance. It is also the internal belief that the group can and will achieve its intended goal (Lee, Tinsley, & Bobko, 2002). This is the essence of group potency. Group potency is the collective belief that a group can succeed, achieve, and be effective in its endeavor. This differs from a group member’s individual belief that he or she can be effective. For example, Guzzo, Yost, Campbell, and Shea (1993) use the example of a sports team. An individual team member can have a strong belief in his/her personal efficacy and ability to be effective. Yet, the individual might have a weak belief that the sports team can be successful or effective. The reverse can also be true.

The purpose of this research is to explore selected antecedents associated with group potency. More specifically, the purpose is to explore how group potency is influenced by perceived organizational support, group size, and length of membership in the learning community.

Terminology for this study is important due to the many misnomers used in both the academic and professional arenas. For the purposes of this research a cohort and learning community will be synonymous. These terms mean a group of individuals with a common goal of learning within a graduate education framework. Group size is the number of members in the learning community or cohort. Duration of group membership reflects the length of time in months or years an individual or student has been participating in the learning community.

Background and Historical Perspective

Group potency is defined as the communal belief that a group is effective in achieving positive outcomes (Guzzo, Yost, Campbell, & Shea, 1993). In a learning community, it is the collective or shared belief that they can be successful or effective in achieving their goals. This differs from collective efficacy as it focuses on the individual's belief of group success while group potency is the group's belief in itself. The psychologist Carl Jung developed the initial theory of "collective unconscious." In his book, *The Archetypes and the Collective Unconscious*, Jung stated that the collective unconscious is a deeper layer than individual consciousness. In many instances this collective unconscious is universal and is "more or less the same everywhere and in all individuals" (Jung, 1990, p.104). Over time, Jung's theory of collective unconscious formed the basis of the theory of group potency. This theory was developed and applied

to the workplace by Sayles (1958). In *The Behaviour of Industrial Workgroups*, Sayles stated that,

certain groups are always troublesome whereas others are generally cooperative....Interesting, too, is the fact that work groups identified by management or union as being atypical in their behavior often remain so over a long period of time, even though during this period there are changes in their supervision and membership, turnover among leaders in the local union and shifts in management policy” (p. 1).

The group itself held the collective unconscious or the belief of success and this transcended the individual members of the group. The group’s collective unconscious about success is at the heart of this study. Several studies have determined that group potency is positively correlated with group performance (Campion et al., 1997; Lester, Meglino, & Korsgaard, 2002; Sivasubramaniam, Murry, Avolio, & Jung, 2002).

A learning community is a group of people with a common goal of learning. According to Wilson, Ludwig-Hardman, Thornam, and Dunlap, learning community members within a formal course find four situations: participation is required, they do not choose their classmates or instructor, they must commit to a fixed length of time, and they must make an explicit effort to connect with others (2004). For the purposes of this paper, the terms cohort and learning community will be used interchangeably. Learning communities have been used and found suited to support the needs of adult learners returning to school. There is considerable literature which supports how connectedness enhances learning (Baldwin, Bedell, & Johnson, 1997; Chaddock, & Saltiel, 2003; Teitel, 1997). Interaction within learning communities has been determined to increase a learning community’s performance outcomes (Baldwin et al., 1997). In fact, one of the main reasons for the existence of learning communities is the peer support offered through long term relationships developed during the experience (Teitel, 1997). Cohort

influence on success is affective not cognitive. In other words, the relationship of the learning community increases group performance. The learning community does not increase individual or group intellectual ability (Teitel, 1997).

Perceived organizational support has its origins in exchange relationships (Eisenberger, 1986); these are the relationships between the organization and the employee (Rousseau, 1995). Organizational support is a benefit that arises from the learning community or social exchanges (Rhoades, & Eisenberger, 2002) and is the perception of the employee that the organization, team, or group has a commitment to employees and support the employees' work (Gakovic, & Tetrick, 2003). Employees attribute human-like characteristics to organizations. Many times the characteristics of an agent of the organization are interpreted by employees to represent the intent of the organization (Levinson, 1965). This perception has helped to create social exchange theory which explains exchange relationships and reciprocity. Reciprocity is the employee's felt obligation to repay benefits to the organization based upon returning the support or loyalty that has been demonstrated by the organization (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). These perceptions can be measured and are discrete (Eisenberger, 1986).

Duration in a learning community also influences perceptions of group success. Wheelan (1990) posits that there are four stages of group development. The stages are dependency/inclusion, counterdependency/flight, trust/structure, and work/productivity. Time in and progress through the stages are group dependent. As time passes, group dynamics change and therefore, levels of group potency fluctuate. Determining when

group potency levels are highest and when levels ebb can be very helpful to instructors/professors and managers who lead learning communities and other groups.

This research will help to determine the levels of potency at different times in a learning community's development. This knowledge can be utilized by leaders of learning communities to maximize effectiveness of the group. Additionally, knowing the development process and being able to identify key indicators of expected behaviors over a given period of time allow the manager to create an infrastructure which quickens the team development process. This knowledge can increase group potency and ultimately team effectiveness. Identifying the stages can be an indicator of the length of time a member has participated in the group as it relates to the level of a group's potency. While a group's development can be considered unique or nongeneralizable to other groups, identifying and quantifying general trends related to learning communities in higher education and in learning community development of group potency can be useful to both theorists and practitioners.

Length of time of group membership will be studied because the development of potency could occur immediately as posited by Sayles (1958) or could take longer to develop. Number of group members can also have an influence on belief of contributions being valuable to the group. The Hawthorne Studies showed that being "watched" had an effect on a worker's performance. What else the studies showed was that the women studied were in smaller groups and therefore their individual contributions had a greater impact on the final product. Finally, organizational support is believed to have a relationship with group potency. One of the reasons for the learning community model in education is the positive correlation of peer support and graduation rates and decreased

attrition in graduate education. Wilson et al. (2004) made the point that the formation of learning communities requires support.

There are multiple theories regarding the ideal size of a learning community. Some theorists suggest between 3 and 12 members. Yet other researchers have stated that as many as 25 members make up an ideal learning community (Grofman, Feld, & Owen, 1984; Hackman, & Vidmar, 1970; Kameda, Stasson, Davis, Parks, & Zimmerman, 1992). Studies have focused completely on performance output as an indicator of the most beneficial number of learning community members. This study will focus on the relationship of learning community size to group potency not performance outcome.

Problem Statement and Research Questions

Research has demonstrated that there are many contradictions with respect to optimal time and group size and how these variables impact performance of a group or learning community. However, research has failed to establish how graduate school learning communities' levels of potency are related to organizational support, group size, and length of time of membership within the group. This research will investigate these relationships. One main reason for establishing learning communities is the peer and organizational support that is given and received by learning community members.

The problem statement is addressed in the following research questions:

1. What is the relationship between group potency and the participants' perception of organizational support?
2. What is the relationship between group potency and the length of time the participants has been together?

3. What is the relationship between group potency and the size of the learning community?
4. What is the relationship between size of the learning community and the perception of organizational support?

The intent of this research is to add to the body of knowledge on group potency and its antecedents related to learning communities in graduate education. This study will determine the association of four variables and the potential to influence a learning community's potency by understanding the four antecedents. The participants, from universities, have participated in cohort based learning models. A questionnaire was sent to these participants via email and the responses captured electronically. The findings were analyzed at the individual, cohort, and study levels.

Delimitations

In choosing how to study the variables that can have an association with group potency, I chose to study graduate school learning communities. The graduate programs were from four universities. The sample consisted of graduate students who are currently or have recently participated in learning communities at the selected universities. The survey was sent using SurveyMonkey. The participants had two weeks to respond to the questionnaire before it was "closed".

Researcher's Perspective

As with any researcher, my perspective plays a role in the choice of topic and the methodology used for this study. I served in the military and spent ten years in federal law enforcement both as a federal agent and as a manager. Teams are a significant part of my military and law enforcement experience. Additionally, I obtained both my

undergraduate and master's degree in the cohort model. My belief is that a team has a common collective belief and this can dramatically affect the outcomes of the team and individuals within the team. I have witnessed and been a part of this type of unit or community in the past.

CHAPTER 2: LITERATURE REVIEW

The following chapter shares the literature in the field regarding group potency, organizational support, and learning communities. More specifically, this chapter discusses group potency and its background, how group potency is manifested in higher education, the perspective that potency is collaborative and collective, how it is related to effectiveness and efficiency, and the variable of potency is measurable and significant. The chapter discusses different aspects of perceived organizational support. These aspects include the background, what organizational support is in relation to higher education, behaviors of people with organizational support, social network theory in relation to organizational support, and finally antecedents and outcomes. The chapter then describes learning communities' background, social context, benefits, and the social context. Lastly, this chapter establishes why these constructs are studied together and the well studied phenomenon of group potency.

Group potency is defined as a group's collective belief that it can succeed. Potency has also been explained as the collective belief that a group can be effective (Guzzo et al., 1993). Potency is, therefore, measurable, authentic, and significant. It is a phenomenon that is not completely explained by collective motivation (Guzzo et al., 1993). According to Sivasubramaniam et al. (2002) nearly two-thirds of all Fortune 500 companies utilize teams of various types in the work environment. However, group work is thought to be even more frequent. Because of the prevalence of groups, the study of group potency and the development of knowledge of groups are important. Due to the

shifts from individualistic work to team or collective collaboration, understanding and harnessing the power of the collective and the team's potency will become an even greater factor to enable successful learning in the workplace, graduate education, and other varied settings. Similarly, many institutions of higher education are shifting their program models to teams/cohorts. In 1995 the University of Massachusetts at Boston shifted all school leadership programs to cohort models (Teitel, 1997).

There appears to be a continuum related to the effectiveness and efficiency of teams. Therefore, study that informs leaders how they can help move teams higher on the continuum of effectiveness and efficiency can be vital to organizations. This is important because increasing efficiency and effectiveness increases goal attainment. Whether the group is a cohort of graduate students or business people, maximizing their capabilities increases the likelihood of achievement. Understanding how group potency and its antecedents are related allows leaders to increase performance capacity of teams.

Group Potency

Group potency is the collective belief in success. Group potency has a strong positive relationship with performance. It is because of this relationship that scholars and practitioners have studied this construct.

Development/Background

Carl Jung initially defined what is now considered a component of group potency, describing the collective unconscious. His early definition of the collective thoughts of groups gave way to later studies in this area (Jung, 1990). Sayles began investigating work groups in an industrial plant. He used strength of belief as his measure and used the term "apathetic" for those without belief in success of the team (1958). Sayles did not use

the term potency, yet by today's definition, this was what he referred to. A group or team is defined as a number of people who hold a common goal and utilize each other's work and/or contribution to attain a goal. Group and team are the same construct for the purpose of this research.

Collective efficacy has also been used interchangeably with group potency. In reality, these two terms have different definitions. See Table 1. Group potency is a group's collective belief in itself while collective efficacy is an individual's belief about the group (Guzzo et al., 1993). Self-efficacy is an individual's belief in himself/herself (Bandura, 1982). Bandura initially posited efficacy as relating to a specific task or challenge. Since his initial writing, efficacy and potency have become non-task specific. The belief of success transcends a specific task and focuses on the group's ability to achieve its goals regardless of task specificity (Guzzo et al., 1993). Group efficacy has also been defined as a group's belief about its own ability to effectively perform assigned tasks (Gibson, 1999). It should be noted that group efficacy is a transaction group level construct which focuses on task specific group beliefs. Group potency is non-task specific and represents the group's general belief of success. When a group believes it can be successful regardless of circumstance, it can be assigned tasks outside its normal purview and the group remains confident in its ability to succeed. Conversely, if the group has its beliefs rooted in transactional, task specific areas, the group loses confidence in itself if a task is assigned that is outside of the normal responsibilities.

Table 1. Group Potency, Group Efficacy, and Self Efficacy Comparison

Characteristics	Group Potency	Group Efficacy	Self-Efficacy
Perceptions of success	Group's perception about the group's ability to succeed Ex. "We can succeed."	Individual's perception about the group's ability to succeed Ex. "I believe the group can succeed at this task."	Individual's perception about own ability to succeed Ex. "I believe I can succeed at this task."
Nature of task	Non-task specific (general) belief of success Ex. "No matter the task, we can do it."	Task-specific belief of success Ex. "Within our area of expertise, we can do it."	Task-specific belief of success Ex. "Within my area of expertise, I can do it."
Construct level	Group level construct	Individual and group level construct	Individual level construct

Higher Education

Groups of people are thought of more and more as the source of knowledge construction (Van den Bossche, Segers, & Kirschner, 2006). This paper focuses on student groups in a graduate school context. Higher education is beginning to utilize learning communities and cohort-based learning more frequently (Teitel, 1997). A benefit of cohort based learning within higher education is the creation of group potency within the learning community. Van den Bossche et al. (2006) demonstrated that successful collaboration is not merely putting people together who have similar or complimentary knowledge; rather, two key factors, cognition and social ties, influence successful learning.

Cognition is how groups process information. This factor helps learning communities develop increased knowledge. Sternberg (1999) posits that knowledge in an area is the most important or key determining factor in performance excellence. Social ties are the relationships within the group that bind it together. These ties help the socio-

structure of the learning community to function (Van den Bossche et al., 2006). Social ties have a positive effect on psychological safety within the group. Psychological safety, the perception that the individual is not going to face ostracism for sharing an idea or power struggles within the group, is one key element to learning community functioning (Edmondson, 1999) and ultimately collaboration within the group.

Gibson (1999) studied university students from the United States and Hong Kong. She discovered that group efficacy occurs in higher education. For her research she used a business simulation. The findings indicate that when task uncertainty is high, group efficacy is diminished (Gibson, 1999). While this study used the term group efficacy, Gibson's definition is similar to how I define group potency in this study.

Collaborative and Collective

Sivasubramaniam et al. defined team leadership by how a group exerts leadership, instead of one person exhibiting leadership traits (2002). Their study focused on how team leadership and group potency influence group performance (Sivasubramaniam et al., 2002). Collaboration occurs among members of the group and between the group and the leader. Collective thought by members and leaders can help improve levels of potency. A reciprocal relationship between team leadership and team potency was found. Teams with long term potency had a positively correlated influence on the leadership because the team believes they are "right" (Sivasubramaniam et al., 2002). Conducted at a northeastern U.S. university with 182 student participants, the study found significant relationships among team leadership, potency, and performance (Sivasubramaniam et al., 2002).

Efficiency and Effectiveness

There are many studies measuring outcomes of group potency. Most studies focus on identifying the level of potency and assessing the ability of the participants to perform a task or produce some type of output. Gibson studied 294 U.S. and Hong Kong university students. She divided them into 30 groups with 4-5 members in each group at each university and measured the groups' efficacy using survey tools. Next, she gave each group the same business simulation exercise to complete. The findings indicated that group efficacy (potency) has meaningful influence and impact on group ability to successfully complete a task (Gibson, 1999).

Team empowerment, allowing a group to make decisions and support their decisions, has a positive effect on output, satisfaction, and organizational and team commitment (Kirkman, & Rosen, 1999). Understanding the dimensions of empowerment can help improve a team's efficiency and effectiveness. Team empowerment has four separate dimensions—potency, meaningfulness, autonomy, and impact (Kirkman, & Rosen, 1999).

The first dimension posited is potency (Kirkman, & Rosen, 1999). Potency is the general belief that a group can be successful. They stress the difference between individual self-efficacy—individual belief of success—and group potency—shared belief of success. This key differentiation has a direct effect on team empowerment. In empowerment, higher levels of potency lead to greater team empowerment because the confidence that the team can succeed transcends a specific job or task.

Meaningfulness is the team's belief that what they do as a group has importance and significance (Kirkman, & Rosen, 1999). This meaningfulness is felt on the individual

level. Collectively the meaningfulness is developed, but it must be internalized on an individual level. Team members share the meaningfulness in their duties. Therefore, individual meaningfulness is shared with group members (Kirkman, & Rosen, 1999). For example, if a learning community member believes that the work they are doing is important or valuable, the member will find this meaningful. One's belief in the task will be shared with other learning community members.

The third dimension, autonomy, plays a significant role in team empowerment. Individual autonomy is the "degree to which group members experience substantial freedom, independence, and discretion in their work" (Kirkman, & Rosen, 1999, p. 59). The authors continue to note that group autonomy can actually decrease the level of individual autonomy felt by group members. This is in part due to the shared decision making process of the team (Kirkman & Rosen, 1999).

According to Kirkman and Rosen (1999) impact is the final dimension of team empowerment. Impact is the result of the work produced by the team. Impact answers the question, "Is the work we produce significant and important to others?" If the perception of the team members is that their work matters and has an effect on others or situations, then impact would be considered high.

Increasing a team's capacities within the dimensions will increase levels of team empowerment. Kirkman and Rosen studied 111 work teams over four separate organizations. Two organizations were Fortune 500 while two organizations were smaller companies. The major finding was the higher the team empowerment, which consists of the four separate dimensions, the higher the effectiveness and performance of the teams (1999).

Groups with higher levels of potency perform better (Campion et al., 1997). This shows that organizations, including higher education, can increase group effectiveness and success by increasing group potency (Lester et al., 2002). Lester also posits that if a group is successful during its formative time (in the beginning) they are more likely to obtain higher levels of group potency (2002). In their research, the participants (n = 692) were from the Junior Achievement Applied Economics Program (a college preparatory course) in 32 high schools. While time in group was not specifically tested, it was discovered that potency declined over time unless the group possessed charismatic leadership. In the presence of the latter, group potency increased over time (Lester et al., 2002).

Belief in the ability of a group to be successful acts as both a cause and a consequence of group potency (Gil, Rico, Alcover, & Barrasa, 2005). Groups that have early successes build group potency. Elevated levels of group potency have a positive relationship to group output (Guzzo et al., 1993). Gil et al. studied 318 healthcare professionals in 78 teams in hospitals throughout Spain. The findings support the influence of potency on the relationship of leadership and climate. Gil et al. (2005) used questionnaires to obtain information on the groups. Unexpectedly in the study, it became apparent that high potency teams are less affected by external influences such as leadership than low potency teams. This demonstrates that high potency groups can continue to believe in their success and performance in spite of their surroundings. Group potency is not limited to one particular industry or limited to a specific geographic region.

Measurement and Significance

Group potency is a measurable and significant construct. Potency can be assessed by observation, survey, or informal interviews (Shea, & Guzzo, 1987). Whether interviews, observation, or self-report, all methods of measurement rely on information from the group. Shea and Guzzo (1987) developed a scale which has been shown to accurately measure levels of group potency over various types of respondents. They suggested that the most common approach to measuring group potency is through questionnaires, which continued to be the case for the subsequent 20 years.

Perceived Organizational Support

Perceived organizational support has been found to have a positive relationship to obligation (Eisenberger et al., 2001). The theory of reciprocity, or obligation, states that if the employer supports the employee, the employee will have a felt obligation to reciprocate with work and loyalty (Rousseau, 1989). In higher education, it stands to reason that increasing a student's felt obligation toward a learning community will have a positive effect on the student reciprocating goodwill by doing positive work and/or continuing in the learning community.

Development/Background

Perceived organizational support has its roots in social exchange theory (Wayne, Shore, & Liden, 1997). Social exchange theory states that if one person does another a favor, there is a felt obligation to return the favor (Blau, 1964). Two types of social exchanges have received attention lately. The first is between leader and employee and the second is between employee and organization (Eisenberger et al., 1986). The latter is the focus of this research. Eisenberger and his colleagues developed the concept of

perceived organizational support to explain why an employee would exhibit commitment to an organization (Wayne et al., 1997). While this concept is relatively new, perceived organizational support has been proven distinct from other constructs within social exchange theory such as organizational politics, organizational commitment, or supervisory support (Wayne et al., 1997). Perceived organizational support is the belief or perception that the organization supports the individual. This support can be demonstrated in valuing input, listening to suggestions, or noticing if the individual stops contributing.

Organizational Support Manifested in Higher Education

Much of the research on perceived organizational support has focused on organizations outside of higher education. However, the studies of employees do include persons who are attending universities as students (Gakovic, & Tetrick, 2003). In a study of 641 undergraduate students at a southwestern university who were employed, it was found that part-time employees held a higher level of perceived organizational support than full-time employees ($F = 8.20, p < .01, N_{\text{part-time}} = 319, N_{\text{full-time}} = 282$) (Gakovic, & Tetrick, 2003). This study demonstrated that one place to find employees as research participants can be at institutions of higher education. There are an increasing number of students who are working and attending school. Therefore, there is an increased overlap of participants who attend higher education institutions and are employed.

Beneficial Behavior

Working together is one of the greatest strengths of a team. One reason for a team or learning community to exist is to work together on projects and have input from multiple people to form the best, or highest quality, output. Behavior can directly affect a

team's performance and individual perceptions of how much the organization supports them. As discussed earlier, these behaviors are measurable and observable (Bartel, & Saavedra, 2000). In some instances, the term champion behavior is used to describe beneficial behavior in a workplace. Champion behavior is defined as the behavior of individuals who informally rise and provide leadership or "champion a cause" (Howell, & Shea, 2006). In a study of manufacturing firms from 19 multidivisional organizations a positive relationship between the occurrence of a champion and team potency was found (Howell, & Shea, 2006). The findings showed that champion behavior influenced, albeit indirectly, team performance ($\beta = .54$, $t = 2.90$, $p < .01$) and team potency ($\beta = .48$, $t = 8.55$, $p < .001$) (Howell, & Shea, 2006).

Perceived Organizational Support and Social Network Theory

Organizational support can influence levels of group potency. Organizational support is a benefit that arises from social exchanges (Rhoades, & Eisenberger, 2002). For example, if an employee has positive social exchanges with the employer, the belief that the organization supports the employee increases. If negative exchanges occur, the opposite may be true. This has been established in one large bank in the Netherlands with 58,000 employees. This study tested the relationship between management support and employee beliefs of group potency (De Jong et al., 2005). Additionally, the investigators tested interteam support and levels of group potency. Interteam support, the perception that team members value each individual team member, is an aspect of organizational support. The findings indicated a positive correlation between group potency and quality of work (De Jong, Ruyter, & Wetzels, 2005). This suggests, for this bank, group potency

can be increased or decreased as it relates to organizational support. Control of potency did have a positive correlation with quality of work produced by the groups.

Antecedents and Outcomes

As with any construct, perceived organizational support is not developed without influence from other variables. Rhoades and Eisenberger (2002) conducted a literature review of perceived organizational support and aggregated findings from 73 empirical studies. Their literature review showed that there are certain antecedents to perceived organizational support influencing perceptions of the individual. The antecedents are what the organization provides the employees. They were fairness, supervisor support, organizational rewards, and job conditions (Rhoades, & Eisenberger, 2002).

According to Rhoades and Eisenberger (2002), fairness is the perception of justice within the group. A fair supervisor can influence this perception only so much as the group sees the supervisor as an extension of the organization. In other words, if the supervisor is perceived as “fair”, but is not viewed as the embodiment of the organization, this perception will have little impact on belief in the organization. Furthermore, the occurrence of fair decision making should occur over time and over multiple situations to help create the perception of fairness (Rhoades, & Eisenberger, 2002).

Supervisor support is the general perception of how supervisors value the contributions of both the group and team members. Because most group members view the supervisor as the agent of the organization, employees view the supervisor’s favor or disfavor as coming directly from the organization (Rhoades, & Eisenberger, 2002).

Organizational rewards also play a significant role in perceived organizational support (POS). Promotion, pay, recognition, and job security are all components of organizational reward systems (Rhoades, & Eisenberger, 2002). They further state that, “favorable opportunities for rewards serve to communicate a positive valuation of employees’ contributions and thus contribute to POS” (p. 700).

Job conditions such as autonomy, roles stressors (environmental factors that an individual cannot work with), training, and organizational size are examples (Rhoades, & Eisenberger, 2002). These conditions act as antecedents to the level of perceived organizational support and how individuals believe the organization values them. The study also discovered that with increased levels of perceived organizational support, there are consequences or outcomes. These consequences or outcomes represent the employees’ responses to the organization. These outcomes are organizational commitment, job-related affect, job involvement, performance, reduced strains, increased longevity, and employees not withdrawing from the organization (Rhoades, & Eisenberger, 2002). The outcomes are what the individual gives back to the organization.

Learning Communities

Traditional academic program development has focused on design of curriculum and student selection. However, there is an increasing realization that cooperative and team-based learning is far more advantageous (Baldwin, Bedell, & Johnson, 1997). Team based learning has come to fruition in the cohort or learning community learning models. The movement to this type of learning has begun to permeate graduate schools. Learning communities increase positive feelings from students about the experience and decrease attrition (Teitel, 1997). A community can be formed by admission (selection of applicants

to a term of admission) and/or self-selection into the group (education delivered at the work site).

Development/Background

Learning communities, or cohorts, are defined as a group of people who have a common goal to learn or obtain new knowledge. For many years, graduate education enrollment has been increasing. Sharp (1966) stated that graduate education is expanding at a high rate. Over the course of time graduate enrollments have had a greater increase than undergraduate enrollments (Sharp, 1966). This trend has continued. According to the National Center for Education Statistics, graduate school enrollment has increased by 64% (1.3 million to 2.2 million) from 1976 to 2005. Furthermore, the Center indicated that,

Among all 1995–96 beginning postsecondary students, 32% did not work while enrolled (referred to in this brief as “nonworking students”), 48% worked while enrolled and considered themselves a student working to meet expenses (referred to as “students who work”), and 20% worked while enrolled and defined themselves as an employee who decided to enroll in school (website).

Graduate learning communities integrate cooperative learning strategies and like assignments to teams (Baldwin et al., 1997). Learning communities require the members to be both learners and teachers (Butt, 1999). This communal learning helps to establish a close knit learning community. A benefit of belonging to a learning community is the potential to gain access to a number of resources that are important to the success of a group and individuals (Baldwin et al., 1997).

Higher Education

More and more work is being done using groups (Sivasubramaniam et al., 2002). Many companies have begun to use terms such as “matrixed organization”, “team based”, “learning organization”, and other similar phrases (Edmonson, 1999; Fiol, & Lyles, 1985; Kolodny, 1979). The terms describe organizations that have moved from individual to team based performance. Higher education realizes the power of groups and is using team based learning communities and has followed business with the focus on team work. Class cohorts are a form of learning teams. Cohorts stay together forming teams or groups (sometimes called learning communities). They maintain relationships by enrolling in the same classes throughout their graduate school program, as higher education has moved toward a more cooperative and team-based class structure (Baldwin et al., 1997).

Social Context

Within a learning community there are five main areas of impact. The areas are support and connection among students, depth of discussion, and changes in interpersonal relationships, power relationships between students and faculty, and decision-making dynamics within the group (Teitel, 1997). In Teitel’s study, support and connection among students were determined through a survey. Three-quarters of the students had positive personal, emotional, and academic support from the learning community beginning in their first year in a doctoral program (Teitel, 1997). Teitel did not specifically state the number of respondents. However, he did state how many students in each learning community and the percentage of respondents. Therefore, it can be surmised that for this study $n = 48$ (estimate). This first area of strong support and

connection lends itself well to the possibility that it is related to a communal “belief”. As support and connection increased, students began to have discussions which were deeper and more personal. These interchanges were notably different from those in a traditional classroom at University of Maryland (Teitel, 1997). Learning communities create changes in interpersonal relationships. Although, some students in learning communities felt that they were “trapped” in relationships within the learning community, once a learning community was established, most students’ fears subsided. Lastly, power relationships between faculty and students change as the learning community develops. One student in Teitel’s study stated, “As a cohort group, by the second set of courses, we appeared to be a united front—which must have seemed a bit intimidating to faculties who were new to our group” (1997, p. 74). In the quote, notice the student refers to the learning community as “our group”.

Stages of Development

Cohorts or learning communities develop cohesion and group support over time. Bennis and Shepard published a theory on group development with two areas of group development: power relations and personal relations (1956). Power relations are the interactions among group members that establish within group positions. Personal relations are the “bonding” portion of the group development process where members begin to know each other on a more intimate level. This is similar to Teitel’s work regarding the deepening relationships within a cohort, Bennis and Shepard’s theory holds true in learning communities today. Initially, the power relations establish the tenor of the class or learning community. In time, personal relations begin to form allowing for meaningful dialogue and development of support.

Not only are the two areas important in learning community formation, but how the group is established plays an important role. Development or establishment of a team has a direct influence on connections between the group and its outcomes (Sikes, Schlesinger, & Seashore, 1973). Graduate learning communities are not self-selecting in the true sense. The students have selected an academic program; however, it is through the acceptance of students that the program develops the learning community. Wilson et al. described this as a “bounded learning community”. While a learning community can occur spontaneously, graduate cohorts are designed. These communities are “groups that form within a structured teaching or training setting, typically a course” (Wilson et al., 2004, p. 1). The workplace can be more varied in how groups are formed. In some instances, the selection process is directed by a leader or manager. In other cases, the group can self-select and form.

Benefits

According to Wilson et al. (2004), there are several benefits to learning communities. These benefits are a social context for the material, more connection within a community, and a bridge between school and work environments. Trust and respect among learners are developed within a learning community (Retallick, 1999).

Baldwin and colleagues (1997) studied 250 MBA students to discover the benefits of team based learning. The overall perceptions of learning and friendships were positively associated with positive outcomes (individual grades, team grades, friendship centrality, communication centrality, adversarial centrality, and cognitive ability). These findings suggest that community support allows students to utilize the resources of the

group to enhance the learning process and increase the acquisition of knowledge (Baldwin et al., 1997).

Why study these constructs?

Group potency has been well studied. Attention has focused on group potency because of its relationship to group effectiveness (Jung, & Sosik, 2003). Studies have used sales teams, graduate school students, customer service representatives, and others. See Table 2

While there is knowledge of the constructs of organizational support, group size, and time of group membership within graduate school learning communities individually, little research relates group potency to the constructs. It is this lack of understanding that prompted this study delving into relationships among these constructs in graduate school learning communities. Additionally, these constructs can be modified at the organization and leader levels. The size of a graduate school learning community and the length of time the learning community is together can be controlled. Perceived organizational support can be increased by enhancing the exchanges students find valuable. Therefore, if the three variables are associated with group potency, a leader or organization can influence a graduate school learning community's potency. With increased potency comes increased output and higher likelihood of success.

Table 2. Examples of Group Potency Studies

Authors/Year	Variables	Sample
Shea & Guzzo 1987	Group interactions, involvement in decision-making	Retail employees
Early 1993	Group efficacy, group performance, individual and collective effects on performance	Managers
Lisk (dissertation) 1998	Cohort effectiveness, student outcomes, student retention, group development, academic achievement, group size	Degree completion cohorts of adult learners n = 19 groups (8-20 students each)
Lester, Meglino, & Korsgaard 2002	Group potency, leadership, cooperation, communication, satisfaction, team effectiveness	Junior achievement teams n = 691
Sivasubramaniam, Murry, Avolio, & Jung 2002	Transformational team leadership, group performance, effects of transformational leadership on performance linked by group potency	Undergraduate students n = 155
Gil, Rico, Alcover, & Barrasa 2005	Change-oriented leadership, group satisfaction, performance, team climate, innovation	Healthcare professionals n = 318
Jong, Ruyter, & Wetzels 2005	Group potency, management support, interteam support, team tenure (negative effect)	Employees from a large bank in the Netherlands n = 51 teams (20 person average per team)
Vanderlinden (dissertation) 2005	Leadership, similarity/dissimilarity of group members, group potency	Manufacturing firm, brokerage firm, healthcare firm all located in the Midwest n = 938
Wallace (dissertation) 2005	Stages of group development in adult cohorts, group effectiveness, learning outcomes (measured by GPA)	Undergraduate degree completion program in Human Development n = 262 (17 teams)
Liden, Erdogan, Wayne, & Sparrowe 2006	Leader-Member Exchange (LMX), individual performance, task interdependence	Employees from a Fortune 100, Fortune 500, telecommunications company, a university, distribution company, a manufacturing organization n = 931

CHAPTER 3: METHODOLOGY

This chapter discusses the methodology used in this study. It covers the research design, sampling and sampling procedures, the scales used and their reliability and validity, pilot testing, collection procedures, and limitations. The analysis uses survey data to examine how group potency is associated with perceived organizational support, group size, and length of time of group membership.

The methodology for this research was quantitative. Descriptions of group potency and qualitative research examining the “feelings” or “perspectives” of group potency and perceived organizational support are extensive. However, measuring potency as it relates to perceived organizational support, group size, and length of time of a member’s attachment to a group has not been studied to my knowledge. The level of analysis for this research will focus on the group. Mierlo, Vermunt, and Rutte, (2008) demonstrated that group level constructs can be accurately derived from individual level survey data. Additionally, Shea and Guzzo (1987) stated that the most common method of obtaining information on group potency is through questionnaires. The two scales used in this research have established reliability using varied samples.

Web surveys are an effective means to collect data from a sampling frame of participants who have access to computers and feel a level of comfort using them (Dillman, Tortora, & Bowker, 1999; Kiesler, & Sproull, 1986). Graduate school students fit this criterion given the “wireless” age of internet and research in higher education.

As stated earlier, one key dynamic of influence in a learning community in graduate school is the group's collective belief that they can succeed. Group potency has proven to have a positive correlation with performance outputs of a group (Shea, & Guzzo, 1987). In other words, the higher the level of a group's potency the greater the likelihood that the group will perform at a higher level. Therefore, one key way to increase a learning community's performance is to increase its collective belief it can succeed. Cohorts have helped to do this by providing organizational support to the learning community (Baldwin et al., 2002; Teitel, 1997). Many times organizational support has been called "intra-team support". Organizational support is the perception of how the group supports the individual. Discovering what antecedents or other constructs influence group potency can help educators and leaders improve performance outputs of groups. This is especially important because groups have become the basis of how organizations structure their workforce and how higher education organizes many graduate programs.

Cohorts/learning communities are a group of students who have been placed together with the assumed common goal of learning. These learning communities are typically assigned by the program. The individuals within the learning communities come together in three ways: the focus of the group is on intentional learning and to complete required assignments, membership of the group is based on enrollment, and finally, the learning community shares resources under the instruction of a facilitator (Wilson et al., 2004).

Sampling

Purposive sampling was used to determine who to include. The criterion was that the person was part of a graduate school learning community from Colorado State University, Iowa State University, University of Saint Thomas, or Xavier University. These participants were selected because of their affiliation and experience as a member of a graduate school learning community. The students were in programs or had completed programs leading to degrees in human resource development, education, or consumer and family sciences. Gatekeepers at the universities were identified through personal acquaintances of the dissertation committee members.

Two of the universities forwarded the cover letter and questionnaire link to current and previous students. One university posted the cover letter and questionnaire link in the “electronic” classroom for one learning community and another program forwarded the cover letter and questionnaire link through a listserv to potential participants. In the fourth situation, students voluntarily provided their email addresses.

Instrument

The three part instrument included two scales previously used in similar studies. Its components were group potency as designed by Guzzo et al. (1993) and a perceived organizational support as developed by Eisenberger (1986). The final component was to provide descriptive information.

Group Potency

The scale measuring group potency was from Guzzo et al.’s work as the most common approach to assess potency (1993). Developing group level constructs from individual survey data were established and considered a viable means of measurement

(Mierlo et al., 2008). The statements are scored on a five-point Likert scale as to how members feel about the group, the range from “To no extent” (1) to “To great extent” (5) with the higher score indicating greater presence of the described belief.

There are seven items in this component of the questionnaire. (See Appendix B.)

The items are prefaced with ‘this learning community’ ... and include:

has confidence in itself

knows it can produce unusually good, high quality work

knows it can solve any problem it encounters

knows it can be very productive

knows it can get a lot done when it works hard

knows that no task is too tough for the group

expects to have a lot of influence

This scale was selected for its reliability and validity. Guzzo et al. suggested that reliabilities of .50-.80 are sufficient for research purposes (1993). The scale has been used with sales teams with $r = .88$. Guzzo et al. used a five-item version with a communications firm and achieved a result of $r = .81$ and between group differences of $F(58, 636) = 6.28, (p < .01, w^2 = .34)$ (Guzzo et al., 1993) They further studied a consumer products company with an eight-item scale. The results were $r = .95$. See Table 3.

Table 3. Reliabilities of Group Potency Scale in Previous Studies

Study	Sample	Reliability
Shea & Guzzo, 1987 6-item scale	88 sales teams across the U.S. (9 members per team, mostly women)	$r = .88$ $F(87, 245) = 1.44, p < .02$
Guzzo, Campbell, Moses, Ritchie, Schneider, Shaff, Wheeler, & Gustafson, 1991 5-item scale	59 teams in a communications firm	$r = .81$ $F(58, 636) = 6.28, p < .01$
Shea & Guzzo, ongoing research 8-item scale	19 teams from one geographic locale in a consumer products company	$r = .95$ $F(18,89) = 1.60, p < .08$

The high correlation ($r = .81$ or higher) support the robustness in reliability of the scale. Obviously, the reliabilities over multiple industries and samples are high and the scale distinguishes among group ratings. Guzzo and Shea established the reliability by conducting a correlation among responses of similar group members. Additionally, they correlated responses among groups establishing a high reliability. This robust questionnaire can reasonably be used with the participants from learning communities of mostly working adults. The data also showed that it is reasonable to study group potency by studying individual data.

Perceived Organizational Support

The second section of the questionnaire focuses on perceived organizational support. This scale was developed by Eisenberger (1986).

Because the original scale is unidimensional and has high internal reliability, the use of shorter versions does not appear problematic. Prudence nevertheless dictates that both facets of the definition of POS (valuation of employees' contribution and care about employees' well-being) be represented in short versions of the questionnaire (Rhoades, & Eisenberger, 2002, p. 699).

Studies using multiple types of occupations and several different organizations provide evidence of high internal reliability (Rhoades, & Eisenberger, 2002). This scale was selected due to the well established reliability and validity of the perceived organizational support (POS) scale.

There are eight items in this section of the questionnaire. (See Appendix B.) The items are prefaced with ‘the learning community’ ... and include:

- values my contribution to its well being
- fails to appreciate extra effort from me
- would ignore a complaint from me
- really cares about my well-being
- no one would notice if I did the best job possible
- cares about my general satisfaction
- shows little concern for me
- takes pride in my accomplishments with them

The scale is scored on a six-point Likert response ranging from “Strongly disagree” (1) to “Strongly agree” (6) with the higher value indicating greater agreement with the opinion about the learning community. This scale was selected for its robustness and reliability.

See Table 4 for reliabilities of perceived organizational support scale.

Table 4. Reliabilities of Perceived Organizational Support Scale in Previous Studies

Study	Sample	Reliability
Gakovic & Tetrick (2003) 8-item scale	601 employees attending university classes (319 part-time employees, 282 full-time employees)	$r = .86$ $F = 8.20, p < .01$
Eisenberger, Armelli, Rexwinkel, Lynch, & Rhoades (2001) 6-item scale	413 postal employees	$r = .77$ $\beta = .34, p < .01$
Lynch, Eisenberger, & Armeli, 1999 8-item scale	323 retail employees at 8 sites	$\alpha = .90$ Study 1 $\alpha = .89$ Study 2 $t(295) = 2.19, p < .05$

Demographics

The final section of the questionnaire is biographical data asking age (question 7), time of membership in the learning community (question 1), and whether or not the person worked full-time while a member of the graduate school learning community (question 10). The responses were categorical and used to allow the participant to answer accurately (many people do not remember to the day or month how long they have been part of a learning community). Other items were the size of the group (question 4) and how many learning communities the participant had been in (question 5). These responses were categorical in nature. (See Appendix C.)

Pilot Test

The instrument was pilot tested to ensure participant understanding and to determine the range of responses. The participants for the pilot test were selected for convenience and for their similarity to the participants who were studied in the research. The instrument was pilot tested with graduate students who were members of graduate learning communities at Colorado State University and at Regis University using

electronic distribution. Twenty-eight participants responded to the questionnaire. The results showed variance in responses. Additionally, participants were able to understand and respond to the items in the instrument. Two changes were made to clarify the wording making it clear that the responses relate to the current or most recent graduate school learning community in which student had membership.

Administration and Collection Procedures

Data collection began in January 2008, after human subjects approval.

Questionnaires were sent electronically to potential participants using the obtained email addresses or to the gatekeepers for forwarding through a listserv or posting in the class' electronic classroom. When possible, personal salutations were used. Heerwegh (2005) found that using the personal salutation increased the response rate by 7.8% in a study of first-year university students. A cover letter (Appendix D) was sent electronically with the questionnaire to address the issue of anonymity and include contact information.

Participants at each university were given a link to respond to the instrument. This allows the researcher to keep each university's responses separate. Additionally, a question was asked "What year did the current learning community begin?" (question 2). The responses to this question were used to place each respondent into a learning community (see Table 5). After one week, SurveyMonkey or the gatekeepers sent reminders to participants.

Table 5. Year Began by University, Frequencies, and Percentages

University	2000 or prior		2001-2003		2004-2006		2007 or later	
	F	%	F	%	F	%	F	%
CSU-CCL	0	0.0	6	40.0	7	46.7	2	13.3
CSU-OPC	9	10.5	9	10.5	43	50.0	25	29.1
Iowa State	0	0.0	2	22.2	3	33.3	4	44.4
St. Thomas	8	24.2	5	15.2	20	60.6	0	0.0
Xavier	12	24.5	6	12.2	16	32.7	15	30.6
Total	29	15.1	28	14.6	89	46.4	46	24.0

One university (CSU) had students in two programs. CSU-CCL is the community college leadership program and CSU-OPC is the organizational performance and change program. These two programs were collected using separate links in SurveyMonkey to help identify the different programs from the same university.

Data Analysis

Analysis occurred on three levels. The first level was individual. Each individual's responses were scored and a composite score calculated for group potency and organizational support. Associations based upon these scores were conducted to determine relationships between group potency and organizational support. The findings helped the researcher understand and give voice to each participant. The second level of analysis was at the learning community level. Collecting individual questionnaire responses and aggregating them at the group level is the most common form of developing group level data (Klein, Conn, Smith, & Sorra, 2001). Campion et al. state that the group's average is more reliable than an individual's response (1993). Each group's responses will be aggregated to give an "averaged" group response.

Discovering and analyzing the data to uncover the strength of the relationships between the four variables is the primary focus. Significance was set at $p < .05$. In addition, calculation of effect size or power was conducted. By calculating the effect size, the strength of a relationship can be determined. Effect sizes apply to those statistical tests that have rejected the null hypothesis (Huck, 2004). In other words, only those tests that have significance will report effect size.

Reliabilities

Reliabilities for this study were calculated for the eight-item group potency and seven-item perceived organizational support scales. Cronbach's alpha (α) was used to calculate reliabilities. The group potency composite was .928 showing high internal reliability. Guzzo et al. (1993) suggested that reliabilities of .50-.80 are sufficient. They achieved levels of .81 with a communication firm and .95 with a consumer products company. Perceived organizational support composite was .833. This, too, demonstrates high internal reliability. Lynch, Eisenberger, and Armeli (1999) used the perceived organizational support scale and had alphas of .90 and .89 in two studies.

Research Questions

In Table 6, the four research questions are identified. The first column states each research question: What is the relationship between group potency and organizational support? What is the relationship between group potency and the length of time participants have been together? What is the relationship between group potency and the size of the learning community? What is the relationship between the size of the learning community and the perception of organizational support? The second column describes the questionnaire content as it relates to the specific research question. For example,

research question 1 uses the questionnaire responses to the group potency scale (1-7) and the perceived organizational support scale (1-8). The third column identifies the data level. Lastly, the final column describes how the research question was analyzed. All research questions are associational and therefore use correlations. However, ANOVA is also used to identify any difference among groups.

Research question 1, relationship between group potency and perceived organizational support, used associational statistics from responses on questionnaire items 1-8 as scores from the Perceived Organizational Support scale and items 1-7 from the group potency scale. Research question 2, the relationship between group potency and length of time of group membership was analyzed by using the scores from the group potency scale and question 1 from the descriptive (Information about you) data section which states, “How long have you been or were a part of the learning community?” with a Pearson correlation. Research question 3, the relationship between group potency and the size of the group, was measured by the group potency scores (items 1-7) and responses to question 4 from the descriptive (Information about you) data section and using Pearson’s r . Finally, for research question 4, relationship between number of learning community members and perceived organizational support, associational analysis was conducted using the Organizational Support score (items 1-8) and item 2 from the descriptive (Information about you) data section and using Pearson’s r .

Table 6. Research Questions, Questionnaire Items, and Related Analyses

Research Question	Survey Items	Variable Level	Statistics and Analysis
RQ1: What is the relationship between group potency and participants' perception of organizational support?	<p>Group potency section: Items 1-7 Response Range: To no extent (1) - To great extent (5)</p> <p>Organizational Support section: Items 1-8 Response Range: Strongly disagree (1) - Strongly agree (7)</p>	Ordinal	<p>Relating group potency to perceived organizational support. Null Hypothesis: There is no relationship between GP and POS.</p> <p>Correlational statistics at individual, level.</p>
RQ2: What is the relationship between group potency and length of time the participants have been together?	<p>Group potency section: Items 1-7 Response Range: To no extent (1) - To great extent (5)</p> <p>Information about you section: Question 1: (how long?) 4 responses (<3 months, 3-8 months, 9 months-1 year, > 1 year)</p>	Ordinal	<p>Relating group potency to duration of membership.</p> <p>Null Hypothesis: There is no relationship between GP and length of time of membership.</p> <p>Correlational statistics at group level.</p> <p>ANOVA identifying differences between learning community length of membership and GP score.</p>
RQ3: What is the relationship between group potency and size of the learning community?	<p>Group potency section: Items 1-7 Response Range: To no extent (1) -To great extent (5)</p> <p>Information about you section: Question 4: (how many?) 5 responses (2-6, 7-11, 12-16, 17-21, 22 or more) number in group</p>	Ordinal	<p>Relating group potency and size of learning community.</p> <p>Null Hypothesis: There is no relationship between GP and group size.</p> <p>Correlational statistics at study level.</p> <p>ANOVA identifying differences between sizes of learning communities and GP score.</p>

<p>RQ4: What is the relationship between perception of organizational support and size of learning community?</p>	<p>Information about you section: Question 4: (how many?) 5 responses (2-6, 7-11, 12-16, 17-21, 22 or more) number in group</p> <p>Organizational Support section: Items 1-8 Response Range: Strongly disagree (1) - Strongly agree (7)</p>	<p>Ordinal</p>	<p>Relating learning community size and perceived organizational support.</p> <p>Null Hypothesis: There is no relationship between POS and group size.</p> <p>Correlational statistics at group level.</p> <p>ANOVA identifying differences between sizes of learning communities and OS score.</p>
---	--	----------------	---

CHAPTER 4: FINDINGS

The purpose of this study was to identify if there are relationships among group potency and perceived organizational support, size of group, and length of time of membership. Studies have discovered that group potency is positively correlated with group performance (Campion et al., 1997; Lester et al., 2002; Sivasubramaniam et al., 2002). Therefore, by understanding group potency's antecedents and how these antecedents are related to potency, a group's potency may be increased thereby increasing performance.

To answer the research questions, this study obtained questionnaire responses of graduate students of four universities. These students were all involved in cohort learning models in either master's or doctoral level programs.

Each student was either sent an email or a link was forwarded to them from the university. Response rates could not be calculated as three of the four schools forwarded the link and email without acknowledging the potential number of respondents. Additionally, with some of the less recent graduates, email addresses may have been incorrect. As the gatekeepers forwarded the message, it was not possible to determine how many emails were returned undeliverable. In the future, identifying methods to capture response rates will be important to discuss with gatekeepers while ensuring participant anonymity. Please see further explanation in the limitations section in chapter 5. The email contained a cover letter explaining the purpose of the questionnaire and a link that took students to the SurveyMonkey website.

This chapter is divided into three main sections. The first section describes the characteristics of the participants. The second section states the specific research questions, hypotheses, and the statistical analyses. Lastly, supplemental analyses are presented.

Descriptive Characteristics of Respondents

This section describes the participants and their demographics—personal, educational, and learning communities.

Personal Demographics

This study received 192 responses from four universities. The percentages of respondents by school are 52.6% (n = 101) from Colorado State University, 4.7% (n = 9) from Iowa State University, 17.2% (n = 33) from University of Saint Thomas, and 25.5% (n = 49) from Xavier University (see Table 7). Colorado State University has two separate programs identified for this study. Each program is a different course of study. Colorado State University Organizational Performance and Change (CSU-OPC) are master's level students while Colorado State University Community College Leadership (CSU-CCL) are doctoral students in a blended program (part distance and part on campus learning). Almost 70% of the sample was women; 60% or more of the respondents at each university were women (see Table 8).

Table 7. Participants (n = 192) across Universities – Frequencies and Percentages

University	Frequency	%
CSU-CCL	15	7.8
CSU-OPC	86	44.8
Iowa State University	9	4.7
St. Thomas	33	17.2
Xavier	49	25.5
Total	192	100.0

Table 8. Gender of Participants by University – Frequencies and Percentages

University	Female		Male	
	Frequency	%	Frequency	%
CSU-CCL	9	60.0	6	40.0
CSU-OPC	55	64.0	31	36.0
Iowa State	8	88.9	1	11.1
St. Thomas	21	63.6	12	36.4
Xavier*	40	81.6	8	16.3
Total	133	69.3	58	30.2

*participant from Xavier did not respond to this question

The age ranges of participants were distributed from 18-30 years, 31-40 years, 41-50 years, to over 50. The respective percentages were 14.7, 27.7, 32.5, and 25.1 (see Table 9). Master's students (60.2%) were most frequently 41-50 years (32.5%) or 31-40 years (27.7%). Females in the age range of 41-50 had the highest number at 41 (31.1%) of any age and gender group. Most males were in age ranges 31-40 (37.9%) and 41-50 (36.2%).

Table 9. Age Range by University – Frequencies and Percentages

University	18-30		31-40		41-50		Over 50	
	F	%	F	%	F	%	F	%
CSU-CCL	0	0.0	5	33.3	5	33.3	5	33.3
CSU-OPC	12	14.0	34	39.5	31	36.0	9	10.5
Iowa State	1	11.1	3	33.3	3	33.3	2	22.2
St. Thomas	1	3.1	2	6.2	13	40.6	16	50.0
Xavier	14	28.6	9	18.4	10	20.4	16	32.7
Total	28	14.7	53	27.7	62	32.5	48	25/1

Educational Demographics

Master’s degree students accounted for 68.8% of the participants while 30.7% were earning doctoral degrees. This varied by university with CSU-CCL, Iowa State University, and the University of Saint Thomas being all doctoral students and CSU-OPC and Xavier University masters. One participant from Colorado State University did not respond to this question (see Table 10). Ninety-three percent of participants aged 18-30 were obtaining a master’s degree while 52.1% of participants over the age of 50 were obtaining a doctoral degree. Eighty-four percent of participants who were working toward a doctoral degree were aged 41 and over.

Table 10. Degree Level by University – Frequencies and Percentages

University	Doctoral Degree		Masters Degree	
	Frequency	%	Frequency	%
CSU-CCL	15	100.0	0	0.0
CSU-OPC	0	0.0	85	98.8
Iowa State	9	100.0	0	0.0
St. Thomas	33	100.0	0	0.0
Xavier	2	4.1	47	95.9
Total	59	30.7	132	68.8

The participants’ identified their area of study from among four given areas. These areas were Human Resources (38.5%), Organizational Development (36.5%), Education (22.9%), and Business (2.1%) (see Table 11). The most frequently identified areas of study were Human Resource Development (38.5%) and Organizational Development (36.5%). The University of Saint Thomas showed the highest percentage of Organizational Development at 93.9. Xavier University had the highest number of respondents in Human Resource Development (87.8%).

Areas of study will not be further analyzed because the responses were self-identified by participants. These areas do not consistently represent the programs of study

from the universities. The responses were student perceptions and not necessarily actual program designations.

Table 11. Area of Study by University – Frequencies and Percentages

University	Business		Education		Human Resource Development		Organizational Development	
	F	%	F	%	F	%	F	%
CSU-CCL	0	0.0	14	93.3	1	6.7	0	0.0
CSU-OPC	4	4.7	16	18.6	28	32.6	38	44.2
Iowa	0	0.0	8	88.9	1	11.1	0	0.0
St. Thomas	0	0.0	1	3.0	1	3.0	31	93.9
Xavier	0	0.0	5	10.2	43	87.8	1	2.0
Total	4	2.1	44	22.9	74	38.5	70	36.5

Learning Community Demographics

A majority of the sample had participated in one to two learning communities (75.9%) during the previous three years (see Table 12). Of the 192 participants, most (49.5%) had been a part of their learning community for one to two years, 23.4% had been a part of the learning community for less than one year, and 8.3% had been with the community from two to three years. Membership of longer than three years included 18.8% of the respondents (see Table 13). The pre-2000 group had the largest number of participants that had been part of a learning community for 1-2 years. These students would have completed their programs as most graduate programs at the master's level do not go beyond two years. The groups 2001-2003 and 2004-2006 had the largest number of respondents that had been with their current learning community for longer than 3 years (13 each, 36.1%).

Table 12. Number of Learning Communities Experienced – Frequencies and Percentages

University	1-2 Learning Communities		3 or More Learning Communities	
	F	%	F	%
CSU-CCL	14	93.3	1	6.7
CSU-OPC	62	72.1	24	27.9
Iowa State	5	55.6	4	44.4
St Thomas	29	87.9	4	12.1
Xavier*	35	72.9	13	27.1
Total	145	75.9	46	24.1

*Participant from Xavier did not respond to this question

Table 13. Length of Time in a Learning Community by University – Frequencies and Percentages

University	Less than 1 Year		1-2 Years		2-3 Years		More than 3 Years	
	F	%	F	%	F	%	F	%
CSU-CCL	3	20.0	2	13.3	0	0.0	10	66.7
CSU-OPC	24	27.9	52	60.5	9	10.5	1	1.2
Iowa	4	44.4	1	11.1	1	11.0	3	33.3
St. Thomas	0	0.0	11	33.3	4	12.1	18	14.5
Xavier	14	28.6	29	59.2	2	4.1	4	8.2
Total	45	23.4	95	49.5	16	8.3	36	18.8

The years participants were involved in the learning communities was also explored by looking at when they began. The study grouped some years together due to response distribution. The categories and percentages are 2000- prior (15.1%), 2001-2003 (14.6%), 2004-2006 (46.4%), and 2007 and later (24.0%). The categories and the relative frequency of participants are below (see Table 14). Most began in 2004-06 (46.4%) with 89 respondents.

Table 14. Year Began – Frequencies and Percentages

University	2000 or Prior		2001-2003		2004-2006		2007 or Later	
	F	%	F	%	F	%	F	%
CSU-CCL	0	0.0	6	40.0	7	46.7	2	13.3
CSU-OPC	9	10.5	9	10.5	43	50.0	25	29.1
Iowa	0	0.0	2	22.2	3	33.3	4	44.4
St. Thomas	8	24.2	5	15.2	20	60.6	0	0.0
Xavier	12	24.5	6	12.2	16	32.7	15	30.6
Total	29	15.1	28	14.6	89	46.4	46	24.0

Participants responded to a question asking for size of learning community. The largest percentage was 26.6% and involved groups of 21-25, 15.6% of participants identified learning communities of 1-10 members, 6.8% were members of communities of 11-15 members, 18.2% held membership in communities of 16-20, 10.9% were in groups of 26-30, and 21.9% had learning communities of over 31 members (see Table 15). The group 2004-2006 had the most participants (n = 18) stating they had over 31 people in their learning community. This same group had the largest number of members reporting 21-30 members (31 participants).

Table 15. Learning Community Size – Frequencies and Percentages

University	Members											
	1-10		11-15		16-20		21-25		26-30		Over 31	
	F	%	F	%	F	%	F	%	F	%	F	%
CSU-CCL	5	33.3	4	26.7	4	26.7	2	13.3	0	0.0	0	0.0
CSU-OPC	15	17.4	5	5.8	13	15.1	34	39.5	15	17.4	4	4.7
Iowa	3	33.3	3	33.3	1	11.1	0	0.0	1	11.1	1	11.1
St. Thomas	2	6.1	0	0.0	17	51.5	13	39.4	0	0.0	1	3.0
Xavier	5	10.2	1	2.0	0	0.0	2	4.1	5	10.2	36	73.5
Total	30	15.6	13	6.8	35	18.2	51	26.2	21	10.0	42	21.9

Profile Summary

Most of the participants (n = 192) were female (133, 69.3%). Sixty-two were between the ages of 41-50 (32.5%) and 48 were 51 and older (25.1%). Over two-thirds of the participants, 132 (68.8%), were obtaining their master's degree. Participants had been in 1-2 learning communities (75.9%) and in a learning community for 1-2 years (49.5%). The learning community sizes were dispersed, however, the most frequent two responses were 21-25 members (26.6%) or over 31 members (21.9%). Finally, 46.4% of the participants began their involvement in the learning community between the years 2004 and 2006.

Descriptive Analysis of Group Potency and Perceived Organizational Support

The first part of this section will describe the responses of the group potency scale. The second portion will examine the responses to the perceived organizational support scale.

Group Potency

Group potency is defined as the group's collective belief that it can succeed in any situation. The group potency instrument used in this study was created by Guzzo et al. (1993). It consisted of seven statements. Responses were given on a scale ranging from "To no extent" (1) to "To great extent" (5). See Appendix E for individual statement responses, frequencies, and percentages.

The mean score for the group potency scale was 3.94 (n = 192 respondents). This indicates that the respondents suggest that the group has potency "To some extent" which is the response 3.94 is closest to. The item with the highest average on the group potency scale was "This group knows that it can get a lot done when it works hard" (4.23).

Conversely, the lowest level of extent came from the responses to “This group expects to have a lot of influence” (3.66).

Skewness for the group potency scale was $-.711$ with a standard error of skewness of $.175$. This indicates a relatively normal distribution and allows the use of ANOVA to identify specific variance between groups (see Figure 1). If skewness is within the guideline of $+1.00$ through -1.00 then the data are considered to be approximately normal (Morgan, Leech, Gloeckner, & Barrett, 2004).

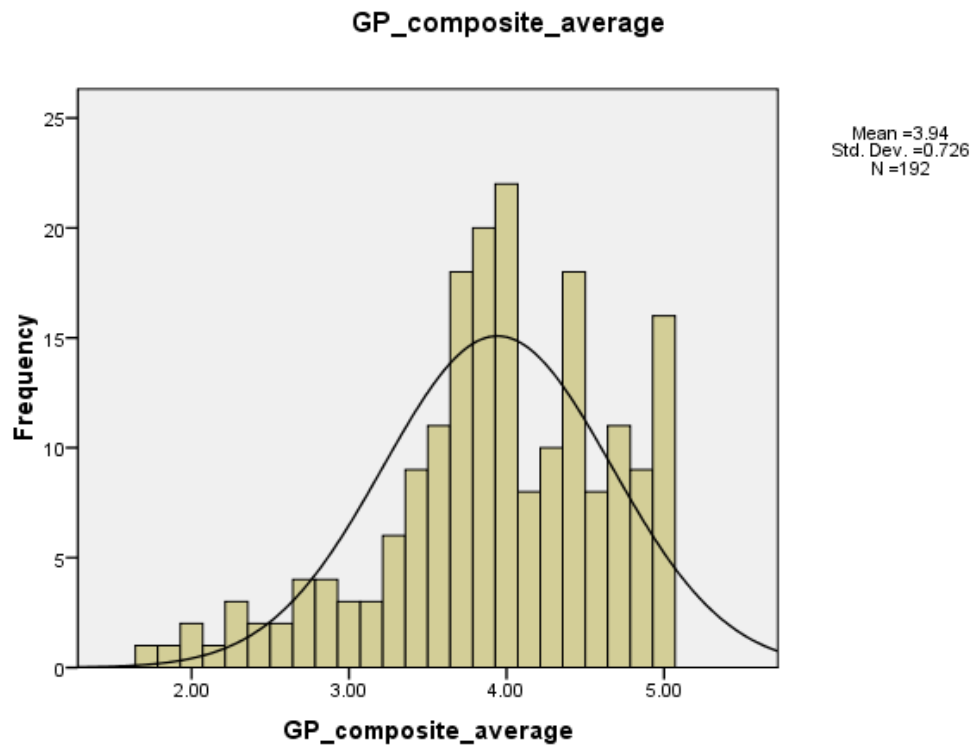


Figure 1: Skewness for Group Potency Composite

Perceived Organizational Support

Perceived organizational support is the perception of the individual that the organization, team, or group has a commitment to group members and supports the individual’s work (Gakovic, & Tetrick, 2003). The scale used for this study was

developed by Eisenberger (1986). It has eight statements with responses ranging from “Strongly disagree” (1) to “Strongly agree” (7). See Appendix E for individual item responses, frequencies, and relative percentages.

The mean score for the perceived organizational support response was 5.59 with a standard deviation of .951. This translates to a mean response of organizational support between “Slightly agree” and “Moderately agree”. The item with the highest average agreement on the perceived organizational support scale was, “The learning community values my contribution to its well being” (5.78, 1.34). The item with the most disagreement was “No one would notice if I did the best job possible in the learning community” (5.43). The responses to this item were adjusted to take into account the reverse phrasing. Skewness was identified at -.755 for the Organizational Support composite with a standard error of skewness of .175 (see Figure 2). As earlier, if skewness is within the guideline of +1.00 through -1.00 then the data are considered to be approximately normal (Morgan et al., 2004).

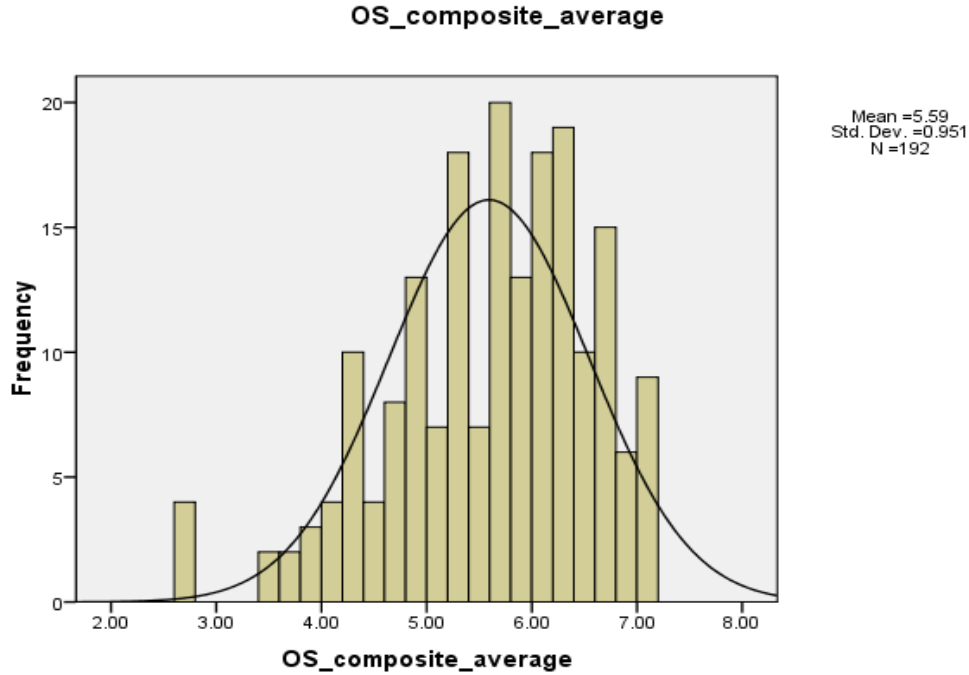


Figure 2: Skewness for Organizational Support Composite

Research Questions and Hypotheses

The problem statement is addressed by the following research questions:

1. What is the relationship between group potency and the participants' perception of organizational support? (analyze composite)
2. What is the relationship between group potency and the length of time the participants have been together? (group analysis)
3. What is the relationship between group potency and the size of the learning community? (group analysis)
4. What is the relationship between size of the learning community and the perception of organizational support? (group analysis)
1. What is the relationship between group potency and the participants' perception of organizational support? (individually analyze composite)

To test the first research question, individual composite scores of both group potency (GP) and perceived organizational support (OS) were determined. The individuals' scores for OS and GP were analyzed with a Pearson's Correlation to determine the relationship ($r = .589$, $p = .000$). This indicates a high positive correlation between group potency and perceived organizational support. In other words, as group potency increases so does perceived organizational support and as group potency decreases so does perceived organizational support. The first research question was supported with the Pearson r . There was a high correlation between the group potency scores and the organizational support scores. Effect size was medium ($r^2 = .347$) (Huck, 2004).

2. What is the relationship between group potency and the length of time the participants have been together? (group analysis)

Composite scores were obtained for group potency. Correlation was conducted. There was no significance between group potency and length of time in the learning community ($r = -.007$, $p = .929$). Additionally, an ANOVA was conducted to identify differences among groups (4). There was no significant differences by length of membership and group potency at $p < .05$ ($F = .258$, $p = .856$) (see Table 16).

Table 16. RQ2: Group potencies' means by length of time in the learning community

Time in Group	GP Score		
	n	M	s.d.
Less than 1 year	45	3.908	.556
1-2 years	95	3.979	.783
2-3 years	16	3.991	.656
More than 3 years	36	3.869	.798

This analysis question showed no significant relationship and therefore, the null hypothesis was supported. There is no relationship between group potency and length of time participants had been in a learning community.

3. What is the relationship between group potency and the size of the learning community? (group analysis)

Again, composite scores for group potency were calculated and used for the correlation and ANOVA. The correlation showed no significant relationship between group potency and group size (6 groups) ($r = .073$, $p = .311$). Additionally, using ANOVA there was no difference of group potency by the size of the learning community at the $p < .05$ level ($F = 1.225$, $p = .299$) (see Table 17).

Table 17. RQ3 and RQ4: Group Potency and Organizational Support by Learning Community Size

Group Size	GP Composite Score			OS Composite Score	
	n	M	s.d.	M	s.d
1-10	30	3.805	.812	5.471	1.037
11-15	13	3.648	.918	5.500	.872
16-20	35	3.984	.664	5.796	1.012
21-25	51	4.098	.698	5.618	.924
26-30	21	3.844	.713	5.571	.914
Over 30	42	3.959	.674	5.521	.938

There was no significant relationship between group potency and the size of the learning community. Additionally, there was no significant difference of GP scores by group size.

4. What is the relationship between size of the learning community and the perception of organizational support? (group analysis)

Finally, no significant relationship was found between the size of the learning community and the OS scores ($r = .010$, $p = .894$). This indicates that organizational support and size of the learning community are not related and may not increase or

decrease in similar ways. The ANOVA showed no significant difference between composite scores of Organizational Support and the size of learning community members at the $p < .05$ ($F = .495$, $p = .780$) (see Table 17). This final research question showed no significant relationship between perceived organizational support and group size. Both null hypotheses were supported by the Pearson correlation and the ANOVA.

Analysis of Data Comparisons

Additional analyses of data were conducted. ANOVAs were calculated with the dependent variables of group potency and organizational support. The ANOVAs that had significance at $p < .05$ were across universities and across years in CSU-OP. Item by item analysis by length of membership is also analyzed, but no significance was found.

Eta was used to determine effect size. Eta is the common effect size measure using ANOVA (Kennedy, 1970). The Fisher Least Significant Difference Post Hoc tests were used to identify where the significance occurred (separation test). This test was chosen to use the most lenient test to identify any separation or significance.

Universities/Programs

ANOVA showed significant differences among schools and programs by group potency and organizational support composite scores. There was significant difference in organizational support scores ($F = 2.695$, $p = .032$, $\text{Eta} = .233$). Group potency showed a similar findings ($F = 3.107$, $p = .017$, $\text{Eta} = .250$) (see Table 18). Both Etas show a medium effect size (Huck, 2004).

Table 18. Organizational Support and Group Potency across Programs

University	OS Composite Score		GP Composite Score	
	M	s.d.	M	s.d.
CSU-CCL	5.692	1.074	3.790	.648
CSU-OPC	5.554	.886	4.000	.739
Iowa State	4.958	.984	3.254	.844
St. Thomas	5.981	.932	4.134	.681
Xavier	5.487	.967	3.886	.668
Total	5.593	.951	3.943	.726
F	2.695		3.107	
p	.032		.017	
Eta	.233		.250	

LSD Post Hoc tests were run on the above ANOVA to determine where the difference occurs among programs. The significant difference among organizational support composite score across programs occurred between Iowa State and the other four groups (CSU has 2 groups) except Xavier. A difference also exists between Saint Thomas and every program other than CSU-CCL (see Table 19). Group potency has a similar difference with Iowa State. The significant difference between mean group potency score across programs exists between the Iowa and each of the four other programs (see Table 19).

Table 19. Post Hoc Comparison of Organizational Support across Programs

University Contrast	Mean Difference Error	s.d.	p-value
Organizational support LSD post hoc comparison of the significant difference (p = .032) across the 5 programs			
CCL mean minus CSU-OPC mean	.138	.262	.599
CCL mean minus Iowa mean	.733*	.394	.064
CCL mean minus St. Thomas mean	-.289	.291	.321
CCL mean minus Xavier mean	.204	.276	.460
CSU-OPC mean minus Iowa mean	.595*	.328	.071
CSU-OPC mean minus St. Thomas mean	-.427*	.191	.027
CSU-OPC mean minus Xavier mean	.067	.167	.691
Iowa mean minus St. Thomas mean	-1.023*	.352	.004
Iowa mean minus Xavier mean	-.529	.339	.120
St. Thomas mean minus Xavier mean	.494*	.211	.020
Group potency LSD post hoc comparison of the significant difference (p = .017) across the 5 programs			
CCL mean minus CSU-OPC mean	-.210	.199	.293
CCL mean minus Iowa mean	.537*	.075	.299
CCL mean minus St. Thomas mean	-.344	.221	.122
CCL mean minus Xavier	-.096	.210	.648
CSU-OPC mean minus Iowa mean	.746*	.249	.003
CSU-OPC mean minus St. Thomas mean	-.134	.145	.357
CSU-OPC mean minus Xavier mean	.114	.127	.372
Iowa mean minus St. Thomas mean	-.880*	.267	.001
Iowa mean minus Xavier mean	-.632*	.257	.015
St. Thomas mean minus Xavier mean	.248	.160	.123

By year composite scores for CSU-OPC beginning showed a significant difference on the group potency scores. There is a significant difference between mean GP scores by years for students at CSU-OPC with $F = 2.857$, $p = .042$, $\eta^2 = .308$ (see Table 20). Eta squared (.095) is considered a large effect size.

Table 20. Organizational Support and Group Potency across CSU OPC years

Year Began	n	OS Score		GP Score*	
		M	s.d.	M	s.d.
2000 or prior	9	5.22	.780	3.44	.870
2001-2003	9	5.40	1.000	3.95	1.086
2004-2006	43	5.70	.892	4.18	.663
2007 or later	25	5.47	.870	3.91	.580
Total	86	5.55	.886	4.00	.739
F		2.359		2.857	
p		.073		.042	
Eta				.308	

The significant difference among mean group potency composite score across years for CSU-OPC students (Table 21) exists between the earliest year, 2000, and the two most recent 2004-06 and 2007. The more recent years had a higher level of group potency than years prior to 2000 (see Table 21).

Table 21. Post Hoc Comparison across CSU-OPC Years

Year Contrast	Mean Difference Error	s.d.	p-value
Group potency LSD post hoc comparison of the significant difference ($p = .042$) across the 4 categories by year of students at CSU-OPC			
2000 and prior mean minus 2004-06 mean	-.735*	.262	.099
2000 and prior mean minus 2007 mean	-.464*	.278	.006
2000 and prior mean minus 2001-03 mean	-.508	.337	.136
2001-03 mean minus 2004-06 mean	-.227	.262	.210
2001-03 mean minus 2007 mean	.044	.278	.210
2004-06 mean minus 2007 mean	.271	.180	.570

Gender

ANOVA was conducted between organizational support composite scores and group potency scores by gender. There was no significant difference between scores on either scale. Given the responses, it appears that both genders perceive group potency and organizational support similarly (see Table 22).

Table 22. Organizational Support and Group Potency Scores by Gender of Participant

Gender	OS Score		GP Score	
	M	s.d.	M	s.d.
Female	5.56	.989	3.90	.735
Male	5.67	.869	4.03	.696
F	.607		1.409	
P	.437		.237	

Group Potency and Organizational Support Item Analyses

ANOVAs were conducted among each of the items (7) on the GP scale and on each of the items (8) on the OS scale by length of time in learning community. The participants self-identified the length of time they have been with the current group. No significant difference was identified using ANOVA. Time does not appear to alter either GP or OS scales. This finding does indicate that the items in the scale are consistent and reliable. Also, note that the standard deviations for OS are larger in the group > 3 years (see Tables 23 and 24).

Table 23. Differences in Responses by GP Items and Years Part of Learning Community

Group Potency Items	< 1 year	1-2 years	2-3 years	> 3 years	All years
	M s.d.	M s.d.	M s.d.	M s.d.	M s.d.
This group ...					
has confidence in itself	3.80 .786	4.11 .905	3.81 .911	3.92 .770	3.97 .828
knows it can produce unusually good, high quality work	4.00 .739	4.05 .880	4.00 .730	3.89 .854	4.01 .867
knows it can be very productive	4.13 .757	4.12 .886	4.06 .772	3.97 1.000	4.09 .880
knows it can solve any problem it encounters	3.82 .716	3.88 .909	4.00 .516	3.67 1.095	3.84 .759
knows that it can get a lot done when it works hard	4.13 .548	4.25 .838	4.38 .619	4.22 .832	4.23 .917
knows that not task is too tough for the group	3.84 .638	3.83 .964	3.75 .931	3.69 1.091	3.80 .952
expects to have a lot of influence	3.62 .747	3.61 1.024	3.94 .854	3.72 1.031	3.66 .859

Table 24. Differences in Responses by OS Items and Years Part of Learning Community

	< 1 year	1-2 years	2-3 years	> 3 years	All years
Organizational Support Items	M	M	M	M	M
	s.d.	s.d.	s.d.	s.d.	s.d.
The learning community... values my contribution to its well being	5.80 1.290	5.87 1.282	5.75 .931	5.61 1.712	5.80 1.545
fails to appreciate extra effort from me	5.36 1.510	5.61 1.409	4.87 1.500	4.92 1.842	5.36 1.483
would ignore a complaint from me	5.33 1.552	5.57 1.463	5.63 1.025	5.42 1.645	5.49 1.383
really cares about my well being	5.51 1.456	5.83 1.145	5.62 1.258	5.39 1.840	5.66 1.560
No one would notice if I did the best job possible	5.24 1.640	5.47 1.610	5.75 1.000	5.39 1.554	5.43 1.253
cares about my general satisfaction	5.62 1.211	5.45 1.253	5.25 1.000	5.50 1.424	5.48 1.351
shows little concern for me	5.64 1.384	5.94 1.147	5.88 1.088	5.42 1.811	5.77 1.254
takes pride in my accomplishments with them	5.91 .821	5.73 1.402	5.62 .957	5.75 1.422	5.77 1.344

Summary

There was a significant relationship between group potency and organizational support (RQ1). No significant relationship was found with group potency and group size, group potency and length of membership, and organizational support and group size (RQ2, 3, 4). Additionally, ANOVAs on the research questions showed no significant differences. Additional analyses conducted showed significant difference between years,

programs and within the CSU-OPC program. There was no significant difference between genders. Finally, there were no significant differences between individual items on the GP and OS scales with years part of the learning community. The implications of these findings are discussed in the next chapter.

CHAPTER 5: SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

Organizations are moving toward a team based work structure (Sivasubramaniam et al., 2002). Understanding how to create teams/groups that are high functioning can help an organization increase performance. Group potency has been found to be positively related to group performance (Campion et al., 1997; Lester et al., 2002; Sivasubramaniam et al., 2002). Therefore, increasing a group's potency can increase their output.

Learning communities are a group of students who have been placed together with the assumed common goal of learning. Typically, these are assigned by the administration. The individuals within the learning communities come together in a combination of three ways: the focus of the group is on intentional learning and to complete the required assignments, membership of the group is based on enrollment, and finally, the learning community shares resources under the instruction of a facilitator (Wilson et al., 2004). Learning community members within a formal program course of study find four situations: participation is required, they do not choose their classmates or instructors, they must commit to a fixed length of time, and they must make an explicit effort to connect with others (Wilson et al., 2004).

The purpose of this research was to explore selected antecedents associated with group potency. More specifically, the purpose was to explore how group potency is influenced by perceived organizational support, group size, and length of time of membership in a learning community. Research has demonstrated that there are many

contradictions with respect to group size (Grofman, Feld, & Owen, 1984; Hackman. & Vidmar, 1970; Kameda et al., 1992) and how it impacts performance of a group or learning community. However, research has failed to consistently establish how graduate school learning communities' levels of potency are related to organizational support, group size, and length of time of membership. This research investigated these relationships.

The study's focus was on the antecedents of group potency in graduate school learning communities. Gatekeepers were identified from each of the universities. Emails were sent to either the gatekeepers or directly to the students. Three of the universities forwarded the email request to graduate students to protect the participants' anonymity. SurveyMonkey was used to send the questionnaires and collect the responses for the instrument. A reminder email was sent within one week of the initial request. Data collection ended two weeks from the initial email. There were 192 participants from four universities. Thirty-five of the respondents made a comment about the survey. Most responses in this section either wished me good luck, asked for a copy of the findings, or clarified one of their responses from the survey. There were a few participants who wrote about working with "slackers" in a group. Regarding the learning community model, one participant wrote, "I started another doctorate program that was not a cohort mode and this is working much better for me".

Findings

Four research questions supportive of the purpose the study were addressed. The research questions and the findings are presented here.

RQ1: What is the relationship between group potency and the participants' perception of organizational support? This study discovered positive correlation ($r = .589$, $p < .001$) between group potency and perceived organizational support. Participants who responded with high levels of group potency tended to respond similarly with organizational support. One study researched how team leadership and group potency influence group performance (Sivasubramaniam et al., 2002) and showed collaboration occurs among members of the group and between the group and the leader. Collective thought by members and leaders can help to improve levels of potency. This collective perception can only occur when support is perceived. Interteam support is the perception that team members value each individual team member. For this research, interteam support is an aspect of organizational support.

RQ2: What is the relationship between group potency and the length of time the participants have been together? Pearson's r and ANOVA were run to determine correlations and differences by learning community length of time by group potency scores. There were no significant correlations or differences between participants' length of time in the learning community and their perception of group potency. This finding is in contradiction to some literature. For example, Gersick (1988) posits that time is important in group research due to a group's dynamic changes. This study showed no relationship between time and group potency. While other variables such as trust or communication could be influenced, potency was not one of them. Sayles (1958) found that high performing teams and beliefs about the teams transcends time and group membership.

RQ3: What is the relationship between group potency and the size of the learning community? The study showed that there was no significant difference ($p < .10$) by their identified group size and participants' perceptions of group potency. Group size has been researched for benefits to outputs and group dynamics (Grofman et al., 1984; Hackman, & Vidmar, 1970; Kameda et al., 1992). This study demonstrated that size of group as identified by the participants does not influence levels of potency in graduate school learning communities. Amason and Sapienza (1997) showed that team size has an influence on conflicts in the team. They found that in top management teams, team size and openness were directly related to conflict in decision making. It would be reasonable that the greater the conflict the less group potency would exist.

RQ4: What is the relationship between size of the learning community and the perception of organizational support? Similar to the findings on group potency, there was no significant relationship between levels of organizational support and size of the learning community. Initially, it was thought that size of the group would have an influence on the perception of organizational support. Amason and Sapienza (1997) showed that team size has an effect on conflict of the team. As a group with high conflict would be less likely to perceive that an organization supports them.

Additional ANOVAs were calculated using the composite scores from the group potency and organizational support scales. There was significant difference between the program at Iowa State and all other programs on the organizational support scale except for Xavier. Additionally, Iowa State University's program showed a significant difference between all the other programs on the group potency scale score. This significant difference could have occurred because of the sample size from Iowa State (n

= 9) and that they had been in their group for varying lengths of time. The University of Saint Thomas showed a significant difference between all other university programs except CSU-CCL. Regarding the CSU-OPC program, group potency was greater after a leadership change occurred with the faculty of the program. The leadership change occurred in 2001. The pre-2000 group showed a mean GP score of 3.44. After the leadership change, the 2001-2003 (3.95), 2004-2006 (4.18), and 2007 (3.91) showed higher mean GP scores than the pre-2000.

ANOVAs were conducted to determine if CSU-OPC program's 4 groups by years when the learning communities were formed influenced group potency and organizational support. Significant differences were identified between pre-2000 learning communities and more recent ones. This leadership change could have influence upon the level of group potency of the learning communities.

Conclusions

According to the findings of this study, group potency and organizational support were linked. There was a high positive correlation of these two variables. Surprisingly, there was no significant difference between how long people were in a group and the perceived level of group potency. Also, there are no significant findings that demonstrate that size of group has a relationship to potency or perceived organizational support. While disappointing, these findings shed light upon the focus a manager or leader can take to obtain a high performing group with high group potency. Traditional beliefs of ideal group size and how long a team should remain together are not supported by this research. By nature of graduate programs being two to three years, the groups in this study did not remain in groups beyond that time. Sayles (1958) posited that group

potency occurs immediately when a group is formed. This was supported by this study. This study demonstrated that size of learning community did not influence group potency.

What does this mean to the practicing educator or manager? Creating a culture where employees or students feel that the organization and team support them can help to increase group potency. Because group potency has been proven to be positively correlated with group performance (Campion et al., 1997; Gibson, 1999), focusing on potency's antecedents can help group output. In academe, this output can be measured in grades, decreased attrition, and success in knowledge areas exams such as passing the bar or passing a state licensing exam.

Finding no significance with the second, third, and fourth research questions is very enlightening. Beginning with research question 2 about the relationship of group size and group potency, a plethora of literature suggests the "correct" size of the groups. This study wanted to discover whether group size has an influence on group potency. It seems to be the assumption that the smaller the class or team size, the higher the likelihood of group potency. This conclusion, however, is not supported. Group size did not indicate differences in group potency scores. How can we apply this in higher education, for-profit organizations, non-profit organizations, and other situations that utilize teams or groups as a basic work unit? Understanding that group size does not influence collective belief in success can help the leader focus on other variables which are in the leader's control or attention to responses to questions from the GP or OS questionnaire. As discovered in research question 1, focusing on perceived organizational

support would be far more productive than concentrating on obtaining just the “right” group size.

There are also situations where learning communities form subgroups within the larger group. These subgroups can function independently from the rest of the learning community. For example, a business unit might have smaller teams focusing on different topics. For this study, each participant was asked to self-identify the size of their learning community. This allowed each participant to share the size of the group they believe they are a member of, which ranged from 10 or less (15.6%) to 31 or more (21.9%). The third research question asked if there is a relationship between length of time in the learning community and group potency. The research question was attempting to understand if there is an ideal time that teams of learning communities should be together thereby optimizing group potency. Is a shorter intense master’s degree more optimal than a longer Ph.D. program? While all participants had not completed their program, many had. As a manager, is it better to create teams which are together for shorter periods of time? Longer? The answer, at least in relation to levels of group potency, is that these variables did not have a relationship at a significant level. There does not appear to be a length of time for group membership that influences group potency. Group potency seems to transcend time of membership (Sayles, 1958). It should be noted that this study did not capture data in increments beyond three years as most graduate programs do not go beyond this amount of time, especially for group work. However, Wheelan (1990) did discuss the incremental stages of group development. Wheelan (1990) posited that there are four stages of group development. The stages are dependency/inclusion, counterdependency/flight, trust/structure, and work/productivity. Time in and progress

through the stages are group dependent. As time passes, group dynamics change. This could influence levels of group potency.

Finally, the fourth research question attempted to answer if group size is related to the perception of organizational support. My assumption was that the bigger the group, the less likely the individual would feel supported. This was not supported in this study. There was no relationship between group size and the perception of organizational support. Additionally, there was no difference in levels of perceived organizational support and group size. Therefore, higher education professionals can focus on other possible antecedents for increasing graduate school group perceptions of success which might be outside of education. Group size does not appear to relate directly to the perception support. Rather, size of the team had no influence on the POS.

Within one university's program, ANOVAs showed that even within universities, there was a significant difference in potency and organizational support over time based on the years the learning communities started. Specifically, in recent learning communities (post 2003) CSU-OPC group potency was higher while earlier learning communities (pre-2000) were significantly lower. The study grouped some years together due to response distribution. The CSU-OPC program has a learning community start each year. As a backdrop, CSU-OPC saw a faculty leadership change in 2001. There is a possibility that some of the changes occurred because of a leadership change. To discover if this is the case, I would pose the question, how does leadership influence group potency levels? (See areas for future study.) Implications from this research may be that leadership can influence group potency levels. Also, as new learning communities are formed, group potency is not transferred from one learning community to the next.

Therefore, each learning community must receive organizational support and attention to help develop its own potency. Developing potency is not a one-time issue. Rather, it must be cultivated for each learning community. Some other factors to consider that influenced the responses to the survey could be that some of the participants have finished their degree and therefore are responding to past experiences instead of describing or responding to current issues. Some of the participants could have been in the groups for too short a time to have formed a complete opinion or lasting perception about the support or potency of the group. Additionally, most of the participants were employed full-time. There could be a difference between the work groups they participate in and the graduate school learning community with the former being most relevant when they responded. Finally, with fully employed students, there is a possibility of competing priorities between graduate school and work priorities. These competing priorities can limit the amount of influence the learning community had on the participant.

Also, the different programs had different requirements for interactions between students. There were various modes of institution delivery that caused interactions such as once a month classes, two times per year meetings, every week classes, and blended classes (which include online and face to face). The amount of time a group meets or interacts and the method of interaction (online, face to face, blended) could have an effect on the perceptions of potency and organizational support.

Limitations

Participant selection was based on membership in graduate school programs and the same questionnaire using the same delivery method (SurveyMonkey) was used. However, due to access issues, some participants received an email from SurveyMonkey,

while others were forwarded an email from their university. Yet, others had the letter and link posted to their electronic classroom. Due to varied deliveries, calculating response rate was not possible. Additionally, it did not allow me to find out the number of emails sent to valid email addresses and the number of responses. These limitations are relevant as the reader uses the findings in application.

The participants of this study were graduate students in education related fields involved in learning communities. Many of the participants held full-time employment while members of learning communities and were of non-traditional ages. The experience of the members from this group may be different from graduate students who are in their early to mid-20s and attending graduate school without full-time employment.

Allowing for individual responses to a questionnaire gives voice to each participant within the group. However, variable control was limited. The study did not control for individual characteristics of group members in all instances. The participants completed the questionnaires in various settings. Most of the participants were employed full-time and therefore could have competing priorities and very different experiences outside of the graduate school learning community.

Another limitation of this study is the fact that while all of the sample were graduate students, identifying specific learning communities became difficult by year of start. Designing future research in this area would also need to allow for clearer identity of specific learning communities at the same university. This study attempted to use the year the learning community began to identify individual learning communities. However, this could become problematic if two learning communities started in the same year and/or if they are masters or Ph.D. Also, interpretation of the data was difficult

because of the above stated reasons. Some learning communities or programs had extremely small amounts of responses as shown in Iowa State's participants.

Group potency has been shown to be correlated with production. Much of the research on group potency has been used to rate work or sports teams. However, there has been research using graduate students as participants and the findings have been consistent, as indicated by Gibson's study (1999) of students who were also full-time employees. Also, there are other issues related to high group potency which might not be considered beneficial. Group think is one of those issues (Mason, 2006). When groups work together for periods of time, group think can occur and this is not always considered a positive outcome. Group think can decrease creativity or creative problem solving because there is less dialogue and discussion. Group members could focus more on concurrence than good decisions (Hensley & Griffin, 1986).

Future Research

Continued research in this area is important to the fields of education and organizational studies. Higher education is moving toward more learning community models. This is because there is considerable literature which supports how connectedness enhances learning (Baldwin, Bedell, & Johnson, 1997; Chaddock, & Saltiel, 2003; Teitel, 1997) and ensures engagement. Interaction within learning communities has been determined to increase a learning community's performance outcomes (Baldwin et al., 1997). In fact, one of the main reasons for the existence of learning communities is the peer support offered through long term relationships developed during the experience (Teitel, 1997). But, what truly makes a learning community? These questions should be answered in future research. By creating well

functioning groups in higher education, it increases the efficiency and effectiveness of the group. Other organizations are similar. Fortune 500 companies utilize teams of various types in the work environment (Sivasubramaniam et al., 2002). Understanding and managing functioning teams has benefits throughout both education and other work units.

Further study is recommended on group potency and its antecedents. Initially, attempting to control levels of OS and measuring the resulting levels of GP is one area for future research and relates directly to research question 1. Research questions 2, 3, and 4 showed no significance differences or relationships. Therefore, according to this research, group size and duration of membership by themselves do not influence a group's potency. One particular study perspective is to analyze data using multiple variables and identifying interactions among these variables and group potency.

Identifying moderating variables that influence the relationship between group potency and organizational support, group size, and duration of group membership is an area for future analyses. Additionally, a group's perceived organizational support was not influenced by group size. Therefore, future research is suggested in discovering what antecedents influence perceived organizational support and group potency within graduate school learning communities. Some suggestions on influencing variables are leadership, communication, homogeneity or heterogeneity of the group, and culture. Leadership could have a relationship with scores on the group potency scale.

Communication, such as openness in communication or access to communicate with others, might be associated with potency levels. Group issues such as how similar or different a group is, heterogeneous or homogeneous, might affect potency. Lastly,

organizational culture could influence levels of group potency by creating an environment that encourages beliefs of success.

This study focused on quantifying responses to questionnaires. Further research in the subject by conducting interviews, observations, or other qualitative strategies are possible next steps to this topic. Identifying what the participants find to be highly influential in their belief in group success could help to identify possible antecedents. Additionally, interviews can help the field determine why the participants perceived group potency.

Longitudinal research should be undertaken in this area. Identifying a group and following the group's potency, perceptions of support, and other variables could illuminate what key factors exist in creating a group with high potency. This longitudinal research could be similar to Sayles (1958) in following a work group throughout membership and leadership changes. Finally, additional research should include group structure, developmental stages, and leadership within the group as an antecedent to group potency. Comparing individual group potency scores with the group's collective assessment is another area that could be important in future research.

Summary

Group potency has been shown to increase performance. More and more companies are turning to groups as the basic work unit (Sivasubramaniam et al., 2002). Understanding how teams function and what antecedents influence group potency and team performance are becoming increasingly important. Higher education is moving toward learning community models in many graduate degree programs (Teitel, 1997). Therefore, understanding how to design learning communities and help learning

communities succeed becomes important. The same is true of teams in every setting. Learning how to lead or provide the best possibility of success is the goal. Learning communities in higher education have similar goals of learning. Individuals have similar reasons for pursuing a graduate degree. This homogeneity could have influenced cohesion.

Groups or learning communities are similar to a football team with similar goals and reasons to play football. A football team has a coach and an entire support system that focuses on improving players' performance. Graduate school learning communities are similar. There is a professor or facilitator and other support personnel whose functions are to improve the members of the learning community. Finally, the NFL has the draft. Potential players hope they are accepted by a professional NFL team. This is similar to graduate students applying to a graduate program and hoping they are "drafted". Tom Landry had it right with regards to creating confidence. It is this confidence or belief in success (group potency) that can ensure success. Tom Landry (n.d.) said, "If you are prepared, you will be confident, and will do the job." Notice, it is the confidence that is the precursor of success or "doing the job".

REFERENCES

- Amason, A., & Sapienza, H. (1997). The effects of top management team size and interaction norms on cognitive and affective conflict. *Journal of Management*, 21(4), 495-516.
- Baldwin, T., Bedell, M., & Johnson, J. (1997). The social fabric of a team-based M.B.A. program: Network effects on student satisfaction and performance. *Academy of Management Journal*, 40(6), 1369-1397.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147.
- Bartel, C. A., & Saavedra, R. (2000). The collective construction of work group moods. *Administrative Science Quarterly*, 45(2), 197-231.
- Bennis, W., & Shepard, H. (1956). A theory of group development. *Human Relations*, 9(1), 415-437.
- Blau, P. (1964). *Exchange and power in social life*: New York: Wiley.
- Butt, R. (1999). Towards the learning community: Working through barriers between teacher development and evaluation. In J. Retallick, B. Cocklin, & K. Coombe (Eds.) *Learning communities in education: Issues, strategies and contexts* (pp. 60-85). London: Routledge.
- Campion, M., Medsker, G., & Higgs, A. (1993). Relationships between work group characteristics and effectiveness: Implications for designing effective work teams. *Personnel Psychology*, 46, 823-850.
- Campion, M. A., Medsker, G. J., Higgs, A. C., Russ-Eft, D. F., Preskill, H. S., & Slezzer, C. (1997). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. In *Human resource development review: Research and implications*. (pp. 147-178). Thousand Oaks, CA: Sage Publications, Inc.
- Chaddock, K., & Saltiel, I. (2003, November). *The communal side of learning: A meta-analysis for development of an integrative model*. Paper presented at the Association for the Study of Higher Education, Portland, OR.

- De Jong, A., De Ruyter, K., & Wetzels, M. (2005). Antecedents and consequences of group potency: A study of self-managing service teams. *Management Science*, *51*(11), 1610-1625.
- Dillman, D., Tortora, R., & Bowker, D. (1999). Principles for constructing web-surveys. Unpublished manuscript. Pullman: Washington State University.
- Early, P. (1993). East meets West meets Mid-East: Further explorations of collectivistic and individualistic work groups. *Academy of Management Journal*, *36*(2), 319-348.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350-383.
- Eisenberger, R. R. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*(3), 500-507.
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P., & Rhoades, L., (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, *86*(1), 42-51.
- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *The Academy of Management Review*, *10*(4), 803-813.
- Gakovic, A., & Tetrick, L. (2003). Perceived organizational support and work status: A comparison of the employment relationships of part-time and full-time employees attending university classes. *Journal of Organizational Behavior*, *24*, 649-666.
- Gersick, C. (1988). Time and transition in work teams: Toward a new model of group development. *Academy of Management Journal*, *31*, 9-41.
- Gibson, C. B. (1999). Do they do what they believe they can? Group efficacy and group effectiveness across tasks and cultures. *The Academy of Management Journal*, *42*(2), 138-152.
- Gil, F., Rico, R. N., Alcover, C. M., & Barrasa, Ñ. N. (2005). Change-oriented leadership, satisfaction and performance in work groups: Effects of team climate and group potency. *Journal of Managerial Psychology*, *20*(3/4), 312-328.
- Grofman, B., Feld, S. L., & Owen, G. (1984). Group size and the performance of a composite group majority: Statistical truths and empirical results. *Organizational Behavior & Human Performance*, *33*(3), 350-359.
- Guzzo, R., Campbell, R., Moses, J., Ritchie, R., Schneider, B., Shaff, K., Wheeler, J., & Gustafson, P. (1991). What makes high performing teams effective? Unpublished manuscript. College Park: University of Maryland.

- Guzzo, R., Yost, P., Campbell, R., & Shea, G. (1993). Potency in groups: Articulating a construct. *British Journal of Social Psychology*, 32(1), 87-106.
- Hackman, J. R., & Vidmar, N. (1970). Effects of size and task type on group performance and member reactions. *Sociometry*, 33(1), 37-54.
- Heerwegh, D. (2005). Effects of personal salutations in e-mail invitations to participate in a web survey. *Public Opinion Quarterly*, 69(4), 588-598.
- Hensley, T., & Griffin, G. (1986). Victims of group think. *Journal of Conflict Resolution*, 30(3), 497-531.
- Howell, J. M., & Shea, C. M. (2006). Effects of champion behavior, team potency, and external communication activities on predicting team performance. *Group Organization Management*, 31(2), 180-211.
- Huck, S. (2004). *Reading statistics and research* (4th ed.). New York: Pearson Education Inc.
- Jong, A, Ruyter, K., & Wetzels, M. (2006). Linking employee confidence to performance: A study of self-managing service teams. *Journal of the Academy of Marketing Science*, 34(4), 576-587.
- Jung, C. G. (1990). *The archetypes and the collective unconscious* (R. F. C. Hull, Trans., 2nd ed. Vol. 9). New York: Princeton University Press.
- Jung, D.I., & Sosik, J.J. (2003). Group potency and collective efficacy: Examining their predictive validity, level of analysis and effects of performance feedback on future group performance. *Group & Organization Management*, 28(3), 366-391.
- Kameda, T., Stasson, M. F., Davis, J. H., Parks, C. D., & Zimmerman, S. K. (1992). Social dilemmas, subgroups, and motivation loss in task-oriented groups: In search of an "optimal" team size in division of work. *Social Psychology Quarterly*, 55(1), 47-56.
- Kennedy, J. (1970). The eta coefficient in ANOVA designs. *Education and Psychological Measurement*, 30, 885-889.
- Keselman, H. & Rogan, J. (1978). A comparison of the Modified-Tukey and Scheffe methods of multiple comparisons for pairwise contrasts. *Journal of the American Statistical Association*, 73(361), 47-52.
- Kiesler, S., & Sproull, L. (1986). Response effects in electronic survey. *The Public Opinion Quarterly*, 50(3), 402-413.

- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *The Academy of Management Journal*, 42(1), 58-74.
- Klein, K., Conn, A., Smith, D., & Sorra, J. (2001). Is everyone in agreement? An exploration of within-group agreement in employee perceptions of the work environment. *Journal of Applied Psychology*, 86, 3-16.
- Kolodny, H. F. (1979). Evolution to a matrix organization. *The Academy of Management Review*, 4(4), 543-553.
- Landry, T. (n.d.). Retrieved May 2, 2007, from <http://www.whatquote.com/quotes/Tom-Landry/38160-I-don-t-believe-in-t.htm>.
- Lee, C., Tinsley, C., & Bobko, P. (2002). An investigation of the antecedents and consequences of group-level confidence. *Journal of Applied Social Psychology*, 32(8), 1628-1652.
- Lester, S. W., Meglino, B. M., & Korsgaard, M. A. (2002). The antecedents and consequences of group potency: A longitudinal investigation of newly formed work groups. *Academy of Management Journal*, 45(2), 352-368.
- Levinson, S. (1965). The relationship between man and organization. *Administrative Science Quarterly*, 9, 370-390.
- Liden, R., Erdogan, B., Wayne, S., & Sparrowe, R. (2006). Leader-member exchange, differentiation, and task interdependence: Implications for individual and group performance. *Journal of Organizational Behavior*, 27(6), 723-746.
- Lisk, A., (1998). Cohort group effectiveness and student outcomes. Doctoral dissertation Temple University, Philadelphia, PA.
- Lynch, P., Eisenberger, R., & Armeli, S. (1999). Perceived organizational support: Inferior versus superior performance by wary employees. *Journal of Applied Psychology*, 84(4), 467-483.
- Mason, C. (2006). Exploring the processes underlying within-group homogeneity. *Small Group Research*, 37(3), 233-270.
- Mierlo, H. V., Vermunt, J. K., & Rutte, C. G. (2008) Composing group-level constructs from individual-level survey data. *Organizational Research Methods*. Retrieved: May 6, 2008 from doi: 10.1177/1094428107309322
- Morgan, G., Leech, N., Gloeckner, G., & Barrett, K., (2004). *SPSS for introductory statistics: Use and interpretation* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

- National Center for Education Research (n.d.). Participation in education. Retrieved September 25, 2007 from <http://nces.ed.gov/programs/coe/2007/section1/indicator09.asp>
- Retallick, J. (1999). Transforming schools into learning communities. In J. Retallick, B. Cocklin, & K. Coombe (Eds.) *Learning communities in education: Issues, strategies and contexts* (pp. 107-130). London: Routledge.
- Rhoades, L. & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87*(4), 698-714.
- Rousseau, D. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal, 2*, 121-139.
- Rousseau, D. (1995). *Psychological contracts in organizations; Understanding written and unwritten agreements*. Thousands Oaks, CA: Sage.
- Sayles, L. R. (1958). *The behaviour of industrial work groups*. New York: Wiley.
- Sharp, L. M. (1966). Graduate study and its relation to careers: The experience of a recent cohort of college graduates. *The Journal of Human Resources, 1*(2), 41-58.
- Shea, G., & Guzzo, R. (1987). Groups as human resources. *Research in Personnel and Human Resource Management, 5*, 323-356.
- Sikes, W., Schlesinger, L., & Seashore, C. (1973). Developing change agent teams on campus. *The Journal of Higher Education, 44*(5), 399-413.
- Sivasubramaniam, N., Murry, W. D., Avolio, B. J., & Jung, D. I. (2002). A longitudinal model of the effects of team leadership and group potency on group performance. *Group & Organization Management, 27*(1), 66-97.
- Sternberg, R. (Ed.). (1999). *The nature of cognition*. Cambridge, MA: MIT Press.
- Teitel, L. (1997). Understanding and harnessing the power of the cohort model in preparing educational leaders. *Peabody Journal of Education, 72*(2), 66-85.
- Van den Bossche, P., Segers, M., & Kirschner, P. (2006). Social and cognitive factors driving teamwork in collaborative learning environments: Team learning beliefs and behaviors. *Small Group Research, 37*(5), 490-521
- Vanderlinden, G. (2005). *Confident, motivated, successful workgroups: Understanding the antecedents and outcomes of group potency*. Doctoral dissertation, University of Illinois at Chicago.

Wallace, G. (2005). *Stages of development in adult degree cohorts: The relationship between group effectiveness and learning outcomes*. Doctoral dissertation, Walden University, Minneapolis, MN.

Wayne, S., Shore, L., & Liden, R. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40(1), 82-111.

Wheelan, S. A. (1990). *Facilitating training groups: A guide to leadership and verbal intervention skills*. New York: Praeger

Wilson, B. G., Ludwig-Hardman, S., Thornam, C. L., & Dunlap, J. C. (2004). Bounded community: Designing and facilitating learning communities in formal courses. *International Review of Research in Open and Distance Learning*, 5(3), 1-22.

APPENDIXES

Appendix A:
Human Subjects Committee Approval

Your project, Group Potency in Graduate Learning Communities: Organizational Support, Group Size and Duration of Membership, has been approved as of December 18, 2007 with the condition that the approved cover letter is used. The IRB ID # is 07-327H. Approval is for a maximum of 250 participants.

Sorry for the delay in your review, December has been overwhelming with new protocols. This was a well-written protocol; it is rare that the reviewers don't ask for any changes.

The approval is being processed and will be sent in the next several days.

Have a nice break.

Janell

**THE HRC IS NOW KNOWN AS THE IRB
(INSTITUTIONAL REVIEW BOARD)**

Janell Barker
IRB Administrator
Research Integrity & Compliance Review Office
321 General Services Building
Colorado State University
Fort Collins, CO 80523-2011
Janell.Barker@Research.Colostate.edu
970-491-1655
FAX: 970-491-2293
<http://ricro.research.colostate.edu>

Appendix B:
Letter of Introduction



Hello!

I would like to ask for your assistance with my dissertation. As you have been a part of a graduate cohort/learning community or are currently a part of a graduate cohort/learning community, your experience and opinion are valuable and important to this research.

By late November, you will receive an e-mail with a request to complete an electronic survey. The subject line will read: *Group Potency Survey*. It should take no longer than 5-8 minutes to complete.

The purpose of the research is to determine how a cohort's shared belief in success can be influenced by organizational support, the size of the cohort, and how long members have been part of the cohort. All responses will be completely anonymous and no record of name or identifying information will be captured.

Your opinion is important. If you are willing to voluntarily participate, please complete the sign-up sheet with your name and preferred e-mail address to ensure timely contact.

If you have any questions about the survey or the research, please feel free to contact me at the e-mail address below.

Thanks in advance for the assistance with my dissertation.

Best wishes,

Paul M. Shelton
Doctoral Student
Paul.Shelton@ColoState.edu

Carole Makela, Ph.D.
Professor
makela@cahs.colostate.edu

Appendix C:
Questionnaire

Welcome [Exit this survey >>](#)

	20%
--	-----

Thank you for participating in this survey on learning communities. You have been selected to participate because you are either in a graduate school learning community or you were in a graduate school learning community. For the purposes of this survey, please answer the questions as they relate to your most recent graduate school learning community experience.

A learning community is a group of people who have come together to pursue a graduate degree. In some instances these communities are called cohorts.

The survey is short and should not take longer than 10 minutes to complete. Your identity will remain anonymous. The survey contains three sections. The first section asks questions about the organizational support you experienced as part of the learning community. The second section focuses on how you feel other members of the learning community felt about the group. Lastly, the third section is questions about you. You will need to respond to each question before you can move to the next screen.

If you would prefer not to respond to this survey electronically, please feel free to print out the survey and send it to: Colorado State University, School of Education; Care of: Paul Shelton, MBA, Fort Collins, CO 80523-1588, fax (970) 491-5501.

Again, thank you for your time and input.

Should you have any questions regarding this survey, please contact me at Paul.Shelton@colostate.edu.

X1gpODv/rgHrvN

	40%
--	-----

Below are statements that represent opinions that you may have about participating in a learning community. For the purposes of this survey, please use the learning community you experienced most recently in graduate school. Indicate the degree of your agreement or disagreement with each statement by checking the appropriate area.

1. The learning community values my contribution to its well being

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

2. The learning community fails to appreciate extra effort from me

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

3. The learning community would ignore a complaint from me

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

4. The learning community really cares about my well-being

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

5. No one would notice if I did the best job possible in the learning community

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

6. The learning community cares about my general satisfaction

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

7. The learning community shows little concern for me

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly disagree	Moderately disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Moderately agree	Strongly agree

8. The learning community takes pride in my accomplishments with them

Strongly disagree Moderately disagree Slightly disagree Neither disagree nor agree Slightly agree Moderately agree Strongly agree

Group Potency [Exit this survey >>](#)

	60%
--	-----

Your responses in this section should indicate your opinion on how members of your learning community feel about the group. Remember your responses should be based on your opinion of how other members of your learning community feel about the group. In other words, the response should be about the belief of the group as a whole rather than individually.

*

1. This group has confidence in itself

To no extent To limited extent To some extent To considerable extent To great extent

2. This group knows it can produce unusually good, high quality work

To no extent To limited extent To some extent To considerable extent To great extent

3. This group knows it can be very productive

To no extent To limited extent To some extent To considerable extent To great extent

4. This group knows it can solve any problem it encounters

To no extent To limited extent To some extent To considerable extent To great extent

5. This group knows that it can get a lot done when it works hard

To no extent To limited extent To some extent To considerable extent To great extent

6. This group knows that no task is too tough for the group

- To no extent To limited extent To some extent To considerable extent To great extent

7. This group expects to have a lot of influence

- To no extent To limited extent To some extent To considerable extent To great extent

Information about you: [Exit this survey >>](#)

	80%
--	-----

1. How long have you been or were a part of the learning community?

- less than 3 months 3 months - 8 months 9 months - 1 year 1 year - 2 years 2 years - 3 years more than 3 years

2. What year did your group begin?

Year

3. If currently involved in a group, what is the year of expected graduation? If you have already graduated, what was the year of graduation?

Year

4. How many members do you consider part of your learning community?

- 2-4 5-7 8-10 11-15 16-20 21-25 26-30 31 or more

5. How many learning communities have you been a member of during the past 3 years?

- 1-2 3-4 5-7 more than 7

6. Are you a:

- Male
 Female

7. What is your age range?

- 18-30 31-40 41-50 over 50

8. What degree were you or are you working towards?

- Masters degree
- Doctoral degree

*

9. What is or was your major field of study while in the learning community?

- Business
- Education
- Human Resource Development (HRD)
- Human Resource Management (HRM)
- Organizational Development (OD)

Other (please specify)

*

10. Were you employed while you were part of this learning community?

- Yes, Full-time (greater than 30 hours per week)
- Yes, Part-time or less (less than 29 hours per week)
- No

Thank you!!!![Exit this survey >>](#)

	100%
--	------

Thank you for participating in this survey. Your contributions are greatly appreciated. Should you want a copy of the study when completed, please send an e-mail to Paul.Shelton@colostate.edu.

1. If you would like to add any comments, please do so here.

X1gpODv/rgHrvN

Appendix D:
Cover Letter



Dear Participant,

I am asking you to do me a favor in a research project to study learning communities. With this letter is a short questionnaire that asks a variety of questions about your experience in a graduate learning community. The link below will take you to the website for the survey. It should take you about 5-10 minutes to complete.

Through your participation and sharing, you will help us to understand how learning communities work in relation to the group's belief of success. The results of the survey will be useful for creating positive learning communities. These results will be included in my doctoral dissertation.

I do not know of any risks to you if you decide to participate in this survey. I guarantee that your responses will not be identified with you personally. I will not have access to any identifying information as the website will not collect any identifying information.

The survey should take you about 5-10 minutes to complete. Do take the time to complete this questionnaire. Your participation is voluntary and there is no penalty if you do not participate.

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at (970) 402-7197 or paul.shelton@colostate.edu. This project has been approved by the Human Subjects Review Board at Colorado State University. Questions about Human Subject Review approval can be directed to Janell Barker at janell.barker@research.colostate.edu (970) 491-1655.

Sincerely,

Paul M. Shelton
Doctoral Candidate

Jerry Gilley, Ed.D.
Dissertation Advisor

Appendix E:
Response Distributions on Organizational Support and Group Potency
Items

Table 25. Organizational Support Items Means, Standard Deviation, Frequencies, and Percentages by Program

Program	Mean	s.d.	Strongly, moderately, slightly disagree		Neutral		Strongly, moderately, slightly agree	
			F	%	F	%	F	%
OS 1: The learning community values my contribution to its well being								
CSU/CCL	5.93	1.28	1	6.7	0	0	14	93.3
CSU/OPC	5.69	1.42	7	8.1	5	5.8	74	86.0
Iowa St	5.11	1.90	1	11.1	2	22.2	6	66.7
St. Thomas	6.06	1.37	2	6.1	0	0.0	31	93.9
Xavier	5.90	1.05	2	4.1	1	2.0	46	93.9
Total	5.78	1.34	13	6.8	8	4.2	171	89.1
OS2: The learning community fails to appreciate extra effort from me								
CSU/CCL	5.67	1.63	2	13.3	0	0.0	13	86.7
CSU/OPC	5.41	1.54	11	12.8	13	15.1	62	72.1
Iowa St.	4.11	1.54	2	22.2	4	44.4	3	33.3
St. Thomas	5.51	1.46	4	12.1	3	9.1	26	78.8
Xavier	5.30	1.53	9	18.4	5	10.2	35	71.4
Total	5.36	1.55	28	14.6	25	13.0	139	72.4
OS3: The learning community would ignore a complaint from me								
CSU/CCL	5.47	1.73	2	13.3	1	6.7	12	80.0
CSU/OPC	5.29	1.46	11	12.8	14	16.3	61	70.9
Iowa St.	4.89	1.45	1	11.1	2	22.2	6	66.7
St. Thomas	6.03	1.21	2	6.1	3	9.1	28	84.8
Xavier	5.59	1.55	5	10.2	3	6.1	41	83.7
Total	5.49	1.48	21	10.9	23	12.0	148	77.1
OS4: The learning community really cares about my well-being								
CSU/CCL	5.93	1.22	1	6.7	1	6.7	13	86.7
CSU/OPC	5.53	1.32	6	7.0	10	11.6	70	81.4
Iowa St.	5.22	1.86	1	11.1	1	11.1	7	77.8
St. Thomas	6.12	1.39	2	6.1	0	0.0	31	93.9
Xavier	5.55	1.42	5	10.2	3	6.1	41	83.7
Total	5.66	1.38	15	7.8	15	7.8	162	84.4

OS5: No one would notice if I did the best job possible in the learning community

CSU/CCL	5.40	1.30	1	6.7	4	26.7	10	66.7
CSU/OPC	5.45	1.59	13	15.1	5	5.8	68	79.1
Iowa St	4.67	2.00	3	33.3	1	11.1	5	55.6
St. Thomas	5.85	1.25	3	9.1	0	0.0	30	90.9
Xavier	5.24	1.65	10	20.4	2	4.1	37	75.5
Total	5.43	1.56	30	15.6	12	6.2	150	78.1

OS6: The learning community cares about my general satisfaction

CSU/CCL	5.47	1.25	2	13.3	0	0.0	13	86.7
CSU/OPC	5.51	1.86	5	5.8	7	8.1	74	86.0
Iowa St	5.33	1.58	1	11.1	1	11.1	7	77.8
St. Thomas	6.00	1.06	1	3.0	1	3.0	31	93.9
Xavier	5.12	1.35	6	12.2	6	12.2	37	75.5
Total	5.48	1.25	15	7.8	15	7.8	162	84.4

OS7: The learning community shows little concern for me

CSU/CCL	6.00	1.25	1	6.7	1	6.7	13	86.7
CSU/OPC	5.77	1.72	6	7.0	5	5.8	75	87.2
Iowa St.	5.33	1.80	2	22.2	0	0.0	7	77.8
St. Thomas	6.21	1.29	2	6.1	0	0.0	31	93.9
Xavier	5.45	1.56	7	14.3	1	2.0	41	83.7
Total	5.77	1.35	18	9.4	7	3.6	167	87.0

OS8: The learning community takes pride in my accomplishments with them

CSU/CCL	5.67	1.54	1	6.7	3	20.0	11	73.3
CSU/OPC	5.77	1.22	6	7.0	6	7.0	74	86.0
Iowa St.	5.00	1.87	2	22.2	0	0.0	7	77.8
St. Thomas	6.06	1.09	1	3.0	3	9.1	29	87.9
Xavier	5.73	1.17	2	4.1	0	0.0	47	95.9
Total	5.77	1.25	12	6.2	12	6.2	168	87.5

Table 26. Group Potency Items, Means, Standard Deviation, Frequencies, and Percentages by Program

Program	Mean	s.d.	To no or limited extent		To some extent		To considerable or great extent	
			F	%	F	%	F	%
GP1: This group has confidence in itself								
CSU/CCL	4.00	.76	1	6.7	1	6.7	13	86.7
CSU/OPC	4.06	.90	6	7.0	14	16.3	66	76.7
Iowa St	3.11	.78	2	22.2	4	44.4	3	33.3
St. Thomas	4.18	.64	0	0.0	4	12.1	29	87.9
Xavier	3.84	.874	3	6.1	11	22.4	35	71.4
Total	3.97	.859	12	6.2	34	17.7	146	76.0
GP2: This group knows it can produce unusually good, high quality work								
CSU/CCL	3.87	.83	1	6.7	3	20.0	11	73.3
CSU/OPC	4.12	.82	6	7.0	6	7.0	74	86.0
Iowa St.	3.00	.87	3	33.3	3	33.3	3	33.3
St. Thomas	4.15	.76	1	3.0	4	12.1	28	84.8
Xavier	3.94	.78	2	4.1	10	20.4	37	75.5
Total	4.00	.83	13	6.8	26	13.5	153	79.7
GP3: This group knows it can be very productive								
CSU/CCL	4.00	.76	1	6.7	1	6.7	13	86.7
CSU/OPC	4.15	.83	4	4.7	9	10.5	73	84.9
Iowa St.	3.11	1.27	3	33.3	2	22.2	4	44.4
St. Thomas	4.24	.79	1	3.0	4	12.1	28	84.8
Xavier	4.08	.84	3	6.1	6	12.2	40	81.6
Total	4.01	.87	12	6.2	22	11.5	158	82.3
GP4: This group knows it can solve any problem it encounters								
CSU/CCL	3.60	.91	2	13.3	4	26.7	9	60.0
CSU/OPC	3.87	.87	8	9.3	14	16.3	64	74.4
Iowa St.	3.22	.97	2	22.2	4	44.4	3	33.3
St. Thomas	4.09	.88	1	3.0	5	15.2	27	81.8
Xavier	3.80	.84	4	8.2	11	22.4	34	69.4
Total	3.84	.88	17	8.9	38	19.8	137	71.4

GP5: This group knows that it can get a lot done when it works hard

CSU/CCL	4.00	.85	1	6.7	2	13.3	12	80.0
CSU/OPC	4.21	.78	3	3.5	7	8.1	76	88.4
Iowa St.	4.00	1.00	1	11.1	1	11.1	7	77.8
St. Thomas	4.45	.67	0	.0	3	9.1	30	90.0
Xavier	4.22	.69	0	.0	7	14.3	42	85.7
Total	4.23	.76	5	2.6	20	10.4	167	87.0

GP6: This group knows that no task is too tough for the group

CSU/CCL	3.60	.83	2	13.3	3	20.0	10	66.7
CSU/OPC	3.84	.88	8	9.3	17	19.8	61	70.9
Iowa St.	3.22	1.09	3	33.3	2	22.2	4	44.4
St. Thomas	4.00	1.03	1	3.0	11	33.3	21	63.6
Xavier	3.78	.87	5	10.2	10	20.4	34	69.4
Total	3.80	.92	19	9.9	43	22.4	130	67.7

GP7: This group expects to have a lot of influence

CSU/CCL	3.47	.74	1	6.7	7	46.7	7	46.7
CSU/OPC	3.76	.96	9	10.5	22	25.6	55	64.0
Iowa St.	3.11	1.05	3	33.3	3	33.3	3	33.3
St. Thomas	3.82	.98	3	9.1	10	30.3	20	60.6
Xavier	3.55	.94	5	10.2	22	44.9	22	44.9
Total	3.66	.95	21	10.9	64	33.3	107	55.7
