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Pepperdine University

Graduate School of Education and Psychology

TRANSFORMATIONAL LEADERSHIP STYLES OF ORGANIZATIONAL SOCIAL NETWORK LEADERS AS OBSERVED BY FULLY EMPLOYED PEPPERDINE BUSINESS AND LEADERSHIP STUDENTS

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Organizational Leadership

by

Eric Hilary Furlong

October, 2011

Mark Allen, Ph.D. — Dissertation Chairperson

This dissertation, written by

Eric Hilary Furlong

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Doctoral Committee:

Mark Allen, Ph.D., Chairperson

Kent Rhodes, Ed.D.

Doug Leigh, Ph.D.

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DEDICATION

This is dedicated to my parents and my wife Betsy.

ACKNOWLEDGEMENTS

I would like to thank my dissertation chair, Dr. Mark Allen. Without his guidance and insights, this journey would not have come to a satisfying conclusion. I would also like to thank my other committee members, Dr. Kent Rhodes and Dr. Doug Leigh, for their contributions in keeping my research focused and manageable.

I would also like to express special thanks to Dr. Rhodes. If it were not for a handful of kind and inclusive words that came from him during my first few weeks in the doctoral program, I would have left it. Thanks to him I continued on with what became a wonderful journey.

Finally I would like to thank all my instructors and cohort members. What a great time it was! My life is so much better for knowing all of you.

VITA

ERIC H. FURLONG

EDUCATIONAL BACKGROUND

ED.D. (ABD), ORGANIZATIONAL LEADERSHIP

Pepperdine University—Graduate School of Education & Psychology, Malibu, CA

Academic concentration: Postbureaucratic social network emergence, problem solving, and leadership dynamics

2005-present (dissertation in progress); GPA: 3.985 (4.0)

MASTER OF BUSINESS ADMINISTRATION (MBA)

Pepperdine University—Graziadio School of Business, Malibu, CA

1993; GPA 3.650 (4.0)

BACHELOR OF ARTS—LIBERAL STUDIES, ENGLISH LITERATURE CONCENTRATION

California State University, Long Beach, CA

President's Honor List; Dean's Honor List

TEACHING AND TRAINING EXPERIENCE

CORINTHIAN COLLEGES, COSTA MESA, CA JANUARY 2010-PRESENT

Curriculum Manager, Business and Accounting Programs

Provide management of various business and accounting programs currently being run at over 50 campuses nationwide. Responsibilities include providing extensive curriculum and programmatic training to campus faculty and staff, consulting with curriculum designers on development of syllabi, lesson plans, and other course documents, assisting

in textbook selections, contributing to local PAC meetings, and working daily with program chairs, career services, admissions, registrars, deans, and other key campus stakeholders in the delivery of business and accounting educational programs.

VANGUARD UNIVERSITY, COSTA MESA, CA JANUARY 2010-MAY 2010

Adjunct Instructor, School of Business

Taught upper-division course in consumer behavior. Developed course syllabus, outlined learning objectives, and heavily modified provided instruction materials to better cover current business issues and to better fit student backgrounds.

IRVINE UNIVERSITY, CERRITOS, CA OCTOBER 2009-JANUARY 2010

Instructor (Part Time), School of Business

Taught course in business finance. Developed course syllabus, outlined learning objectives, and heavily modified provided instruction materials to better cover current business issues and to better fit student backgrounds. Assisted in the adoption of a new Internet-based, online instructional software application.

HANOI SCHOOL OF BUSINESS (HSB), HANOI, VIETNAM NOVEMBER 2009

Guest lecturer

Conducted a seminar on negotiation and business communications for graduate students in HSB's International Executive MBA program. Participated in commencement ceremony for 120 graduating MBA students.

STAR TRAC FITNESS, IRVINE, CA 2007-FEBRUARY 2009

Provided training on next-generation, Internet-based, and social networking-centric fitness products to fitness facility managers, trainers, and end-users. Provided technical

training to facility staff on setup and usage of related software applications and hardware. Developed related training materials.

Specific seminars taught included:

- Installation and use of software
- Use of next-generation fitness equipment hardware
- Sales and marketing strategies for business development
- Financial modeling methods and revenue streams analysis for maximizing profitability

EPSON AMERICA, LONG BEACH, CA 1999-2007

Developed curriculum and executed on-going training on custom-developed business productivity software applications for a user base of over 200 people spread across several departments and from several different levels of the organization ranging from administrative assistants to senior management. Conducted 'train the trainers' education, and developed all related education materials.

Specific seminars taught included:

- General introduction to software platform and fundamentals of its logic and structure
- Budget planning and monitoring
- Measuring and predicting the impacts of promotional activities on consumer demand and purchasing patterns
- Alternative approaches to measuring marketing programs' ROI
- Marketing programs planning
- Predicting and monitoring cash flows

TORRANCE UNIFIED SCHOOL DISTRICT, TORRANCE, CA 1998-1999

Performed as a substitute teacher for various schools in the Torrance Unified School District. Earned passing and 'above average' scores on CBEST, SSAT (English), and Praxis (English) teaching exams in preparation for a career teaching high school English.

MAGNAVOX, TORRANCE, CA 1992-1995

Wrote several owners manuals for consumer and commercial GPS navigation products, and provided product training to dealer representatives within Magnavox's authorized dealer network.

Specific seminars taught included:

- Basics of the Global Positioning System (GPS)
- Using GPS navigation products
- Fundamentals of Differential GPS

DIVE MASTER/SSDI ONGOING

Assisted in the education and certification of over 250 scuba divers. Provided field education and classroom control for students ranging in age from 14 through 65. Conducted tours and acted as field naturalist for groups of certified scuba divers. Provided one-on-one feedback to students regarding scuba diving equipment setup and usage and scuba diving techniques.

Subject Areas of Expertise

- Business Administration
- Economics
- Communications
- Direct Marketing
- Message Development
- Advertising
- Leadership Theory and Practice
- Quantitative and Qualitative Methods
- Business Software/MS Office Products
- Database Marketing
- Branding and Brand Development
- Product Life Cycle Management
- Marketing Management
- Statistics and Research Methods
- Organizational Behavior
- Creative Direction
- Finance and Financial Analysis
- Public Relations

Scholarly Activities

Furlong, Kaltenbach, Taylor (2006). *Cultural DNA: The Six Strands for Successful Practice of the New Leadership Models*. Proceedings of the 29th Annual Conference of the Society of Educators and Scholars. Heritage Press, Long Beach, CA.

Professional Experience

Corinthian Colleges, Costa Mesa, CA — January 2010–Present

Curriculum Manager, Business and Accounting Programs

Provide management of various business and accounting programs currently being run at over 50 campuses nationwide. Responsibilities include providing extensive curriculum and programmatic training to campus faculty and staff, consulting with curriculum designers on development of syllabi, lesson plans, and other course documents, assisting in textbook selections, contributing to local PAC meetings, and working daily with program chairs, career services, admissions, registrars, deans, and other key campus stakeholders in the delivery of business and accounting educational programs.

STAR TRAC FITNESS, IRVINE, CA 2007-FEB. 2009

ADVANCED DEVELOPMENT PRODUCTS AND VERTICAL MARKETING MANAGER

Developed and executed go-to-market and launch campaigns for next-generation products for fitness facilities and end-users. Launch efforts included strategic demographic targeting, product training, collateral development and production, demand generation, retail signage and in-store promotions, technical consulting on product requirements, and product installation advisement.

- Directed all internal departments and cross-functional teams in the quoting, sales, delivery, installation, and user-training of all products from the Advanced Development products division.
- Provided revenue streams and pricing consultation, what-if scenario analysis, and final recommendations to gym and fitness facility owners and managers.
- Provided product training to fitness facility owners, managers, personal trainers, and end users on products in the advanced development product line.
- Directed Marketing Communications department in the production of various communications pieces, including email and animated XML campaigns, advertising, brochures, and direct mail.
- Initiated, tracked, and analyzed results of direct marketing campaigns.

EPSON AMERICA, LONG BEACH, CA 1999-2007

MANAGER—MARKET DEVELOPMENT FUNDS ADMINISTRATION, SALES OPERATIONS

Responsible for ensuring integrity, measuring effectiveness, and predicting impact of the Company's second largest budget—exceeding $100,000,000 annually—through setting policies and directing all inter and intra-departmental operations. Operational responsibilities spanned several areas of the organization and included developing tactical procedures and deliverables for personnel in finance, product management, retail operations, field sales, and other departments. Reviewed and approved all Epson-funded channel partner marketing program requests, including MDF, co-op advertising, and incremental demand generation funding to ensure compliance with policies and

alignment with Epson's marketing strategies. Collaborated extensively with other departments to monitor and predict marketing programs' impact on relevant dimensions of the business. Supervised staff of four analysts and senior analysts, providing coaching, professional development, promotion advocacy, and annual performance reviews.

- Directed development of custom, Web-based software applications key to improving operational effectiveness. Hailed by one Sales Director as the greatest productivity tool implemented in over a decade, and securing the Kaizen award for continuous improvement, this tool is now in use by over 200 people on a daily basis, and saves literally thousands of labor-hours a year.
- Collaborated with product management, finance, senior management, sales, and other stakeholders in the rollout, administration, reporting, and analysis of myriad marketing programs and related budgets.
- Managed multimillion dollar consumer and reseller marketing programs for the professional graphics printer division.
- Managed various vendors and consultants supporting marketing programs, program fulfillment, website design, and custom developed software applications.
- Improved MDF/co-op advertising annual accrual and expense predictions to within 2% of forecast from previous 10% achieved by predecessor.

STARBASE/SELECT SOFTWARE, IRVINE, CA 1996-1998

MANAGER, MARKETING COMMUNICATIONS

Working directly with executive management, built entire marketing communications function from ground up, handling all media selection, trade shows, collateral development, product data sheets, print advertising, direct mail campaigns, and co-op advertising. Led forums with executive management, engineering, product management, sales, and creative agencies in the development of marketing messages, strategies, and campaigns. Developed and independently controlled marketing budget, and directed all tactical implementation of marketing communications strategies. Directed extensive qualitative and quantitative market research efforts, including descriptive statistics and hypotheses tests.

- Directed development of closed-loop lead tracking and inquiry fulfillment systems and their integration with the sales forces' contact management system.
- Implemented marketing performance measurement tools to analyze message and campaign success.
- Established and maintained all relationships with creative agencies and vendors. Served as liaison to agencies, senior management, and other company stakeholders.
- Led corporate image and branding campaigns, contributing significantly to successful listing of company on the NASDAQ.

MAGNAVOX ADVANCED PRODUCTS AND SYSTEMS, TORRANCE, CA 1988-1995

ASSISTANT PRODUCT MANAGER, GPS NAVIGATION AND SURVEY

Responsible for the P&L of selected OEM GPS navigation and time recovery products, which once became the most profitable product line in the division. As a true matrix organization, was responsible for all activities, and associated costs and charges, of all internal contributors supporting the product line including marketing communications, engineering, software development, production, technical support, sales, customer service, and purchasing. Improved product line profitability through identifying needs for product hardware and software modifications, and creating associated ROI models for evaluation.

- Directed advertising agencies, public relations agencies, and creative vendors in the development, production, and coordination of marketing communications campaigns.
- Developed pricing strategies to maximize revenues, profits, and market share; established short and long term demand and sales forecasts for product line, established production schedules and target inventory levels. Assisted in price point analysis and development of pricing strategies.
- Developed authorized dealer network and associated support programs, including lead referral and synergistic public relations efforts. Performed all associated training.

ABSTRACT

Of the mechanisms that organizations embrace to find a competitive advantage in postbureaucratic environments, one of the more common is to allow the emergence of informal networks in which individuals work together regardless of the formal scope of their responsibilities. As these networks emerge, so do leaders within them.

To date, there has been almost no research on the leadership behaviors of emergent network leaders. However, that has not stopped many thinkers on the topics of leadership and organizational theory from assigning behaviors to them. Avolio, Bass, and others have assigned transformational leadership to these leaders; and such assignments seem defendable given the nature of transformational leadership and the dynamics of emergent networks.

This exploratory study set out to address this void. Specifically, it explores the transformational, transactional, and Laissez-faire leadership behaviors displayed by a select sample of leaders, and then compares them to the general population of formally established leaders. The results of this study show that in general, the emergent network leaders sampled are judged to be essentially no different than the general population of leaders. But in taking a closer look at the results, very high degrees of variation between subjects' scores reveal some interesting patterns; one of these being that a subset of the subject sample proved to be significantly more transformational than formal leaders in a few important categories. Further research is needed to find the commonalities of these exceptionally transformational leaders, and what separates them from their peers and formal leaders alike.

In the meantime, this research points to other important conclusions, one of the more significant being that the assumption that leaders of emergent networks will be, by default, highly transformational might be an overgeneralization. The sample used in this study turned out not to be. Organizations seeking to leverage the competitive advantage emergent networks can deliver should not take the emergence of transformational leadership of these networks as a given. Instead, the formal leaders of organizations might want to walk the fine line of allowing these networks to emerge organically while ensuring the materialization of transformational behaviors of these networks' leaders.

Chapter 1: Introduction

The notion that the organizational structures are continuing to flatten has been around so long it is basically a modern day cliché. Reductions in layers of middle management, employee empowerment, decentralization, local decision making, decreasing bureaucracy, and numerous other common themes, as well as the findings and statements of countless researchers and authors on organizational structure, are common topics of business literature that attest to the phenomenon of organizational flattening.

For the purposes of this study, I will use the term postbureaucracy or postbureaucratic to describe situations in which the traditional structure and/or function of bureaucracy is absent, or at least secondary to a prevailing force that is not a formal construct of the organization. This is not to say that all organizations can be classified as either bureaucratic or not. But rather this study embraces the notion that organizations exist in which postbureaucratic operations have successfully emerged, whether that particular organization would typically be described as highly bureaucratic or not.

The Organizational Social Network

There are, of course, many dimensions to postbureaucratic forms and functions. For my purposes here, it is the specific dimensions of how certain forms of work get done in a postbureaucratic way that is primary. Largely, that work gets done through the organic emergence of organizational social networks (Cross & Parker, 2004) composed of individuals who work together without any directive from superiors and without direct reward. These are situations in which individuals within an organization resource, and become resources to one another, through social rather than formal ties. While personal relationships undoubtedly come into play in the structure and function of these

organizational social networks as they do in formally established workgroups, it is their efforts to get a job done that is of primary importance.

Oftentimes when problems or challenges are encountered in postbureaucratic environments, they are not escalated to management for solving. Instead, employees take it upon themselves to solve their own problems. They network with each other, borrowing each others' expertise to solve short-term problems or to cope with or manage long-term problems. They often do this without being asked. They do this without formal supervision.

It should be noted that from here on in the term *organizational social network* will be used to refer to these social networks, and both questionnaires used in the research will use the term *informal workplace networks*. This departure from the generally accepted academic term embraced by Cross and others will be done to avoid any possible confusion with Facebook, MySpace, Twitter, and other Internet-based social media products. At the time of the writing of this study, the term social network is commonly, and often instantly, interpreted by many people as a reference to social media. Therefore, in order to avoid lengthy efforts to clarify the term for research subjects, and to avoid possibly confusing readers of this study, the term social network will be avoided and replaced as illustrated above.

Cross and others have built a large body of research behind these organizational social networks, creating methods to make sense of them, and outlining processes to better enable organizational social network emergence. But there is a near vacuum regarding research into specific leadership behaviors or methods found in those who become leaders within these organizational social networks.

This is not to say that leadership that emerges organically has been ignored. Indeed, many researchers have looked at varying aspects of emergent leaders. The emergence of leadership from, and the functioning of, emergent networks ranging from organizational social networks to communities of practice to open innovation teams and other forms has been studied and documented by several authors, including Eagly and Karau (1991), Hoffman (2004), Hollingsworth, Meglino, and Shaner (1977), Sorrentino (1986), Yoo and Alvi (2004), and others. However, these studies either do not consider leadership styles and behaviors specifically, or do not concern themselves with organizational social networks specifically.

Hinging off the chapter opening quote from Avolio and Bass (2004) regarding the ineffectual nature of transactional leadership behaviors in postbureaucratic scenarios, this study will explore the transformational, transactional, and laissez-faire leadership behaviors that are observed by a selected sample to be employed by leaders of organizational social networks, which by definition are postbureaucratic.

The Problem

The absence of research on organizational social network leadership has left a void in what might be an important area of leadership studies given the increasing importance of organizational social networks. As noted, their ability to enable the organization to remain competitive and even gain a competitive advantage through transcending bureaucracy to deal with an ever more increasingly complex world is increasingly important (Jamali et al., 2006).

There is also the problem in that the primary focus of leadership studies have focused on leaders that were formally established as either managers, supervisors, leads,

and so on (Gronn, 2002). That is to say that the study of leadership has primarily focused on the behaviors of leaders as they go about being an appointed leader.

Given these considerations, the neglect of organizational social network leader behaviors is in need of remedy. Due to the informal nature of organizational social networks, these leaders can come in any form and from anywhere. We embrace the notion that "leadership is available to everyone" (Northouse, 2004, p. 3), and we accept as the norm that leadership can be found from any chair (Zander & Zander, 2002). And it is upon the leaders that emerge from the second strings in the orchestra to lead organizational social networks to success is where this study will focus its explorations.

Purpose of Study

The purpose of this exploratory study is to reveal to what degrees transformational, transactional, and laissez-faire leadership behaviors are observed to be in use by leaders of organizational social networks as observed by a select sample of organizational social network members, and to compare those measurements to those of formally established leaders.

Without defining the role or nature of organizational social networks, Bass and Avolio (1990) state that "As organizations themselves move from being hierarchically structured entities… with compressed hierarchies and blurred lines of authority, the need to explore a broader range of leadership styles suited for these new environments is apparent"(p. 1). Bass and Avolio (2004) proceed to state that the leadership styles suitable for these new environments are those they define as transformational. These behaviors include Idealized Influence (Attributed), Idealized Influence (Behavior), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration (Bass

& Avolio, 2004). Putting these behaviors in context and on a continuum, Avolio and Bass (2004) also address transactional leadership behaviors of Contingent Reward, Management-by-Exception (Active), Management-by-Exception (Passive), and the non-leadership behavior of laissez-faire leadership in their research and papers on the subject. All of these behaviors will be defined and discussed in detail shortly.

These authors' theories and research findings on behaviors has been thoroughly explored, refined, and defended. However, neither they nor other researchers appear to have specifically looked at these behaviors within distinctly identified organizational social networks.

This exploratory study builds upon the existing body of leadership research in general, and adds to the body of research on the behaviors listed above by employing Bass and Avolio's (2004) Multifactor Leadership Questionnaire Form 5x-Short (MLQ) and a profiling questionnaire created for this study that will capture key contact information but primarily act as a tool to qualify whether or not any given subject participated as a non-leading member of an organizational social network.

Avolio and Bass' (2004) MLQ questionnaire provides the mechanism by which the behaviors of organizational social network leaders are explored, and the MLQ research results for the general population of leaders provides the population against which the sample of organizational social network leaders is compared. More precise details follow in Chapter 3.

Research Questions

As implied in the purpose of this study, two research questions are addressed here:

1. What types of transformational, transactional, and laissez-faire leadership behaviors do a select sample of organizational social network members perceive to be in use by leaders of the organizational social networks in which the subjects participated?
2. How does the sample of organizational social network leaders compare to formally established leaders as measured by Bass and Avolio's (2004) MLQ study?

These research questions are stated as hypotheses in Chapter 3.

Research Subjects

The subjects to be used in this research will be fully-employed students from Pepperdine's Graziadio Graduate School of Business and Pepperdine's School of Education and Psychology. These students will be used in order to assure a broad cross section of industries, organizational rank, cultural backgrounds, and other considerations where diversity serves to enhance this study. Since this study will focus on transformational behaviors found in organizational social network leaders in general, such diversity helps assure trends that might be found in certain industries or other dimensions of segments of the research subjects will less likely to be a factor. More details on the research subjects follows in Chapter 3.

Relevance of This Study

Aside from contributing to the body of research in the field of leadership, the findings of this study might be important to leaders, managers, and other stakeholders in organizations which might rely, or someday rely, on organizational social networks in order to function effectively. According to many of the authors explored in this study,

they should be numerous (Avolio & Bass, 2004; Cross & Parker, 2004; Jamali et al., 2006; Kira & Forslin, 2008). And resting on the assumption that transformational leadership can be learned, actions can be taken to help foster and nurture the development of transformational leadership abilities in employees so that as these employees emerge as organizational social network leaders they can be better prepared to assume these leadership positions and perform in them effectively.

Definitions of Terms

Because this study relies on a unique vocabulary in order to economically convey some rather lengthy concepts, an exploration of a few of the terms used frequently in this study is in order. Most of these terms are fairly common, but have slightly different meanings in this study.

Terms that will be used in this study. For this study, I will use the definition of *leadership* as Northouse (2004) states it, which is "Leadership is a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). This definition of leadership suits this study remarkably well given that it pays no homage to formal authority, supervision, or management.

For this study, the term *organizational social network leader* is used to describe individuals who are identified by organizational social network members as a leader of a network of people that is engaged in solving a new problem, confronting a new challenge, or changing the way an existing process or procedure is done without having formal authority or power over the members of the network of individuals engaged in these endeavors.

The term organizational social network leader is not found in the literature, but is rather a term invented for this study; and is used to avoid confusion with the term emergent leaders, which are often found in the canon of literature on organizational social networks and other emergent networks. The term emergent leader has been used to refer to individuals who, through their actions, are identified by others above them in the organizational hierarchy that then bestow a leadership position to said emergent leader (Sorrentino, 1986). Emergent leader has also been used to describe individuals who emerge as leaders from a group with basically static or formally formed networks (Eagly & Karau, 1991; Hoffman, 2004; Hollingsworth et al., 1977; Yoo & Alavi, 2004). The distinction between these definitions and the one used in this study is that the groups in this study are dynamic and informal, and that the leaders of these networks are not handed any formal leadership, power, or authority over network members.

The term *organizational social network* is used to describe a network of individuals that emerges organically and not as a formal construct of management. In this study, the organizational social networks in question are those that emerge to confront a new challenge or problem or put new processes or procedures into place. The organizational social network can include individuals who are not necessarily employees of the same company. Their qualification as part of the organizational social network is that they in some way contributed to the solution towards which the network was working. While Cross and Parker (2004) do not provide a concise definition of organizational social networks as they use the term, the exploration of it here is very similar to how they treat the term.

Limitations

The nature of this exploratory study makes no attempt to garner multiple MLQ ratings for any one given leader. Indeed, it is highly likely that no one individual leader will have more than one person's rating given the nature of how the research was conducted. However, this is not a problem as this study is limited to finding aggregate patterns of specific behaviors within organizational social networks in general. Considerations of industry type, size of the organization, and other environmental and situational factors that might be contributing to the existence of the leadership behaviors explored here are not part of this study. However, these factors may make for interesting further study, so some environmental factors are included in part one of this research for such a purpose.

Another limitation of this study lays in the fact that organizational social network members do not necessarily work with one another all the time. The MLQ Rater Form poses questions regarding the frequency certain leadership behaviors were observed to be in use. Therefore, the questions could be misconstrued to mean frequency relative to a timeframe and not relative to the number of occurrences. In other words, if the subject is asked to rate their leader on a scale of 0 to 4, 4 being *always or almost always*, in terms of how frequently that leader was pleasant to be around, the subject might score the leader lower than a 4 even if the leader was always pleasant to be around when the leader and the subject were together based on the fact that there may have been little contact over a course of several weeks or even months. Instructions regarding this issue will be added as an introduction to the MLQ in part two in order to hopefully avoid such errors.

Further, the very nature and structure of organizational social networks must be considered. It is possible that different members of these networks move in and out of leadership roles depending on the nature of the work these networks perform at any given time. In turn, it is quite possible that there may be more than one person who could be considered as a leader within the network. Given these two considerations, the population size of leaders of organizational social networks for this study is not only unknown at this time, but it is also unknowable without extensive research dedicated to answering this question alone.

Given this limitation, the sample size needed to accurately portray the population of organizational social networks in the statistical tests to be used cannot be determined. Therefore, the sample size used was one of convenience. The results thus represent an exploration into a previously unexplored area rather than concrete conclusions. Given these considerations, the term *significance* will be avoided except when speaking specifically about the sample used in this study as it cannot be applied to the general population of organizational social network leaders.

A related limitation to this study is the fact that the only guidance subjects were given regarding their selection of a leader to rate was to choose the person who they felt played the most important leadership role. Subjects were not asked to identify the strongest leader, nor the one who had longest leadership role tenure. Nor were subjects asked to explain the reasons why the leaders they chose to rate were considered the most important. Regarding these limitations, this study seeks to explore leadership behaviors of organizational social network leaders in general, not focusing on any given type of organizational social network leader. Therefore, these limitations do not detract from this

study, but do make for a potentially broad range of identified leaders, which is the intent given this study's exploratory nature.

Chapter 2: Literature Review

This literature review is broken into two primary sections. The first section is a review of dominant leadership theories. The second section of this literature review explores various texts on organizational social networks from different disciplines. Selections were made due to their relevance, sometimes narrowly but always importantly, to the research to be conducted in the field and explored in the following chapters.

Literature Review Section 1: Leadership Theories

Skills approach. The skills approach to leadership focuses on the skills necessary for successful leadership. It embraces the idea that these skills can be learned. One of the better examples of this approach is outlined by Katz (1955) when he says, "Performance depends on fundamental skills rather than personality traits" (p. 33). Further, Katz establishes a three-skill approach to effective leadership in three different roles. The skills he outlines are technical, human, and conceptual. Technical skill is the "understanding of, and proficiency in, a specific kind of activity, particularly one involving methods, processes, procedures, or techniques" (Katz, 1955, p. 34). Human skill is the "ability to work effectively as a group member and build cooperative effort with the team (one) leads" (Katz, 1955, p. 34). Conceptual skill, as Katz puts it:

> involves the ability to see the enterprise as a whole; it includes recognizing how the various functions of the organization depend on one another, and how changes in any one part affect all the others; and it extends to visualizing the relationship of the individual business to the industry, the community, and the political, social, and economic forces of the nation as a whole. (pp. 35–36)

The effective leader is one who has the proper combination of these three skills for the leader's respective level. Those in higher levels of the organization require high degrees of human and conceptual skills. Those in the lower levels require higher degrees of human and technical skills but less conceptual skills. Those falling in between require a lower degree of technical skill, but a moderate degree of conceptual skills (Katz, 1955). It is interesting to note that Katz (1955) identifies human skills as the one constant for successful leaders regardless of their level in the organization.

The skills approach was later expanded upon by Mumford, Zaccaro, Harding, Jacobs, and Fleishman (2000) to incorporate aspects of individual attributes such as general cognitive ability, motivation, and personality; competencies, such as problem-solving skills, social judgment, and knowledge; and leadership outcomes, such as effective problem solving and performance. They look at the development of leaders through their own career experiences and environmental influences, which makes leaders more effective as they are exposed to more and different experiences and influences over time, through direct experience and formal training (Marta, Leritz, & Mumford, 2005).

Style approach. The style approach to leadership focuses on what leaders do, how they act, and how they interact with their subordinates (Northouse, 2004). The style approach has most notably been expanded upon by Blake and his associates. Of particular note is Blake and Mouton's (1982) adaptation and expansion of the managerial grid, which is the contemporary cornerstone of style theory.

The grid is composed of an X axis which is numbered from 1 to 9 to show the degree of concern the leader has for production. The Y axis, which is also numbered 1 to 9, shows the degree of concern the leader has for people. The result is a two-dimensional

playing field where five dominant combinations emerge—one combination in each corner and one in the center. By name, the quadrants, beginning in the lower left and moving clockwise, are called impoverished leadership, country club leadership, team management, authority-compliance management, and, in the center, middle-of-the-road management. While many explorations of the style approach do not overtly state the virtues of any one style over the others, it is apparent that the top right quadrant—team management—emerges as the style of true leadership.

Blake and Mouton (1982) are less diplomatic in their approach. They not only identified team management as the most effective, but they also take a direct aim at a competing theory of leadership, Blanchard's situational leadership model (Blanchard, Zigarmi, & Zigarmi, 1985), which will be explored shortly.

Concentrating for now strictly on the virtues of team management, Blake and Mouton (1982) stress that the team management approach is best regardless of the maturity level or competence of the subordinate. They also provide a healthy degree of research to support their findings, and offer more than a few hypothetical scenarios to illustrate their points and support their conclusions. The authors also spend considerable time and space dedicated to paternalism/maternalism, which, in their view, is a corrupted and often confused construct of the team management style. Paternalism/maternalism is neither preferred nor found to be effective; however, it is often embraced through corrupted intentions of the leader to provide rewards to the subordinate as well as support conforming behavior, as a parent might (Blake & Mouton, 1982).

Situational leadership. Situational leadership is recognized as one of the most popular approaches to leadership. It is firmly based on the premise that there is no one

best leadership style, and that leadership style should be based on the situation. Specifically, leaders need to choose one of four styles depending on the development level of the subordinate relative to their responsibilities. Blanchard et al. (1985) identified four development levels, which are listed below:

D1: Low Competence/High Commitment

D2: Low to Some Competence/Low Commitment

D3: Moderate to High Competence/Variable Commitment

D4: High Competence/High Commitment (p. 56)

Blanchard et al. (1985) then identifies two independent behaviors to be employed by the leader to varying degrees. These are supportive behavior and directive behavior. As simple as they sound, supportive behavior:

> Involves listening to people, providing support and encouragement for their efforts, and then facilitating their involvement in problem-solving and decision making.…Directive behavior involves clearly telling people what to do, how to do it, and then closely monitoring their performance. (p. 46)

The combinations of these two elements provide the leader with the following style options:

Style 1—High Directive behavior/Low Supportive Behavior—Directing.

In the directing style, the leader provides specific instructions about what and how goals or tasks will be accomplished. The leader also closely supervises the individual's performance. Most decisions in S1 are made by the leader.

Style 2—High Directive Behavior/High Supportive Behavior—Coaching

The leader explains decisions, solicits suggestions from the individual, praises progress, and continues to direct task accomplishment. Input from the individual is considered, although final decisions are made by the leader.

Style 3—Low Directive Behavior/High Supportive Behavior—Supporting

A leader using Style 3 listens, encourages, and facilitates self-reliant decision making and problem solving.

Style 4—Low Directive Behavior/Low Supportive Behavior—Delegating

The leader empowers the individual to act independently and provides the appropriate resources to get the job done. (Blanchard, 2001, p. 5)

Situational leadership now involves marrying each of the four development categories to the styles categories to arrive at a best fit. The leader identifies the level of development of an employee, relative to that employee's duties, and then adopts either the S1, S2, S3, or S4 leadership style accordingly. Using the behaviors outlined for each, the leader now has a practical guide for how to behave with said employee to achieve the best results.

In situational leadership, the subordinate is expected to move forward, and sometimes backward, along the development continuum. Logically, as the subordinate gains confidence and ability and moves from low levels of development to higher levels of development, the leader adjusts his or her style accordingly. And in those situations where there is a backward slide in performance, or regression, the leader reverts back to the lower style accordingly (2001).

Other notable authors contributing to the body of literature on situational leadership include Graeff (1997), who provides a critical review of the theory in finding, among other things, that the evolution of the theory only adds to its overall ambiguity and confusion when it comes to putting it into practice, and that the D1 to D4 continuum does not take into account a myriad of other dispositions that subordinates may adopt. Vecchio (1987) also adds to the discussion by adding some formal research techniques to test the validity of situational leadership. However, his findings are far from conclusive. The one area where situational leadership showed to have its strongest correlations to success were in situations where subordinates were in the lower levels of development. Support for the theory diminished at higher levels of subordinate development (Vecchio, 1987).

Trait theory. Trait theory is one of the oldest theories behind how people become leaders. Simply put, and in its simplest form, trait theory holds that some people are born with specific traits that enable them to become strong, even great, leaders.

Researchers have identified different sets of traits that make for strong leaders. In fact, the list is so long that it is seen as a weakness of the theory in general (Northouse, 2004). However, the common major traits between trait theorists, as identified by Northouse (2004), include: intelligence, self-confidence, determination, integrity, and sociability (p. 19). The theorists from which this list was derived include Stogdill; Mann; Lord, DeVader, and Alliger; and Kirkpatrick and Locke.

Kirkpatrick and Locke (1991) explore various leaders including Sam Walton, Ray Kroc, a Navy captain, and various other strong but less publicly known leaders from well-known companies. Their core set of traits include drive, leadership motivation, honesty and integrity, self-confidence, cognitive ability, knowledge of the business, and a

handful of secondary traits that include charisma, creativity, and flexibility (p. 49). And while Kirkpatrick and Locke make a solid argument based on these individuals and their peers in favor of trait theory, it must be noted that the authors offer no statistical research to support their assertions. And while trait theory may seem something of a relic when looking at more contemporary theories, Kirkpatrick and Locke do offer us a bridge to the future in offering up that at least two of their core traits can be developed by the individual, which are knowledge of the industry and its associated technologies, and self-confidence.

More recently, Youngjohn (1999) built on Kirkpatrick and Locke's foundation in her doctoral dissertation by applying different meta-analysis tools to the topic. She found that the "correlations between many… characteristics and leader effectiveness were impressive" (Youngjohn, 1999, p. 115). However, she also qualifies these results saying that situational factors for which metrics could not practically be constructed had a significant influence on the results.

Path goal theory. To introduce it with a direct quote, House (1996) says:

> (The) essential notion underlying the path-goal theory is that individuals in positions of authority will be effective to the extent that they complement the environment in which their subordinates work by providing the necessary cognitive clarifications to ensure that subordinates expect that they can attain work goals and that they will experience intrinsic satisfaction and receive valent rewards as a result of work goal attainment. (p. 326)

A bit more simply put, path-goal theory asserts that the better a leader's style matches the characteristics of the subordinate and the work setting, the more effective the leader will be.

But it really is not that simple. House (1996) goes on to develop a number of propositions related to the effectiveness of leader behaviors, group members, and task characterizations. Laying the foundation for his study, he says:

> Clarifying path-goal relationships…will have positive motivational effects to the extent that it reduces role ambiguity. Where a leader attempts to clarify path-goal relationships are redundant with existing conditions…that is where it is (already obvious)…will be seen by the subordinates as redundant…(and) will result in decreased satisfaction. (House, 1971, pp. 324-325)

From these propositions, House (1971) creates a series of hypotheses relative to subordinate roles and task ambiguity, the different levels of task satisfaction relative to clear or ambiguous task demands, and so on. The eventual conclusion is that optimal effectiveness is reached when the leader adopts either directive, supportive, participative, or achievement-oriented behaviors relative to dimensions of the group members autonomy and job scope or task characteristics (p. 334).

Adding to the literature on path-goal, Jermier (1996) points out that:

> Path-goal theory laid the groundwork for considering situations where behaviors of leaders were of little or no consequence. It stated that leader behavior will be motivational for subordinates to the extent that it complements the work environment and supplements it with what is otherwise lacking. (p. 313)

This provides an interesting premise to ponder—the high performing individual or group in which leadership is not a requirement.

To use this point as a segue to a summary of the path-goal leadership theory, from a leader's perspective, when considering a leadership behavior to adopt, behaviors that do not fill a void are inconsequential. Therefore, the core leadership behaviors must be selected based on what is lacking with the subordinate and/or their work environment (House, 1971). Otherwise the leader behavior adds no value to productivity nor increases degrees of motivation. For instance, subordinates who display high degrees of competence in an environment that provided its own high levels of support in an unambiguous setting and unambiguous tasks would not benefit from supportive behavior. This notion, while more extreme, is not entirely inconsistent with situational leadership theory, also discussed in this section.

Leader-member exchange. To quote Grean and Uhl-Bien (1995) directly, leader-member exchange theory "(Is) a multi-facetted construct involving aspects of the leader, the follower, and the dyadic relationship between the two" (p. 224). It is important to note that this theory of leadership, as obviated by a careful read of the quote above, is not about a relationship between the leader and a group. Leader-member exchange is all about the unique relationship between the leader and each individual member. The heart of the leader-member exchange theory focuses on two opposite types of followers defined as falling into either the in-group or the out-group.

One of the more interesting points, and one that is central to the support and construction of the theory, are the findings that different subordinates often provide very different descriptions of the same leader. For example, a leader would be described as

having high degrees of mutual trust, respect, and obligation by one subordinate while the same leader would be described as not trustworthy, disrespectful, and possessing a low sense of obligation by another subordinate (Graen & Uhl-Bien, 1995).

Leader member exchange provides a logical explanation for this inconsistency. And that explanation is that it is the subordinates' views of, or rather relationships with, the leader that causes the inconsistency. In this case, the former subordinate would be considered as part of the in-group, and the latter subordinate as part of the out-group. Leaders reward in-group members by bestowing them personal affirmation, or "support for self-worth," (Francis & Fred, 2002, p. 92) and negotiating latitude in making decisions and changing either job. Out-group members are simply rewarded with a paycheck.

As one would expect, members of the in-groups and out-groups differ in their performance. Out-group members are "analogous to the Transactional Leadership model as defined by Bass (1985) in that the exchange (service) is based upon subordination to the leader" (Graen & Uhl-Bien, 1995, p. 232). Those who are part of the out-group do their work and go home. Those who become part of the in-group "move beyond their own self-interests to focus more on larger mutual interests" (Graen & Uhl-Bien, 1995, p. 233). In short, "in-groups are lead… out-groups are supervised" (Keller & Dansereau, 1995, p. 128).

According to Grean and Uhl-Bien (1995), there are distinct stages through which subordinates pass along their way to reaching the in-group. In fact, it is presented as a natural progression over time, and coined as a "life cycle of leadership relationship

maturity" (Graen & Uhl-Bien, 1995, p. 230). However, there is some literature that refutes this assertion.

Research conducted by Liden, Wayne, and Stillwell (1993) found that in-group and out-group designations developed within two weeks of hiring and subsequently remain relatively stable over time. Whether this is a good thing or bad thing will depend on whether an employee is in the in-group or out-group. If we accept the premise that employee performance deviates over time, then an extension of this finding suggests that actual performance and improved or diminished performance over time are relatively inconsequential to in-group and out-group status. This conclusion is noted by Keller and Dansereau (1995) when they observed in their study that "interestingly, performance appraisal data (provided by superiors) does not consistently correlate with subordinate reports… Thus it appears that performance which is satisfying to superiors is somewhat distinct from performance which is assessed annually by the organization" (pp. 138-139). Anecdotally, we have all heard of such things as the "good old boy" network and other real-life examples where such a conclusion seems intuitively valid. Here we once again hear one of Northouse's (2004) criticisms of the leader member exchange theory as potentially unfair.

Contingency theory. Northouse (2004) notes that contingency theory could be used to describe several approaches to leadership, but that the most widely accepted as core to the theory are the works done by Fiedler and a few key associates. Contingency theory asserts that leadership style becomes more or less effective depending on two key factors. Ayman, Chemers, and Fiedler (1995) state "the model predicts that a leader's

effectiveness is based on two main factors: a leader's attributes, referred to as task or relationship motivational orientation…and a leader's situational control" (p. 148).

In order to determine which motivation is dominant, Ayman et al. (1995) constructed a measurement instrument known as the "least preferred coworker" scale. The scale does not look for patterns or trends, but only measures the degree to which the respondent found certain character traits objectionable. High scores indicate relationship motivation. Low scores indicate task motivation as dominant. The theory goes on to explain that situations requiring both high and low degrees of control gives leaders who are more task motivated an edge over those who are relationship motivated. And conversely, leaders who are relationship motivated should outperform leaders who are task motivated in situations where control is neither high nor low, but moderate. As for the situations themselves, Ayman et al. provides three elements for consideration: the Group Atmosphere/Leader-Member Relation Sociometric Method, Task Structure Scale or Type of Job task Structure, and Position Power Scale (Ayman et al., 1995).

Transactional and transformational leadership. Transformational leadership has become a key area of focus in the field of leadership. There are several dimensions to transformational leadership, and what it looks like has been described in many different, but very similar, ways. Over the past 15 years or so, the definitions and scope of transformational leadership itself has undergone some transformation, with the theory logically unfolding in depth and direction.

In the mid 1980s, Tichy and Devanna (1986) published *The Transformational Leader*, a book that outlined transformational leadership as a drama that leveraged off

three themes, which included recognizing the need for revitalization, creating a new vision, and institutionalizing change.

One of the more recent definitions put forth by Bass (1990) summarizes and expands transformational leadership in ways that have become more familiar today. He says:

> (Transformational leadership) occurs when leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group. (p. 21)

Bennis and Nanus (1997) expand the total impact transformational leadership can have when they say "(Transformational) leadership can move followers to higher degrees of consciousness, such as liberty, freedom, justice and self-actualization" (p. 202).

As for transformational leaders themselves, the commonly accepted set of characteristics they possess were defined in a few different articles on the subject by Bass and Avolio (1994, 2004) as the "4 I's." These include:

1. Individualized Influence or Charisma: Provides vision and sense of mission, instills pride, gains respect, and trust. An important distinction is made by the authors in that vision and mission shared by the leader is one that advances the organization, and not a personal agenda.
2. Inspiration: Communicates high expectations, uses symbols to focus efforts, expresses important purposes in simple ways. Particularly relevant to this study is the notion that, according to Bass and Avolio (2004), this "inspiration can occur without the need for identification of associates with the leader" (p.

28) enabling people with disparate backgrounds to find a common inspirational catalyst.

3. Intellectual Stimulation: Promotes intelligence, rationality, and careful problem solving. Associates of these leaders question the world around them, and often the leaders themselves, objectively, challenging prevailing wisdom, assumptions, values, and so on. Particularly relevant to this study is the notion that "transformational leaders help others to think about old problems in new ways." (Bass, 1990, p. 29)
4. Individualized Consideration: Gives personal attention, treats each employee individually, coaches, advises. (Bass, 1990; Bass & Avolio, 2004)

Transformational leadership is considered the ultimate level of effectiveness of leadership involvement in the transactional-to-transformational leadership continuum. This continuum has distinct levels. In order, they are laissez-faire, passive management by exception, active management by exception, contingency reward, and finally, transformational (Bass & Avolio, 1994, 2004).

The laissez-faire leader essentially "abdicates responsibilities (and) avoids making decisions" (Bass, 1990, p.7). This is essentially a leadership vacuum.

Up the continuum from there, one finds transactional leadership. Transactional leadership, which at its higher levels is often quite effective depending on the situation, is where "the leader gets things done by making, and fulfilling, promises of recognition, pay increases, and advancement for employees who perform well. By contrast, employees who do not do good work are penalized" (Bass, 1990, p. 20).

The first, and least effective, levels of transactional leadership include those who are characterized by either mode of managing by exception (MBE). These folks only get involved when problems exist. The passive MBE is one who waits until something breaks or standards are not met before they get involved. The active MBE, on the other hand, searches for fault and gets involved upon its discovery. The next level of transactional leadership is Contingent-Reward. At this level the leader does not just penalize, they provide "rewards for effort, promises (of) rewards for good performance, (and recognition) of accomplishments" (Bass, 1990, p. 22).

Adding to the body of literature on transformational leadership, Kuhnert and Lewis (1987) explore the development of a leader through stages that mirror the effectiveness progression of the other leadership styles mentioned in the continuum. Kuhnert and Lewis illustrate and emphasize that there are some degrees of transformational leadership being employed by leaders in the lower level styles. For instance, a transactional leader may strive to develop a group atmosphere that is more akin to transformational leadership, such as team spirit and mutual respect. However, the leader in question may still lack the requisite elements for attaining true transformational leadership until he or she develops the ability to transcend the individual experiences and attain a true understanding of, and focus upon, the higher level group experience. In the example chosen here—team spirit and mutual respect—the higher consciousness required for transformational leadership would be mutual experiences and shared perceptions (Kuhnert & Lewis, 1987). This point is important in that it asserts transformational leadership as something that can be learned, which answers some criticisms of the theory that say it is difficult to teach and is almost a trait (Northouse, 2004). Bass (1995) goes

further in defense of transformational leadership in his article “Transformational Theory Redux”. In it he answers, admittedly only partially at times, several criticisms of the theory ranging from its difficulty to measure to its teach-ability and concerns that somehow transformational leadership is potentially unethical and manipulative (Bass, 1995).

Transactional and transformational leadership and the multifactor leadership questionnaire (MLQ). Due to the fact that Bass and Avolio’s (2004) Multifactor Leadership Questionnaire (MLQ) and its associated text will be used as an important part of this study, it is explored here in particular. The MLQ documents the development of the identification, testing, and defense of factors that comprise transformational and transactional leadership, and whose presence indicate where on the transformational, transactional, management by exception (MBE), laissez-faire continuum mentioned above one would find any given leader in the transformational-transactional continuum. The current iteration of their research now in wide use, the MLQ, identifies six factors. They include some of the elements of the 4I’s mentioned above, but include some important distinctions and expansions to encompass transactional behaviors, which are important to this study as they are behaviors under test. To quote Bass and Avolio (2004) directly on these six, they include:

> Charismatic/Inspirational—Provides followers with a clear sense of purpose that is energizing; a role model for ethical conduct which builds identification with the leader and his/her articulated vision.

Intellectual Stimulation—Gets followers to question the tried and true ways of solving problems; encourages them to question the methods they use to improve upon them.

Individualized Consideration—Focuses on understanding the needs of each follower and works continuously to get them to develop to their full potential.

Contingent Reward—Clarifies what is expected from followers and what they will receive if they meet expected levels of performance.

Active Management-by-Exception—Focuses on monitoring task execution for any problems that might arise and correcting those problems to maintain current performance levels.

Passive Avoidant—Tends to react only after problems have become serious to take corrective action and may avoid making any decisions at all. (p. 50)

Detailed in the MLQ are the results of several iterations of their research in development and defense of the six factors listed above, the most recent being the MLQ 5X which includes measurements from 27,285 subjects in the United States.

Literature Review Section 2: Organizational Social Networks

Basic structures and roles of organizational social networks according to Cross. Cross and Parker (2004) identify four positions in organizational social networks, each playing a specific role in the network's function. These include central connectors, boundary spanners, information brokers, and peripheral people.

Central connectors are those individuals who have a relatively large number of arrows pointing at them. They possess important information needed by others to do their jobs. Cross and Parker (2004) note that when explaining the network diagram, the quality

and influence of these connections is not revealed in the diagram. As Cross and Parker describe them, these individuals can be “heroes” (p. 71) or “bottlenecks” (p. 73) or something in-between.

As heroes, central connectors enable the success of others and the organization; they come in the form of politicians who use their resources as a means to power. However, they can also be the well-intentioned but overworked to the point where they become bottlenecks preventing others from achieving optimal efficiency. Cross and Parker (2004) note that oftentimes these individuals’ contributions, or detractions, to the health of the organization can be invisible to management.

Boundary spanners have connections to two or more central connectors, and are those individuals in the network who Cross and Parker (2004) say link to “two groups of people that are defined by functional affiliation, physical location, or hierarchical level” (p. 74). These individuals can be critical to organizational social network effectiveness as they enable the cross-pollination of capabilities and sensibilities between the different groups. Often boundary spanners are strategically placed by management as an attempt to achieve such cross-pollination (Cross & Parker, 2004).

Information brokers are those individuals who two or more groups access for information. These individuals also represent an indirect connection between these groups that would otherwise be disconnected. They are different from boundary spanners in that they don’t just establish a connection, but provide an important and significant amount of expertise that can be shared with the different groups with whom they connect (Cross & Parker, 2004).

Peripheral people are those who have only one connection to the network (Cross & Parker, 2004). Cross and Parker (2004) note that such isolation can result from several factors ranging from natural and intentional isolation that benefits specialists and researchers, to those that desire closer integration into the network but remain at arm's length due to interpersonal or cultural issues. In these cases, Cross and Parker note that such peripheral people might represent an underutilized resource.

Organizational social networks within the larger organization. As explored in Chapter 1, the notion that organizational social networks as defined here are the things that enable an organization not just to function in an increasingly complex environment in a postbureaucratic way, but to also maintain viability and sustainability is an aphorism amongst those who write about it (Cross & Parker, 2004; Cross & Prusak, 2002; Jamali et al., 2006; Kira & Forslin, 2008). However, in terms of leadership behaviors displayed by leaders of these networks, there is scant attention paid. Therefore, the literature review of organizational social networks that follows does not focus on leadership dimensions of these networks, but rather on aspects of organizational social networks that are relevant to their emergence and other elements that contribute to dimensions of organizational social network where leadership is enabled or required for network success in whatever endeavor undertaken.

The realm of organizational social networks and their functions requires that leadership be viewed through a somewhat different lens (Pearce & Manz, 2005). This is of course due to the fact that leaders in organizational social networks emerge organically, and in the context of the organization as it is referred to here, they become

leaders of people who report to others who are in supervisory and leadership positions as well.

One may look at the modern advent of the organizational social network as a phenomenon enabling, or perhaps is a result of, the natural evolution of business organizations. Outlining the evolving nature of the dominant forms of organization and leadership, Pearce and Manz (2005) provide a short map that starts in early European farming, travels through the industrial revolution in the USA, creates a milestone through establishing bureaucracy as the dominant organizational form, finally arriving at a destination requiring a new approach for the survival and prosperity of its inhabitants—the postbureaucratic organization. As has been established, Pearce and Manz join an increasingly widening chorus of voices that say this is a better form that allows better innovation. Therefore, if the organization does not enable organizational social networks, it ceases to evolve into an organism that can compete with a form that has better adapted to a new environment, one in which keeping up with rapid change, competition, and technologies enables ever more effective networking.

However, the role of organizational social networks in the general discipline of organizational science has a somewhat shorter history, albeit a rich one that continues to grow rapidly. Borrowing themes from other disciplines, organizational scientists have made great contributions toward making sense of organizational social networks as they operate within organizations. In exploring dimensions of organizational social networks in organizations, Dal Fiore (2007) makes an important distinction between, and adds a dimension to the definition of, concepts of community and networks.

Dal Fiore (2007) asserts that traditional notions of how innovation arises and becomes part of an organization's culture is more likely to come from enabling organizational social networks rather than from the traditional notion of innovation as an intentional and designed undertaking that is then developed and adopted mandated from above. Emphasizing this notion as pivotal to organization innovation, Dal Fiore goes on to explain how organizational social networks promote "tension towards differentiation [and] evolution" (2007, p. 860) while communities promote "tension towards homogenization [and] conservation" (2007, p. 860). He then poses, almost rhetorically, the question of which construct—network or community—should be designed, or perhaps enabled, when embarking on creating such constructs (Dal Fiore, 2007). Important to my study is the notion that organizational social networks are indeed distinct from community. As connoted in the term, and as Dal Fiore points out, community has implications of very different sorts of interpersonal relationships than exist in organizational social networks. Organizational social networks in the context of this study defy most of the dimensions that typically define communities, such as geographic proximity, common faith traditions, similar political orientations, and so on. And, more importantly, is the implication that an attempt to create communities—to add dimensions typical of a community to a organizational social network—might actually corrupt or inhibit the performance of innovation that Dal Fiore says prevails when they are instead absent.

Arguing that change indeed comes too quickly to rely upon management as the purveyors of what is new, Teare (1997) espouses that "individuals need to learn and develop at least as quickly as the pace of external change" (p. 315). Reading into his

work a bit, this would suggest that formalizing the required learning into training sessions, or waiting for learning-leaders to legitimize the new reality to enable an embrace of it by staff simply keeps the organization a few steps behind external change and, quite possibly, their competitors. Indeed, Teare sees the traditionally embraced organizational learning process as something that is in reverse of what really happens. The "organizations learn from individuals or groups or teams as they share insights and experiences and, in so doing, capture new knowledge and understanding" (Teare, 1997, p. 315). Therefore, the key things to enable learning in the organization are constructs that facilitate learning at these levels. Teare concentrates on three themes that he believes will provide this. These include a solid organizational vision, leadership and motivation, and organizational change as a performance imperative.

To elaborate on each, Teare (1997) shares the opinion that vision is the primary facilitating agent of organizational learning; and that a vision statement, and presumably actions consistent with it, that emphasize themes of organizational flexibility and adaptation married to individual empowerment and legitimacy, will lay the foundation of a learning organization. Outside of leadership and motivation providing the tangible lashing points for vision to take hold and materialize into actions, Teare (1997) specifically sees the challenge to leadership in the facilitation of knowledge propagation between individuals and departments to create "learning communities within the organization" (p. 318).

One might argue that organizational change is the penultimate artifact of intelligent and deliberate employment of organizational learning. Teare (1997) explores organizational change in a similar manner saying that change, driven by experiential

learning and made possible through advanced coping strategies enable the organization continued and perpetual learning. Teare goes on to explore the implications of these elements; however, they will not be labored here. And as for the ultimate, following the penultimate, artifact of effective organizational learning? That would be an increase in organizational performance due to the changes that followed that learning.

Traditional network structure function and efficacy. Continuing to look at work that has been done around performance and effectiveness of organizational social networks within organizations, Guetzkow and Simon (1955) researched the effectiveness of certain network forms in terms of simple problem solving.

They set up experiments testing the familiar all-channel, circle, and wheel networks. Interestingly, they found that all-channel networks have "almost too many [communication] opportunities" (Guetzkow & Simon, 1955, p. 239) and did not perform as well as other network forms. Also of interest was the finding that information exchange in all-channel networks was less consistent than in more restrictive networks. The general implication is that since there are no formal restrictions resulting in a form of interdependence for information exchange between members, there is less communication actually happening within the network as a whole (Guetzkow & Simon, 1955). Important for those interested in organizational social network efficacy is their finding that certain communication restrictions improved performance, and that communication can actually be inhibited by all-channel networks, a seemly counterintuitive notion. As obviated in the network diagrams detailed in Cross and Parker's (2004) research, as organizational social networks emerge, they usually take on

very complicated network forms that include all-channel, circle, wheel, and other forms all within the same macro-network.

Looking at leadership in organizational social networks within organizations. Approaching the idea of analyzing leadership that arises in organizational social networks, Gronn (2002) argues that traditional approaches to the study of leadership have primarily used a lens that focuses directly on formally recognized leaders. While Gronn does not specifically confront organizational social networks, his work has important implications toward them. While acknowledging the importance of traditional approaches to leadership, Gronn advocates that "students and practitioners of leadership would be better served by a more expanded unit of analysis... [one that] encompasses patterns or varieties of distributed leadership" (p. 424). Distributed leadership, as Gronn defines the term, is the phenomenon of a few different leadership role types emerging as the organization embraces, or at least allows the emergence of, many of the same elements that are typically used to describe postbureaucratic structures. Gronn explains these as instances where one finds the fluid division of labor as something negotiated and agreed upon between organization members—these divisions being based upon individuals' unique spheres of knowledge, access to tools, and range of competencies relative to those of others. Gronn acknowledges that division of labor dynamics is also influenced by social considerations of shared "values and interests, the preferred arrangement or configuration of tasks (e.g., their scheduling, physical alignment, available technology)" (p. 428).

As for the types of distributed leadership that emerges within these postbureaucratic forms, Gronn (2002) says they are numerous and are ascribed to the

leadership forms voluntarily from associates rather than prescribed by management. As for these leadership forms, they come in a few different sizes and shapes ranging from "one individual [to] an aggregate of separate individuals [to] sets of small numbers of individuals acting in concert or larger plural-member organizational units" (Gronn, 2002, p. 428). He also points out that the ascription of leadership is available to all organizational members and not to just those in management positions. Indeed, Gronn makes it a point to draw a clear distinction between management and leadership, the former founded on authority and the latter founded in influence. Gronn (2002) goes on to explain that the primary function of leadership is evidenced by "collaborative modes of engagement which arise spontaneously… intuitive understanding that develops as part of close working relations among colleagues… [and] structural relations and… agreements…" (p. 429).

Regardless of the sizes and shapes of leadership, or the motivations individuals have for voluntarily participating in said organizational social networks, involvement in these networks usually takes individuals out of their official sphere of responsibility, expanding and blurring their roles to provide the proper connections between interrelated tasks required for dealing with the challenge at hand.

Organizational social network performance, knowledge overlap, and knowledge variety. As is intuitively obvious and consistent with Gronn's (2002) reasoning, is the notion that as organizational social networks form, there will be varying degrees of instances where network members share some of the same knowledge. Also seemingly intuitive is the notion that degrees of shared knowledge, referred to by Wong (2007) as knowledge overlap, would work to the advantage of the network's function.

However, of particular interest here is the fact that Wong's (2007) study, which involved rather intensive field research, found that such overlaps do not work to make the group more effective. What Wong did find that made some of the groups more effective was knowledge variety—the breadth of different knowledge held between members of the group. The implication here is that groups drawing upon broader ranges of knowledge variety will be more effective than those with less variety. When framed by the findings of Guetzkow and Simon (1955), which once again suggests that all-channel networks can be less effective than other forms, this indeed poses an interesting dilemma in terms of how to best leverage the power of knowledge variety.

Organizational social networks, open innovation communities, and communities of practice. Somewhere between communities of practice and organizational social networks as they are narrowly defined here lays another emergent network form called open innovation communities.

Like organizational social networks, open innovation communities are not formally constructed. They are constructed of people who voluntarily opt in to make a contribution and are free to leave. Open innovation communities have been made a household term due to the Internet and the success of open source and open innovation software development efforts.

Fleming and Waguespack (2007) look at how leadership arises inside these communities. Their study specifically looks at dimensions of brokerage and boundary spanning, and how these dimensions play in the emergence of individuals as leaders in open innovation communities. Fleming and Waguespack (2007) define brokerage as the practice to "…connect otherwise disconnected actors" (p. 165), and boundary spanning

as the practice to "…identify, translate, and relay information within and across… firms" (2007, p. 165). As Fleming and Waguespack outlined and tested four hypotheses, their findings can be generalized for our purposes here. They find that the members of these communities who engage primarily in brokerage are less likely to emerge as leaders than those who engage in boundary spanning. Indeed, they find that boundary spanners can be up to 658% more likely to ascend to leadership positions than those that are not (Fleming & Waguespack, 2007). They also find that physical presence plays a role in ascension to leadership as well. Simply put, those who show up are more likely to become leaders (Fleming & Waguespack, 2007).

While not tested, Fleming and Waguespack (2007) theorize that boundary spanners are more trusted by those in the community since their value-add to the community includes contributions to its knowledge base. They also theorize that brokers are often perceived as "calculating and politically savvy operators" (Fleming & Waguespack, 2007, p. 166).

Differing from the approach taken in this study, Fleming and Waguespack (2007) define leaders as those who actually end up in formal leadership roles in the organization. But the relevance to this study remains since these actors emerge as leaders in their communities informally. And indeed, since these communities remain as informal networks, ascension to a formal leadership role does not catalyze the open innovation community into a formal structure. Hence the informal leadership function within the community remains informal while the role of a formal leader is taken in another dimension within the organization. While they do address behaviors that lead to an

ascension to leadership, Fleming and Waguespack do not approach leadership theories, methods, or styles of these leaders before or after taking on the formal role.

The notion that stronger organizational social networks are better performers than weaker organizational social networks is an aphorism often stated, but not often tested empirically. Balkundi and Harrison (2006) formally studied 37 teams, and proved the aphorism as true. In their research, they identify a significant relationship between team structure and the teams' efficacy. Specifically, Balkundi and Harrison tell us "…teams with denser…networks tend to perform better and remain more viable" (p. 63).

The same year, Balkundi teamed up with Kilduff in another study concentrating on organizational social networks and leadership (Balkundi & Kilduff, 2006). In their study, they identify four elements that they say are central to making sense of existing organizational social networks. These elements are embedded-ness, social utility of network connections, structural patterns of social life, and the relationships themselves. They then theorize how leaders' own perceptions shape some of the leaders' own networks. These include "…the direct ties surrounding leaders, the pattern of direct and indirect ties within which leaders are embedded…and the inter-organizational linkages formed by leaders as representatives of organizations" (Balkundi & Kilduff, 2006, p. 941).

To explain briefly, Balkundi and Kilduff (2006) use the term *embedded-ness* to describe the degree to which members of the organizational social network prefer to interact with other members of the network as opposed to those outside the network. They make it a point early on to stipulate that leaders within the network need to be part of the other members' embedded set of players. Social utility, as the name implies, is

used to describe degrees and dimensions of how becoming part of the network benefits the individual, hence making membership attractive and sustainable. Balkundi and Kilduff also stress that leadership emergence involves "building and using social capital" (p. 421); social capital being the perceived ability of leaders, now elevated in stature, to use their role as a leader to benefit those that bestow upon them said role.

Structural patterns of social life refer to the interconnectivity of members within and across networks. These patterns are mapped in organizational social network diagrams as illustrated by Cross and Parker (2004).

Finally, and most importantly according to the authors, are the relationships between the immediate network members. Summarizing their findings regarding networks and leadership, Balkundi and Kilduff (2006) state, "Our network approach locates leadership not in the attributes of individuals but in the relationships connecting individuals" (p. 420).

Looking back at the leaders' perceptions, they outline the direct ties and the indirect ties surrounding the leader as "ego networks" (Balkundi & Kilduff, 2006, p. 422), which are comprised of relationship density, range, and cohesion; and postulate that the leaders' own acuity to their networks and their roles as leaders is directly related to the leaders' own potency. They say the dimension of inter-organizational linkages are comprised of boundary spanning, alliances, and centrality, and hypothesize that dynamics of all of these drive leader effectiveness (Balkundi & Kilduff, 2006).

As Balkundi and Kilduff (2006) explore these aforementioned dimensions in detail, and hypothesize on their effects on organizational social networks and their leaders, a few elements come forth that are notably important for this study. This includes

the notion that someone who is perceived as influential and perhaps a leader in one network might not be perceived the same way by those in other networks despite the intersection of the two. Also, they note that some networks' members erroneously perceive members of other networks as powerless when in fact they are closely tied to those in power in their core network (Balkundi & Kilduff, 2006). Also, while not used by name, they explore dimensions of social intelligence as illustrated by Goleman (2006), and hypothesize that heightened degrees of social intelligence are important in being an effective leader within an organizational social network (Balkundi & Kilduff, 2006).

Also of note, Balkundi and Kilduff (2006) point out in their conclusion that the role of Leader-Member Exchange (LMX) leadership theory is something that can enhance the study of leadership within organizational social networks. However they do not explore LMX in any detail relative to the dimensions they explore.

Prior to Balkundi and Kilduff (2006), and Hoffman (2004), Sparrowe and Liden (2005) also found that organizational social networks with central leaders in denser networks performed better than those that were less dense. One of the interesting things in Sparrowe and Liden's (2005) work is that they focused on degrees of LMX behaviors—the strength of the interpersonal relationships between leaders and subordinates—as key variables in their research, but they did not specifically look at any other leadership theories or styles for analysis. Also in their research, they looked at the degrees of trust that other members of organizational social networks have with leaders and with the leaders' subordinates. The findings indicate that mutual trust combined with presence enhances team performance (Sparrowe & Liden, 2005). But in situations in which other members of organizational social networks distrust the formal leader, or

when the leader is distant rather than central, then the opposite phenomenon prevails—the team is less effective and subordinates are less satisfied in their roles (Sparrowe & Liden, 2005).

Leadership within communities of practice. Pemberton, Mavin, and Stalker (2007) address the dynamics of leadership within communities of practice, noting that leadership is essential for a community of practice to function. They also note that oftentimes communities of practice emerge organically from a group of individuals whose interconnectedness "…lie outside of the formal organization…and are not a result of management awareness, or for that matter the awareness of other employees who are not part of this community" (Pemberton et al., 2007, p. 67). Even so, the authors do note that leadership within communities of practice, even those that emerge organically, require leadership in order to function (Pemberton et al., 2007), a finding particularly relevant to this study. However, they dedicate most of their study to looking at how communities of practice, and in particular their leadership, encounter problems. Degrees of power within the communities and individual agendas that might not run parallel to those of others or to the communities in general were noted as dominant forces that could lead to the community either not functioning well, or even dissolving altogether (Pemberton et al., 2007). All the more tragic, the authors lament, is the fact that many members join communities of practice in order to share and expand their expertise in environments that appear to be bastions of freedom where "tensions toward homogenization [and] conservation" (Dal Fiore, 2007, p. 861) do not operate And here perhaps we find an important distinction in the literature. Recall that Dal Fiore (2007) is very intentional with his use of the term community. However, Pemberton et al. (2007)

see communities of practice as organically emerging forms with the potential to turn into the stifling environment it strives to reach above through what we would agree is poor leadership. Pemberton et al. never approach leadership behaviors within communities of practice, except to point out how they dysfunction, and to note that research specifically in this area is lacking.

Beyond organizational social networks and communities of practice within formal bureaucracies. There are, of course, other ways organizations can respond to forces that seem to favor the postbureaucratic form. One of these options, the "cleaned-up bureaucracy" is explored by Jones and Kriflik (2006, p. 154).

The cleaned-up bureaucracy reads somewhat like generic descriptors of organizations that have been "streamlined," "optimized," or "right-sized." The authors make the important distinction that the streamlined bureaucracy is in no way something less bureaucratic than its pre-morphological self (Jones & Kriflik, 2006). It is just as bureaucratic, but with "…hierarchical controls, centrally imposed rules, and individual managerial responsibility and accountability [still in place]" (Hales, 2002, p. 64 as cited in Jones & Kriflik, 2006).

Of particular note here are the findings in Jones and Kriflik's (2006) research that reveal that subordinates in such organizations feel less empowered, less able to expand their contributions to the organization, and less in touch with their leaders. The authors' main point is that managers in cleaned-up organizations are not allowed the bandwidth to establish relationships, regardless of their form, with their subordinates. This, of course, renders most dimensions of leadership ineffective. The authors go on to solve the

problem with such remedies as making managers aware of the pitfalls of the cleaned-up organization and ameliorating it by taking the time to establish some form of relationship.

Of particular interest are the authors' specific identification of situational leadership (Blanchard, 1991) and path-goal leadership as being particularly befitting the cleaned-up organization due to their emphasis on the leaders' objective evaluation of both the environment and the follower in deciding on a course of action (Jones & Kriflik, 2006). However, these, nor other leadership styles that might be effective in the cleaned-up bureaucracy, are explored in any depth. Indeed, these leadership styles are mentioned in the antepenultimate paragraph of the article's conclusion.

Organizational social networks, order from chaos. Central to the primary themes found in organizational social networks that are of relevance to this study—the natural, organic emergence of teams and leaders within them—one finds a heavy intersection with themes also found complexity theory. Complexity theory, among other things, studies the organic emergence of outwardly simple outcomes that are generated from a complex set of inputs (MacGill, 2007).

Taking complexity theory and merging it with organizational science, Brodbeck (2002) espouses that in many cases organizational procedures that emerge organically will outperform those that were dictated by management. Before going further, it should be noted that Brodbeck does focus his study on procedures as opposed to people. However, his work does explore individual behaviors, motivations, and ad hoc, informal social relationships that are relevant to organizational social networks (Brodbeck, 2002). Also, while not a primary area of focus, his work also touches on themes of job-expansion and redefinition as it occurs in organizational social networks. Finally, the idea

that self-organization can be fostered through particular, intentional actions by management to foster self-organization is of interest here (Brodbeck, 2002).

Also merging complexity theory with organizational science, Smith and Graetz (2006) embrace the idea that organizational social networks, more specifically framed as "emergent, self-organized behavior in organizations" (p. 851) are better equipped for unsolicited creativity and innovation, and can be fostered through constructing opposing forces within the greater organization. Specifically, Smith and Graetz outline several opposing elements that management can put into place within the organization to create opposing dualities that, theoretically, will catalyze self-organization.

Smith and Graetz (2006) propose that the creation of such a dualistic environment will be more effective than more clear-cut, managerial efforts to foster organizational social networks since the introduction of management into the equation corrupts organic formation before it can even start. Overt efforts by management, by default, negate the possibility of true self-emergence, and hence the result is something less optimal than that which would emerge organically. Smith and Graetz say that the a successful construct of the proposed dualism will result in an organization that operates on the "edge of chaos" (p. 851).

Organizational social networks as a behavioral phenomenon. The forces that drive the development and sustainability of various networks so far have focused on more overt elements such as solving problems, creating innovation, and checking chaos in favor of establishing order. However, some consideration needs to be made to the subconscious forces that pull networks together. Therefore, some attention will be paid to

the realms of sociology and social psychology. Only a cursory exploration will be offered here.

Gherardi and Nicolini (2001) summarize the sociological tradition that underlies all group formation when they espouse that individuals come to understand subconsciously that their well-being is best served by behaving in a fashion that ensures their acceptance by the group. These individuals also come to understand that their well-being is also tied inextricably to the overall health and strength of the group; therefore, the organization remains cohesive as long as the members of the organization continue to benefit from their mutual associations (Gherardi & Nicolini, 2001). Through these and other forces, cultural norms and systems for reward and punishment arise—or rather are learned—by the group through its desire for self-perpetuation (Gherardi & Nicolini, 2001). Simply put, organizational social networks emerge when people think they will benefit from their involvement in them, and will behave in these networks according to an adopted set of norms (Gherardi & Nicolini, 2001).

Conclusion to literature review. Of the many things that paint a picture of transformational leadership, the image of leaders inspiring others to transcend the self and move beyond selfish interests is an important part of the landscape. At first blush such a notion applied to organizational social networks might seem to be inconsistent with the behavioral science traditions as illustrated by Gherardi and Nicolini (2001). Organizational social networks as defined here exist outside of formal boundaries, and are likely not even visible to management (Cross & Parker, 2004). Therefore, participation in organizational social networks is likely to not be rewarded.

But if indeed several of the authors explored in this section and in Chapter 1 are correct, an unwillingness to participate in these organizational social networks puts not just the organizational social network at a disadvantage, but puts the entire organization at risk as it bends under the weight of bureaucracy and contorts with the tension of complexity. Therefore, the emergence of organizational social networks and their functions indeed is consistent with Gherardi and Nicolini (2001), as individuals, organizational social networks, and the organization all benefit from the mutual association. However, these associations might not guarantee optimal effectiveness. Another important element might be a proper form of leadership, including the leadership of organizational social networks.

Chapter 3: Methodology

Restatement of the Problem

The primary focus of leadership studies has been placed on the leaders that are formally established and formally recognized as either managers, supervisors, leads, or other roles that grant authority over the supervision of others by the bureaucracy within the organization (Gronn, 2002). That is to say that the study of leadership has primarily focused on the behaviors of leaders as they go about performing a role in which their leadership role has been formally established. But the notion that leadership only exists in cases where it is formally prescribed has been replaced by a broader understanding and acceptance of what leadership is. Today, we embrace the notion that "leadership is available to everyone" (Northouse, 2004, p. 3), and we accept as the norm that "leadership can be found from any chair" (Zander & Zander, 2002, p. 7).

Concurrently, there is an ever-growing body of literature that embraces the notion that traditional bureaucratic structures and functions are diminishing in effectiveness as the nature of business becomes ever more complex and time-sensitive, requiring degrees of agility that bureaucracy cannot provide (Avolio & Bass, 2004; Balkundi & Kilduff, 2006; Bass & Avolio, 1994; Conger, 1999; Cross & Parker, 2004; Jamali et al., 2006; Levi Martin, 1998; Tichy & Devanna, 1986). Stepping in to fill these voids are—among other things—organizational social networks: groups of people that work together and act as resources for one another informally in order to solve problems or change the way things are accomplished in an organization (Cross & Parker, 2004).

Despite their emerging importance to the success of organizations, very little attention has been paid to the leadership dynamics of organizational social networks. The

nature of these networks, where individuals are called to rise above their standard roles and their missions, to transform what and how organizations produce—appear to provide a fertile environment where transformational leadership behaviors will be found and will flourish.

Restatement of Purpose of Study

The purpose of this exploratory study is to reveal to what degrees transformational, transactional, and laissez-faire leadership behaviors are observed to be in use by leaders of organizational social networks as observed by a select sample of organizational social network members, and to compare those measurements to those of formally established leaders.

These findings might have important implications regarding organizational development. If transformational leadership behaviors are found to be employed significantly more frequently in organizational social networks, and if the canon of literature espousing the importance of organizations to embrace postbureaucratic practices is accurate, then it behooves organizations to nurture not only organizational social networks, but to develop transformational leadership behaviors of individuals (Avolio & Bass, 2004; Cross & Parker, 2004; Jamali et al., 2006; Kira & Forslin, 2008).

Restatement of the Research Questions

Again as implied in the purpose of this study, two research questions are addressed here: (a) What types of transformational, transactional, and laissez-faire leadership behaviors does a select sample of organizational social network members perceive to be in use by leaders of the organizational social networks in which the subjects participated? (b) How does the sample of organizational social network leaders

compare to formally established leaders as measured by Bass and Avolio's (2004) MLQ study?

Hypotheses to Test

To state these two questions as a pair of hypotheses:

H(0) 1: As perceived by a selected sample of organizational social network members, those identified as leaders of their networks employ transformational, transactional, and laissez-faire leadership behaviors.

H(0) 2: As perceived by a selected sample of organizational social network members, there are no significant differences between the degrees of the different transformational, transactional, and laissez-faire leadership behaviors in use by those identified as leaders of their networks and those found in the general population of leaders as represented by Avolio and Bass' (2004) MLQ research.

Testing the results. In order to test for a difference between the means of the leaders of organizational social networks and those found in the general population of leaders, a *t* test was employed. The *t* test calculations were run using GraphPad Software's online QuickCalcs tool. Given the non-volatile, exploratory nature of this study, the alpha level was set at .05. Since this study considered the possibilities of organizational social network leaders' measurement means as diverging from the general population of leaders in both negative and positive directions, the *t* test was run two-tailed. And given the sample of organizational social network leaders represent a separate group than do the formal leaders from Avolio and Bass' (2004) MLQ study, the *t* test was calculated as unpaired. As noted, this is an exploratory study given limitations outlined above. To avoid confusion, definitive statements about significance will not be employed

when discussing statistical test results except in those cases where statements are clearly limited to describing the sample used in this study and where there can be no reasonable chance they might be interpreted as descriptions of the general population of organizational social network leaders.

Research variables. The variables studied are the leadership behaviors explored by Avolio and Bass (2004) in their MLQ study. Also included in the discussion are three dimensions of employees' feelings regarding their leaders and their teams which are also included in the MLQ study and associated questionnaire. These are listed below:

1. Degree of transformational leadership style of Idealized Influence (Attributed)
2. Degree of transformational leadership style: Idealized Influence (Behavior)
3. Degree of transformational leadership style: Inspirational Motivation
4. Degree of transformational leadership style: Intellectual Stimulation
5. Degree of transformational leadership style: Individualize Consideration
6. Degree of transactional leadership style: Contingent Reward
7. Degree of transactional leadership style: Management by Exception (Active)
8. Degree of transactional leadership style: Management by Exception (Passive)
9. Degree of non-leadership style: Laissez-Faire Leadership

The research instruments. To gather the outlined data, the research was broken into two parts using two different questionnaires. The first questionnaire—primarily a qualification tool—was one created for this study. The second questionnaire was Avolio and Bass' Multifactor Leadership Questionnaire Rater Form, Short-Form version 5X (2004), simply referred to from here on in as the MLQ.

The first questionnaire (Appendix A) began with a narrative statement to lead the subject to consider organizational social networks, and to then identify one in which he or she has participated, if possible. This question acts as a qualifying question for inclusion into the study. Subjects who could not think of an organizational social network were asked to indicate so, and were then omitted from the second part of the study.

The first questionnaire also created a short profile for each subject, established a name for the organizational social network if they identified one, and identified an individual who the research subject felt played an important leadership role within that network. Also used for qualification purposes was a question that asked the research subject to identify whether he or she considered himself or herself to be the most important leader of the network. This question was subsequently changed to be an instruction as will be detailed shortly.

Also captured were the names and email addresses of the subjects, which were used for sending those who were deemed to have passed the qualifying questions mentioned above a link for participating in part two of this study. Also asked were a few other questions that might be relevant for future research, but were not explored in this study.

The name of the organizational social network and the first name or initials of the leader that the subject provided were used in the email invitations for part two of this study in order to aid the subject in recalling the organizational social network situation and leader they identified in part one. Subjects were also asked to estimate the number of people that comprised the network.

Questions related to possible future study. Another question asked if the subjects in the organizational social network were solving a problem, confronting a challenge, implementing a change to the way things were typically done, or if it was a combination of both. This question, along with questions regarding the type of industry and size of the organizational social network were asked for use in possible future studies, but were not explored here. The second questionnaire (Appendix B) is Avolio and Bass' (2004) MLQ rater form.

Why two parts to the research instrument? The research is broken down into two pieces to ensure a reasonable sample size, to minimize classroom disruption, and to control the number of actual subjects completing the MLQ questionnaire online. As will be detailed shortly, the first part of this research study took place in classrooms before or during scheduled instruction. Also, copyright considerations limit the number of completed MLQ questionnaires to be 100. By executing the MLQ online, access to the MLQ by subjects was simply turned off once the minimum number of respondents completed the questionnaire, and well before the 100 respondent limit was reached.

Another advantage to putting the MLQ questionnaire online was the fact that results were downloaded in an electronic format so that no manual coding by the researcher was required. Aside from the obvious convenience of this practice, it also eliminated the possibility of data entry errors occurring.

Collecting data from part two of the research—the MLQ ratings. The online MLQ survey was conducted using Survey Monkey, which provided electronic downloads of collected data as noted previously. Due to copyright restrictions, the actual questions associated with the MLQ have been omitted.

As Mindgarden charges for the use of the MLQ, a package for the right to 100 uses of the MLQ was purchased. This is the minimum quantity that can be purchased. The final step before developing descriptions regarding the degrees of employment of transformational, transactional, and laissez-faire leadership behaviors and applying a *t* test to compare the sample of organizational social network leaders to the general population of leaders was to simply derive sample size, means, and standard deviations of the MLQ question-ratings for each of the organizational social network leaders given by the sample of organizational social network members.

Making comparisons. The second hypothesis, calling for a comparison of the sample of organizational social network leaders to the general population of leaders was tested using a *t* test to compare the means of the two different populations.

Since the MLQ database already details the mean, standard deviation, and sample size, the *t* test was simply executed using the online statistics calculation and reporting tool from GraphPad in which the user need only enter mean, standard deviation, and sample size once the appropriate *t* test is selected. Since the nature of this study is nonvolatile and exploratory in nature, an alpha level of 0.05 was established.

Research subjects. The subjects for this research were fully-employed students in Pepperdine University's Graziadio School of Business Management's fully employed BSM (Bachelor of Science in Management), MBA, EMBA (Executive MBA) programs, and Pepperdine University's School of Education and Psychology's doctoral program in organizational leadership. These students were chosen to simplify the research, gather data from divergent organizations and industries, gather data from a wide range of professional backgrounds, and to ensure a reasonable sample size albeit too small to be

representative of the general population of organizational social network leaders as explain under the limitations section in Chapter 1.

Such diversity is important to this study as it is the leadership behavior within organizational social networks in general, and not leadership behavior within organizational social networks of any particular industry or business function that is being explored here.

Reaching and recruiting a desired range of research participants. In order to reach these subjects, once the research instruments passed institutional review, I asked permission from the deans of Pepperdine's Graziadio School of Business and Pepperdine's Graduate School of Education and Psychology programs for permission to conduct my study in the classrooms of those professors who agreed to allow me to do so (Appendix C). Once permission was secured, I consulted relevant course schedules and identified individual professors teaching courses in these programs. The venues for this research included all Pepperdine campuses which hosted programs for fully employed students. These included campuses in Irvine, West Los Angeles, Encino, Westlake Village, and Pasadena.

Once the course instructors were identified, I emailed them and asked them for assistance in conducting my research (Appendix D). Specifically, I asked for permission to enter their classrooms, to invite their students to participate in part one of the research, and to immediately commence researching with those students who volunteered to participate. When asking for permission from the professors, I was sure to explain that this part of the research would take less than 10 minutes of time in totality.

I also asked these instructors to provide me a specific day and time that was convenient for them to facilitate this part of my research. Once an instructor provided me a specific date and time, I confirmed my visit via email and also thanked the instructor for his or her assistance. If a course instructor was willing to assist but did not provide a specific day and time, I would respond via email thanking him or her for the assistance and then suggest a day and time based on their course schedule and any commitments I might have already made. Given my employment status at the time, I could accommodate any schedule provided there was not a conflict between two or more instructors' classroom visits. In order to manage this process, I used a calendar to keep track of commitments. If a course instructor identified a day and time that conflicted with a commitment I already made, I would have replied via email stating that there was a conflict. I provided the course instructor details, based on the calendar I was keeping, as to when I would be available to visit his or her class; and then asked if any of the days and times I identified might be acceptable. I was sure to mention that I was available anytime, including after or during scheduled breaks. If a mutually agreed upon day and time could not be established, then that instructor's class would be excluded from my research.

If a course instructor did not reply to my email request for a class visit, I waited one week and then sent a second request. If that request was also ignored, I omitted that instructor's class from my research. This, of course, was done to avoid creating an annoyance to that instructor. This process of contacting instructors and scheduling class visits was continued until I had scheduled a classroom visit or had abandoned the attempt to visit the class as outlined above.

Classroom visits were then commence as scheduled, and part one of the research was conducted as detailed. This was continued until all scheduled visits were executed and until a minimum of 30 or a maximum of 100 subjects completed part two of the research online.

The maximum number of completed surveys was capped at 100 due to copyright restrictions associated with the MLQ. If the 100th survey would have been completed, the survey would have been taken down from Survey Monkey and replaced with a message thanking the participant for their assistance, but stating that the research had already been completed. Also, any remaining scheduled classroom visits would have been cancelled by contacting the course instructors via email, thanking them for their offer of assistance, but informing them that the research was already completed.

As detailed in Chapter 1, the population size of organizational social network leaders is not established; therefore, the sample size used in this study for employing *t* test is one of convenience rather one driven by population size. Given that when using a *z* distribution to test hypothesis, "if the size of the sample is at least thirty, the results are deemed satisfactory" (Mason & Lind, 1990, p. 418), for the research to be complete, a minimum threshold of 30 completed part two surveys was established. If all classroom visits during the course of one trimester would not have rendered at least 30 completed part two surveys, the research would have been continued into the next trimester.

Research execution. The first questionnaire was to be administered and collected in classrooms, preferably prior to the beginning of the day or evening's instruction, in person, by me. The medium for the questionnaires was printed hard copies (Appendix A).

Once in the classroom, and before instruction was started, I introduced myself as a graduate student completing his dissertation on the topic of leadership and informal networks found at work and other organizations. I then asked the class members if they would please participate as subjects in my research. I explained that the first part of the research included a short questionnaire that would take between 5 and 7 minutes to complete in class while I was there, and that I would collect the responses once they were finished. I also explained there would be a second part to the research to be conducted online, and that I would send the participants a link to the online questionnaire via email. I then explained that the second questionnaire would take approximately 20 minutes; and that they would be able to complete it at their leisure within a week from when I sent the link.

I then asked for a show of hands of those who agreed to participate, and then handed out the first questionnaire to them. Once all questionnaires were given to the volunteering participants, I read aloud the IRB disclaimer and a short introduction to the concept and function of organizational social network. The same text appeared on their questionnaires, and I asked them to read along with me. Once the reading was finished, I asked them to proceed with filling out the questionnaire.

As the subjects finished the questionnaires, I collected the completed forms. When the final questionnaire was finished, I thanked them for their participation; and let them know once again that I would email them a link to the second questionnaire (Appendix E).

Part one of the research was then coded into an Access database the day immediately following the collection of the completed part one surveys for use in a mail

merge document that became the body of the email inviting the participants to take part in part two of the study.

The second questionnaire. The second questionnaire, the MLQ, was completed online by those who agreed to participate in the research and of course followed through with completing the MLQ.

Mindgarden, the publisher of the MLQ, provides an option for administering the MLQ online via the researcher's own collection method. Embracing this option, it was employed through the use of Survey Monkey.

Emails (Appendix E) notifying the subjects of how to log in and complete the MLQ Rater Form were sent to the subjects within 48 hours of their completion of part one of the research. Subjects were asked to complete the online MLQ rater form within one week. As noted, to help ensure consistency with the first questionnaire and to aid the subjects in their recollection of the organizational social network experience under study, the name of the organizational social network and the name of the organizational social network leader identified in part one of the research were included in the email invitation and linked to the Survey Monkey-hosted MLQ.

Opportunities for future studies. While this study limited its scope to an exploration of transformational leadership, transactional leadership, and laissez-faire leadership behaviors of organizational social network leaders, additional data was captured for possible future studies. Information regarding industry type, the size of organizational social network in terms of membership numbers, and the type of work in which the organizational social network was engaged was captured. There was, of course, the possibility that relationships between these variables and the rated behaviors from the

MLQ exist. Patterns that emerged in the data analysis suggesting such will be considered for further analysis and continued research that might be conducted to refine the findings, and make them particularly relevant to more specific scenarios.

Also of potential relevance but not subject to consideration here are the patterns of the organizational social networks in play. Organizational social networks typically have mutated patterns of connectivity networks where common network configurations such as star and circle networks intertwine, but also have the added dimensions of information flow and even knowledge or skill specializations of network members (Cross & Parker, 2004). Further study might include layering in network pattern dynamics in order to see if any particular patterns relate to dimensions of transformational leadership.

Conclusion to Research Methodology

As outlined in Chapter 1 and detailed in Chapter 2, the notion of postbureaucratic organizations operating in ever increasingly complex environments benefiting from informal and organizational social networks has been thoroughly advocated and even tested. But specific dimensions of leadership behaviors found in organizational social networks have only been given a cursory treatment. Most studies in this area look at how leaders formally emerge, not how informal leaders actually act.

This study will add to the existing body of leadership literature by exploring transformational, transactional, and laissez-faire leadership found in organizational social networks. Given the increasing reliance that organizations have on organizational social networks, and given that transformational leadership behaviors can be identified or taught and/or nurtured, the implications of this study may prove to be important to formal leaders seeking to optimize the performance of their organizations. Highly effective

organizational social network with effective leaders can allow organizations to operate at "the edge of chaos" (Smith & Graetz, 2006, p. 851) without falling into its abyss.

Chapter 4: Research Results

Introduction

This study sought to explore and, to some degree, measure what so many of the authors explored in the earlier chapters of this paper left to assumption. And it was upon these assumptions that yet another one was formed by this researcher in the course of creating this study, but one not overtly stated in either the research questions or the hypotheses. This assumption was that after applying the MLQ test to the sample of leaders of organizational social networks, one of two scenarios would be found. The first scenario was that the sample organizational social network leaders used in this study would be no different than their formal leader counterparts; the second being that indeed the mythos of the aforementioned authors would be reinforced, and the sample of organizational social network leaders used in this study would indeed appear, and perhaps even test, to be more transformational and less transactional than formal ones.

However, the results of this exploration sometimes seem to run contrary to every assumption detailed in the paragraph above—regardless of author. Here forward is a discussion of what was actually found.

Restatement of research questions and hypotheses. The purpose of this exploratory study is to reveal to what degrees transformational, transactional, and laissez-faire leadership behaviors are observed to be in use by leaders of organizational social networks as observed by a select sample of organizational social network members, and to compare those measurements to those of formally established leaders.

As implied in the purpose of this study, two research questions are addressed here:

1. What types of transformational, transactional, and laissez-faire leadership behaviors do a select sample of organizational social network members perceive to be in use by leaders of the organizational social networks in which the subjects participated?
2. How does the sample of organizational social network leaders compare to formally established leaders as measured by Bass and Avolio's MLQ study?

To consider these questions as a pair of hypotheses:

H(0) 1: As perceived by a selected sample of organizational social network members, those identified as leaders of their networks employ transformational, transactional, and laissez-faire leadership behaviors.

H(0) 2: As perceived by a selected sample of organizational social network members, there are no significant differences between the degrees of the different transformational, transactional, and laissez-faire leadership behaviors in use by those identified as leaders of their networks and those found in the general population of leaders as represented by Avolio and Bass' (2004) MLQ research.

As noted throughout, there is no attempt to establish a statistical significance difference between the general population of organizational social network leaders and the general population of leaders given unknown population parameters of organizational social networks; therefore, this exploratory study seeks to establish areas where differences are found for future research. As also noted, this is the first study of its kind, so a broad approach was in order.

The MLQ addresses several behaviors in the transformational leadership—transactional leadership—laissez-faire leadership spectrum, and also includes the

followers' feelings of satisfaction, extra effort, and perceived efficiency of the group to which they belong.

Changes to Research Instrument

Upon beginning execution of the research, it was found that 25 of the first 31 subjects to complete part one identified themselves as the leaders of the organizational social network they identified. Since the research was specifically designed to measure the perceptions of those who were members, but not leaders, of social organizational networks, the vast majority of the subjects were ineligible to be part of the research in part two. The problem was compounded by the fact that similar results likely would have been found in future class visits with other potential subjects.

To remedy this problem, a minor change was made to the research instrument, which was then submitted for IRB review and approval. The net effect of the change was to eliminate the original question that asked if the subject was a leader of the organizational social network identified. Instead, the questionnaire was changed to instruct the subject to think of an organizational social network in which they participated, but in which they were not the leader. The revised instrument is shown in Appendix F. Given the limited scope of the change, IRB approval was secured and the revised instrument put into use.

The adoption of this change seemed to not adversely affect the success of getting subjects to agree to participate and to complete part one of the research. A total of 55 subjects who completed part-one were evaluated as eligible for continuation to part two. A total of 31 of these 55 subjects completed part two of the research, enough to satisfy the minimum number established in Chapter 3.

Research Test Results

Selecting the most appropriate *t* test. Upon calculating the descriptive statistics needed to run *t* tests to compare the sample of organizational social network leaders to the general population of leaders as represented by Avolio and Bass' (2004) MLQ research, it was noted that the standard deviations of the ratings of the sample of organizational social network leaders were substantially greater than those associated with the general population of leaders, sometimes exceeding them two-fold. Given this disparity in variances, it was decided that the use of a Welch *t* test for unequal variances be employed rather than a student *t* test as "student's t-test is unreliable when variances differ…" (Ruxton, 2006, p. 688).

As mentioned in Chapter 3, since this study considered the possibilities of the sample of organizational social network leaders' measurement means as diverging from the general population of leaders in both negative and positive directions, the test was run two-tailed. And given that the sample of organizational social network leaders represent a separate group than do the formal leaders from Avolio and Bass' (2004) MLQ study, they were calculated as unpaired.

Understanding the results tables. In order to comply with copyright restrictions placed on the use of the MLQ instrument, neither the actual text of the questions used in the research nor the descriptive statistics associated with the MLQ results are reproduced here. Instead, each of the following tables shows the descriptive statistics for the sample of organizational social network leaders that were needed to run the Welch *t* test. Also shown are the two-tailed p-values derived from the comparisons of the sample of organizational social network leaders and the general population of leaders from the

MLQ. Again, the descriptive statistics from the general population of leaders is not reproduced in the tables due to copyright restrictions. There are tables included on the following pages for each of the MLQ leadership behavior categories. The specific leadership style in question is identified in the table name and also in the table itself. At the bottom of each table, the mean standard deviation of subjects' scores per question within that MLQ category is shown. These standard deviation measurements are not related to the Welch *t* test, but are instead included for discussion purposes later.

Numerical scores indicate the following frequency ratings:

0: Not at all

1: Once in a while

2: Sometimes

3: Fairly often

4: Frequently, if not always

MLQ Research Results of Test Subjects

Idealized influence (attributed). Four of the MLQ questions measured the frequency of the employment of the transformational leadership behavior of Idealized Influence (Attributed). The results of these four questions are summarized in Table 1.

Table 1

Research and Welch t Test Comparison Results, Idealized Influence (Attributed)

MLQ Category: Idealized Influence (Attributed)					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P value
31	0 to 4	2.6	1.27	3	0.1466

(*continued*)

MLQ Category: Idealized Influence (Attributed)	Welch *t* Test
Number of MLQ questions associated with this category: 4	
Mean standard deviation per question, per subject: 0.7	

As observed by organizational social network members, organizational social network leaders in this sample employ the transformational behavior of Idealized Influence (Attributed), more often than *sometimes*, but less than *fairly often* given their mean score of 2.6. The most common score for this behavior for this sample was a 3, or *fairly often*. As noted in the table, the standard deviation of scores was 1.27. While not reproduced here, this standard deviation is substantially higher than that of the population of formal leaders established in Avolio and Bass' (2004) MLQ study. Again, this disparity in variance is the reason the Welch *t* test was chosen over the more commonly used student *t* test.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.1466$).

Idealized influence—Behaviors. Four of the MLQ questions measured Idealized Influence (Behavior). The results of these four questions are summarized in Table 2.

Table 2

Research and Welch t *Test Comparison Results, Idealized Influence (Behavior)*

MLQ Category: Idealized Influence (Behavior)					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.26	1.42	4	0.0547

(*continued*)

MLQ Category: Idealized Influence (Behavior)	Welch *t* Test
Number of MLQ questions associated with this category: 4	
Mean standard deviation per question, per subject: 0.89	

For the transformational leadership behavior of Idealized Influence (Behavior), the sample of organizational social network leaders used in this study had a mean score of 2.26, as a group scoring just over *sometimes*. Of interest in these scores is the mode of 4, which is associated with *frequently, if not always*. Given these scores, a standard deviation of 1.42 is not surprising. It seems that organizational social network leaders are observed to employ Idealized Influence, Behavior less often on average than Idealized Influence, Attributed, but inconsistently so given the higher standard deviation and the seemingly contradictory mode score of 4.

Regarding differences of Idealized Influence behaviors between this sample of leaders of organizational social network leaders and formal leaders, they are just short of being significant at the 0.05 level (p =.0547).

Inspirational motivation. Four of the MLQ questions measured Inspirational Motivation. The results of these four questions are summarized in Table 3.

Table 3

Research and Welch t Test Comparison Results, Inspirational Motivation

MLQ Category: Inspirational Motivation				Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.65	1.21	3	0.2238

(*continued*)

MLQ Category: Inspirational Motivation	Welch *t* Test
Number of MLQ questions associated with this category: 4	
Mean standard deviation per question, per subject: 0.71	

For the transformational behavior category of Inspirational Motivation, the sample of organizational social network leaders used in this study had a mean score of 2.65, which puts them between *sometimes* and *fairly often*. These scores vary less widely than Idealized Influence (Behavior) with a mode of 3 and a standard deviation of 1.21.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.2238$).

Intellectual stimulation. Four of the MLQ questions measured Intellectual Stimulation. The results of these four questions are summarized in Table 4.

Table 4

Research and Welch t *Test Comparison Results, Intellectual Stimulation*

MLQ Category: Intellectual Stimulation					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.33	1.24	3	0.0524
Number of MLQ questions associated with this category: 4					
Mean standard deviation per question, per subject: 0.76					

For the transformational leadership behavior category of Intellectual Stimulation, the sample of organizational social network leaders used in this study had a mean score of 2.33, again putting them between *sometimes* and *fairly often*. Of the five scores, they were observed to use Intellectual Stimulation *fairly often*—a score of 3—most often.

With a standard deviation of 1.24, organizational social network leaders scored more consistently in this behavior than the previous ones, but only slightly.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers falls just short of significance at the .05 level ($p = 0.0524$).

Individual consideration. Four of the MLQ questions measured Individual Consideration. The results of these four questions are summarized below in Table 5.

Table 5

Research and Welch t *Test Comparison Results, Individual Consideration*

MLQ Category: Individual Consideration					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.31	1.42	4	0.0427
Number of MLQ questions associated with this category: 4					
Mean standard deviation per question, per subject: 1.04					

For the transformational leadership behavior category of Individual Consideration, this sample of organizational social network leaders had a mean score of 2.31. Again, it is interesting to note the mode score of 4, showing that the most common score for these leaders was *frequently, if not always*. And again it is no surprise to see another high standard deviation score relative to the other categories explored thus far of 1.42.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is significant at the .05

level (p = 0.0427). However, the mean score of the organizational social network leaders in this sample was lower than that of the formal leaders.

Contingent reward. Four of the MLQ questions measured the transactional Contingent Reward behaviors. The results of these four questions are summarized in Table 6.

Table 6

Research and Welch t *Test Comparison Results, Contingent Reward*

MLQ Category: Contingent Reward					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.36	1.28	3	0.1877

Number of MLQ questions associated with this category: 4

Mean standard deviation per question, per subject: 0.82

For the transactional leadership behavior of Contingent Reward, the sample of organizational social network leaders used in this study had a mean score of 2.36, again putting them between *sometimes* and *fairly often*. Also recurring is the mode score of 3, showing they were observed to employ Contingent Reward behaviors *fairly often* most often.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level (p = 0.1877).

Management-by-exception (active). Four of the MLQ questions measured the transactional Management-by-Exception (Active) behaviors. The results of these four questions are summarized in Table 7.

Table 7

Research and Welch t *Test Comparison Results, Management-by-Exception (Active).*

MLQ Category: Management-by-Exception (Active)					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	1.85	1.26	2	0.4328

Number of MLQ questions associated with this category: 4

Mean standard deviation per question, per subject: 0.98

For the transactional leadership behavior of Management-by-exception (active), the sample of organizational social network leaders used in this study had a mean score of 1.85, putting them well above the score *once in a while* and close to the next level of *sometimes*. With a mode score of 2, these leaders were most often using this behavior *sometimes*, but somewhat inconsistently with a standard deviation of 1.26. As for the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.4328$).

Management-by-exception (passive). Four of the MLQ questions measured the transactional Management-by-Exception (Passive) behavior. The results of these four questions are summarized in Table 8.

Table 8

Research and Welch t *Test Comparison Results, Management-by-Exception (Passive)*

MLQ Category: Management-by-Exception (Passive)					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	1.28	1.31	0	0.2966

(*continued*)

MLQ Category: Management-by-Exception (Passive)					Welch *t* Test
Number of MLQ questions associated with this category: 4					
Mean standard deviation per question, per subject: 0.69					

For the transactional leadership behavior of Management-by-Exception (Passive), the sample of organizational social network leaders used in this study had a mean score of 1.28. Therefore, on average they were observed to employ this behavior only slightly more often than *once in a while*. Most commonly, these leaders were observed employing Management-by-Exception (Passive) *not at all*. However, as the mean and mode suggest, again observed is a seemingly high standard deviation, this time being 1.31. These leaders again covered the full range of possible scores from 0 to 4.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.2966$).

Laissez-faire leadership. Four of the MLQ questions measured what is essentially an abdication of leadership, the laissez-faire leadership behavior. The results of these four questions are summarized in Table 9.

Table 9

Research and Welch t *Test Comparison Results, Laissez-Faire Leadership Behavior*

MLQ Category: Laissez-Faire Leadership					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	1.06	1.19	0	0.0647
Number of MLQ questions associated with this category: 4					
Mean standard deviation per question, per subject: 0.59					

For the abdication of leadership category laissez-faire leadership, the sample of organizational social network leaders used in this study averaged a score of 1.6, falling between *once in a while* and *sometimes*. Again, the most common score was *not at all*. With a refreshingly low standard deviation of 1.19, these leaders scored most consistently in this behavior than any of the other. It still should be noted that this standard deviation is higher than that of the general population of leaders.

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.0647$).

Extra effort. Three of the MLQ questions measured Extra Effort. The results of these three questions are summarized in Table 10.

Table 10

Research and Welch t *Test Comparison Results, Extra Effort*

MLQ Category: Extra Effort					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.47	1.36	4	0.2779

Number of MLQ questions associated with this category: 3

Mean standard deviation per question, per subject: 1.28

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is not significant at the .05 level ($p = 0.2779$).

Effectiveness. Four of the MLQ questions were dedicated to Effectiveness. The results of these four questions are summarized in Table 11.

Table 11

Research and Welch t *Test Comparison Results, Effectiveness*

MLQ Category: Effectiveness					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.6	1.32	3	0.0567

Number of MLQ questions associated with this category: 4

Mean standard deviation per question, per subject: 0.63

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers falls just short of significant at the .05 level ($p = 0.0567$).

Satisfaction. Two of the MLQ questions measured the degree of subject satisfaction. The results are summarized in Table 12.

Table 12

Research and Welch t Test Comparison Results, Satisfaction

MLQ Category: Satisfaction					Welch *t* Test
n	Range	Mean	SD	Mode	Two-tailed P Value
31	0 to 4	2.69	1.46	4	0.1474

Number of MLQ questions associated with this category: 2

Mean standard deviation per question, per subject: 0.52

As for the results of the Welch *t* test, the difference between this sample of organizational social network leaders and their formal leader peers is significant at the .05 level ($p = 0.1474$). However, the mean score of the organizational social network leaders in this sample was lower than that of the formal leaders.

Summary of Research Findings

Regarding observations of transformational leadership behaviors in this sample of organizational social network leaders, it is found that these behaviors are indeed employed to varying degrees, and are employed in ways that can only be interpreted as inconsistent given a casual comparison to the general population of leaders. However, as will be explored in more depth in Chapter 5, one notices that the mean standard deviation per question, per subject is fairly low. Expanding the observation to consider transactional and laissez-faire behaviors, it is interesting to note that on average the sample of leaders of organizational social networks in this study were rated as employing transformational behaviors more often than transactional and laissez-faire behaviors as shown in Table 13 and Table 14.

Table 13

Mean Transformational Scores of Organizational Social Network Leader Sample

Mean Transformational Behavior Scores				
Idealized Influence (Attributed)	Idealized Influence (Behavior)	Inspirational Motivation	Intellectual Stimulation	Individual Consideration
2.6	2.26	2.65	2.33	2.31
Average overall transformational score: 2.43				

Table 14

Mean Transformational Scores and Overall Laissez-Faire Score of Organizational Social Network Leader Sample

Mean Transactional Behaviors			Mean Laissez-Faire Score
Contingent Reward	Management-by-Exception (Active)	Management-by-Exception (Passive)	Laissez-Faire
2.36	1.85	1.28	1.06
Average overall transactional score: 1.83			

After running a *t* test for significance using an alpha level of 0.05, it was found that in all but two cases there is not a significant difference between the sample of leaders of organizational social networks used in this study and formal leaders from the general population. And in those two cases where a significant difference was found, it was the sample of organizational social network leaders who were less transformational in their behavior than the general population of leaders as represented in Avolio and Bass' (2004) MLQ research.

Given the direction of this study, and given the contents of the literature found on this topic and explored throughout this paper, this finding proved somewhat surprising. While it was not hypothesized on which direction the difference between these groups would be, it was expected to find either no difference between them, or to find the sample of leaders of organizational social networks as acting more transformational than the general population of leaders. The former finding would be consistent with much of what is found generalized in the literature review. The implications of this rather surprising find will be discussed in the following chapter.

Chapter 5: Discussion and Conclusion

As recalled from prior chapters, one of the foundations of this study rests on a body of literature that asserts that rapid rates of change confronting organizations render traditional bureaucracies less efficient than groups of individuals that form organically to address said changes. Forming within the organization, but operating outside of its traditional bureaucratic structure, these networks of people are believed to react faster and implement change quicker than otherwise possible (Avolio & Bass, 2004; Balkundi & Kilduff, 2006; Bass & Avolio, 1994; Conger, 1999; Cross & Parker, 2004; Jamali et al., 2006; Levi Martin, 1998; Tichy & Devanna, 1986).

Generally speaking, these groups, and the environments that allow their emergence, are generally considered as somewhat postbureaucratic in nature. These groups can take different forms. But for this study, I have focused on those groups that are comprised strictly of volunteers who have no formal ties to the group, who would suffer no direct detriments due to leaving the group, and who are not directly rewarded for participating in these groups. Borrowing from Cross and Parker (2004), I have used the term organizational social network to describe these teams.

As also recalled from prior chapters, there is a large canon of literature that supports the idea that organizations and groups who operate in a postbureaucratic fashion benefit from leadership styles that are transformational as opposed to transactional.

Avolio and Bass (2004) summarize much of this sentiment when they say "Transactional leadership styles will clearly fall short of the leadership challenges confronting most organizations…[as a result of] compressed hierarchies and blurred lines of authority" (p. 1).

Given these considerations, this research project set out to explore what transformational leadership behaviors organizational social network leaders employed, and how they measure up against formal leaders. Transactional and laissez-faire leadership behaviors and other sentiments included in the MLQ were also explored.

Each of these MLQ dimensions is discussed in the following section.

The discussion here, as well as for the other MLQ categories in this section of this study are not drawing a distinction between the sample of organizational social network leaders and the general population of leaders. Moreover, these discussions contribute to the part of the research in which I am curious about the observations of organizational social network leaders rather than measuring them against formal leaders.

Discussion of Results

Discussion of results for idealized influence (attributed).

> These leaders are admired, respected, and trusted. Followers identify with and want to emulate their leaders. Among the things the leader does to earn credit with followers is to consider followers' needs over his or her needs. The leader shares risks with followers and is consistent in conduct with underlying ethics, principals, and values. (Avolio & Bass, 2004, p. 96)

As detailed in the results in Table 1, we find that the sample of leaders of organizational social networks display degrees of this behavior somewhere between sometimes and fairly often having a mean score of 2.6, with a standard deviation between subjects of 1.27. Grounding this to Avolio and Bass's (2004) MLQ population of leaders, we observe that the mean score of the leaders of organizational social networks lower

than that of the general population of leaders. Additionally, the standard deviation found between leaders of organizational social networks of 1.27 is substantially higher than what we find from the general population of leaders. Scores for the leaders of organizational social networks are quite a bit more erratic than what is found in the general population of leaders.

But these observations might simply be meaningless. Recall that in applying the Welch *t* test on the numbers, we found that there is not a significant difference between the sample leaders of organizational social networks and the general population of leaders.

If this one behavior and its associated test result was the only one under consideration, then discussing the results would seem somewhat meaningless given there is little confidence that the difference here was not due to chance. However, the results here, and elsewhere, when looked at in context of all the other MLQ dimensions, we find an interesting pattern worthy of exploration, which is aligned with the mission of the first research question posed.

Discussion of results for idealized influence (behavior). Not surprisingly, following the results of the Idealized Influence (Attributed), the research finds that Idealized Influence (Behavior) practices of organizational social network leaders are lower than those found in the general population of leaders.

Regarding some of the descriptive statistics, the difference in MLQ scores between the sample of organizational social network leaders and those from the general population is greater than that found in Idealized Influence (Attributed). The standard deviation between test subject scores of 1.42 is also higher that that found in Idealized

Influence (Attributed), and is about twice as high as that found in the general population of formal leaders. For the general population of leaders taken from Avolio and Bass' (2004) research, Idealized Influence (Behavior) is also lower than Idealized Influence (Attributed), but by a much narrower margin than found with the sample of organizational social network leaders.

Interestingly, the mode for the test group is actually 4, the highest score available, representing *frequently, if not always*. This ranking was found in 32 of the 132 responses, or 26% of the time.

The findings here regarding Individualized Influence (Attributed and Behavior) beg two obvious questions. Do organizational social networks need a shared sense of values and beliefs in order to do their work? And if so, from where—or from whom—do these values emerge?

Discussion of results for inspirational motivation.

> These leaders behave in ways that motivate those around them by providing meaning and challenge to their followers' work. Individual team spirit is aroused. Enthusiasm and optimism are displayed. The leader encourages followers to envision attractive future states which they can ultimately envision for themselves. (Avolio & Bass, 2004, p. 96)

The scores for this sample of organizational social network leaders improve a bit in this category, with a mean score of 2.65. The standard deviation also comes down a bit to 1.21. And once again, the opinions this sample of social network members have regarding their leaders vary more greatly than opinions found of formal leaders in the MLQ.

Employing the Welch *t* test, we find again that there is not a significant difference between the sample of organizational social network member and the general population of leaders; but consistent with the previous behavior, we find the general population of leaders' mean score for Inspirational Motivation as being higher than the sample leaders of organizational social networks. And again the prospect that this finding is due to chance takes precedent in this individual case, but the means of the two scores do add to an emerging pattern that might be worth further exploration.

Wondering about the meaning of these results, it would seem that Inspirational Motivation behaviors are some of the behaviors that are most readily available and employable by organizational social network leaders. "Encourage[ing] followers to envision attractive future states" (Avolio & Bass, 2004, p. 96) would seem a core impetus for individuals to join an organizational social network; for achieving—and working within—these visionary end-states is the one material reward that organizational social network members have coming their way for their efforts.

Again, interesting questions comes to light as they did with the first two behaviors discussed: Do organizational social networks need Inspirational Motivation to function? And if so, from where or whom do they get it?

Discussion of results for intellectual stimulation.

> These leaders stimulate their followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. There is no ridicule or public criticism of individual members' mistakes. New ideas and creative solutions to problems are solicited from followers, who are included in the

process of addressing problems and finding solutions. (Avolio & Bass, 2004, p. 97)

As with Inspirational Motivation, this transformational behavior would seem to lend itself well to the leaders of organizational social networks as it is the work of organizational social networks to "be innovative…creative…and [to] approach old situations in new ways" (Avolio & Bass, 2004, p. 97). Indeed, the core part of part one of this research project intentionally borrowed from this description when it asked subjects to "think of a time when they were solving problems, confronting challenges, or changing the way things get done" (Avolio & Bass, 2004, p. 97).

However, when we compare results to the general population of leaders, we find this sample of organizational social network leaders trail their formal leader counterparts. And their opinions differ in variance. The mode of the scores of test subjects is nearly split between selections 2 and 3. The ranking of *sometimes* (a 2) was chosen 32 times. The ranking of *fairly often* (a 3) was chosen 33 times.

When going up against their formal leader counterpart in the Welch *t* test, we find that this sample of organizational social network leaders are almost, but not quite, significantly less intellectually stimulating than their formal leader counterparts. Recall the p value for the Welch *t* test here was 0.0542 and the alpha value was set at 0.05.

Discussion of results for individual consideration.

These leaders pay attention to each individual's need for achievement and growth by acting as a coach or mentor. Followers are developed to successively higher levels of potential. New learning opportunities are created along with a supportive climate in which to grow. Individual

differences in terms of needs and desires are recognized. (Avolio & Bass, 2004, p. 97)

While the general population of leaders scored slightly higher in Individual Consideration than they do for Intellectual Stimulation, the inverse is true of this sample of organizational social network leaders. They score .02 points lower for Individual Consideration than they do for Intellectual Stimulation, and of course score lower on average than formal leaders And once again, opinions about social network leaders vary more widely than they do for the general population, having nearly twice the degree of standard deviation.

Due to the informal nature of organizational social networks, one may hypothesize that leaders of these networks have limited abilities to develop followers into "successively higher levels of potential" (Avolio & Bass, 2004, p. 97), and therefore would naturally score lower than formal leaders in this particular area. However, one would expect that the informal nature of the organizational social network would not preclude the leader of such a social network from acting as, or being perceived as, a mentor or coach.

Discussion of results for contingent reward.

Transactional contingent reward leadership clarifies expectations and offers recognition when goals are achieved. The clarification of goals and objectives and providing of recognition once goals are achieved should result in individuals and groups achieving expected levels of performance. (Avolio & Bass, 2004, p. 97)

As noted in the results section, Contingent Reward scores for this sample of

organizational social network leaders trail formal leaders in this transactional behavior, but again opinions vary as illustrated by a standard deviation that is higher than that found with formal leaders.

Given the Welch *t* test P value of 0.1877 and the alpha level of 0.05, there is, of course, no significant difference between the sample of organizational social networks and the population of formal leaders, but it is interesting to note that this behavior category is the first, and only, instance in which the organizational social network leaders outscored their formal leader counterparts. What so far have been, and will continue to be after this, results that run counter to the intuition that organizational social network leaders would score better in the MLQ categories than formal leaders, finally there is found an example where leaders of organizational social networks outperform their formal leader peers.

But perhaps this is not all that surprising. Given the informal nature of organizational social networks, and the limited ability for their leaders to provide materially significant forms of recognition, the organizational social networks leader might have limited means of providing materially significant forms of recognition. Bonuses, raises, and other formal perks that formal leaders have within their means to provide as a bargaining chip for performance are not available to organizational social network leaders.

Discussion of results for management-by-exception (active).

The leader specifies the standards for compliance, as well as what constitutes ineffective performance, and may punish followers for being out of compliance with those standards. This style of leadership implies

> that closely monitoring for deviances, mistakes, and errors and taking corrective action as quickly as possible when they occur. (Avolio & Bass, 2004, p. 97)

Given the results so far, it is not surprising to see that the transactional Management-by-Exception (Active) leadership behavior is the first leadership behavior category in which organizational social network leaders score higher than the general population of leaders. Not that it is of any significance to this particular study, it is interesting to note that this turns out to be the behavior category in which the scores of organizational social network leaders come closest to that of their formal leader counterparts. However, once again the standard deviation between scores of 1.26 is relatively high compared to the general population.

Discussion of results for management-by-exception (passive). Consistent with Management-by-Exception (Active), leaders of organizational social networks also score higher than the general population of leaders in the transactional Management-by-Exception (Passive) leadership behavior category. And once again the standard deviation of scores for organizational social network leaders is much higher than that found in the general population of leaders.

Similar to Management-by-Exception (Active), Management-by-Exception (Passive) is the practice of waiting for something to go wrong before taking corrective actions (Avolio & Bass, 2004). What one must be curious about regarding this and Management-by-Exception (Active) is that both behaviors rely on the leader having access to ways to coerce network members into taking action or changing their behavior,

which of course should not be in the tool kit of an organizational social network leader by definition.

Again, these observations are for general discussion and exploration as the Welch *t* test P value is 0.2966 well away from the alpha level of 0.05. This discussion is not about comparison, but rather observations made by the subjects.

Discussion of laissez-faire leadership. The final behavior included in the MLQ, which is basically off the transactional—transformational scale as it represents an abdication of leadership, is laissez-faire leadership. And true to form so far, this sample of organizational social network leaders outscore their formal leader counterparts. And it is rather interesting to note that the standard deviation of scores for the organizational social network leaders, while still higher than the general population, is lower in this category of behaviors than in any of the other behaviors.

This finding is interesting as again by definition one would expect that an organizational social network would simply cease to function, and therefore cease to exist, without a functioning leader.

That is unless some other force was holding that network together and acting as an impetus for continued contributions by network members, an intriguing prospect that will be discussed shortly.

Discussion of results for satisfaction, efficacy, and extra effort. As noted above, the MLQ includes measurements of subjects' feelings of satisfaction, judgments of group efficiency, and contributions of extra effort. These dimensions of course are not aspects of transformational leadership, but offer interesting dimensions to both Avolio and Bass' (2004) MLQ findings and to this research as well.

Satisfaction. Leaders who are given high scores with satisfaction are those who "…use methods of leadership that are satisfying [and] work with others in a satisfactory way" (Avolio & Bass, 2004, p. 98).

Two of the MLQ questions measured how satisfied subjects were with their leadership. The results of these four questions are detailed in Table 12. On average, this sample of organizational social network team members seem to be somewhat satisfied, given a mean score of 2.69, which puts them in between being satisfied sometimes and fairly often, but gravitating toward fairly often. But like all the other categories, they do not always agree on how satisfied they are given a standard deviation of 1.46.

And like some of the other categories, we see an encouraging mode score of 4—most of the team members of this sample are satisfied frequently if not always. The range of scores varied from this high mark of 4 down to 0, indicating some members of this sample—actually three of the 31, or roughly 10%—were not at all satisfied.

Effectiveness. Another part of the MLQ includes measurements on how effective leaders are in "meeting other's job-related needs… representing the group… [and] lead[ing] a group that is effective" (Avolio & Bass, 2004, p. 98). However, it is interesting to note the mean score of 2.6, which leans toward the 'fairly often' category, which is also the mode—a score of 3. And once again, we find a degree of standard deviation. This sample of organizational social network leaders seem to be perceived to be fairly effective, but inconsistently so.

Extra effort. Part of the MLQ includes measurements on how leaders get others to "do more than they expected to… heighten others' desire to succeed… [and] increase others' willingness to try harder" (Avolio & Bass, 2004, p. 98). The findings regarding

extra effort are indeed interesting. By definition, the work that organizational social networks produce is built upon extra effort—effort asserted that is not part of the organizational social network member's regular job. However, on average, the frequency that this sample of organizational social network members exert extra effort somewhere between sometimes and fairly often given their average score of 2.47. So once again an obvious question arises: If the motivation of organizational social network members to put forth extra effort does not come from the leader of the organizational social network, from where does it come?

Summary of Research Results

Key findings. As noted throughout, in the vast majority of cases, this sample of organizational social network leaders is not significantly different in the MLQ categories as the general population of leaders.

However, standing back from the individual results, it cannot helped but be noticed that in all cases but one, this sample of organizational social network leaders scores on average less than formal leaders. Again, individually in all but one case this difference cannot be ascribed to anything other than chance given the P value calculations and the alpha level of 0.05. But again, of the 13 categories, this sample of organizational social network leaders scored lower than formal leaders 12 times. That does not seem entirely something that should be ascribed to chance. It looks like something is going on, and more research is needed.

Key to this study was the finding that, in general, this sample of organizational social network leaders are no more transformational, less transactional, more inspiring, more satisfying, more effective than the general population of leaders, a finding that

contradicts much of what is put forth in the literature as aphorisms, but never actually tested.

This study, which explored these aphorisms as broadly as they are often used in the literature casts a shadow of suspicion on their accuracy. This sample of postbureaucratic organizational social networks was not always led by leaders that one would consider more transformational than the general population of leaders. However, the leaders of this sample were not dismal failures either.

Firstly, it should be noted that while leaders of organizational social networks were observed to score lower than formal leaders, their scores would likely not be considered poor as was noted several times previously. And when comparing the MLQ scores of this sample of organizational social network leaders with those of the general population of leaders, there is not a statistical difference between them in 12 of the 13 MLQ categories. Recalling that these leaders emerged organically, and were not formally promoted into positions of leadership, the fact that they were mostly on par with their formal leaders seems encouraging.

Also, one does notice general similarities. The scores for both this sample of organizational social network leaders and those of formal leaders follow the same general pattern of tending to be higher in the transformational leadership behaviors, and lower in the transactional leadership behaviors.

Of particular note, and as mentioned repeatedly in the previous discussion sections, haunting the results of this study are persistently high degrees of standard deviations of the ratings between subjects rating different leaders. And as noted in some of the previous discussions, many of the mode scores for this sample of social

organizational network leaders are rather strong, but they are not consistent enough to bring the general measurements up to their formal leader counterparts.

Looking beyond the confines of comparing the two groups with the Welch *t* test, and instead exploring the implications within the research related to these findings, we see some interesting patterns.

Findings of ranked and grouped subject-leader pairs. Given that this study asks individual subjects to rank a single leader, and given that the nature of the research methodology makes the probability that any two subjects are scoring the same leader essentially nil, results in the data reflecting 31 independent subject-leader pair measurements. Such pairing of stand-alone measurements lends itself to reorganization that can obviate some key patterns.

One of the patterns noticed is the consistency of the subjects' ratings of their organizational social network leaders.

If subjects' scores for the five transformational leadership behaviors of Individual Consideration, Idealized Influence (Attributed and Behavior), Inspirational Motivation, and Intellectual Stimulation are averaged and then ranked into quartiles as independent subject-leader pairs, a clear and consistent pattern emerges. Table 13 details the results of this reorganization and ranking into quartiles. Appendices I through M detail complete and ranked results for all subjects.

Exploring these results, one finds that the organizational social network members in this study who found their leaders acting with high degrees of transformational leadership in one transformational leadership behavior found them to be consistently transformational in the other behaviors as well. In descending order of the top quartile,

subjects 27, 19, 28, 17, 24, 18, 20, and 30 found their leaders to be the most transformational on average. Their high mean scores for Individual Consideration, Idealized Influence (Attributed and Behavior), Inspirational Motivation, and Intellectual Stimulation (3.34, 3.56, 3.50, 3.50, and 3.4 respectively) coincide with relatively low degrees of standard deviation (0.90, 0.50, 0.95, 0.62, and 0.68 respectively).

As illustrated in Table 15, if we take the top quartile of this ranking of the five transformational leadership behaviors and compare them to the general population represented by the MLQ, we indeed find that the top quartile of this sample of organizational social network leaders are observed to use transformational leadership behaviors significantly more often than the general population of leaders in four of the five of the identified behavior categories. These findings are detailed in Table 15.

Table 15

Comparing the Five Transformational Leadership Behaviors of the Top Quartile of Subjects to the General Population of Leaders

				Welch *t* Test Results
n	Range	Mean	SD	Two-tailed P Value
		Top Quartile, Individual Consideration		
31	0 to 4	3.45	0.68	0.027
		Top Quartile, Inspirational Motivation		
31	0 to 4	3.5	0.62	0.0332
		Top Quartile, Idealized Influence (Behavior)		
31	0 to 4	3.5	0.95	0.0663
		Top Quartile, Idealized Influence (Attributed)		
31	0 to 4	3.56	0.5	0.0099
		Top Quartile, Intellectual Stimulation		
31	0 to 4	3.45	.68	0.0270

Conversely, but consistently, scores at the bottom end are also of interest. Using the same ranking system, these same five transformational behaviors come in at 0.94,

1.13, 1.10, 1.56, and 1.03, respectively. However, the standard deviation for these five (1.11, 1.18, 1.08, 1.13, and 0.91, respectively) and a range of 0 to 4 for all but one behavior shows organizational social network members are less consistent in giving lower scores. Transformational behavior, while rare in this quartile, can still be found on occasion.

Regarding low scores—at least for those scores where a low score is bad—the worst score is Satisfaction with a score of 0.78. This also coincides with the lowest standard deviation between scores. These organizational social network members who have leaders who score dismally on the five transformational leadership behaviors are indeed very unsatisfied, and consistently so.

But, of course, neither random chance nor legitimate differences can be ascribed to the differences found between the quartiles examined here, and the findings based on the data ranking cannot be described as statistically significant. But in the spirit of exploration and in the quest to address the observation of behaviors consistent with the first research question posed in this study, this ranking highlights the observation that the high degrees of variance found in this study are introduced by inconsistencies between different leader-subject pairs, and not by this sample of organizational social network members perceiving their individual leaders as lacking or being inconsistent in any specific areas of transformational leadership behaviors.

Also adding to the insignificance of the findings based on this ranking procedure—but adding quite a bit to its curiosity quotient—is the fact that, by design, no attempt was made to categorize any of the subjects into logical segments based on

individual, industry, or organizational considerations. The ranking cannot be done in any other way as no environmental or background data is associated with the subjects.

This brings us to an obvious question: What might have been found if background and environmental dimensions were included in the research?

Organizational Social Network Members' Motivations—Revisiting Selections From the Literature Review

As recalled, this study focused on individuals and leaders of groups of volunteers operating informally. Given the results of this study, an obvious question arises: Why do individuals participate in these groups when often they provide little satisfaction and never provide formal rewards?

As mentioned early on, there is little in the body of literature on the topic of leadership of organizational social networks or other organically formed, voluntary organizations that go by other names. However, we do find a few selections from the literature review that are worthy of looking at through a somewhat different lens now as they might cast some light as to why some organizational social network members persist in contributing to an effort they seemingly would abandon given how they ranked their satisfaction.

Balkundi and Kilduff's consideration of nonleader forces on social networks. Of particular note are the findings of Balkundi and Kilduff (2006). Their research finds evidence that denser social networks outperform weaker networks, and that the strength of social utility and the embedded-ness of social network leaders also contribute to the performance of organizational social networks. Balkundi and Kilduff (2006) summarize their research on leaders of these networks by saying, "Our network approach locates

leadership not in the attributes of individuals but in the relationships connecting individuals" (p. 420).

Given the disparity of the findings of this study, and especially given the divergent scores seen in Satisfaction and Effectiveness, perhaps looking at transformational leadership alone, or even along with the environmental considerations as was deliberately avoided here, is not enough to reach a conclusion that supports anything other than a null hypothesis. Perhaps this study indirectly supports Balkundi and Kilduff's (2006) findings through finding that the attributes of the individual leaders are indeed secondary to other forces enabling the organizational social network.

Reconsideration of leader-member exchange theory. Another journal article from Chapter 2 comes to mind in light of the research findings, and that is the work of Sparrowe and Linden (2005) who belong to a rare set of researchers who actually addressed leadership in their study of networks, albeit briefly. Like Balkundi and Kilduff (2006), they too found strong correlation of network density to performance, but their research also pointed toward Leader-Member Exchange (LMX) as a leadership behavior that factored strongly into higher performing groups. Given the results of this study, perhaps LMX should be given consideration as a leadership method that competes, or perhaps cohabitates, with transformational leadership given it can be extracted through research.

Behavior science tradition of self-preservation. As explored to a minor degree in the literature review, psychological and sociological motivations for contributing to the positive outcomes of organizational social networks may not lay in any inspirational behaviors of the organizational social network leaders to go above and beyond their

regularly assigned duties. Instead, they might stem from innate drives for self-survival. Perhaps organizational social network members at some level believe that the organization's survival, and hence their own wellbeing, is ensured by their contribution to the organizational social network's endeavors regardless of its leadership.

Opportunities for Future Research

Consideration of environmental and situational factors. As noted repeatedly, several patterns emerge from the research findings that have potential implications in this study. First of all are the high degrees of standard deviations found in the MLQ test measurements, often approaching twice the levels found with the general population of leaders. Secondly, we find some relatively high mode scores that in several cases exceed those of the mean found in the general population of leaders. And finally, we find that the variance between scores made by individual test subjects in each of the behavior categories for their individual leader was very consistent.

The variations found indicate that the high degrees of standard deviation were not caused by individual test subjects scoring organizational social network leaders inconsistently, but rather the variations were caused by high degrees of difference between test subjects who individually scored their leaders very consistently. This consistency allowed for the subject-leader pair ranking and quartile analysis outlined earlier.

Recall that this study was intentionally very wide in terms of selecting test subjects. Their only qualification was that they, at some point, had worked full time. No information regarding gender, age, industry, job level, career history, length of time in position, length of time as part of the organizational social network, et cetera were used

to create distinctions for hypothesis testing. There is, of course, the possibility that there are some individual environmental, situational, demographic, et cetera factors that would correlate with those test subjects who scored their leaders as highly transformational versus those who found their leaders less transformational.

A course of research would be to include these and other background factors into a similar study so as to surface any correlations, isolate them, and test the different segments individually for degrees of transformational leadership. It is entirely possible that the top quartiles found in the subject-leader pair rankings all had something in common. If isolated, such a finding would indeed be important from both a research and an organizational development perspective.

Taking a closer look at motivation. As noted earlier, leaders of organizational social networks scored significantly lower than their formal leader counterparts in areas of Inspirational Motivation and Satisfaction. In short, the members of many organizational social networks found neither much motivation nor satisfaction through their participation in the network. A few explanations as to why members continue to be members is broached in the literature and have been previously reiterated.

In terms of future research, an obvious direction to take would be to include dimensions of motivations found in organizational social network members, taking into account the possibilities illustrated by the few stated examples, but also opened up to other possibilities. The implication toward organizational social networks and transformational leadership is that perhaps the motivations afforded by other forces, such as a desire for self-preservation or for sustaining a relationship or something entirely different, are primary.

Outcomes versus perceived efficacy. While the MLQ included questions that rendered a measurement of perceived effectiveness, it did not include any research regarding actual outcomes. It is possible that the actual outcomes of the groups' efforts were effective even if perceived to be otherwise by group members. Such a disconnection might seem to be unlikely in most work teams, but the nature of organizational social networks seem likely to make such a disconnect less likely. Organizational social network members contribute to the group effort as needed, and may often contain several members who do not see the end result of the group's effort, and therefore are less equipped to judge group efficacy.

It is aso interesting to note that this research project shows that in general organizational social network members do not share a conception of the attractive future-state associated with the Inspirational Motivation behavior category (Bass, 1990). They contribute, or at least participate, seemingly without knowing what the outcome will be.

Given these considerations, a topic for future research would be to look at actual outcomes of organizational social networks. These findings could then be correlated to transformational leadership findings.

Conclusion

Much of literature uses broad brush strokes to paint a truism of statements about postbureaucratic groups as being highly efficient and motivated, staffed by people who exert extra effort and are deeply satisfied, and who are led by transformational figures. The results of this research study suggest these positions may be somewhat ideological, and that things might not be that simple, or at least not that universal.

As noted throughout the literature, transformational leadership is often viewed as the leadership style that will empower organically formed networks of individuals to provide an organization the ability to operate in a postbureaucratic fashion, adapting to changes and challenges faster and more elegantly than would be possible under traditional methods, thereby giving the organization a competitive advantage or the ability to remain competitive in a rapidly changing environment (Avolio & Bass, 2004; Balkundi & Kilduff, 2006; Bass & Avolio, 1994; Conger, 1999; Cross & Parker, 2004; Jamali et al., 2006; Levi Martin, 1998; Senge, 1994; Tichy & Devanna, 1986; Zander & Zander, 2002). Accepting such a premise has important implications to the organization as it strives to enhance and leverage these abilities in pursuit of the fabled results.

However, the territory explored in this study suggests that the leadership landscape described in much of the literature might not be all that level. The leaders upon which this study focused behaved in vastly divergent ways when it comes to dimensions of transformational, transactional, and laissez-faire leadership. What we know now is that organizational social networks are sometimes, as in the case of this study, led by highly transformational individuals who appear more transformational than their formal leader counterparts. Most of the others leaders appear less stellar. And some could even be fairly described as dismal. Hence formal leaders of organizations simply should not expect transformational leaders to emerge organically along with organizational social networks.

Regarding those leaders that this study found to be more transformational in their behavior than the general population of formal leaders, it is important to note that at this time we do not know what environmental, situational, or other factors separate, or separated, these two sets of leaders. But if we embrace the notion that transformational

leaders and the groups and individuals they inspire actually do outperform others, then finding and developing those differentiating factors, and ensuring they are present in those individuals who emerge as organizational social network leaders, might give that organization a competitive advantage over those that make no similar investment. As this exploratory study suggests, those organizations might likely have non-transformational leaders leading their organically formed networks. And as pointed out repeatedly, they likely do not even know it as no one seems to have asked it before.

But indeed that is the past. Hopefully this exploratory study will advance the idea that there is a need to approach organizational social network leadership with less confidence, or at least with fewer assumptions, than much of the literature would lead many formal leaders to embrace.

Significance of findings. Aside from the continued research that should be done in this area, the implications of this study should cause a moment of pause for those organizations that embrace organizational social networks and expect them to do the important work at which so many authors have insisted they excel: improving organizational competitiveness in a fashion that is faster and more effective than could be accomplished through traditional, formal, or bureaucratic methods. Until further research can be conducted that provides definitive results, this exploratory study suggests that leaders of these networks might be highly divergent in terms of transformational leadership behaviors. Therefore, formal leaders of organizations who hope to leverage the prophesized power of postbureaucratic, emergent networks should not leave the organizational social network leaders' effectiveness to chance. Simply because the organizational social network emerged organically does not preclude the organization

from providing leadership training to those individuals who emerge as their leaders. As noted earlier, the identification of leaders of organizational social networks proved to be one of the easiest dimensions of this study to achieve. Leaders of organizations should also identify these leaders, but rather than studying them, they should nurture them, training them in transformational leadership behaviors.

This exploratory study suggests that many of the organizational social network leaders may not need this training as we have evidence that some of these leaders are already more transformational than the general population of leaders, and significantly so. However, for most organizational social networks and their leaders, their true potential is untapped, and awaits what could be a transformational metamorphosis, a metamorphosis that will transcend the leader and raise the organizational social network to heightened levels of effectiveness.

The transformation of the nontransformational organizational social network leader. As stated very early on in this study, leaders of organizational social networks are artifacts that support Zander and Zander's (2002) assertions that one can find leadership from any chair. And the astute organizational social network member who finds him or herself emerging as the leader of the network will be well-served to understand his or her effectiveness is by no means guaranteed. Indeed, given the results of this study, one wonders if many of the organizational social network leaders would want to continue in such a role if they were aware of the dim view so many of their constituents have of them. Therefore, the astute organizational social network leader will be well-served to study transformational leadership, and put effort toward practicing it.

Organizational social network member empowerment. Formal leaders of the organization and the informal leaders of the organizational social network are not the only ones who should heed the implications of this study. Members of organizational social networks who find themselves in a group suffering from highly transactional, unsatisfying leadership—as we have seen many do—need to understand that things can likely be much better.

Instead of envying those who belong to networks in which members share a vision of the future, find inspiration, and bask in levels of satisfaction superior to those they find in their formal roles as employees, they should understand that a change in leadership, or a least a change in the current leaders' behaviors, can bring them to satisfaction and performance parity. Recalling that part of being an organizational social network member means that one can quit without repercussion, these members are in a position few of them can enjoy with their formal leaders. And that is the freedom to suggest without fear of retribution that the leader of the network does something to improve their leadership skills. As volunteers contributing to the goals of organizational social network with no formal rewards to look forward to, they deserve nothing less.

And if indeed the authors who preach the efficiency gospel of the post bureaucratic networks are right, then organizations owe it to themselves, and to their various stakeholders, to ensure their emergent saviors are prepared to deliver on the promise of organizational social networks.

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APPENDIX A

Research Instrument Part One, Prior to Revision

Informal Networking in Organizations and Leadership

Research Instrument Part 1 of 2.

1. Whether it is called postbureaucracy, organizational flattening, decentralized control, or even employee-empowerment, in today's organizations, it is increasingly common to find situations in which the traditional organizational bureaucracy does not formally address every issue that arises or formally implement changes to the way work gets done.

   Instead it is increasingly common to find groups of people that network with each other informally to solve problems, confront challenges, and even implement changes to the way things get done without the formal involvement of their superiors. Some researchers call these groups 'informal workplace networks'.

2. Now please take a few minutes to think of a situation at work in which you became, or in which you currently are, part of a group that solved a new problem, confronted a new challenge, or changed the way an existing process or procedure was done *without being asked to do so by your supervisor* (i.e. you were a part of an informal workplace network). Once you have identified such a situation, please give it name below. The name does not need to be anything descriptive or detailed. Giving it a name just provides an easy way to refer to the event for the second part of this study. If you cannot think of any situation as outlined above, please write "N/A" and disregard the remainder of this questionnaire.

   Name of network: _____

3. When thinking about the network you named above, what would you say best describes what the network was doing (choose one):
   a. Solving a problem or confronting a challenge
   b. Implementing a change in the way something gets done
   c. Both #1 and #2
   d. Other (please describe): _____

4. In his book “Leadership”, Peter Northouse defines leadership as “…a process whereby an individual influences a group of individuals to achieve a common goal” (2004, p. 3).

   In thinking about the network you named above, enter the first name or the initials of the individual you felt played the most important leadership role in that network.

   First name or initials: _____

   Was/is that individual you? ☐ Yes ☐ No

5. About how many people do you think were, or currently are, involved in that network?

   Number of People: _____

6. What industry would you say describes the industry you are in (i.e. consumer packaged goods, electronics, defense, software, education, etc)

   Type of industry: _____

7. What is your name and email address? Note that this information will be kept strictly confidential, and will not be used for any purpose other than sending you a link via email to the second questionnaire that will be online.

   Your name: _____

   Your email address: _____

APPENDIX B

Research Instrument Part Two, the MLQ

Questionnaire #2, the MLQ

Multifactor Leadership Questionnaire

MLQ Manual, Copyright 1995, 2000, 2004 by Bernard Bass and Bruce Avolio. All rights reserved.

Published by Mind Garden, Inc., www.mindgarden.com

Multifactor Leadership Questionnaire

Rater Form

This questionnaire is used to describe the leadership style of the individual you identified as playing an important leadership role in the workplace social network you identified. Answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.

Forty-five descriptive statements are listed on the following pages. Judge how often each statement *applies* (or applied) to the person you are describing when he or she interacts (or interacted) with you and/or other members of the network you identified. Use the following rating scale:

Not at all: 0

Once in a while: 1

Sometimes: 2

Fairly often: 3

Frequently, if not always: 4

Reproduction of actual MLQ questions has been omitted from publication of this study due to copyright restrictions.

APPENDIX C

E-mail Request to School Deans Asking for Permission to Contact Respective Professors and Ask for Assistance in Conducting My Research During a Scheduled Class

<insert current date>

Email subject line: Research for Doctoral Dissertation.

Dear <insert Dean's name here>,

My name is Eric Furlong, and I am a student working on a doctorate in Organizational Leadership in Pepperdine's Graduate School of Education and Psychology.

I am currently working on my dissertation, which is focused on the leadership behaviors found in naturally emerging social networks in the workplace. And I am hoping to use fully-employed students in the business and leadership programs at Pepperdine as subjects for this study.

Therefore, I'd like to get your permission to contact individual professors within your school so as to secure their permission to conduct this research in their classrooms on days and times of their choosing. Please note that my research instrument has already passed IRB, and the total time I will be in the classroom will be less than 10 minutes.

I hope you will give my request consideration. Please let me know if you have any questions, or would like to see a copy of my research instrument.

Sincerely,

Eric Furlong

APPENDIX D

E-mail Request to Course Instructors Asking for Assistance in Conducting My Research During a Scheduled Class

Email subject line: Research for Doctoral Dissertation.

Dear <insert instructor name here>,

My name is Eric Furlong, and I am a student working on a doctorate in Organizational Leadership in Pepperdine's Graduate School of Education and Psychology.

I am currently working on my dissertation, which is focused on the leadership behaviors found in naturally emerging organizational social networks in the workplace. My subjects for this research will include fully-employed students in business and leadership programs at Pepperdine. I am hoping that you will agree to assist me in reaching these students.

Specifically, I'd like to ask you to please let me have a total of less than 10 minutes of time to conduct a preliminary research questionnaire in your classroom to students who agree to participate. The questionnaire contains some short background information, and 10 short questions regarding organizational social networks. There is a second part of the research, but it will be completed online (outside of the classroom and at the leisure of the participants). I have attached a copy of the questionnaire I'd like to conduct in your class in case you would like to review it.

My schedule is currently wide open, and I can visit your class either just as a class starts, before or after or during a scheduled break, or at the end of a class.

I hope you will give my request consideration. If you agree to help me out, please reply with a day and time that works for you. And please do not hesitate to contact me by phone or email if you have any questions.

Sincerely,

Eric Furlong

APPENDIX E

E-mail Invitation and Link to Part Two of the Research Instrument

Email subject line: Pepperdine Research Project, Part Two for <mail merge code 1>, informal network leader <mail merge code 3>.

Dear <mail merge code 1>,

Thank you for your continued participation in my research study. Your participation is important in adding to the body of knowledge in the field of leadership.

In part one of this research study, you identified a situation or a group that you called <mail merge code 2>, and you identified <mail merge code 3> as playing an important leadership role in that network.

The second part of this research study will ask some specific questions about the leadership styles of <mail merge code 3>.

The total time it usually takes to complete this questionnaire is less than 10 minutes.

Link to “Leadership Dynamics within Informal Organizational Networks”: <hyper link to Survey Monkey MLQ Rater From>

Thank you once again for your participation.

Eric Furlong, MBA, Ed.D. (ABD)

APPENDIX F

Research Instrument Part One, Revised

Informal Networking in Organizations and Leadership

Research Instrument Part 1 of 2.

1. Whether it is called postbureaucracy, organizational flattening, decentralized control, or even employee-empowerment, in today's organizations, it is increasingly common to find situations in which the traditional organizational bureaucracy does not formally address every issue that arises or formally implement changes to the way work gets done.

   Instead it is increasingly common to find groups of people that network with each other informally to solve problems, confront challenges, and even implement changes to the way things get done without the formal involvement of their superiors. Some researchers call these groups 'informal workplace networks'.

2. Now please take a few minutes to think of a situation at work in which you became, or in which you currently are, part of a group (but one in which you were not its leader) that solved a new problem, confronted a new challenge, or changed the way an existing process or procedure was done *without being asked to do so by your supervisor* (i.e. you were a part of an informal workplace network). Once you have identified such a situation, please give it name below. The name does not need to be anything descriptive or detailed. Giving it a name just provides an easy way to refer to the event for the second part of this study. If you cannot think of any situation as outlined above, please write "N/A" and disregard the remainder of this questionnaire.

   Name of network: _____

3. When thinking about the network you named above, what would you say best describes what the network was doing (choose one):

   e. Solving a problem or confronting a challenge

   f. Implementing a change in the way something gets done

   g. Both #1 and #2

   h. Other (please describe): _____

4. In his book “Leadership”, Peter Northouse defines leadership as “…a process whereby an individual influences a group of individuals to achieve a common goal” (2004, p. 3). In thinking about the network you named above, enter the first name or the initials of the individual you felt played the most important leadership role in that network.

   First name or initials: _____

5. About how many people do you think were, or currently are, involved in that network?

   Number of People: _____

6. What industry would you say describes the industry you are in (i.e. consumer packaged goods, electronics, defense, software, education, etc)

   Type of industry: _____

7. What is your name and email address? Note that this information will be kept strictly confidential, and will not be used for any purpose other than sending you a link via email to the second questionnaire that will be online.

   Your name: _____

   Your email address: _____

APPENDIX G

Permission to Use Avolio and Bass' Multifactor Leadership Questionnaire Instrument and Rater Form

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Multifactor Leadership Questionnaire

Instrument (Leader and Rater Form)

and Scoring Guide
(Form 5X-Short)

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

info@mindgarden.com
www.mindgarden.com

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APPENDIX H

Ranking of Subject-Leader Pairs of the Mean of the Five Transformational Leadership Behaviors

Subject Number	IC1	IC2	IC3	IC4	IIA1	IIA2	IIA3	IIA4	IIB1	IIB2	IIB3	IIB4	IM1	IM2	IM3	IM4	IS1	IS2	IS3	IS4	Average	Standard Deviation
27	4	4	3	4	4	4	4	3	4	4	4	4	4	4	4	4	4		4	4	3.89	0.32
19	4	4	4	4	4	4	4	4	4	3	4	4	4	3	2	4	4	4	4	4	3.80	0.52
28	4	4	3	4	4	4	4	4	0	4	4	4	4	3	4	4	4	3	4	4	3.65	0.93
17	2	4	1	4	3	4	4	4	4	4	4	4	4	4	4	4	3	4	3	2	3.50	0.89
24	4	3	3	4	4	4	3	4	1	4	3	4	3	4	3	4	3	4	3	4	3.45	0.76
18	3	4	3	2	3	3	3	3	4	4	4	4	3	3	3	3	4	3	3	2	3.20	0.62
20	3	1	3	3	3	3	4	3	3	4	4	3	4	3	4	3	3	4	3	3	3.20	0.70
30	4	4	4	2	3	3	3	3	3	3	3	2	3	3	2	4	4	4	2	3	3.10	0.72
End of Top Quartile																					3.47	0.74
31	1	4	3	3	4	3	4	3	1	2	4	2	4	4	4	4	4	3	2	3	3.10	1.02
9	3	3	2	3	3	2	3	3	2	3	3	3	4	3	4	4	1	2	4	3	2.90	0.79
21	1	3	3	3	3	2	3	3	4	4	3	3	3	3	3	3	1	3	3	3	2.85	0.75
25	2	4	2	4	3	3	3	3	3	3	3	3	1	4	3	2	2	2	3	4	2.85	0.81
16	2	3	3	3	3	3	3	3	2	3	2	2	3	4	3	3	3	2	3	3	2.80	0.52
8	3	4	2	2	4	4	4	2	2	3	3	3	4	3	2	3	1	3	2	1	2.75	0.97
12	1	4	1	0	3	4	4	3	0	0	1	3	4	4	3	4	3	4	4	3	2.65	1.53
22	2	4	4	2	2	2	3	2	1	1	4	4	3	3	1	4	2	2	3	2	2.55	1.05
23	1	4	2	4	2	3	4	4	2	2	4	2	2	2	2	4	1	2	2	2	2.55	1.05
29	3	3	3	2	3	2	3	3	2	2	4	1	3	1	1	3	3	2	4	2	2.50	0.89
14	0	4	2	2	3	1	2	3	2	2	3	2	2	3	3	3	4	3	3	1	2.40	0.99
26	1	4	4	2	3	4	4	2	2	0	4	0	2	1	0	4	3	3	2	1	2.30	1.45
15	1	3	3	1	3	3	3	1	3	1	3	1	3	2	1	2	1	4	1	3	2.15	1.04
6	0	4	4	1	3	3	2	1	2	0	3	0	3	3	1	3	2	2	2	2	2.05	1.23
3	1	4	0	3	0	3	4	4	0	0	4	1	2	1	2	4	1	1	1	3	1.95	1.54
Bottom Quartile																						
10	2	3	0	2	1	1	3	2	1	1	0	2	2	3	1	2	2	1	2	3	1.70	0.92
11	0	2	3	0	1	1	1	3	3	1	2	1	1	2	2	3	2	1	1	2	1.60	0.94
7	0	1	1	0	2	0	0	4	4	0	0	3	3	3	3	3	0	2	0	1	1.50	1.50
4	1	1	2	2	2	1	2	1	2	2	1	1	1	2	2	1	1	1	1	2	1.45	0.51
2	0	1	4	0	0	0	0	4	2	1	0	0	1	4	1	1	2	0	1	0	1.10	1.41
13	0	0	1	0	1	0	0	2	2	1	0	0	3	2	0	0	2	2	0	0	0.80	1.01
1	0	1	1	0	0	1	0	2	1		2	1	1	0	1	0	2		0	0	0.72	0.75
5	0	0	2	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0.30	0.57
																					1.15	1.10

Note. IC: Individual Consideration (four questions)
IIA: Idealized Influence, Attributed (four questions)
IIB: Idealized Influence, Behavior (four questions)
IM: Inspirational Motivation (four questions)
IS: Intellectual Stimulation (four questions)

APPENDIX I

Quartile Analysis, Individual Consideration

Subject Number	Individual Consideration (4 questions)				Mean	Standard Deviation
			Top Quartile			
27	4	4	3	4	3.75	0.50
19	4	4	4	4	4.00	0.00
28	4	4	3	4	3.75	0.50
17	2	4	1	4	2.75	1.50
24	4	3	3	4	3.50	0.58
18	3	4	3	2	3.00	0.82
20	3	1	3	3	2.50	1.00
30	4	4	4	2	3.50	1.00
Total Mean for Quartile					3.34	0.90
			Middle Two Quartiles			
31	1	4	3	3	2.75	1.26
9	3	3	2	3	2.75	0.50
21	1	3	3	3	2.50	1.00
25	2	4	2	4	3.00	1.15
16	2	3	3	3	2.75	0.50
8	3	4	2	2	2.75	0.96
12	1	4	1	0	1.50	1.73
22	2	4	4	2	3.00	1.15

(continued)

Subject Number	Individual Consideration (4 questions)				Mean	Standard Deviation
23	1	4	2	4	2.75	1.50
29	3	3	3	2	2.75	0.50
14	0	4	2	2	2.00	1.63
26	1	4	4	2	2.75	1.50
15	1	3	3	1	2.00	1.15
6	0	4	4	1	2.25	2.06
3	1	4	0	3	2.00	1.83
			Bottom Quartile			
10	2	3	0	2	1.75	1.26
11	0	2	3	0	1.25	1.50
7	0	1	1	0	0.50	0.58
4	1	1	2	2	1.50	0.58
2	0	1	4	0	1.25	1.89
13	0	0	1	0	0.25	0.50
1	0	1	1	0	0.50	0.58
5	0	0	2	0	0.50	1.00
Total Mean for Quartile					0.94	1.11

APPENDIX J

Quartile Analysis, Idealized Influence, Attributed

Subject Number	Idealized Influence Attributed (4 questions)				Mean	Standard Deviation
			Top Quartile			
27	4	4	4	3	3.75	0.50
19	4	4	4	4	4.00	0.00
28	4	4	4	4	4.00	0.00
17	3	4	4	4	3.75	0.50
24	4	4	3	4	3.75	0.50
18	3	3	3	3	3.00	0.00
20	3	3	4	3	3.25	0.50
30	3	3	3	3	3.00	0.00
Total Mean for Quartile					3.56	0.50
			Middle Two Quartiles			
31	4	3	4	3	3.50	0.58
9	3	2	3	3	2.75	0.50
21	3	2	3	3	2.75	0.50
25	3	3	3	3	3.00	0.00
16	3	3	3	3	3.00	0.00
8	4	4	4	2	3.50	1.00
12	3	4	4	3	3.50	0.58
22	2	2	3	2	2.25	0.50

(continued)

Subject Number	Idealized Influence Attributed (4 questions)				Mean	Standard Deviation
23	2	3	4	4	3.25	0.96
29	3	2	3	3	2.75	0.50
14	3	1	2	3	2.25	0.96
26	3	4	4	2	3.25	0.96
15	3	3	3	1	2.50	1.00
6	3	3	2	1	2.25	0.96
3	0	3	4	4	2.75	1.89
Bottom Quartile						
10	1	1	3	2	1.75	0.96
11	1	1	1	3	1.50	1.00
7	2	0	0	4	1.50	1.91
4	2	1	2	1	1.50	0.58
2	0	0	0	4	1.00	2.00
13	1	0	0	2	0.75	0.96
1	0	1	0	2	0.75	0.96
5	0	0	0	1	0.25	0.50
Total Mean for Quartile					1.13	1.18

APPENDIX K

Quartile Analysis, Idealized Influence, Behavior

Subject Number	Idealized Influence, Behavior (4 questions)				Mean	Standard Deviation
			Top Quartile			
27	4	4	4	4	4.00	0.00
19	4	3	4	4	3.75	0.50
28	0	4	4	4	3.00	2.00
17	4	4	4	4	4.00	0.00
24	1	4	3	4	3.00	1.41
18	4	4	4	4	4.00	0.00
20	3	4	4	3	3.50	0.58
30	3	3	3	2	2.75	0.50
Total Mean for Quartile					3.50	0.95
			Middle Two Quartiles			
31	1	2	4	2	2.25	1.26
9	2	3	3	3	2.75	0.50
21	4	4	3	3	3.50	0.58
25	3	3	3	3	3.00	0.00
16	2	3	2	2	2.25	0.50
8	2	3	3	3	2.75	0.50
12	0	0	1	3	1.00	1.41
22	1	1	4	4	2.50	1.73

(continued)

Subject Number	Idealized Influence, Behavior (4 questions)				Mean	Standard Deviation
23	2	2	4	2	2.50	1.00
29	2	2	4	1	2.25	1.26
14	2	2	3	2	2.25	0.50
26	2	0	4	0	1.50	1.91
15	3	1	3	1	2.00	1.15
6	2	0	3	0	1.25	1.50
3	0	0	4	1	1.25	1.89
			Bottom Quartile			
10	1	1	0	2	1.00	0.82
11	3	1	2	1	1.75	0.96
7	4	0	0	3	1.75	2.06
4	2	2	1	1	1.50	0.58
2	2	1	0	0	0.75	0.96
13	2	1	0	0	0.75	0.96
1	1		2	1	1.33	0.58
5	0	0	0	0	0.00	0.00
Total Mean for Quartile					1.10	1.08

APPENDIX L

Quartile Analysis, Inspirational Motivation

Subject Number	Inspirational Motivation (4 questions)				Mean	Standard Deviation
			Top Quartile			
27	4	4	4	4	4.00	0.00
19	4	3	2	4	3.25	0.96
28	4	3	4	4	3.75	0.50
17	4	4	4	4	4.00	0.00
24	3	4	3	4	3.50	0.58
18	3	3	3	3	3.00	0.00
20	4	3	4	3	3.50	0.58
30	3	3	2	4	3.00	0.82
Total Mean for Quartile					3.50	0.62
			Middle Two Quartiles			
31	4	4	4	4	4.00	0.00
9	4	3	4	4	3.75	0.50
21	3	3	3	3	3.00	0.00
25	1	4	3	2	2.50	1.29
16	3	4	3	3	3.25	0.50
8	4	3	2	3	3.00	0.82
12	4	4	3	4	3.75	0.50
22	3	3	1	4	2.75	1.26

(continued)

Subject Number	Inspirational Motivation (4 questions)				Mean	Standard Deviation
23	2	2	2	4	2.50	1.00
29	3	1	1	3	2.00	1.15
14	2	3	3	3	2.75	0.50
26	2	1	0	4	1.75	1.71
15	3	2	1	2	2.00	0.82
6	3	3	1	3	2.50	1.00
3	2	1	2	4	2.25	1.26
			Bottom Quartile			
10	2	3	1	2	2.00	0.82
11	1	2	2	3	2.00	0.82
7	3	3	3	3	3.00	0.00
4	1	2	2	1	1.50	0.58
2	1	4	1	1	1.75	1.50
13	3	2	0	0	1.25	1.50
1	1	0	1	0	0.50	0.58
5	1	1	0	0	0.50	0.58
Total Mean for Quartile					1.56	1.13

APPENDIX M

Quartile Analysis, Intellectual Stimulation

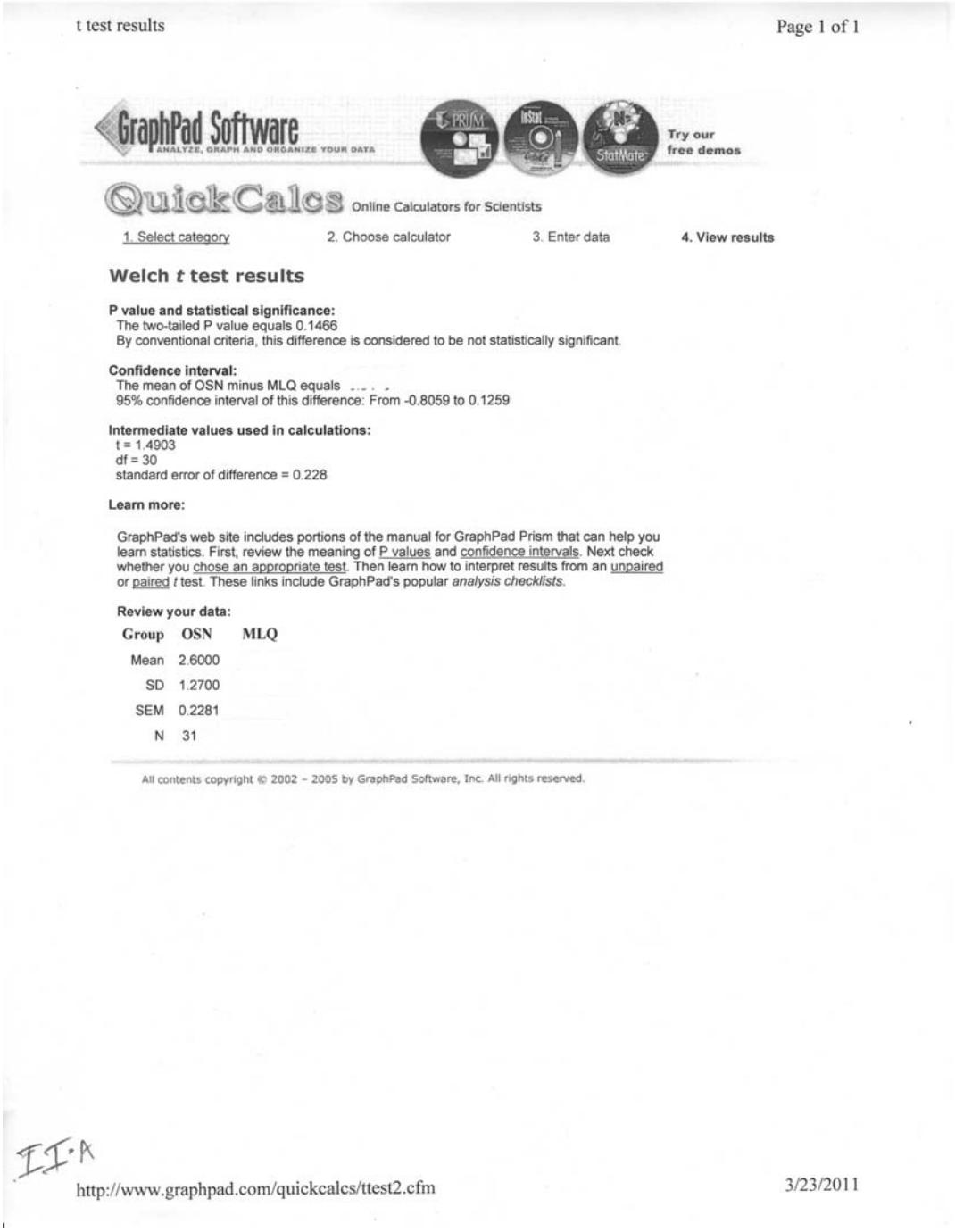
Subject Number	Intellectual Stimulation (4 questions)				Mean	Standard Deviation
			Top Quartile			
27	4		4	4	4.00	0.00
19	4	4	4	4	4.00	0.00
28	4	3	4	4	3.75	0.50
17	3	4	3	2	3.00	0.82
24	3	4	3	4	3.50	0.58
18	4	3	3	2	3.00	0.82
20	3	4	3	3	3.25	0.50
30	4	4	2	3	3.25	0.96
Total Mean for Quartile					3.45	0.68
			Middle Two Quartiles			
31	4	3	2	3	3.00	0.82
9	1	2	4	3	2.50	1.29
21	1	3	3	3	2.50	1.00
25	2	2	3	4	2.75	0.96
16	3	2	3	3	2.75	0.50
8	1	3	2	1	1.75	0.96
12	3	4	4	3	3.50	0.58
22	2	2	3	2	2.25	0.50

(continued)

Subject Number	Intellectual Stimulation (4 questions)				Mean	Standard Deviation
23	1	2	2	2	1.75	0.50
29	3	2	4	2	2.75	0.96
14	4	3	3	1	2.75	1.26
26	3	3	2	1	2.25	0.96
15	1	4	1	3	2.25	1.50
6	2	2	2	2	2.00	0.00
3	1	1	1	3	1.50	1.00
			Bottom Quartile			
10	2	1	2	3	2.00	0.82
11	2	1	1	2	1.50	0.58
7	0	2	0	1	0.75	0.96
4	1	1	1	2	1.25	0.50
2	2	0	1	0	0.75	0.96
13	2	2	0	0	1.00	1.15
1	2		0	0	0.67	1.15
5	1	0	0	0	0.25	0.50
Total Mean for Quartile					1.03	0.91

APPENDIX N

Figures N.1-N.12



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.1466
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.8059 to 0.1259

Intermediate values used in calculations:
t = 1.4903
df = 30
standard error of difference = 0.228

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	2.6000	
SD	1.2700	
SEM	0.2281	
N	31	

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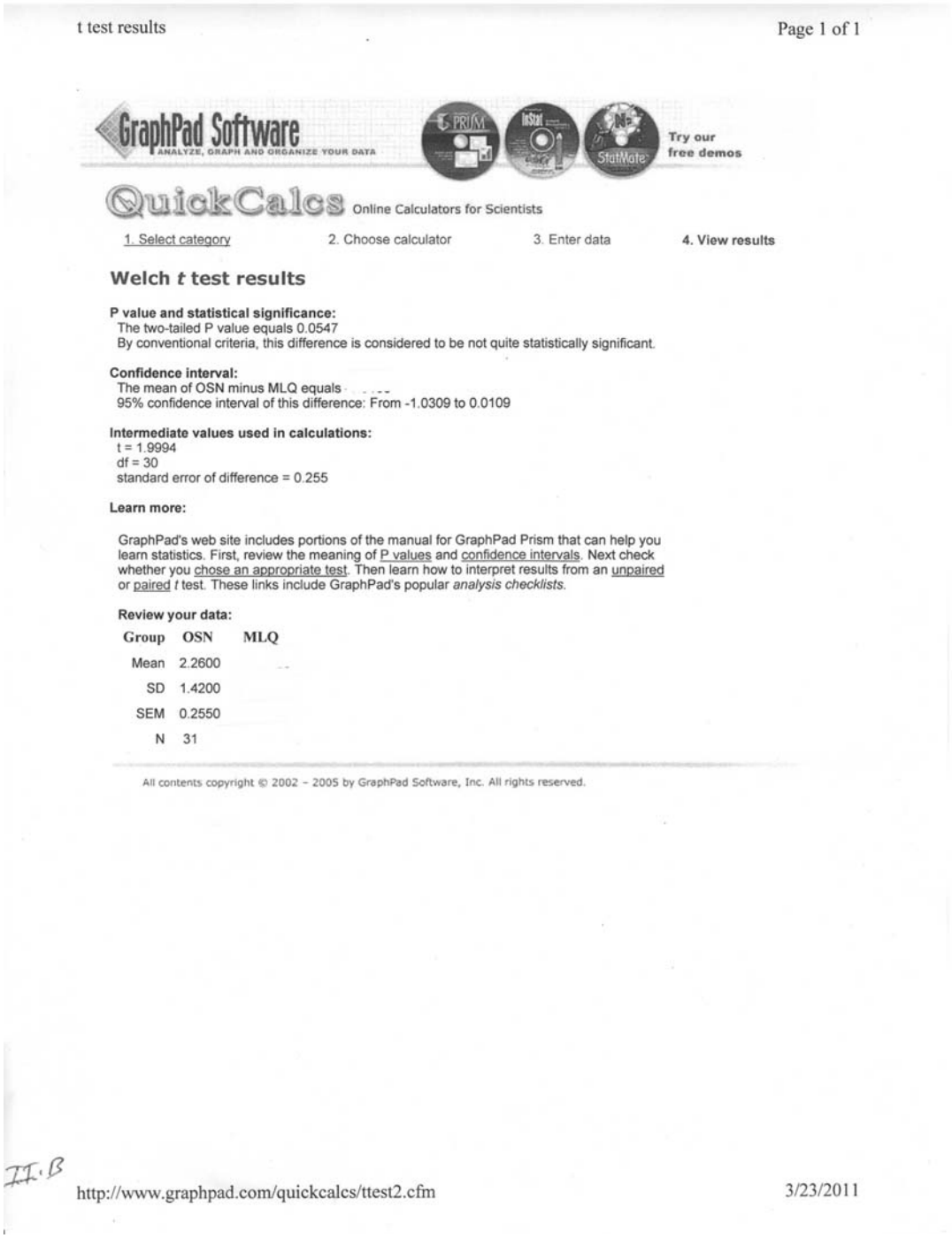
II·A

http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure N.1. Welch *t* Test Results: Idealized Influence (Attributed)



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0547
By conventional criteria, this difference is considered to be not quite statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -1.0309 to 0.0109

Intermediate values used in calculations:
t = 1.9994
df = 30
standard error of difference = 0.255

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	2.2600	
SD	1.4200	
SEM	0.2550	
N	31	

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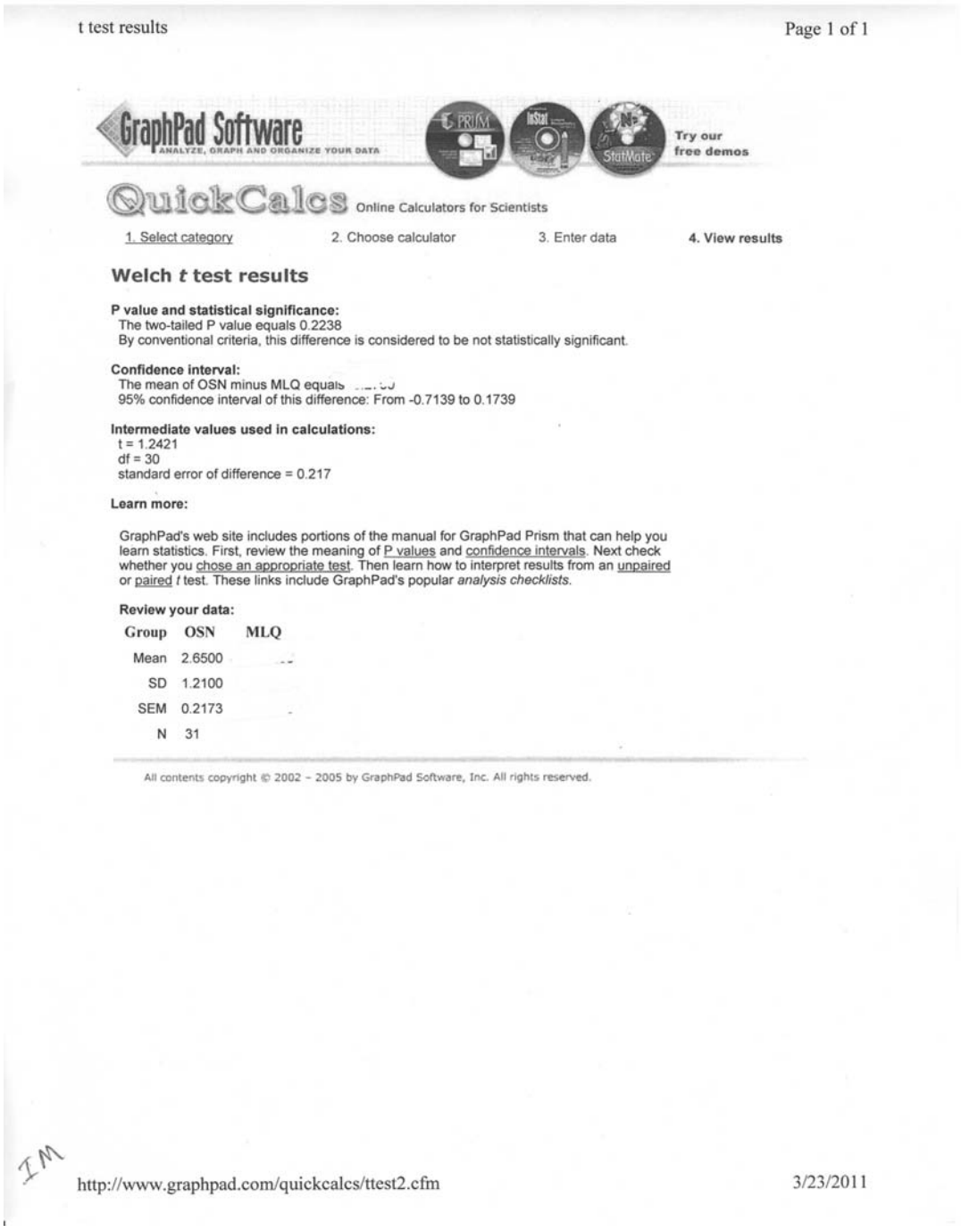
II.B

http://www.graphpad.com/quickcalcs/ttest2.cfm

3/23/2011

Figure N.2. Welch *t* Test Results: Idealized Influence (Behavior)



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.2238
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.7139 to 0.1739

Intermediate values used in calculations:
t = 1.2421
df = 30
standard error of difference = 0.217

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	2.6500	
SD	1.2100	
SEM	0.2173	
N	31	

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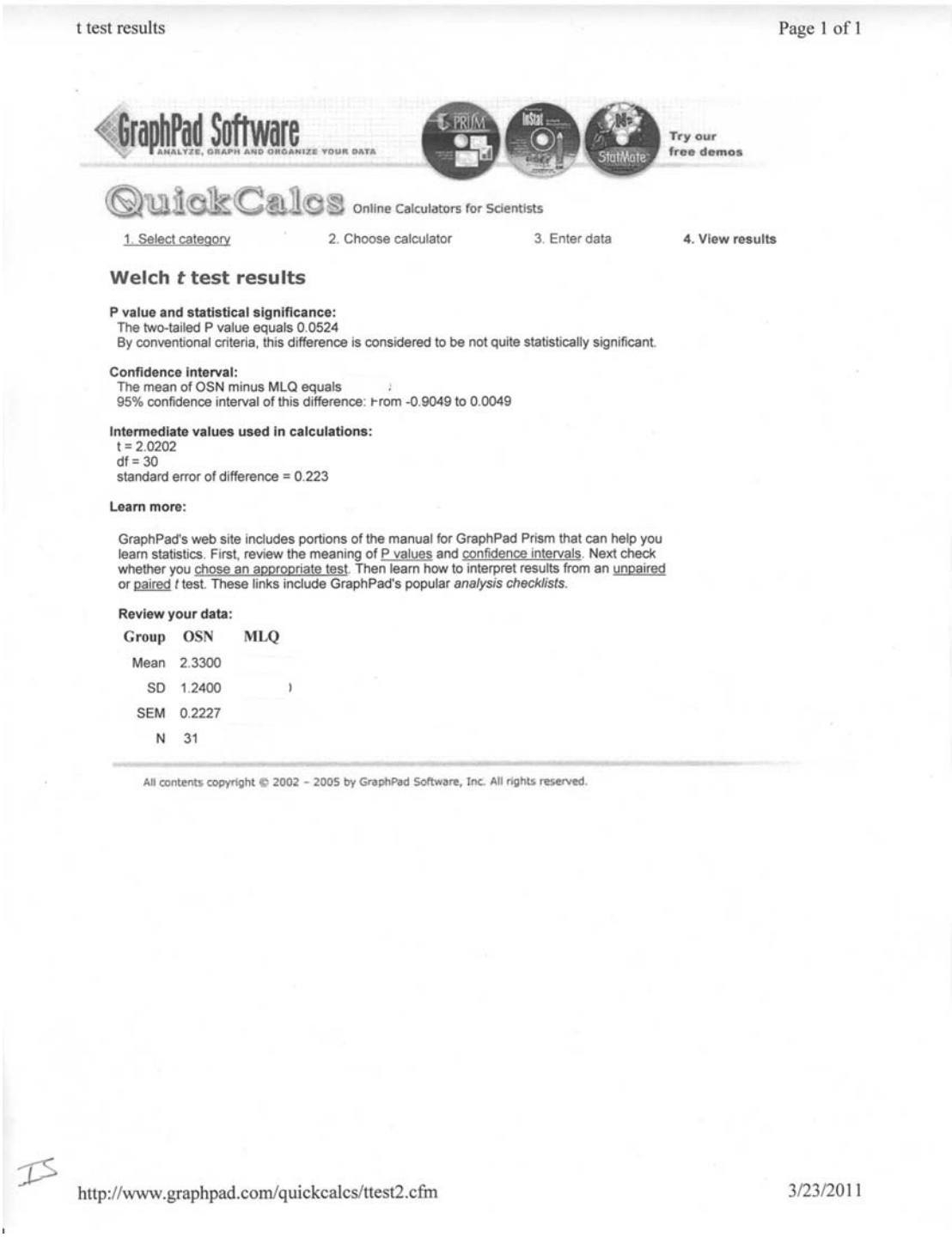
IM

http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure N.3. Welch *t* Test Results: Inspirational Motivation



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0524
By conventional criteria, this difference is considered to be not quite statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.9049 to 0.0049

Intermediate values used in calculations:
t = 2.0202
df = 30
standard error of difference = 0.223

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	2.3300	
SD	1.2400	
SEM	0.2227	
N	31	

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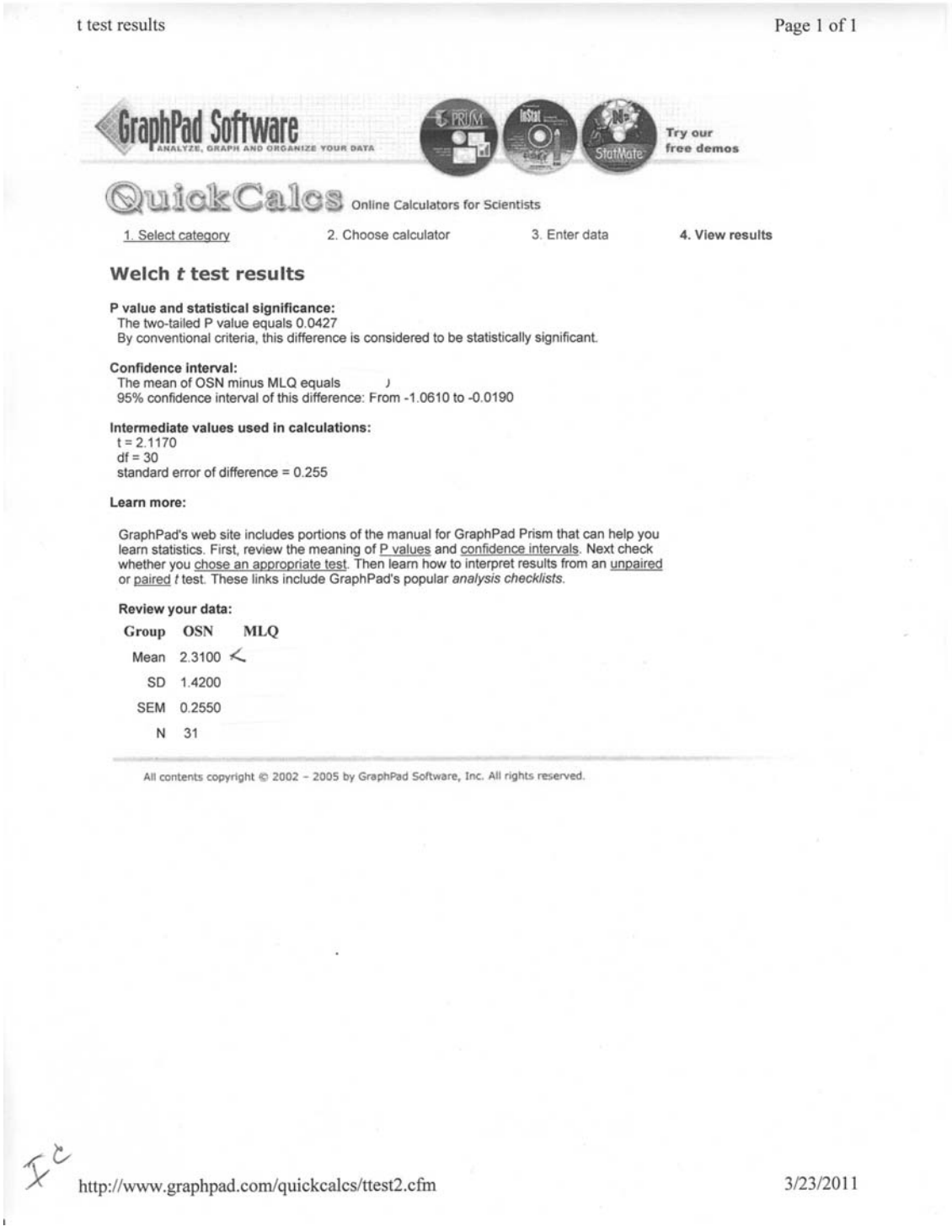
IS

Figure N.4. Welch *t* Test Results: Intellectual Stimulation



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0427
By conventional criteria, this difference is considered to be statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -1.0610 to -0.0190

Intermediate values used in calculations:
t = 2.1170
df = 30
standard error of difference = 0.255

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	2.3100	
SD	1.4200	
SEM	0.2550	
N	31	

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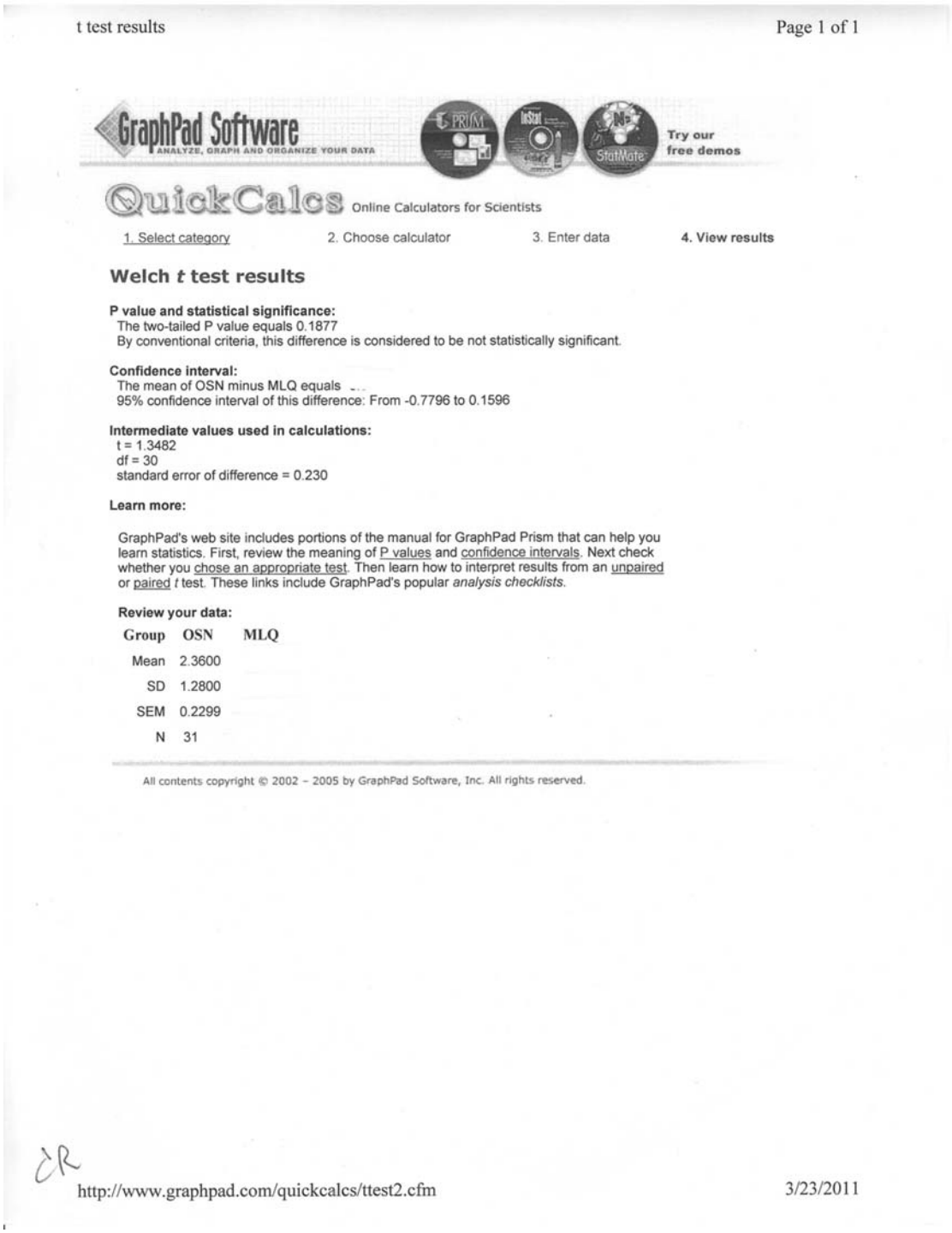
http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure N.5. Welsh *t* Test Results: Individual Consideration



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.1877
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals ...
95% confidence interval of this difference: From -0.7796 to 0.1596

Intermediate values used in calculations:
t = 1.3482
df = 30
standard error of difference = 0.230

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	2.3600	
SD	1.2800	
SEM	0.2299	
N	31	

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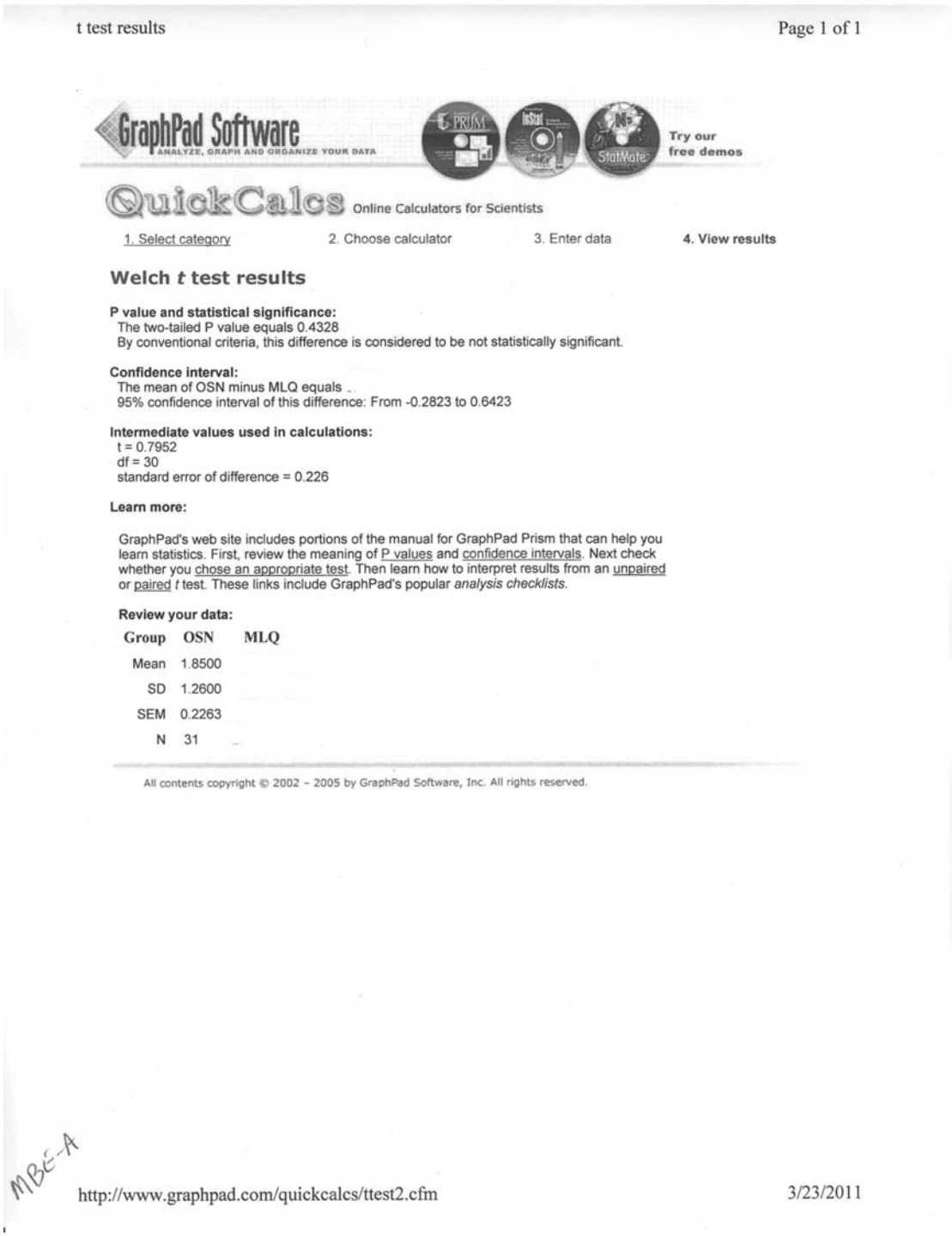
CR

http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure N.6. Welch *t* Test Results: Contingent Reward



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.4328
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals .
95% confidence interval of this difference: From -0.2823 to 0.6423

Intermediate values used in calculations:
t = 0.7952
df = 30
standard error of difference = 0.226

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	1.8500	
SD	1.2600	
SEM	0.2263	
N	31	

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MBE-A

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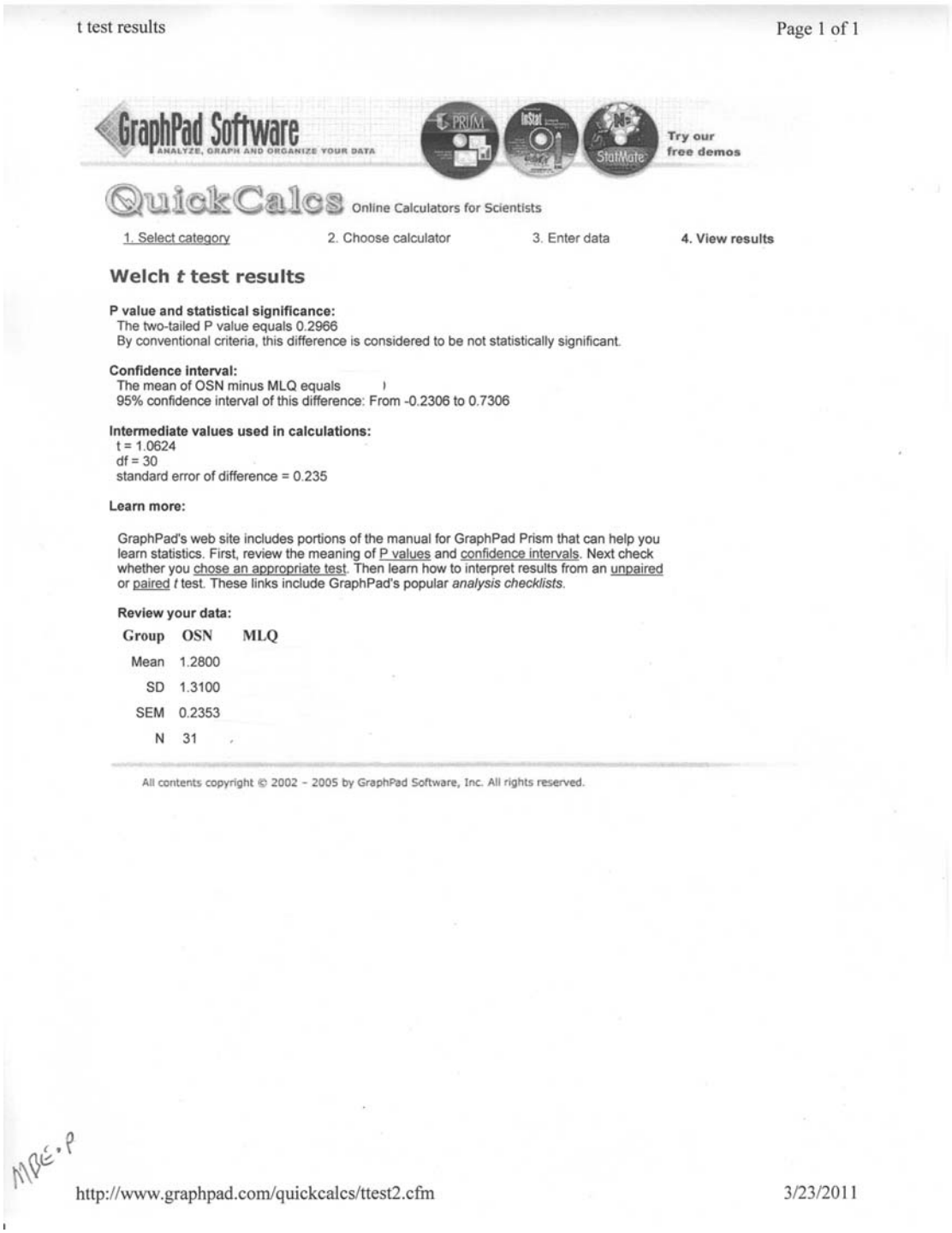
Figure N.7. Welch *t* Test Results: Management-by-Exception (Active)



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.2966
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.2306 to 0.7306

Intermediate values used in calculations:
t = 1.0624
df = 30
standard error of difference = 0.235

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	1.2800	
SD	1.3100	
SEM	0.2353	
N	31	

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MBE-P

http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure N.8. Welch *t* Test Results: Management-by-Exception (Passive)

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1. Select category 2. Choose calculator 3. Enter data **4. View results**

Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0647
By conventional criteria, this difference is considered to be not quite statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals ..
95% confidence interval of this difference: From -0.0266 to 0.8466

Intermediate values used in calculations:
t = 1.9180
df = 30
standard error of difference = 0.214

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	1.0600	
SD	1.1900	
SEM	0.2137	
N	31	

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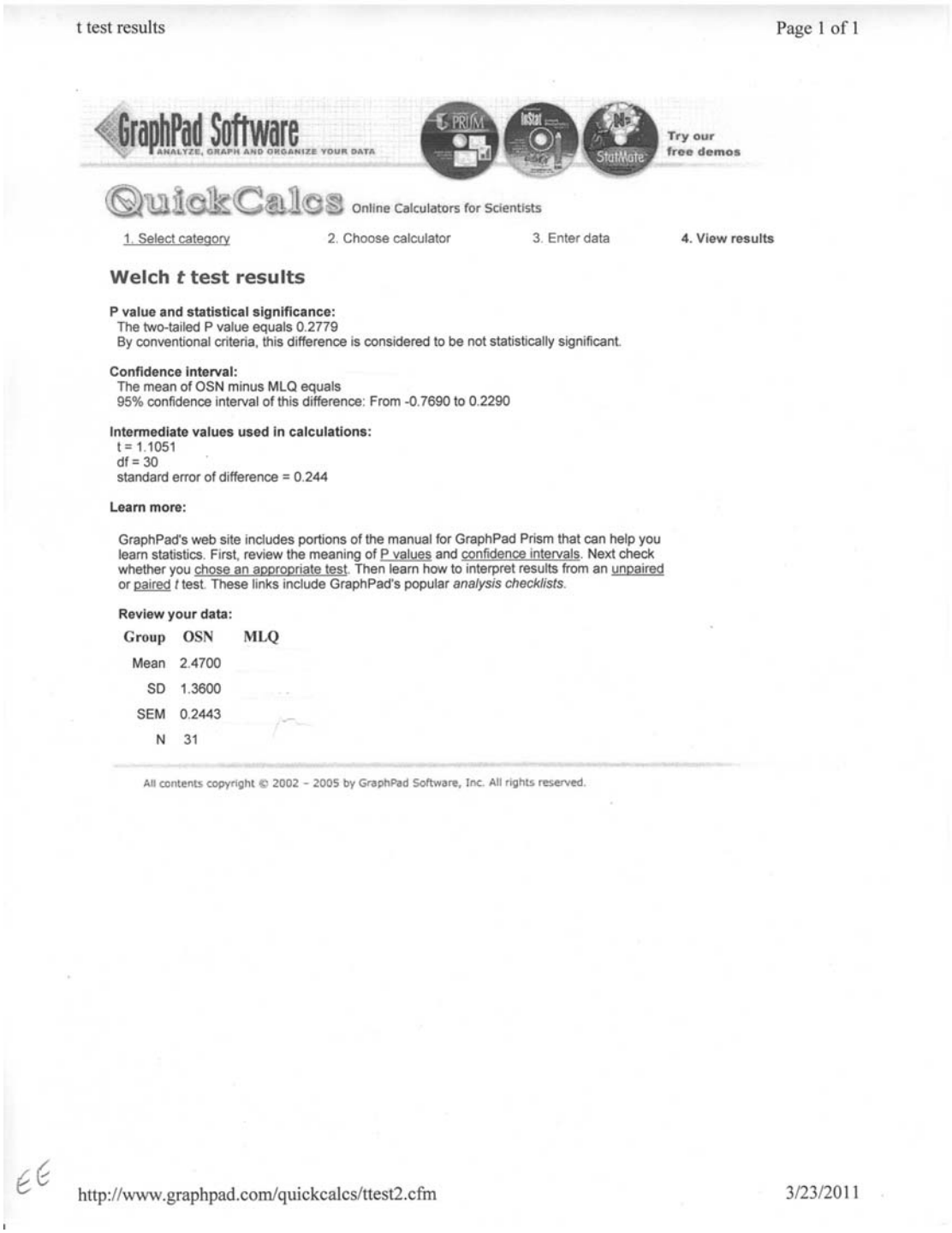
LF

Figure N.9. Welch *t* Test Results: Laissez-Faire



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.2779
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.7690 to 0.2290

Intermediate values used in calculations:
t = 1.1051
df = 30
standard error of difference = 0.244

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	2.4700	
SD	1.3600	
SEM	0.2443	
N	31	

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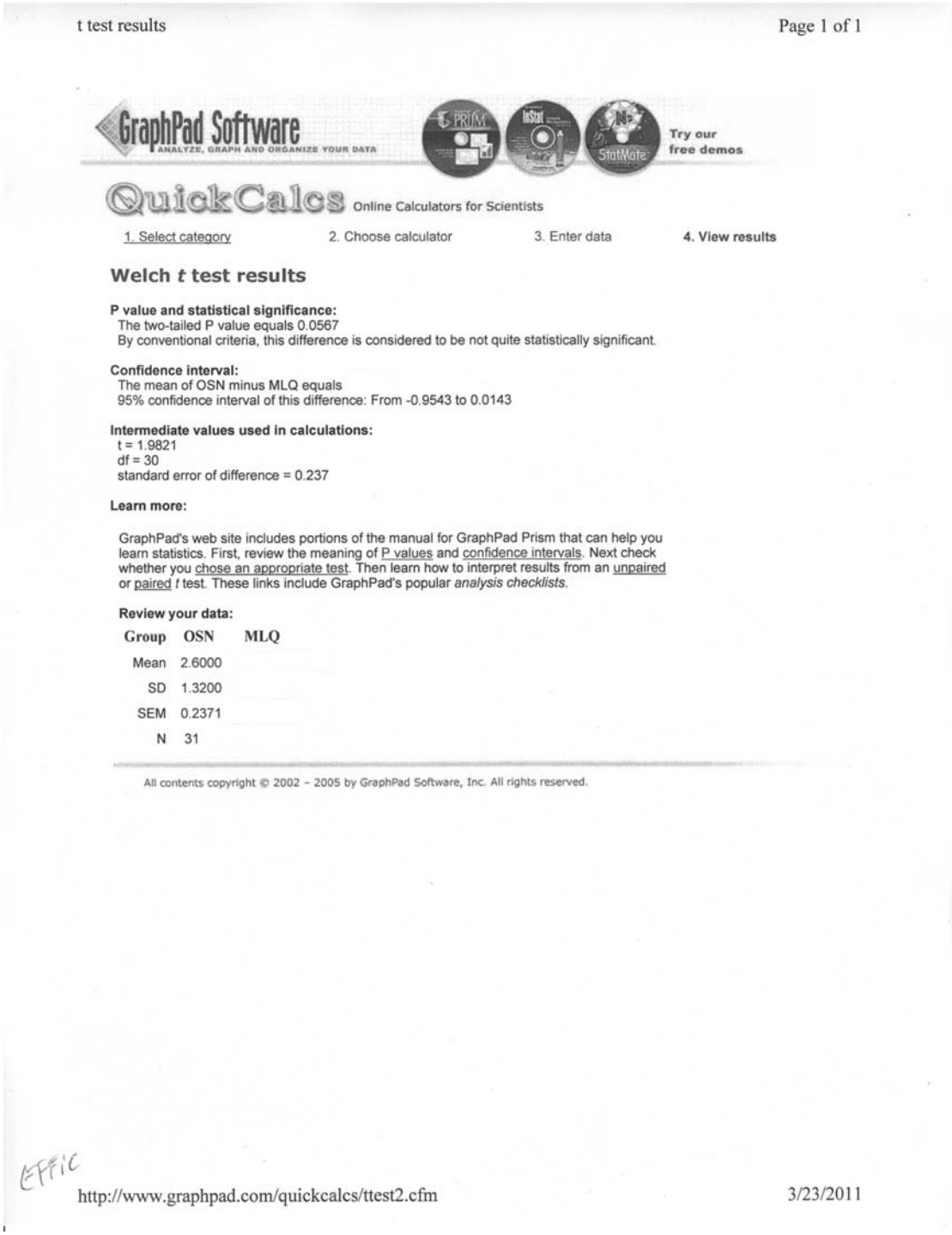
EE

Figure N.10. Welch *t* Test Results: Extra Effort



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0567
By conventional criteria, this difference is considered to be not quite statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.9543 to 0.0143

Intermediate values used in calculations:
t = 1.9821
df = 30
standard error of difference = 0.237

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN	MLQ
Mean	2.6000	
SD	1.3200	
SEM	0.2371	
N	31	

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EFFIC

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Figure N.11. Welch *t* Test Results: Efficiency

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1. Select category 2. Choose calculator 3. Enter data **4. View results**

Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.1474
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN minus MLQ equals
95% confidence interval of this difference: From -0.9256 to 0.1456

Intermediate values used in calculations:
t = 1.4870
df = 30
standard error of difference = 0.262

Learn more:

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Review your data:

Group	OSN	MLQ
Mean	2.6900	
SD	1.4600	
SEM	0.2622	
N	31	

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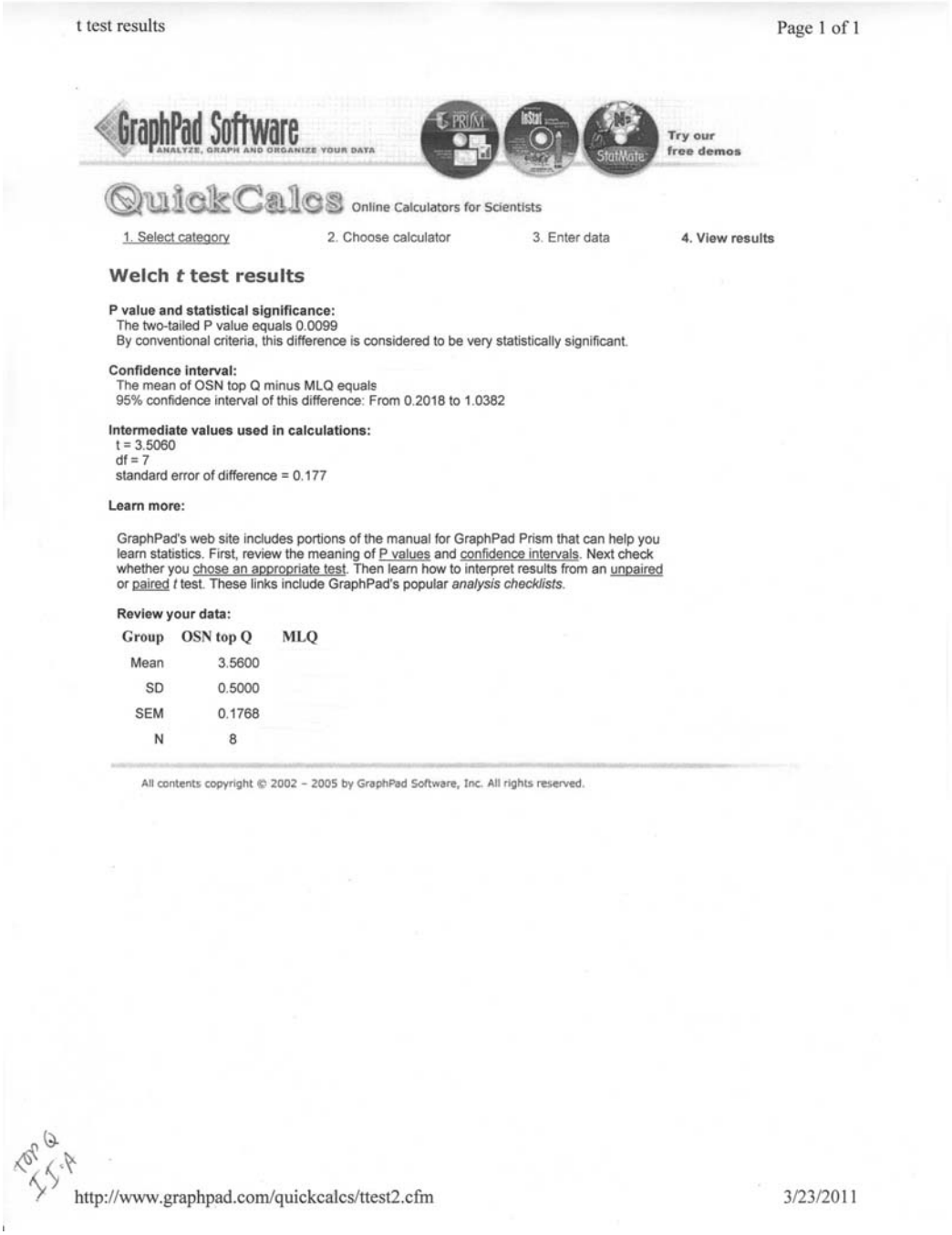
SAT

Figure N.12. Welch *t* Test Results: Satisfaction

APPENDIX O

Figures O.1-O.5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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0099
By conventional criteria, this difference is considered to be very statistically significant.

Confidence interval:
The mean of OSN top Q minus MLQ equals
95% confidence interval of this difference: From 0.2018 to 1.0382

Intermediate values used in calculations:
t = 3.5060
df = 7
standard error of difference = 0.177

Learn more:

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Review your data:

Group	OSN top Q	MLQ
Mean	3.5600	
SD	0.5000	
SEM	0.1768	
N	8	

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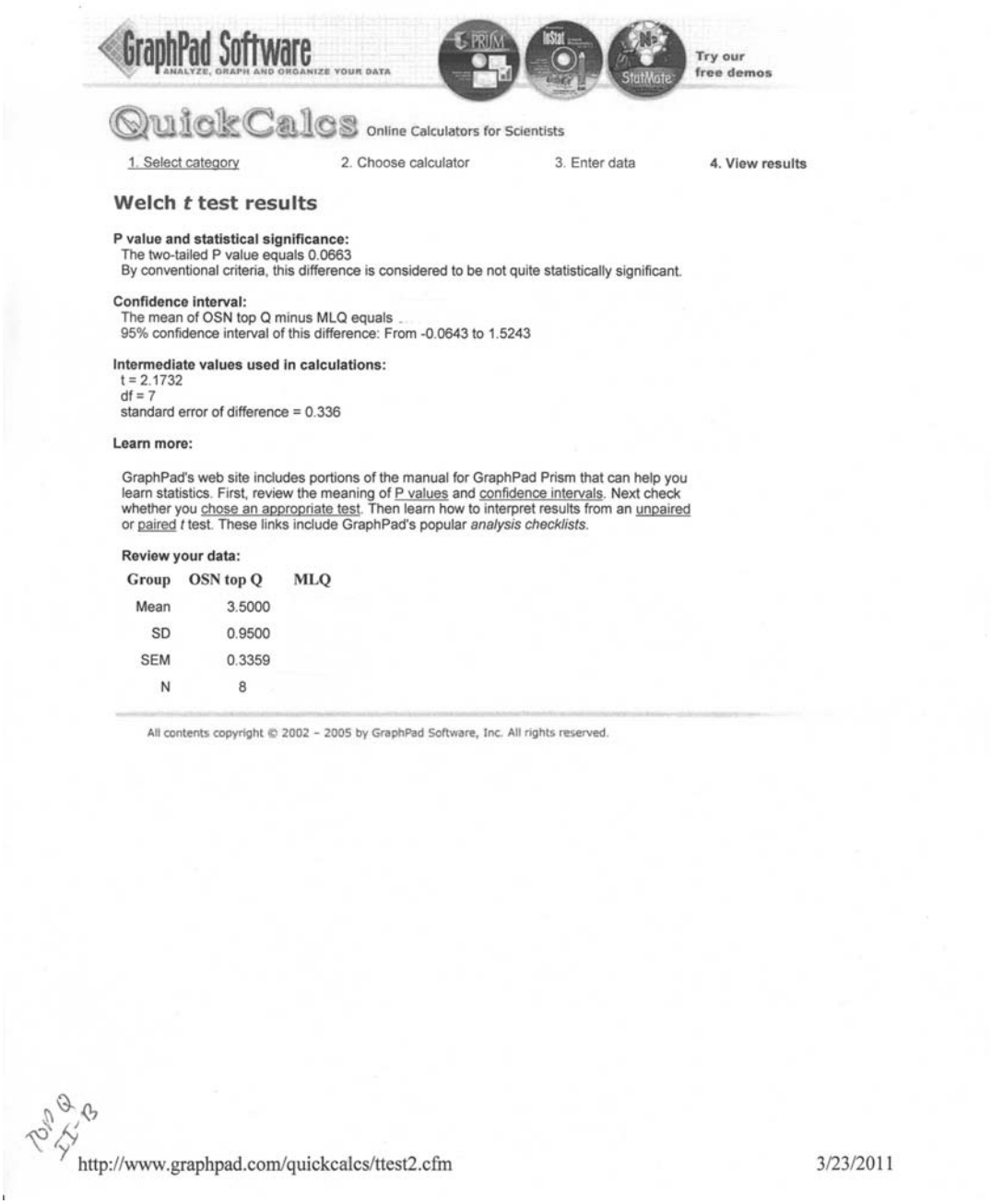
Top Q
I-A

http://www.graphpad.com/quickcalcs/ttest2.cfm

3/23/2011

Figure O.1. Welch *t* Test Results, Top Quartile Analysis: Idealized Influence (Attributed)



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0663
By conventional criteria, this difference is considered to be not quite statistically significant.

Confidence interval:
The mean of OSN top Q minus MLQ equals
95% confidence interval of this difference: From -0.0643 to 1.5243

Intermediate values used in calculations:
t = 2.1732
df = 7
standard error of difference = 0.336

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN top Q	MLQ
Mean	3.5000	
SD	0.9500	
SEM	0.3359	
N	8	

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Pol Q II-B

Figure O.2. Welch *t* Test Results, Top Quartile Analysis: Idealized Influence (Behavior)

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1. Select category 2. Choose calculator 3. Enter data **4. View results**

Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0332
By conventional criteria, this difference is considered to be statistically significant.

Confidence interval:
The mean of OSN top Q minus MLQ equals
95% confidence interval of this difference: From 0.0616 to 1.0984

Intermediate values used in calculations:
t = 2.6454
df = 7
standard error of difference = 0.219

Learn more:

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Review your data:

Group	OSN top Q	MLQ
Mean	3.5000	
SD	0.6200	
SEM	0.2192	
N	8	

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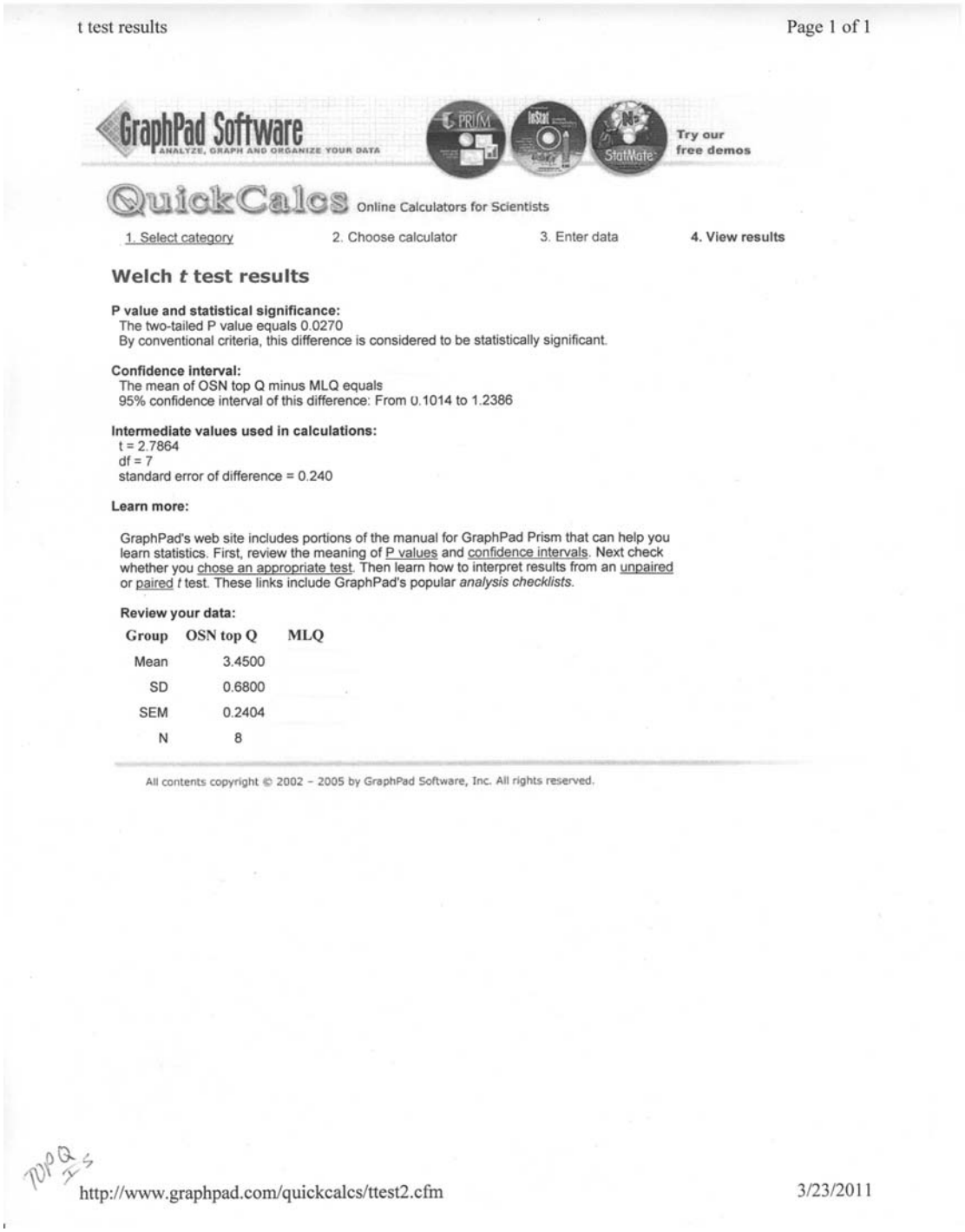
TMQ IM

Figure O.3. Welch *t* Test Results, Top Quartile Analysis: Inspirational Motivation



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Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.0270
By conventional criteria, this difference is considered to be statistically significant.

Confidence interval:
The mean of OSN top Q minus MLQ equals
95% confidence interval of this difference: From 0.1014 to 1.2386

Intermediate values used in calculations:
t = 2.7864
df = 7
standard error of difference = 0.240

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN top Q	MLQ
Mean	3.4500	
SD	0.6800	
SEM	0.2404	
N	8	

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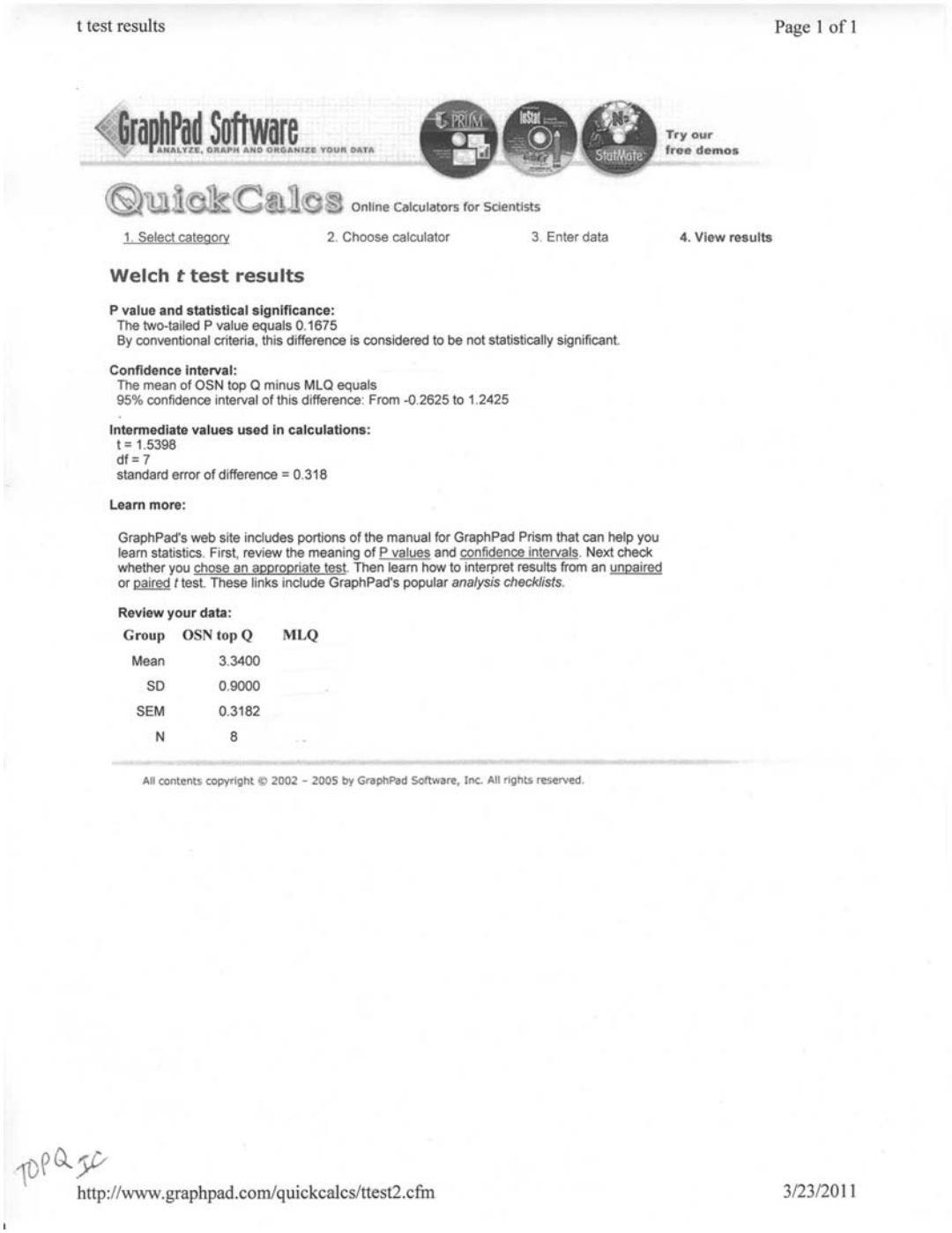
TOPQ IS

Figure O.4. Welch *t* Test Results, Top Quartile Analysis: Intellectual Stimulation



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1. Select category 2. Choose calculator 3. Enter data **4. View results**

Welch *t* test results

P value and statistical significance:
The two-tailed P value equals 0.1675
By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:
The mean of OSN top Q minus MLQ equals
95% confidence interval of this difference: From -0.2625 to 1.2425

Intermediate values used in calculations:
t = 1.5398
df = 7
standard error of difference = 0.318

Learn more:

GraphPad's web site includes portions of the manual for GraphPad Prism that can help you learn statistics. First, review the meaning of P values and confidence intervals. Next check whether you chose an appropriate test. Then learn how to interpret results from an unpaired or paired *t* test. These links include GraphPad's popular *analysis checklists*.

Review your data:

Group	OSN top Q	MLQ
Mean	3.3400	
SD	0.9000	
SEM	0.3182	
N	8	

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TOPQ IC

http://www.graphpad.com/quickcalcs/ttest2.cfm 3/23/2011

Figure O.5. Welch *t* Test Results, Top Quartile Analysis: Individual Consideration