A study of transformational leadership and the success of volunteer blood drive coordinators at American Red Cross Midwest Region Blood Services

Deborah L. Breeling

University of Nebraska at Omaha

Follow this and additional works at: https://digitalcommons.unomaha.edu/studentwork

Recommended Citation

https://digitalcommons.unomaha.edu/studentwork/909
A STUDY OF TRANSFORMATIONAL LEADERSHIP
AND THE SUCCESS OF VOLUNTEER BLOOD DRIVE COORDINATORS
AT AMERICAN RED CROSS MIDWEST REGION BLOOD SERVICES

A Thesis
Presented to the
Department of Communication
and the
Faculty of the Graduate College
In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
University of Nebraska at Omaha

by
Deborah L. Breeling

April 1995
THESIS ACCEPTANCE

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts, University of Nebraska at Omaha.

Committee

Linda Scherer, Ph.D., Psychology
Name

Robert T. Eide, Ph.D., Communication
Department/School

Chairperson

Rendall A. Rose, Ph.D., Communication

Date 3/27/95

ii
Abstract

Transformational Leadership and the Success of Volunteer Blood Drive Coordinators at American Red Cross Midwest Region Blood Services

This study explored the importance of transformational leadership in predicting the degree to which volunteer leaders achieve their goals at American Red Cross blood drives. This project expands the study of transformational leadership by analyzing its impact on a group not previously covered in the literature -- volunteer leaders and their followers.

Volunteer leaders organize blood drives, and the success of these drives can be measured by comparing the total units of blood collected to the goal for the drive. Blood bank experts say behaviors of volunteer leaders significantly influence the success of the drive. Transformational leadership is a model that describes behaviors of certain types of leaders and predicts that leaders with these behaviors will influence followers to exert extra effort, be more satisfied and be more effective (Bass, 1985b). Transformational leadership characteristics are charisma, inspiration, individualized consideration and intellectual stimulation. These are in contrast to
transactional behaviors of contingent reward and management-by-exception and to non-leadership behavior.

The transformational, transactional and non-leadership characteristics of volunteer leaders were measured using a Multifactor Leadership Questionnaire (Bass and Avolio, 1990). The results were related to results of the leaders' last three blood drives. It was predicted that (1) transformational scores resulting from the questionnaire responses would significantly predict success in achieving blood collection goals; (2) transformational scores would predict success in achieving blood collection goals to a significantly greater degree than would transactional scores; and (3) transformational scores would predict success to a significantly greater degree than would non-leadership scores.

Partial support was found for the first hypothesis, with transformational leadership accounting for a small amount of variance in a hierarchical regression analysis. The second hypothesis was rejected when transactional leadership entered as most significant in predicting success. And partial support for the third hypothesis was found when transformational leadership was most significant when comparing it and non-leadership (although transformational leadership again accounted for a small amount of variance).
ACKNOWLEDGEMENTS

I extend my appreciation to the members of my thesis committee, Dr. Robert E. Carlson and Dr. Lisa Scherer, and especially to committee chairman Dr. Randall A. Rose. I am also grateful to Frank Hartranft at the University of Nebraska at Omaha Computing Center and to the American Red Cross Midwest Region staff in the Communication and Donor Resources Development Departments who contributed a great deal of time and effort to gathering and preparing valuable data for me.

I extend my thanks to the American Red Cross Midwest Region and the University Committee on Research for their financial support.

And, finally, I want to thank my husband, Chris, for his ceaseless love and support during this project and many others.
TABLE OF CONTENTS

LIST OF TABLES .......................................................... viii

CHAPTER I  Introduction ........................................ 1

CHAPTER 2  Literature Review ............................... 6

- Transactional Versus Transformational Leadership . 6
- American Red Cross Coordinators ...................... 12
- Volunteers ...................................................... 15
- Statement of Hypotheses .................................. 16

CHAPTER 3  Methodology ....................................... 18

- Participants ................................................... 18
- Procedures .................................................... 19
- Selection and Measurement of Outcome Variable .. 20
- Selection and Measurement of Predictor Variables . 21
- Tests of Hypotheses ......................................... 23

CHAPTER 4  Results ........................................... 26

- Demographics of Research Participants .............. 26
- Factor Analysis ................................................. 27
- Reliability ...................................................... 29
- Outcome Variable ............................................ 29
- Tests of Hypotheses .......................................... 33
- Supplemental Analyses ....................................... 35

CHAPTER 5  Discussion and Recommendations ............. 43

- Factor Analysis ............................................... 43
- Reliability ...................................................... 48
- Outcome Variable ............................................ 49
- Tests of Hypotheses .......................................... 52
- Supplemental Analysis -- Correlations of the Eight Theoretically Specified MLQ Factors .... 58
- Supplemental Analysis -- Stepwise Multiple Regressions of Eight Theoretically Specified Leadership Factors Upon Percentage of Productive Goal Achieved .............. 60
- Supplemental Analysis -- Correlations of the Eight Theoretically Specified MLQ Factors with Percentage of Productive Goal Achieved .............. 64
- Limitations of the Study ..................................... 65
- Recommendations for Future Research ................. 67

REFERENCES .......................................................... 71
APPENDICES

Appendix A: Multifactor Leadership Questionnaire, (Form 5X - Self)
Appendix B: Questionnaire Cover Letter
Appendix C: Follow-up Postcard
Appendix D: Final Mailing Cover Letter
Appendix E: Eight Factor Oblimin Rotation Factor Analysis of Multifactor Leadership Questionnaire 5X-Self
LIST OF TABLES

1. Demographics of Respondents.......................... 27
2. Reliability of Multifactor Leadership Questionnaire 5X-Self ............................... 29
3. Respondents' Importance Ratings of Blood Drive Outcomes ........................................ 32
4. Hierarchical Regression of Transformational Leadership Scores Upon Percentage of Productive Goal Achieved ............................ 33
5. Hierarchical Regression of Transformational and Transactional Leadership Scores Upon Percentage of Productive Goal Achieved ............ 34
6. Hierarchical Regression of Transformational and Non-Leadership Scores Upon Percentage of Productive Goal Achieved ............................ 35
7. Stepwise Multiple Regression of Transformational Leadership Factors Upon Percentage of Productive Goal Achieved ............................ 36
8. Stepwise Multiple Regression of Transformational and Transactional Leadership Factors Upon Percentage of Productive Goal Achieved ............................ 37
9. Stepwise Multiple Regression of Transformational and Non-Leadership Factors Upon Percentage of Productive Goal Achieved ............................ 38
10. Intercorrelations of the Eight Theoretically Specified MLQ Factors Upon Mean Productive Outcome 39
11. Coordinator Ratings on the Theoretically Specified Eight Factors of Transformational Leadership, Transactional Leadership and Non-Leadership....... 40
12. Intercorrelations of Eight Theoretically Specified MLQ Factors ........................................ 42
Chapter 1
INTRODUCTION

American Red Cross Blood Services collects about 6 million units of blood each year (a unit is about 500 milliliters), or nearly half the blood transfused annually in the United States. Midwest Region Blood Services is a division of Red Cross that collects, tests, processes and distributes blood and blood components in 93 counties throughout most of Nebraska, one third of Iowa and small portions of Kansas and Colorado. About 100,000 units of blood are donated annually in Midwest Region’s territory. Nearly 240,000 blood components are prepared from those donations and distributed to 97 hospitals in its area, as well as to other hospitals throughout the nationwide Red Cross blood system.

Red Cross Midwest Region, and all divisions of the Red Cross, rely heavily upon volunteers to provide the resources they need to operate and to deliver their programs. One resource vital to the Red Cross is the blood which is donated freely by volunteer blood donors.

Another resource is the planning and leadership needed to execute an organized blood drive that attracts people to give blood and gives these people an efficient, convenient forum in which to donate. Volunteers also provide this
resource. Blood drive "coordinators" are volunteer leaders of blood drives who willingly give their time and skills to coordinate the resources and efforts of others to organize a blood drive at their workplace, church, school, community or civic organization. The coordinator may be a high level manager, a high school student, a long-time Red Cross volunteer who inherited the job from a parent or other.

Seven or eight blood drives are held each weekday in Red Cross Midwest Region. About 500 different volunteer coordinators organize these drives. When serving as a blood drive coordinator, these volunteers function as leaders, coordinating people and resources to meet goals. Among their responsibilities are: (1) securing a site for the blood drive; (2) recruiting enough donors to meet the drive's donation goal; (3) finding and scheduling other volunteers to work at the drive; (4) persuading others in the organization or community to contribute goods or services to the effort; (5) keeping records and (6) evaluating the outcome of the drive.

Some coordinators lead a committee of experienced volunteers who, in turn, lead one or more of these functions. Others work with a temporary committee that has significant turnover each time a new blood drive is scheduled. Some coordinators do the bulk of the preparatory work themselves, yet serve as the leader of all the
volunteers who work at the drive, the donors and of the sponsoring organization and its resources.

Each coordinator receives performance expectations and measurable goals for his or her drive, the most important being a goal for the number of units of blood to be collected at the drive. Other goals may include recruiting a certain percentage of each of the eight blood types, scheduling donors at established appointment times, giving recognition to the donors and other volunteers, and ensuring activities at the drive comply with all United States Food and Drug Administration and American Red Cross regulations.

Paid Red Cross staff, called donor consultants, work with coordinators to establish the drives’ goals and supply the materials and information needed to organize a blood drive. Consultants may participate in the planning and preparing for a blood drive, but the work is done by the coordinator, and, throughout the preparation and on the day of the blood drive, it is the coordinator who is fully in charge.

The position of volunteer coordinator is open to almost anyone willing to assume the responsibility. Red Cross staff can suggest and guide the selection or appointment of a chairman, but the appointment decision is made by an authority at the sponsoring school, church, business, etc.

Just as all people have varying levels of skills,
interests and abilities, so do blood drive coordinators. Blood collection experts say the abilities and characteristics of the coordinator have a significant impact on achieving or not achieving goals at the blood drive (H. Garcia, personal communication, March 8, 1994; G. Ouellette, personal communication, March 9, 1994; L. Roccaforte, personal communication, Nov. 23, 1993). Some of the characteristics they say influence success at the blood drive include commitment to and belief in the blood program, ability to communicate the purpose and goal of the blood drive, and a willingness to delegate tasks and responsibilities for organizing and executing a blood drive.

These descriptions of a successful coordinator are similar to the characteristics of a transformational leader. James Burns (1978) introduced the model of the transformational leader as a contrast to the transactional leader model. According to Burns, the transactional leader motivates followers by appealing to their self-interests or offering rewards for services rendered. The transformational leader, however, motivates followers by transforming or elevating their self-interests into those of the organization.

Bernard Bass adjusted this model slightly by proposing that transformational leadership builds on or augments the effects of transactional leadership. The transactional
leader is one who clarifies a follower's roles and tasks to be achieved, the follower's needs and wants, and how those needs and wants will be satisfied if the roles are fulfilled and tasks completed successfully (Bass, 1985a).

The transformational leader is one who does not just set goals and establish a reward system based upon achievement of those goals. The transformational leader actually motivates followers to internalize those goals and then achieve more than they expected to achieve. Bass (1985) said:

Such a transformation can be achieved in any of one of three interrelated ways:
1. By raising our level of awareness, our level of consciousness about the importance and value of designated outcomes, and ways of reaching them.
2. By getting us to transcend our own self-interest for the sake of the team, organization, or larger policy.
3. By altering our need level on Maslow's hierarchy or expanding our portfolio of needs and wants. (p. 20)

The purpose of this paper is to explore whether there is a systematic relationship between the performance of coordinators on a transformational leadership rating inventory and the performance of the blood drives those coordinators lead. Performance is determined by the number of units of blood donated at the drive compared to the goal established for that drive.
Chapter 2

REVIEW OF LITERATURE

Transactional Versus Transformational Leadership

The transactional leader motivates followers through contingent reward. That is, the leader clarifies what is to be accomplished by the follower, and both follower and leader understand that if these goals are reached, the follower will be rewarded. According to Bass:

The transactional leader can be described in his relations with subordinates as follows:

1. Recognizes what it is we want to get from our work and tries to see that we get what we want if our performance warrants it.
2. Exchanges rewards and promises of rewards for our efforts.
3. Is responsive to our immediate self-interests if they can be met by our getting the work done.

(1985a, p. 11)

Another form of transactional leadership is management-by-exception. Management-by-exception is the practice of intervening only when something goes wrong. If subordinates are accomplishing tasks and goals as assigned, the leader allows followers to continue doing their jobs as they have always done them. If tasks and goals are not being accomplished, the leader may intervene in a variety of ways. Bass (1985b) states:

But if a subordinate’s performance falls below some threshold, the (servocontrol) mechanism is triggered. At the emotionally mildest level, the leader feeds back information to the subordinate
that the threshold has been crossed. The negative feedback may be accompanied by clarification and encouragement if the leader is someone who also values use of contingent reward. At the other extreme, it may be accompanied by disapproval, reprimand, or worse. (p. 135)

The effects of transactional leadership can contribute to acceptable levels of performance, but the effects can be limited (Avolio, Waldman and Yammarino, 1991). Limits arise because leaders may not actually be able to deliver the agreed-upon rewards; task-oriented and self-reinforcing followers are less likely to respond to the leader feedback systems in this approach; and perceptions between followers and leaders about what feedback has been delivered can vary dramatically, i.e., leaders may believe they have delivered clear feedback, yet followers may report they have received no feedback (Bass and Avolio, 1990). Transactional leadership may contribute to mediocrity, or at the most, may contribute to only incremental progress toward improving performance.

Bass has identified four characteristics of a different style of leadership -- transformational leadership. The four characteristics are charisma, inspiration, individualized consideration and intellectual stimulation.

Charisma is the most important factor of transformational leadership. "Charismatic leaders are characterized by energy, self-confidence, determination,
intellect, verbal skills, and strong ego ideals" (Bass 1990, p. 26). Charismatic leaders provide meaning for their subordinates' work by relating the activities of their job to strongly held values, ideals and aspirations (Bass 1985b). Charismatic leaders are trusted by their followers, they transmit a sense of mission and they inspire loyalty and devotion. "Such charismatic appeal will inspire followers to accomplish more than they originally expected, accentuating the leadership effectiveness accruing from contingent-reward behavior" (Waldman, Bass and Yammarino, 1990, p. 384).

Inspiration may overlap with charisma. Inspiration's effects are the arousal and heightening of motivation among followers. It is an emotional, nonintellectual process that appeals to sensation and intuition. Inspirational leaders use symbols and images to increase awareness and understanding of mutually desired goals. They express important purposes in simple ways and use persuasive appeals to heighten followers' self-confidence and elevate their goals. The inspiring leader communicates high performance expectations, but expresses belief and confidence that followers can and will achieve them.

The third factor, intellectual stimulation, influences followers to think about old problems in new ways. It arouses in followers an awareness of problems and how they
may be solved. It emphasizes the use of reasoning and evidence before taking action.

As a consequence of being intellectually stimulated by their leader, followers develop their own capabilities to solve future problems that the leader may not have anticipated. Followers learn to tackle and solve problems on their own (Bass, Waldman and Avolio, 1987, p. 75).

The fourth factor, individualized consideration, is the treatment of followers on a one-on-one basis. The leader recognizes differences among followers and pays attention to the varying needs and interests of each. The transformational leader exhibiting individualized consideration displays coaching skills, use of two-way, face-to-face communication and attention to neglected members. He is willing to delegate projects and responsibilities, not only to satisfy current needs, but to arouse and elevate needs and develop skills and learning.

The characteristics of transformational leadership can augment the effects of transactional leadership to a significant degree. Transformational leaders are perceived by their followers and colleagues as more effective and more satisfying to work for; leaders with these characteristics are promoted more often; they generate better productivity and their groups produce more innovative products; they receive higher levels of voluntary effort from their followers; and they lead units that perform better under
stress (Bass and Avolio, 1990).

Hater and Bass (1988) showed that managers who are rated as top performers by their superiors also tend to be rated by their subordinates as transformational leaders. Clover (1989) studied Air Force commissioned officer squadron leaders and the performance of their squadrons. Officers who received higher ratings as transformational leaders also led better performing squadrons and were more likely to be viewed as role models by their subordinates.

Spangler and Braiotta (1990) found transformational leadership to be effective in a less structured work group -- audit committees of boards of directors who work only sporadically under the direction of the committee chairman. Without access to the formal rewards and punishments of traditional work groups, the techniques and potential effectiveness of transactional leadership is limited for the chairmen of these committees. The potential influence of transformational leadership, which offers techniques available to the chairman or any leader of an informal group, may be particularly valuable in this type of committee structure. Spangler and Braiotta found positive relationships between both transactional and transformational leadership by a chairperson and the effectiveness of the committee.

Keller (1992) focused on the intellectual stimulation -
- component of transformational leadership to examine the effectiveness of research and development groups. He defined a successful project as one that met criteria related to technical quality, meeting an assigned schedule, value to the company, overall project performance and budget and cost performance. His findings suggested that effective research and development group leaders do exhibit transformational leadership characteristics.

Avolio, Waldman and Einstein (1988) found another group’s performance according to established criteria to be positively related to transformational leadership by the leader. They examined the performance of groups of MBA students in a management simulation game. Each group selected a leader and worked as the senior management team of an imaginary company for three months. Financial performance information was collected independently of leadership data, and the researchers found correlations among five financial performance factors and high transformational ratings of the group leaders. Specifically, a step-wise regression showed that high ratings on individualized consideration and charisma accounted for 31 percent of the variance in overall performance.

Howell and Frost (1989) also used students as subjects in a laboratory study of charismatic leadership and follower
performance on decision-making tasks. Participants working under the charismatic leader had high task performance, even in the face of group norms that opposed high performance.

Waldman, Bass and Yammarino (1990) focused on contingent-reward behavior and charisma and their relationship to leader effectiveness. They found contingent-reward behaviors that clarify objectives and rewards can contribute to effective leadership and group performance. But leadership that generates confidence and inspiration, as would charismatic leadership, may result in leadership effectiveness whether a lot or a little contingent reward behavior is also present.

Transformational leadership is not the exclusive domain of leaders of government or major organizations. Bass (1990) asserts that transformational leaders can be found at any level of a multitude of types of organizations. It can be learned, and it should be the subject of management training and development.

American Red Cross Coordinators

    The characteristics of transformational leadership are similar to the characteristics cited by blood collection experts as being those possessed by coordinators of successful blood drives. Some of the characteristics cited by experts are: commitment to and belief in the blood
program; an ability to communicate the purpose and the goal of the blood drive to a variety of people; influence or authority within the organization sponsoring the blood drive; reputation as a respected, trustworthy person whose motives are honest and who sets a good example; and willingness to delegate responsibilities and tasks needed to organize and execute a bloodmobile. These comments sound much like charisma, inspiration and individualized consideration.

Hector Garcia, American National Red Cross director of donor recruitment, said an already-existing reputation as a leader can be an asset for a coordinator (personal communication, March 8, 1994). "When you have someone people look up to because of their track record, you'll be more successful." Ability to communicate to people at all levels of the organization is vital, Garcia said. This type of effective communication presents the blood program in a way that is attractive to that person and appeals to his or her own motivations or missions. Again, these sound much like charisma and inspiration.

"You need someone who is well-liked and respected," said Gary Ouellette, director of donor services at American Red Cross Northeast Region in Dedham, Mass., and former president of the Association of Donor Resources Professionals (personal communication, March 9, 1994). "And
you want someone who will get people interested in the program by getting them excited about what blood is used for."

Delegating responsibilities makes the project more manageable and helps spread the involvement in and commitment to the program, Ouellette said. This also is the characteristic of a leader displaying individualized consideration.

Laura Roccaforte, director of donor resources development for American Red Cross Midwest Region Blood Services, cited similar characteristics, and some additional ones (personal communication, Nov. 23, 1993). She added "caring," that is, a sensitivity to the differing needs of donors, volunteer staff and paid Red Cross staff (individualized consideration), and a willingness to be educated and to educate others about new planning and recruitment strategies and techniques (intellectual stimulation).

The appearance and effects of transformational leadership have not been studied among groups of leaders and followers in volunteer roles. But this is a logical group to examine because of some of the characteristics and motivations of volunteer workers.
Volunteers

The motivation to volunteer has been examined by numerous researchers over the last 40 years. Among the most common motives identified are altruism, egoism and social benefits. That is, people volunteer because they want to help, they feel good about what they do as volunteers, and volunteering provides an opportunity to meet and interact with other people. These motivations correlate with the effects of a transformational leader who is charismatic (providing meaning and a sense of mission), inspirational (heightening motivation and expressing confidence that followers can achieve high goals) and provides individualized consideration (one-on-one attention).

Fitch (1987) found the three motivations of altruism, egoism and social benefits to be the most important to college students involved in community service. Jenner (1982) found that women volunteers who were members of the Association of Junior Leagues are motivated to join organizations that have a purpose attractive to them, and to maintain their membership in those organizations when their efforts deliver a sense of service to people and their community. Morrow-Howell and Mui (1989) found similar motivations among elderly volunteers. Both females and males said they volunteered to help others, and females said the opportunity to meet people was also a high motivator.
Those who quit volunteering said they did so because they were not able to help as much as they thought they could. And, Pearce (1983) found that individuals who worked as volunteers were more likely to report they worked for the rewards of service to others and social interaction than those who worked in similar jobs for pay.

If charisma instills a sense of mission and the importance of one’s work, inspiration heightens motivation and an understanding of the leader’s and followers’ mutually desired goals, intellectual stimulation equips followers with thinking and problem-solving skills that help them be more successful in their assignments, and individualized consideration provides attention and one-on-one communication, and if volunteers report that these are some of the motivations for their involvement in service organizations, then it is logical to explore the possible relationship between transformational leadership and the outcome of blood drives organized and led by volunteers who are leading other volunteers.

Statement of Hypotheses

(1) Transformational leadership scores by blood drive coordinators will significantly predict their success in achieving blood collection goals.

(2) Transformational leadership scores by blood drive
coordinators will predict success in achieving blood collection goals to a significantly greater degree than will their transactional leadership scores.

(3) Transformational leadership scores by blood drive coordinators will predict success in achieving blood collection goals to a significantly greater degree than will their non-leadership scores.
Chapter 3

METHODOLOGY

Participants

Blood drive coordinators examined were from a group of 209 volunteers who have coordinated three or more blood drives in American Red Cross Blood Services Midwest Region. The criterion of three or more was selected because a mean average of the productive goal performance (number of units of blood collected compared to the desired number) of those would give a more stable picture of performance, while not being so restrictive as to limit the availability of an adequate sample. The names and addresses of the participants were gathered from American Red Cross Midwest Region records. A majority of the subject pool were women, age 40 to 69 (demographics are discussed in more detail in Chapter 4).

Each participant has organized blood drives in a site such as a company where they work, the town in which they live, the church or school they attend or a club to which they belong. To provide anonymity for respondents, questionnaire responses were linked to blood drive results through a site code which Red Cross assigns to each blood drive site.
Procedures

The 5X self-rater version of the Multifactor Leadership Questionnaire (Appendix A) was mailed to the 209 volunteers whose records showed they had coordinated three or more blood drives. The questionnaire is designed to measure four transformational leadership factors, three transactional leadership factors and non-leadership (see discussion below under Selection and Measurement of Predictor Variables). The questionnaire was modified to include additional questions relevant for this study, such as unique demographic items or questions about blood drive goals. A cover letter (Appendix B) and subsequent mailings were based upon Dillman’s (1978) recommendations for mail survey techniques.

One week after the initial mailing, follow-up postcards (Appendix C) were mailed to all 209 potential subjects asking them to complete and return the questionnaire if they had not already done so. About two weeks later, another letter (Appendix D) and another copy of the questionnaire were mailed to all subjects who had not yet returned a completed questionnaire. Within six weeks of the original mailing, 165 completed questionnaires had been returned. Of these, 152 or nearly 73 percent of the original mailing, were usable.
Selection and Measurement of Outcome Variable

Blood drive goals are established cooperatively between coordinators and paid Red Cross staff. Several factors are considered when establishing goals: the population of the blood drive’s community or organization, past performance of blood drives in the same area, the size of the need for blood or for specific blood types, and special factors that may affect donor turnout, e.g., the season or other activities in the community or organization that may compete for attendance.

A primary goal for productive units for each drive is established, then monitored. The productive goal is the desired number of people to successfully give a unit of blood. This goal is different (smaller) than a "presenting" goal, which is the desired number of people who show up at the blood drive and volunteer to give blood. A certain number of these people (usually about 10 percent) will be deferred from giving blood for medical or other reasons and some will be unable to successfully donate the required amount of blood.

Other goals that apply to all drives include: collecting certain percentages of each of the eight blood types; all operations at the drive being in compliance with United States Food and Drug Administration and American Red Cross regulations; and a high degree of satisfaction with
the event among donors, volunteers and Red Cross employees. And, other, secondary goals are established for many drives, including the number of donors who make and keep a donation appointment (as opposed to just showing up at any time during the drive) and the percentage of donors who give blood for the first time at the drive (new donors).

Many of these different goals are related. For example, achievement of the "presenting" goal will affect achievement of the "productive goal" or achievement of the goal to have donors scheduled at regular intervals will affect the achievement of a high degree of satisfaction among donors and staff because a smooth appointment schedule decreases lines and waiting. Various goals were considered as possible outcome variables for this project. The productive goal was selected because it is an important primary goal and because it was the one for which ample data was available.

Selection and Measurement of Predictor Variables

The appearance of transformational leadership can be determined by use of the Multifactor Leadership Questionnaire developed by Bass. One version of the questionnaire asks subordinates or colleagues to rate the frequency of transformational, transactional and non-leadership behaviors. Another version asks the leader
himself to rate the frequency of the behaviors. Coordinators were asked to complete the self-rater, Form 5X version of the Multifactor Leadership Questionnaire (MLQ) (Bass, 1990). This instrument is a research version of the MLQ and is designed to measure four aspects of transformational leadership: charisma, inspiration, intellectual stimulation and individualized consideration; two aspects of transactional leadership: contingent reward and management-by-exception; and non-leadership, or laissez-faire. The 5X experimental version separates management-by-exception into two parts: active and passive. Earlier versions of the questionnaire have not made this separation. The passive type of management-by-exception pertains to leadership in which the leader takes action when errors are brought to his attention, mistakes become serious or problems are chronic. The active type pertains to leadership in which the leader actively searches for mistakes, tracks them and regularly tries to prevent them. Both types of management-by-exception have been examined in this research project since they add precision to the management-by-exception construct. The 5X version also contains a fifth transformational factor: idealized influence. This factor seems very similar to charisma, but relates more specifically to the leader actively sharing and demonstrating his beliefs and values. Idealized influence
was not considered in the analysis of this project because limited information about it and the theoretical rationale for including it was available. This factor has been rarely discussed in the extant literature by Bass and his colleagues, and it has not appeared in previous versions of the MLQ.

Versions of the MLQ in which subordinates rate their leader are available, but the self-rater research form was selected because it was most feasible for this situation: access to coordinators' subordinates is limited because Red Cross does not maintain records of them, only coordinators do, and the subordinate form was unaffordable for this project (the cost is approximately $100 per subject tested).

Tests of Hypotheses

The factor structure of the MLQ 5X was checked initially using factor analysis, specifically a principal axes technique with oblimin rotation (Rummel 1970), to see if the theoretically stated factor structure had held. This exploratory factor analysis technique was used because the 5X version of the MLQ is a research version which differs somewhat from other versions that have undergone more frequent testing, e.g., it contains the additional factor of idealized influence and management-by-exception separated into two components (active and passive). The instability
of the theoretically stated factor structure based upon the preliminary factor analysis (see Factor Analysis section below) led to a decision to treat transformational, transactional and non-leadership as three unitary leadership variables in this thesis.

The reliability of the three leadership types was also checked using Cronbach’s Alpha (SPSS Manual, 1990). This was done by summing the scores of charisma, inspiration, intellectual stimulation and individualized consideration into one transformational factor, then checking the reliability of that sum; summing the scores of contingent reward, management-by-exception -- active and management-by-exception -- passive, then checking that sum; and by checking the one non-leadership factor -- laissez-faire.

Prior to testing the hypotheses, a secondary analysis of the mean importance rating of various potential outcomes (productive goal, presenting goal, percentage of new donors, etc.) was also conducted to make sure that coordinators saw the outcome selected for analysis in this study (percentage of productive goal achieved) as important and significant. This analysis was conducted through practically examining mean importance ratings of different possible outcomes, rather than through statistical significance tests of the differences between means, since the outcomes are related to and complement each other and since the concern in this
thesis is with the overall importance of the chosen outcome (productive units).

Results of the self-rater, research version of the MLQ, coupled with the productive outcomes of blood drives as the performance outcome variable, allowed the three hypotheses to be tested. These tests were conducted using hierarchical regression in which the scores for the three leadership styles (transformational, transactional and non-leadership) were entered individually and then compared with regard to their effect on the productive outcome variable. Specifically, Hypothesis 1 was tested using subjects' summed scores on the four transformational leadership factors (charisma, inspiration, intellectual stimulation and individualized consideration) to predict their mean productive performance. Hypothesis 2 was tested using subjects' summed scores on the four transformational factors compared with their summed scores on the three transactional factors (contingent reward, management-by-exception -- active and management-by-exception -- passive) to predict their mean productive performance. And Hypothesis 3 was tested using subjects' summed scores on the four transformational factors compared with the one non-leadership factor (laissez-faire) to predict the mean productive performance. A significance level of .05 was used to test all three hypotheses.
Chapter 4

RESULTS

Demographics of Research Participants

The demographics of the respondents were consistent with demographics of coordinators in general (Table 1). The vast majority, nearly 85 percent, were women. And most, more than 71 percent, were age 40 to 69. A very small percentage, less than 1 percent, were younger than age 25 and a few, almost 9 percent, were over the age of 70.

The most common blood drive site for these coordinators was a community (38.2 percent). This is consistent with Midwest Region collection statistics which show that about one-third of the blood donated in the region is done so in the Omaha/Council Bluffs metropolitan area and about two-thirds elsewhere in the region. All two-thirds outside the Omaha/Council Bluffs area, however, are not associated with a community site. Businesses, schools, churches and club sites are also located outside the metropolitan area. More than 21 percent of the coordinators are associated with business drives, and another large percentage (more than 17 percent) are associated with school drives.
TABLE 1
Demographics of Respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>84.9</td>
</tr>
<tr>
<td>Male</td>
<td>12.5</td>
</tr>
<tr>
<td>No response</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>24 years or younger</td>
<td>.7</td>
</tr>
<tr>
<td>25 to 39 years</td>
<td>15.8</td>
</tr>
<tr>
<td>40 to 54 years</td>
<td>39.5</td>
</tr>
<tr>
<td>55 to 69 years</td>
<td>31.6</td>
</tr>
<tr>
<td>70 years or older</td>
<td>8.6</td>
</tr>
<tr>
<td>No response</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Blood Drive Sponsoring Organization</strong></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>38.2</td>
</tr>
<tr>
<td>Business</td>
<td>21.7</td>
</tr>
<tr>
<td>Civic group or club</td>
<td>17.1</td>
</tr>
<tr>
<td>School</td>
<td>9.2</td>
</tr>
<tr>
<td>Church</td>
<td>7.2</td>
</tr>
<tr>
<td>No response</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Number of blood drives coordinated</strong></td>
<td></td>
</tr>
<tr>
<td>One to three</td>
<td>42.1</td>
</tr>
<tr>
<td>Four to 10</td>
<td>30.9</td>
</tr>
<tr>
<td>11 to 20</td>
<td>25.7</td>
</tr>
<tr>
<td>More than 20</td>
<td>1.3</td>
</tr>
</tbody>
</table>

n=152

Factor Analysis

The factor structure of the eight theoretical factors was checked using a principal axes technique with oblimin rotation. This exploratory factor analysis technique was
used because the 5X version of the Multifactor Leadership
Questionnaire is a research version which differs somewhat
from other versions that have undergone more frequent
testing. The factor analysis results facilitated making a
final decision as to how to conceptualize and measure the
leadership variables in this thesis. An initial factor
analysis resulted in 21 factors that bore little resemblance
to the theoretical factors. Another eight factor solution
(as determined by discontinuity analysis) using oblimin
rotation was conducted (Appendix E), but, again, the
theoretical factor structure did not remain stable.

These results raise questions about the validity of the
underlying factor structure of the 5X MLQ. Thus, it was
decided to conduct the multiple regressions using three
unified leadership factors -- one for transformational
leadership (through summing across the four individual
transformational factors), one for transactional leadership
(through summing across the three individual transactional
factors), and one for non-leadership (through summing across
items for the one non-leadership factor). This decision was
made for two reasons: 1) the reliabilities for two of the
three leadership types were high -- .9375 and .8009 for
transformational and transactional, respectively; 2) it was
not reasonable to have a great deal of confidence in the
individual factor structure that emerged from the initial
analysis because of the small number of subjects in this study (n=152) and because in many cases a small number of items, often only two or three, loaded on a factor.

Reliability

Cronbach's Alpha was used to determine the internal consistency of the three leadership types. High reliabilities were found for two of the types, .9375 for transformational and .8009 for transactional. Non-leadership was not as high, with a reliability of .6284.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Standardized Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational</td>
<td>.9375</td>
</tr>
<tr>
<td>Transactional</td>
<td>.8009</td>
</tr>
<tr>
<td>Non-Leadership</td>
<td>.6284</td>
</tr>
</tbody>
</table>

Outcome Variable

The outcome chosen to serve as the dependent variable in the multiple regressions was the average of the percentage of the productive goal achieved at a coordinator's three most recent blood drives. Again,
productive goal is the desired number of units of blood successfully collected at a drive. This outcome was chosen because it is a primary goal (the adequacy of the community’s blood supply is highly dependent upon achievement of this goal) and it was the one for which data was most reasonably accessible. Coordinators who participated in this project tended to perform well on this outcome. The mean percentage of productive goal achieved was 108 percent, meaning the average drive organized by these coordinators exceeded its productive goal by 8 percent. The standard deviation for this mean was 18.19 and the minimum and maximum outcome achieved were 61 percent and 202 percent. About 78 percent of all outcomes were within one standard deviation of the mean (ranging from about 89 percent of productive goal to about 126 percent of productive goal). About 95 percent of all outcomes were within two standard deviations of the mean. This type of range is perhaps somewhat restricted (in a normal curve, 68 percent of all outcomes would have fallen within one standard deviation of the mean and 96 percent of outcomes would have fallen within two standard deviations), but it is consistent with the direction Red Cross paid staff give blood drive coordinators. Coordinators are instructed that the ideal blood drive production is very close to 100 percent, because a result much below that contributes to an
inadequate blood supply and a result much above 100 percent causes waiting lines, delays and dissatisfaction at the blood drive.

There are many other types of complementary outcome variables that could also have been considered, such as presenting goal, which is the number of people who show up at a blood drive and volunteer to try to give blood; the percentage of different blood types that were collected; the percentage of people who gave blood for the first time at a specific drive, and many others. Data was not available on these types of outcomes, however.

As a check of the importance of the productive goal to coordinators, respondents were asked to rate the importance of seven possible outcomes. Achieving productive goal was not the outcome coordinators rated as most important in determining whether a blood drive is successful, but it was viewed as highly significant. It received a mean rating of 4.29 on a 5-point scale (Table 3) indicating that it was rated higher than "very important" by respondents. Two other outcomes received very similar ratings: "Donors, volunteers and paid staff are satisfied with their experience at the drive" was rated 4.35 and "Meeting presenting goal, or meeting the goal for the number of people who show up and volunteer to give blood" received a mean rating of 4.32. The outcome that received the highest
TABLE 3

Respondents' Importance Ratings of Blood Drive Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components of the Blood Drive in Compliance with U.S. Food and Drug Administration Guidelines</td>
<td>4.52</td>
<td>.74</td>
</tr>
<tr>
<td>Donors, Volunteers and Paid Staff Satisfied with Their Experience at the Drive</td>
<td>4.35</td>
<td>.67</td>
</tr>
<tr>
<td>Meeting Presenting Goal (number of people who show up and volunteer to give blood)</td>
<td>4.32</td>
<td>.74</td>
</tr>
<tr>
<td><strong>Meeting Productive Goal (number of units of blood successfully collected at a drive)</strong></td>
<td>4.29</td>
<td>.75</td>
</tr>
<tr>
<td>Meeting New Donor Goals (percentage of donors giving blood for the first time)</td>
<td>3.95</td>
<td>.85</td>
</tr>
<tr>
<td>Meeting Type Specific Goals (collecting a certain percentage of each blood type)</td>
<td>3.56</td>
<td>1.05</td>
</tr>
<tr>
<td>Donors Scheduled for Appointments According to Matrix (prescribed number of donors scheduled to arrive in 15-minute intervals)</td>
<td>3.20</td>
<td>1.12</td>
</tr>
</tbody>
</table>

NOTES: Ratings could range from 1 (Not Important) to 5 (Extremely Important).

**Meeting Productive Goal** was the outcome variable used in the analysis of this project. It is a primary goal and was the outcome for which data was most reasonably available.
rating (mean of 4.52) was "All components of the blood drive are in compliance with Food and Drug Administration guidelines." This makes sense because other outcomes can't be achieved without this one. Overall, the outcome selected for examination in this study emerged as highly important.

Tests of Hypotheses

The three hypotheses were tested using hierarchical regression. Results of the 5X MLQ served as independent variables and the mean productive performance on the last three blood drives served as the dependent variable. To test the first hypothesis, the summed results of the scores of the transformational leadership characteristics were used to predict mean productive performance. This transformational leadership style entered as significant, with \( p < .025 \) and about 2.7 percent of the variance accounted for by this style (Table 4).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership</td>
<td>.182</td>
<td>.182</td>
<td>.027</td>
<td>5.15</td>
<td>.025</td>
</tr>
</tbody>
</table>
The second hypothesis was tested by using the sum of the four transformational characteristics compared with the sum of the three transactional characteristics to predict mean productive performance. In this case, the transactional style entered as most significant, with $p < .019$ and a little more than 3.6 percent of the variance accounted for by this style. Transformational leadership, with $p < .357$, was not significant and accounted for only an additional .5 percent of unique variance (Table 5).

**TABLE 5**

Hierarchical Regression of Transformational and Transactional Leadership Scores Upon Percentage of Productive Goal Achieved

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq</th>
<th>RSq.Ch.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>.190</td>
<td>.190</td>
<td>.029</td>
<td>.036</td>
<td>5.65</td>
<td>.019</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>.099</td>
<td>.190</td>
<td>.03</td>
<td>.005</td>
<td>.854</td>
<td>.357</td>
</tr>
</tbody>
</table>

The third hypothesis was tested by using the sum of the four transformational factors compared with the one non-leadership factor to predict mean productive performance. Transformational leadership entered as the most significant style, with $p < .025$ and 2.7 percent of the variance accounted
for by this style. Although the tolerance levels were lowered, non-leadership failed to enter as contributing any significant unique variance (Table 6).

TABLE 6
Hierarchical Regression of Transformational and Non-Leadership Scores Upon Percentage of Productive Goal Achieved

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>.182</td>
<td>.182</td>
<td>.027</td>
<td>5.15</td>
<td>.025</td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplemental Analyses

Several supplemental analyses were conducted to better understand the hierarchical regressions: an examination of how coordinators rated themselves on their use of the eight different leadership factors was conducted; Stepwise Multiple Regressions of the eight individual leadership variables were conducted; and the eight theoretically specified factors were correlated with the mean productive outcome and with each other.

The questionnaire enabled respondents to rate
themselves on their use of different leadership behaviors linked to transformational, transactional and non-leadership styles. The means of these ratings show that blood drive coordinators rated themselves as most often exhibiting

<table>
<thead>
<tr>
<th>Variable Score</th>
<th>Mean</th>
<th>SD</th>
<th>Min/Max Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td>14.51</td>
<td>4.91</td>
<td>8/40</td>
</tr>
<tr>
<td>Individualized Consideration</td>
<td>14.41</td>
<td>5.90</td>
<td>9/45</td>
</tr>
<tr>
<td>Inspiration</td>
<td>16.67</td>
<td>5.94</td>
<td>8/40</td>
</tr>
<tr>
<td>Contingent Reward</td>
<td>17.86</td>
<td>7.76</td>
<td>9/45</td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td>20.10</td>
<td>6.91</td>
<td>10/50</td>
</tr>
<tr>
<td>Management-by-Exception - active</td>
<td>20.89</td>
<td>7.17</td>
<td>7/35</td>
</tr>
<tr>
<td>Laissez-Faire</td>
<td>31.87</td>
<td>7.17</td>
<td>8/40</td>
</tr>
</tbody>
</table>

NOTE: Minimum score connotes a consistent rating of "Frequently, if not always" exhibiting behaviors linked to that leadership factor. Maximum score connotes a consistent rating of "Not at all" exhibiting behaviors linked to that factor.
behaviors linked to charisma, individualized consideration and inspiration. They rated themselves as least often exhibiting behaviors linked to management-by-exception -- passive and laissez-faire (Table 7). Rated intermediate in use were such factors as contingent reward, intellectual stimulation and management-by-exception -- active.

The stepwise regressions were intended to increase understanding of the impact of specific portions of the three leadership styles. The regressions were conducted similarly to the tests of the hypotheses. First, the four individual transformational leadership variables were used to predict mean productive performance, but they were not summed. When this was done, one factor, inspiration, entered as significant, with p<.004 and a little more than 4 percent of the variance attributable to this factor (Table 8). No other factors entered as significant.

TABLE 8
Stepwise Multiple Regression of Transformational Leadership Scores Upon Percentage of Productive Goal Achieved

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspiration</td>
<td>.212</td>
<td>.212</td>
<td>.036</td>
<td>7.04</td>
<td>.004</td>
</tr>
</tbody>
</table>
Next, the subject scores on the individual transformational factors and the individual transactional factors were used to predict mean productive performance (again, without summing). One factor, this time the transactional factor contingent reward, entered as significant, with $p<.004$ and nearly 5 percent of the variance accounted for by this factor (Table 9). No other factors entered as significant.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingent Reward</td>
<td>.235</td>
<td>.235</td>
<td>.049</td>
<td>8.74</td>
<td>.004</td>
</tr>
</tbody>
</table>

Finally, subject scores on the four individual transformational factors and the one non-leadership factor were used to predict mean productive performance. Again, inspiration entered as the only significant factor, with $p<.009$ and about 4 percent of the variance accounted for by this factor (Table 10).
TABLE 10

Stepwise Multiple Regression of Transformational and Non-Leadership Factors Upon Percentage of Productive Goal Achieved

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adj.RSq</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspiration</td>
<td>.212</td>
<td>.212</td>
<td>.039</td>
<td>7.04</td>
<td>.009</td>
</tr>
</tbody>
</table>

To aid the interpretation of these and the hierarchical regressions, correlations between the individual eight MLQ factors and the mean productive outcome were examined. Consistent with the hierarchical regressions, a factor from the transformational set and a factor from the transactional set correlated highest with the outcome. And these were the same two factors that accounted for the greatest amount of variance in the stepwise regressions -- inspiration and contingent reward (Table 11). Two other factors, charisma and management-by-exception -- active, had significant correlations with the outcome, but none of the others, including the one non-leadership factor, laissez-faire, showed any significant correlation.

To further aid interpretation of the supplemental regressions of the individual leadership factors, a correlation analysis of the respondents' scores on the eight
leadership factors was conducted to examine the relationships among the various transformational, transactional and non-leadership factors of the MLQ. Using two-tailed significance tests (since intercorrelations were examined in an exploratory way), every factor showed a significant relationship with every other factor at a .01 significance level, whether the other factor was linked to transformational leadership, transactional leadership or non-leadership (Table 12). However, transformational factors generally correlated higher with each other than they did with transactional or non-leadership factors. All these correlations among the transformational factors, except one
(intellectual stimulation with charisma which correlated at a
.5899 level), were above .7073. Two transactional factors,
contingent reward and management-by-exception -- active,
correlated higher with each other and with most
transformational factors, than they did with the third
transactional factor, management-by-exception -- passive.
The transactional factor, management-by-exception -- passive,
correlated higher with non-leadership (.8387) than with other
transactional factors or any transformational factor.
### TABLE 12
**Intercorrelations of Eight Theoretically Specified MLQ Factors**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Charisma</th>
<th>Inspiration</th>
<th>Intellectual Stimulation</th>
<th>Individualized Consid.</th>
<th>Contingent Reward</th>
<th>Mgmt.-by-Exception (active)</th>
<th>Mgmt.-by-Exception (passive)</th>
<th>Laissez-faire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspiration</td>
<td>.7075**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual</td>
<td>.5899**</td>
<td>.7079**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individualized</td>
<td>.7073**</td>
<td>.8107**</td>
<td>.7898**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent Reward</td>
<td>.5399**</td>
<td>.6951**</td>
<td>.6046**</td>
<td>.7034**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mgmt.-by-Exception (active)</td>
<td>.3261**</td>
<td>.5260**</td>
<td>.5968**</td>
<td>.5595**</td>
<td>.6748**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mgmt.-by-Exception (passive)</td>
<td>.3386**</td>
<td>.2190**</td>
<td>.3569**</td>
<td>.2242**</td>
<td>.3602**</td>
<td>.6668**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>.3269**</td>
<td>.1777**</td>
<td>.3077**</td>
<td>.2179**</td>
<td>.3817**</td>
<td>.6896**</td>
<td>.8387**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

** - significant at .01
Chapter 5
DISCUSSION AND RECOMMENDATIONS

Factor Analysis

Several factor analyses were conducted with the data gathered in this project, none yielding a stable factor structure consistent with the theoretically specified eight leadership factors. Resulting reasons for the decision to proceed with the multiple regression using the three unified leadership factors were described in Chapter 4. But, it is important to consider the underlying validity of the MLQ factor structure (and its implications for future research) in its own right.

There are many possible reasons why the factor structure was not consistent with others' research: the influence of a self-rating system; the use of a research version of the MLQ; the use of the MLQ among a group of subjects that is very different from groups previously studied; the small number of subjects (n=152), and, possibly, weaknesses in the validity of the MLQ.

The influence of the self-rating system, as discussed below under Reliability may have affected the factor structure. Bass' study of Naval officers (1991) confirmed what other researchers have found: leaders tend to inflate ratings of their own leadership behaviors in comparison to
ratings offered by subordinates. This inflation, if not consistent throughout all factors and all items in a factor, would likely skew the results of a factor analysis. It is recommended that future research among blood drive coordinators, or other volunteer groups, be conducted using a subordinate rater version of the MLQ if at all possible.

Also, the 5X version of the MLQ is a research version that has not yet undergone frequent reliability and validity checks. It contained an additional transformational factor, idealized influence, which was not considered in analysis here because little information about this factor and the theoretical reasons for including it were available. And this version of the questionnaire separated management-by-exception into two versions -- active and passive. This distinction was not used in previous versions of the MLQ. The 5X version with these modifications may require further refinement to increase its validity and stability of the factor structure.

The MLQ has been used extensively in the workplace to study leadership characteristics of paid managers and supervisors among the employees who report directly to them. Literature reveals little use of it in other leader/follower settings, and none among volunteers. The success reported by Spangler and Braiotta (1990) in identifying positive influences from transformational leadership factors in
committees comprised of people not in direct supervisor/subordinate relationships contributed to this project's logic that transformational factors may positively influence other types of indirect reporting relationships, like those of volunteers. However, it may be that the relationships between volunteer leaders and followers are sufficiently different from those in usual workplaces to require the identification of different leadership factors or different ways of conceptualizing them. For example, research has not shown that opportunities to participate in intellectually challenging work is a motivator for volunteering. So, it could be that leaders who provide intellectual stimulation do not influence followers to be more effective and achieve greater results. Those who offer other types of stimulation, such as social, that are more closely tied to volunteers' motivation may be more effective. Another possibility is that convenience is a leadership factor unique to volunteer situations. Leaders who make volunteers' work easily accessible and convenient may achieve higher results than leaders who do not make special efforts in these areas. Convenience may not be nearly as significant a factor for leaders of employees, since employees do not have the same options to follow or not as volunteers do.

In addition, the MLQ and/or the transformational
leadership concept may not be entirely appropriate for use with blood drive coordinators, since 1) a majority of subjects used to develop and apply the instrument were men, while the vast majority of subjects in this study were women, and 2) much of the research to develop and refine the instrument involved leaders and followers in highly structured work environments, while the structure of a blood drive is highly flexible. Bass' early work to begin to identify transformational characteristics involved asking senior executives to describe a transformational leader they had encountered during their career (Bass, 1985a). All these senior executives were male. Refinement of the data gathered from this study was conducted by questioning senior U.S. Army officers. More than 98 percent of this group of subjects was male, and they certainly worked in a highly structured environment. Most of the studies that further refined the transformational concept and were reviewed for this project and which described the sex of the subjects involved all or a majority of male subjects and many took place in structured workplaces, like government offices (Waldman, Bass and Yammarino, 1990; Waldman, Bass and Einstein, 1987; Bass, Waldman and Avolio, 1987). The one exception was a project involving a group of MBA students which was nearly evenly split male and female.

Nearly 85 percent of the coordinators who completed the
MLQ for this thesis were women. Because the majority of volunteers led by all Red Cross Midwest Region coordinators are also women, it can be assumed that most of the volunteers led by the coordinators involved in this project were women. Also, blood drive coordinators have a great deal of autonomy in structuring, recruiting, training and utilizing their volunteer followers. Red Cross staff offer only suggestions for structure and staffing and almost no formal performance evaluation system is applied to any of a coordinator's followers.

There are many possible effects resulting from developing a concept using primarily male subjects in structured environments, then applying it to a group mostly composed of women in flexible environments. The transformational characteristics that influence male followers to produce extra effort may not be the same characteristics that influence women to produce extra effort. How women exhibit transformational or transactional characteristics may differ from how men exhibit them. And how women respond to the questionnaire may differ from how men respond. Leaders in structured environments may apply contingent reward or management-by-exception very differently from those in unstructured environments. Or, leaders in environments with structures that are flexible and fluctuating may rely more heavily upon individualized
consideration to keep followers informed about their roles and functions.

Finally, Bass' description of the derivation of the MLQ factors was stated in Chapter 4. The results of this research suggest that additional, independent analyses need to be conducted to confirm the validity of the structure in the MLQ 5X. This issue was raised by at least one other researcher. Keller (1992), in a study of transformational leadership and the performance of research and development groups, found very high intercorrelations between different transformational characteristics and between transformational leadership characteristics and a more traditional leadership style called consideration. These findings caused Keller to question whether each scale of the MLQ is measuring something distinct and whether the scales are fully independent from other types of leadership scales.

Reliability

Cronbach's alpha results for the summed transformational and transactional factors (.9375 and .8009 respectively) were high, while the result for non-leadership (.62) was not as high. It is possible that higher results for each style could have been obtained if a subordinate rater version, rather than a self-rater version, had been used. According to Bass (1990), self-rater versions tend to
have lower reliability results than subordinate rater versions.

One possible explanation for the difference in reliability between the Self-Rater and Rater Forms is that leaders interpret each item about themselves with respect to multiple followers, while followers rate a single leader. Such multiple comparisons by the leader may result in lower internal consistency with the leadership factor scales...Also, our own as well as others' research suggests that leaders tend to inflate their ratings in comparison to those received from followers. (Bass, 1990, p. 21)

For this reason, as well as those discussed above in Factor Analysis, it seems desirable to use a subordinate rater version in future research, if at all possible. It would be worthwhile to conduct another, similar study of blood drive coordinators using a subordinate rater form, but such a study would be challenging because not all blood drive coordinators lead a stable, accessible group of volunteers. Therefore, it is possible that such a replication would not be representative of all coordinators.

Outcome Variable

The outcome chosen to serve as the dependent variable in the multiple regression was the average of the percentage of the productive goal achieved at a coordinator's three most recent blood drives. On a scale of one to five, with one representing "not important" and five representing "extremely important," the mean rating
coordinators gave the importance of this outcome was 4.29, or slightly higher than "very important." Coordinators rated three other outcomes as more important in determining whether a blood drive is successful, and they rated three as less important.

The outcome that received the highest mean rating, 4.52, was "All components of the blood drive are in compliance with Food and Drug Administration guidelines." It is reasonable that this received the highest rating, since a drive cannot even be conducted if its components such as the site, staffing and cleanliness do not comply with federal regulations.

Also rated higher than productive goal were "Donors, volunteers and paid staff are satisfied with their experience at the drive," (4.35) and "Meeting presenting goal (achieving goal for the number of people who show up and volunteer to give blood," (4.32). The differences in these ratings and the rating for achieving productive goal are small, and since these items are related (a coordinator can’t achieve productive goal if the presenting goal isn’t achieved, and if volunteers and donors have an unsatisfactory experience at one drive they are less likely to return to the next drive, thus impacting future achievement of goals), it is reasonable that they all received similarly high ratings.
Future research involving coordinators and transformational leadership would benefit from additional analysis of the interplay between different types of blood drive outcomes. It could be that stronger relationships between transformational or transactional leadership and some other outcome or set of outcomes would be found. For instance, it may be valuable to explore the relationship between charisma or individualized consideration and the satisfaction of donors and volunteers with their blood drive experience. Or, since inspiration appeared to be the most significant transformational factor in predicting blood drive results, it would be valuable to explore that factor’s relationship to all the various outcomes. Inspirational leaders articulate, in simple ways, goals that they and their followers share. They communicate high performance expectations, but express belief and confidence that followers will achieve those expectations. Inspiration may be particularly important during times of change or when goals are raised. For example, scheduling blood donors for appointments, rather than permitting all to walk in at any time, is a relatively new goal. Leaders who are successfully transitioning their blood drives into this scheduling system may show higher degrees of inspiration. Or those that achieve desired increases in presenting or productive goals may show higher degrees of inspiration.
Tests of Hypotheses

The hierarchical regression results yielded partial support for hypotheses one and three.

**Hypothesis 1:** Transformational leadership scores by blood drive coordinators will significantly predict their success in achieving blood collection goals. This leadership style did enter as significant in the regression, with p<.025 and about 2.7 percent of the variance accounted for by this style (Table 4). Transformational leadership does play a role in achieving success at a blood drive, but this is a very small amount of variance, suggesting that many other factors, whether they are leadership styles or other factors, also have significant influence on the success of blood drives. As discussed in the supplemental analysis below, one portion of transformational leadership, inspiration, has the greatest predictive power for success.

**Hypothesis 2:** Transformational leadership scores by blood drive coordinators will predict success in achieving blood collection goals to a significantly greater degree than will their transactional leadership scores. This hypothesis was tested by using the sum of the four transformational characteristics and the sum of the three transactional characteristics to predict mean productive performance. Results did not support the hypothesis since the transactional style entered as most significant, with
p<.019 and about 3.6 percent of the variance accounted for by this style. Transformational leadership, with p<.357, accounted for only an additional and unique .5 percent of the variance (Table 5). Therefore, transactional leadership played a more significant role in predicting success at blood drives examined in this project.

This result is consistent with the outcome of the supplemental stepwise regression in which individual transformational and transactional factors were used. In that regression, one transactional factor (contingent reward) entered as most significant in predicting success. It can be assumed that the influence of that factor affected the outcome of the hierarchical regression. Again, although the impact of transactional leadership is significant, it accounts for a small percent of variance and leaves a broad area for further exploration into the significant influences on blood drive success. At the same time, however, the reliability results previously discussed contribute to an increased appreciation of the significance of the transactional variance. Reliability results for transactional leadership (.8009) were lower than the reliability results for transformational leadership (.9375). Therefore, the fact that transactional leadership entered as more significant than transformational leadership takes on added significance.
Hypothesis 3: Transformational leadership scores by blood drive coordinators will predict success in achieving blood collection goals to a significantly greater degree than will their non-leadership score. This hypothesis was tested using the sum of the four transformational factors and the one non-leadership factor to predict mean productive performance. This hypothesis was supported since transformation entered as the most significant style. However, the support for the hypothesis was not strong, with $p<.025$ and only about 2.7 percent of the variance accounted for by this style. Non-leadership appeared to have no significance in predicting the blood drive outcome, since this variable did not enter the regression, even though the tolerance levels were lowered (Table 6). This is not a surprising result, since non-leadership was not expected to contribute to goal achievement at a blood drive. The thrust of this project was that leadership influences a blood drive outcome, so if leadership is absent, that influence is also absent.

This project found some relationship between success at blood drives and transformational and transactional leadership styles as measured by a Multifactor Leadership Questionnaire. Transactional leadership was found to play a bigger role than anticipated, but that result contributes to a better understanding of blood drive outcomes. Future
research that examines both transformational and transactional leadership in conjunction with other types of factors, such as length of experience or blood drive location or coordinator training, could reveal additional, valuable relationships. It may be that a more specific combination of factors, such as a leadership style and experience, would be a stronger predictor of success.

Furthermore, the small amount of variance accounted for by transformational and transactional leadership may be the reflection of a distant relationship between the effects of leadership style and the productive performance at a blood drive. The volunteer coordinator’s leadership style should have the greatest influence on the effort and satisfaction of the volunteer workers who report directly to her. But volunteer workers’ effort and satisfaction were not the outcome variable considered in this thesis. The outcome variable was the behavior of the blood donors, who are recruited by the volunteer workers and are a further step removed from the coordinator. The productive performance is still an extremely important outcome of the blood drive, so it may be worthwhile to find other ways to link leadership and this outcome, or to examine the leadership style of the actual donor recruiters rather than the blood drive coordinator.

It is also possible that leadership style is not the
most significant predictor of a blood drive's productive performance. Convenience of the blood drive, quantity of one-on-one contacts with potential donors or the characteristics of the blood donors themselves may have much greater impact. American Red Cross Midwest Region's registry of donors contains the names of about 250,000 people who have donated blood in the area in the last 10 years. In any given year, however, only about one-fourth or 60,000 of those people donate blood. And about one-half of those who do donate, only donate once. That means about 30,000 people give blood two to seven times in one year, resulting in about 70,000 donations from them. This group of people appear to be highly motivated to give blood. The success of a blood drive may be highly dependent upon the percentage of these types of donors who are accessible for that drive. That is, if a coordinator's community or work site contains many of these donors, her blood drive is likely to be successful despite inconvenience, an ineffective leadership style or most any other factor.

Another possibility is that certain characteristics of volunteer followers, the entire volunteer group or the nature of their work make leadership insignificant in achieving blood drive success. Kerr and Jermia (1978) have suggested that these certain characteristics can serve as "substitutes for leadership," actually taking the place of
hierarchical leadership and weakening the relationship between leader behaviors and subordinate performance. Characteristics described by Kerr and Jermia that are particularly relevant to this project include a follower's high need for independence, the availability of feedback from sources other than the leader and high intrinsic satisfaction. So, if volunteer workers have a high need for independence and they want a lot of control over their schedule and how their work will be performed, then much of the quality of their performance will be determined by whether they receive this control, not the leadership style of the blood drive coordinator. Or, if workers are getting adequate feedback from blood donors, Red Cross staff present at the blood drive or from other volunteers, then feedback mechanisms like contingent reward or individualized consideration may be irrelevant for them. And, perhaps most importantly at blood drives, followers who get a great deal of intrinsic satisfaction from their work may not need or respond to various leader behaviors. It is easy to see that blood drive volunteers may get a great deal of intrinsic satisfaction from their work and need little reinforcement from coordinators, since helping collect blood helps ensure that adequate supplies are available for people in their community who need transfusions to live or recover from diseases and accidents.
Supplemental Analysis -- Correlations of the Eight Theoretically Specified MLQ Factors

The correlation of the coordinators' ratings on the eight leadership factors showed significant relationships between every factor at a .01 significance level (Table 12). However, transformational factors generally correlated higher with each other than with transactional or non-leadership. Two transformational factors, intellectual stimulation and charisma, correlated at the .5899 level, but all other correlations among the transformational factors were above .7073. The high correlations among the transactional factors were split among all three groups -- transformational, transactional and non-leadership. For example, the transactional factor of contingent reward correlated highest with two transformational factors, while management-by-exception -- passive correlated highest with non-leadership. Overall, these significant correlations among the leadership style factors cast some doubt as to the validity of the MLQ 5X factor structure, but they also contribute to a better understanding of the regression results, which were likely heavily influenced by the substantial amount of overlap among the eight factors as revealed in this correlation analysis.

These types of correlations are similar to correlations found by other researchers. Keller’s (1992) results were
discussed above in the Validity section. Spangler and Braiotta (1990) in their study of audit committee effectiveness found that management-by-exception -- active and contingent reward correlated highly with other transformational factors. Others have found that contingent reward correlates highly with transformational factors. Waldman, Bass and Einstein in a study of how transformational characteristics are related to satisfaction with performance appraisal systems concluded that "contingent reward leadership and the transformational factors of leadership were relatively equally related to performance appraisal satisfaction" (1988, p. 185). Avolio, Waldman and Bass in their study of MBA students (1988) found that contingent reward correlated highly with at least two transformational characteristics (charisma and individualized consideration) and that it also correlated with successful performance at about the same rate as the combined transformational characteristics. These high correlations are not illogical. For instance, it makes sense that two factors like inspiration and contingent reward would be highly correlated because it could be that inspiration results at least partially from knowing a follower's motivations and delivering rewards that are consistent with those motivations. In summary, the substantial overlap between many of the leadership variables
raises a call for a more careful examination of the interplay among the variables measured by the MLQ.

**Supplemental Analysis -- Stepwise Multiple Regression of Leadership Factors Upon Percentage of Productive Goal Achieved**

When the four individual transformational factors (charisma, inspiration, intellectual stimulation and individualized consideration) were used in a stepwise regression, one factor, inspiration, entered as significant, accounting for a little less than 4 percent of the variance (Table 7). None of the other transformational factors (charisma, intellectual stimulation or individualized consideration) entered as significant. However, the relationships among the eight factors showed strong correlations between inspiration and the three other transformational factors, as well as two transactional factors, contingent reward and management-by-exception -- active (Table 12). Therefore, it is likely that these other transformational factors, as well as the two transactional factors, do have some influence on the outcome of productive goal achievement via their overlap with the inspiration factor. Just as with the hierarchical regressions, it should be kept in mind that this result accounted for a rather small percentage of variance in productive goal
achieved in this particular study and its significance should not be overstated.

During the second step of this supplemental regression analysis, the four transformational factors and the three transactional factors were used individually to predict mean productive performance. Only one factor emerged as significant, and that one was contingent reward. This factor accounted for about 5 percent of the variance, and it is a transactional factor, which is consistent with the test of the second hypothesis in which transactional leadership accounted for a greater amount of variance than transformational leadership.

However, the intercorrelations between contingent reward and the other MLQ factors make this result difficult to interpret and suggest that there is also significant overlap of this factor with several others. For example, contingent reward correlated highly with one other transactional factor, management-by-exception -- active (.6748), and with all four of the transformational factors (.6046 and above). But it correlated much lower (.3602) with another of the factors in its own transactional set (management-by-exception -- passive).

The outcome of this test suggests that future research focusing on contingent reward may be particularly valuable. Contingent reward is a more traditional leadership behavior
than intellectual stimulation, charisma or other transformational factors. It is recognizing what followers want to get from their participation in a blood drive, then trying to see that they get it if their performance warrants it. It is offering and giving rewards for appropriate levels of effort. Even though coordinators did not rate this as the factor they use most, it may be that this type of leadership is more prevalent among this subject group. The coordinators examined appear to come from a traditional, and even conservative, environment so they may be most adept at using a traditional style of leadership. Subjects were mostly Nebraska and Iowa women over the age of 40, with nearly 40 percent of them living in small towns. The role of a blood drive coordinator is a challenging one, but it is generally not one that is viewed as radical in any way.

It also may be that contingent reward is actually the most effective leadership behavior for blood drive coordinators to employ to achieve success. Coordinators do not offer monetary incentives and rewards like salary increases or bonuses, but they can offer rewards that are viewed as valuable by many volunteers. Recognition in the form of public acknowledgements or token gifts are common. Opportunities to perform new or more demanding roles are rewards for some volunteers. Just being sure to say "Thank you," at the end of the blood drive can be an essential
reward. As discussed in Chapter 2, research shows that people volunteer because they want to help, they feel good about what they do as volunteers and volunteering provides opportunities to meet and interact with other people. It makes sense that an effective coordinator would try to learn which of these motivations is important to her volunteers, then attempt to make sure the volunteer was experiencing reinforcement of those motivations -- if for no other reason than to retain her volunteer staff and not be short-staffed at the next drive because volunteers were dissatisfied with their experience and quit.

Finally, the four individual transformational factors and the one non-leadership factor (laissez-faire) were used to predict mean productive performance. One transformational factor, inspiration, entered as a significant factor and accounted for about 4 percent of the variance in the test. This is the same factor that entered as significant in the test of transformational factors by themselves predicting performance.

Again, the strong correlations between inspiration and the other transformational factors may indicate more influence from those other factors than is initially revealed here. Correlations between the non-leadership factor of laissez-faire and the transformational factors were lower than the correlations between any other factors.
Supplemental Analysis -- Correlation of the Eight MLQ Leadership Factors with Percentage of Productive Goal Achieved

When the eight individual leadership factors were correlated with the mean of the productive goal achieved, two factors correlated most significantly at p<.01 (Table 10). Those factors were contingent reward, which is a transactional factor, and inspiration, which is a transformational factor. Although the correlations were not high, .2361 for contingent reward and .2130 for inspiration, these results are consistent with both sets of regressions. In the hierarchical regressions, transformational and transactional leadership accounted for the greatest amount of variance, and in the stepwise regressions, contingent reward and inspiration accounted for the greatest amount of variance.

Two other factors, charisma and management-by-exception -- active, correlated significantly at p<.05, but not at high levels (.1933 and .1843 respectively). No other factors correlated at a significant level. In all, these results indicate some relationship between transformational and transactional leadership and successful blood drive outcomes, but they also indicate that there must be some other or many other factors that influence these outcomes.
Limitations of the Study

The findings of this study were limited by several factors, including several related to the MLQ version used. A self-rater version was used, and the likelihood that using self respondents incurred inflated or skewed results may have been significant. It also was version 5X, an experimental version that included some additional factors (idealized influence and management-by-exception in an active version and a passive version) and has not yet undergone frequent reliability and validity checks. The impact of the addition of these factors is not known.

The lack of stability in the factor structure raised methodological questions (whether to use the theoretically described factors or to create new factors), but the limited number of participants (n=152) made it difficult to try to create a new factor structure. The significant intercorrelations among all the factors led to a better understanding of the highly interdependent role these various factors play, but also raised potential validity questions as to the uniqueness of the individual leadership characteristics. These intercorrelations also highlighted the fact that the relationship between leadership style and a blood drive’s success is a complex one, probably influenced by many different types of factors. This thesis approached the examination of the relationship between
leadership style and blood drive success with the assumption that the relationship is a linear one, but as previously articulated in the discussion of "substitutes for leadership," it may very well be that volunteers of this type are productive (or not) regardless of the leadership style employed by the coordinator. It now seems to more likely to be a curvilinear relationship comprised of many factors and influences.

The size of the respondent pool also may have had several effects. An increased number of participants may have resulted in more stability in the factor structure. It is logical to assume that a subject pool that contains greater geographic diversity, especially one that is not so heavily composed of rural residents, may also result in different findings.

Also, the appropriateness of transformational leadership and effectiveness among blood drive coordinators may have been limited because the pool of subjects in this project is very different from the subjects used to develop and refine the transformational concept. Men were the primary subjects used to develop and refine the concept, while most blood drive coordinators and their subordinates are women and may use or respond most successfully to different types of leadership styles. Also, the concept has been tested primarily in a paid work environment, while the
environment of this project was an unpaid, volunteer one. The effectiveness of transformational leadership may not transfer to such a different leader/follower situation. And, many of the work environments used in the development of the concept were highly structured, such as government offices or the military, while the blood drive environment is very flexible, with Red Cross offering only suggestions for structure and staffing and no formal performance evaluation system for individuals at all.

**Recommendations for Future Research**

As already discussed, it would be highly valuable to explore the role of contingent reward in achieving blood drive productive goals and in achieving the many different types of blood drive goals. Future research involving coordinators and transformational leadership would benefit from additional analysis of the interplay between different types of blood drive outcomes. It may very well be that stronger relationships between transformational leadership and some outcome or set of outcomes other than productive goal would be found. For example, it would be valuable to explore the relationship between transformational leadership and the satisfaction of donors and volunteers with their blood drive experience, or to explore the relationship of specific transformational factors, such as charisma or
individualized consideration, with that satisfaction. Since inspiration appeared to be the most significant transformational factor in predicting blood drive results, it would be valuable to explore that factor's relationship to all the various outcomes.

Future research that examines the various leadership styles in conjunction with other types of factors, such as length of experience or blood drive location or coordinator training, may reveal additional insight. It may be that a coordinator's length of experience or motivation because of a personal experience with the need for blood may be the strongest indicators of a successful blood drive. And it is possible that differences among effective leadership styles could be found in different blood drive sites since each site would bring with it different types of volunteers or followers. For example, the leadership style that works best at a company blood drive may be different from the style that works best at a church or high school drive. Using a larger sample, it would be worthwhile to isolate coordinators from one or two particularly important types of sites, such as communities and workplaces, then explore in-depth the relationship between various leadership factors and various outcomes within those groups.

To further refine the transformational concept and the MLQ it would be worthwhile to further explore the role of
management-by-exception. The passive version of this factor correlated higher with non-leadership than with other transactional factors, and the active version correlated highly with transformational factors. This again raises questions about whether the active and passive versions are related or entirely unique factors, with passive belonging in the non-leadership set. It remains the author’s strong recommendation that all types of future research among blood drive coordinators, or other volunteer groups, be conducted using a subordinate rater version of the MLQ if at all possible.

One of the potentially most valuable types of further research would involve exploring leadership styles common among women and the success of blood drives. A majority of blood drive coordinators in Midwest Region, and at all Red Cross blood regions, are women. A better understanding of the styles or behaviors that contribute to the greatest success among this group could have tremendous benefit to the quantity of the nation’s blood supply.

Factors that influence donors to actually give blood should be explored since their presence may have the greatest impact on whether a blood drive achieves its productive goal. Convenience of the blood drive, the percentage of highly motivated donors accessible to the blood drive coordinator, or other factors may reveal the
biggest predictive value of all.

Finally, more precision could be achieved in research of this type if the effects of transformational leadership on subordinate behavior were initially examined, then the effects of subordinate behavior on the donation of blood by volunteer donors were examined. This particular study left out the subordinate link.
References

American Red Cross Midwest Region Blood Services, Coordinator’s Guide, 1994, Omaha, Neb.


SPSS Inc. (1990). *Base system user’s guide.*

Appendix A

Multifactor Leadership Questionnaire
(Form 5X-Self)
MULTIFACTOR LEADERSHIP QUESTIONNAIRE (FORM 5X–SELF)

Bernard M. Bass and Bruce J. Avolio
Center for Leadership Studies/School of Management
Binghamton University

This is a questionnaire to provide a description about your leadership of your blood drive volunteers and supporters. Please answer the questions on the provided answer form with a No. 2 pencil. When the item is irrelevant or does not apply, or where you are uncertain, leave the answer blank. Make no more than one mark for each question.

Directions: Listed below are descriptive statements about leaders. For each statement, we would like you to judge how frequently you have displayed the behavior described when leading your blood drive. Use a No. 2 pencil to darken the circle that corresponds to your response.

You do not need to fill in any of the blue sections on the answer sheet marked "Name," "Birth date," etc. When you are finished, return both the questionnaire and the answer sheet in the enclosed envelope. Do not fold the answer sheet.

Use the following for the five possible responses:

Key:  A  B  C  D  E

Frequently if not always
Fairly often
Sometimes
Once in awhile
Not at all

1. I make personal sacrifices for the benefit of others. (AC)
2. I avoid getting involved when important issues arise. (LF)
3. I talk to those I lead about my most important values and beliefs.
4. It requires a failure to meet an objective for me to take action. (MBEP)
5. I set high standards. (INSP)

6. I focus attention on irregularities, mistakes, exceptions, and deviations from standards. (MBEA)
7. I emphasize the value of questioning assumptions. (IS)
8. I give those I lead what they want in exchange for their support. (CR)
9. I treat those I lead as individuals rather than just members of a group. (IC)
10. I take no action even when problems become chronic. (LF)

©1991 Bernard M. Bass & Bruce J. Avolio
11. I remain calm during crisis situations. (AC)
12. The work of those I lead has to fall below minimum standards for me to try to make improvements. (MBEP)
13. I emphasize the importance of being committed to our beliefs.
14. I closely monitor the performance of those I lead for errors. (MBEA)
15. I envision exciting new possibilities. (INS)

16. I make clear to those I lead what they can expect to receive, if their performance meets standards. (CR)
17. I re-examine critical assumptions to question whether they are appropriate. (IS)
18. I am absent when needed. (LF)
19. I listen attentively to the concerns of those I lead. (IC)
20. I fail to intervene until problems become serious. (MBEP)

21. I instill pride in those I lead in being associated with me. (AC)
22. I spend my time looking to "put out fires". (MBEA)
23. I specify the importance of having a strong sense of purpose.
24. I work out agreements with those I lead on what they will receive if they do what needs to be done. (CR)
25. I talk optimistically about the future. (INS)

26. I fail to follow-up requests for assistance. (LF)
27. I encourage those I lead to rethink ideas which had never been questioned before. (IS)
28. I tell those I lead what they have done wrong rather than what they have done right. (MBEP)
29. I provide useful advice for the development of those I lead. (IC)
30. I keep track of the mistakes of those I lead. (MBEA)

31. I go beyond my own self-interest for the good of our group. (AC)
32. I negotiate with those I lead about what they can expect to receive for what they accomplish. (CR)
33. I consider the moral and ethical consequences of my decisions.
34. I resist expressing my views on important issues. (LF)
35. I express my confidence that we will achieve our goals. (INS)

36. Things have to go wrong for me to take action. (MBEP)
37. I question the traditional ways of doing things. (IS)
38. I enforce rules to avoid mistakes. (MBEA)
39. I focus those I lead on developing their strengths. (IC)
40. I provide assistance to those I lead in exchange for their effort. (CR)

©1991 Bernard M. Bass & Bruce J. Avolio (continued)
41. I provide reassurance that we will overcome obstacles. (AC)
42. I avoid making decisions. (LF)
43. I display conviction in my ideas, beliefs, and values.
44. I show that I am a firm believer in "if it ain't broke, don't fix it". (MBEP)
45. I provide continuous encouragement to those I lead. (INSP)

46. My attention is directed toward failure to meet standards. (MBEA)
47. I seek differing perspectives when solving problems. (IS)
48. I tell those I lead what to do to be rewarded for their efforts. (CR)
49. I spend time teaching and coaching those I lead. (IC)
50. I delay responding to urgent questions. (LF)

51. I display extraordinary talent and competence in whatever I undertake. (AC)
52. Problems must become chronic before I will take action. (MBEP)
53. I take a stand on difficult issues.
54. I search for mistakes before commenting on the performance of those I lead. (MBEA)
55. I focus the attention of those I lead on "what it takes" to be successful. (INSP)

56. I make sure that those I lead receive appropriate rewards for achieving performance targets. (CR)
57. I suggest new ways of looking at how we do our jobs. (IS)
58. I divert the attention of those I lead away from addressing work-related problems. (LF)
59. I treat each of those I lead as individuals with different needs, abilities, and aspirations. (IC)
60. I motivate those I lead to do more than they thought they could do.

61. My actions build respect for me for those I lead. (AC)
62. Those I lead earn credit with me by doing their tasks well. (CR)
63. I clarify the central purpose underlying our actions.
64. I talk enthusiastically about what needs to be accomplished. (INSP)
65. I encourage those I lead to express their ideas and opinions. (IS)

66. I teach those I lead how to identify the needs and capabilities of others. (IC)
67. I display a sense of power and confidence. (AC)
68. I talk about how trusting each other can help us overcome our difficulties.
69. I arouse in those I lead an awareness of what is essential to consider. (INSP)
70. I heighten the motivation to succeed of those I lead.

71. I emphasize the importance of having a collective sense of mission.
72. I articulate a compelling vision of the future for those I lead. (INSP)
73. I get those I lead to look at problems from many different angles. (IS)
74. I promote self-development among those I lead. (IC)
75. I behave in ways that are consistent with my expressed values.

©1991 Bernard M. Bass & Bruce J. Avolio. (continued)
76. I show determination to accomplish what I set out to do.  (INSP)
77. I encourage non-traditional thinking to deal with traditional problems. (IS)
78. I give personal attention to those I lead who seem neglected. (IC)
79. I get those I lead to do more than they expected they could do.
80. I express satisfaction when those I lead do a good job. (CR)
81. I encourage addressing problems by using reasoning and evidence, rather than unsupported opinion. (IS)

Use this key for the five possible responses to items 82-84. Mark your answer by darkening the circle on the answer sheet that corresponds to your response.

Key:   A         B         C         D         E
Not effective      Only slightly effective    Effective    Very effective    Extremely effective

82. The overall effectiveness of your group made up of those you lead and yourself can be classified as _____________.
83. How effective are you in representing your group to higher authority?
84. How effective are you in meeting the job-related needs of those with whom you work?

Use this key for the five possible responses to items 85-87. Mark your answer by darkening the circle on the answer sheet that corresponds to your response.

Key:         A         B         C         D         E
Very      Somewhat      Neither satisfied     Fairly satisfied     Very satisfied
dissatisfied    dissatisfied    nor dissatisfied    satisfied     satisfied

85. How satisfied are you with your leadership abilities?
86. In all, how satisfied are you with the methods of leadership you use to get your group’s assignments completed?
87. In all, how satisfied are you with the methods of leadership you use to get your group’s job done?

©1991 Bernard M. Bass & Bruce J. Avolio
Please use the answer sheet to rate the following items according to how important you think they are to determining whether your blood drive is successful. Use the key provided. This is strictly your opinion; there are no right or wrong answers.

Key: A B C D E
- Not Important
- Only Slightly Important
- Important
- Very Important
- Extremely Important

88. Meeting presenting donor goal (you achieve your drive's goal for the number of people who show up to volunteer to give blood).
89. Meeting productive donor goal (you achieve your goal for the number of units of blood that are successfully collected).
90. Meeting type specific goals (you achieve your drive's goals for collecting a certain percentage of each blood type).
91. All donors are scheduled for appointments according to the matrix.
92. All components of the blood drive are in compliance with Food and Drug Administration guidelines.
93. All donors, volunteers and Red Cross paid staff are satisfied with their experience at the drive.
94. Meeting new donor goals (percentage of donors who give blood for the time at your drive).

95. What is your sex?
   A. Female
   B. Male

96. What is your age?
   A. 24 years or younger
   B. 25 to 39 years
   C. 40 to 54 years
   D. 55 to 69 years
   E. 70 years or older

97. What is your blood drive sponsoring organization?
   A. Business
   B. Community
   C. School
   D. Church
   E. Civic group or club

98. For how many blood drives have you been the coordinator?
   A. Less than one
   B. One to three
   C. Four to 10
   D. 11 to 20
   E. More than 20
On your answer sheet, rate the extent to which you think the following leader behaviors are effective in planning and executing a successful blood drive. Use the key provided.

Key:  

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not effective</td>
<td>Only slightly effective</td>
<td>Effective</td>
<td>Very effective</td>
<td>Extremely effective</td>
</tr>
</tbody>
</table>

99. Charisma -- developing followers' trust and confidence in you; inspiring loyalty and devotion; relating the activities of a follower's job to strongly held values and ideals.

100. Inspiration -- articulating, in simple ways, goals that you and your followers share; providing visions of what is possible and how to attain it; communicating high performance expectations, but expressing belief and confidence that followers can and will achieve those expectations.

101. Intellectual stimulation -- influencing followers to think about old problems in new ways; emphasizing the use of reasoning and evidence before taking action.

102. Individualized consideration -- recognizing differences between followers and paying attention to the varying needs and interests of each; coaching; providing two-way, face-to-face communication with followers.

103. Management-by-exception -- intervening with a follower's work only when something goes wrong; letting followers do their jobs as they have always done them as long as tasks and goals are being accomplished.

104. Contingent reward -- recognizing what followers want to get from their participation in the drive and trying to see that they get it, if their performance warrants it; offering and giving rewards for appropriate levels of effort.

105. Laissez-faire -- avoiding expressing opinions, taking action or responding to questions; not following-up on requests for assistance.

106. **In the space provided on this sheet**, please list and describe any other leader behaviors that you think are effective in planning and executing a successful blood drive.

---------------------------------------------------------------------

---------------------------------------------------------------------

---------------------------------------------------------------------

Please return your answer sheet and this entire questionnaire in the enclosed envelope.

Thank you for your help and cooperation.
Notes: The notations in parentheses do not actually appear on the questionnaire but are intended to indicate to the reader which theoretical factor is linked to each statement. The key for the parenthetical information is: (AC) is Attributed Charisma; (CR) is Contingent Reward; (IC) is Individualized Consideration; (INSP) is Inspiration; (IS) is Intellectual Stimulation; (LF) is Laissez-Fair; (MBEA) is Management by Exception - Active, and (MBEP) is Management by Exception - Passive.

This questionnaire includes some information not used in the analysis of this project.
Appendix B

Questionnaire Cover Letter
Dear Ms. Smith,

As a coordinator, you work with many volunteers and donors in the important job of organizing American Red Cross blood drives. I am communication director for the area’s Red Cross blood region and a graduate student at the University of Nebraska at Omaha. As my thesis project, I and Red Cross Midwest Region are undertaking a project to learn more about the behaviors volunteer blood drive coordinators like you employ. The knowledge we gain from this project will help us learn more about how we at Red Cross can help coordinators like you consistently recruit enough blood donors.

You, as well as other experienced blood drive coordinators, are being asked to give your opinions. To ensure the results will truly represent the opinions of coordinators, it is important that each questionnaire be completed and returned. Please take a few minutes to complete this questionnaire and return it to me in the enclosed, stamped envelope. As you answer, think about how you work with other Red Cross volunteers who assist you in organizing and executing your blood drives.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes and to help accumulate data about blood drives. Your name will not be associated with any response you give. This project has been approved by the University of Nebraska and American Red Cross Midwest Region.

Your response can help us all be more successful in meeting the blood needs of patients. A summary of the results will be printed in a future issue of the newsletter Heart to Heart. I would be happy to answer any questions you might have. Please write or call at the above address and phone number.

Thank you in advance for your assistance.

Sincerely,

Debbi Breeling
Communication Director
Appendix C

Follow-Up Postcard
Last week a questionnaire seeking your opinion about behaviors of blood drive coordinators was mailed to you. You were one of a group of experienced blood drive leaders selected to receive this questionnaire.

If you have already completed and returned it to me, please accept my sincere thanks. If not, please do so today. Because it has been sent to only a small group of coordinators, it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of area coordinators.

If, by some chance, you did not receive the questionnaire, or it got misplaced, please call me right now, collect, at (402) 341-2723, ext. 2115, and I will get another in the mail to you today.

Sincerely,

Debbi Breeling
Communication Director
Appendix D

Final Mailing Cover Letter
November 22, 1994

Jane Smith
123 Main St.
Omaha, NE 68109

Dear Ms. Smith,

About four weeks ago I wrote to you asking your opinion on your behaviors as you lead and coordinate a blood drive. As of today, I have not yet received your completed questionnaire.

I, and American Red Cross, have undertaken this study because we believe it could help us learn how to help blood drives like yours be more successful, or easier to coordinate.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. In order for the results of this study to be truly representative of all experienced coordinators, it is essential that each person in the study sample return his or her questionnaire.

In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Debbi Breeling
Director Communication
Appendix E

Eight Factor Oblimin Rotation Factor Analysis of Multifactor Leadership Questionnaire 5X-Self
| Q1 | .06797 | - .03111 | - .01990 | .00990 | - .00264 | .59492 | - .08397 | .11471 |
| Q2 | - .00428 | .15109 | .04241 | - .22836 | - .11972 | - .13534 | .19189 | .50946 |
| Q3 | .14483 | - .00710 | .14478 | - .29583 | .19934 | .35546 | - .07197 | - .09400 |
| Q4 | - .03640 | .18651 | - .16627 | .13467 | .03794 | .01613 | - .04633 | .63119 |
| Q5 | .13217 | - .03203 | .07782 | - .10982 | - .03104 | .29502 | .07387 | - .23225 |
| Q6 | - .09442 | .23272 | - .01534 | - .44127 | - .09271 | .26936 | .00173 | .07570 |
| Q7 | - .06682 | .20247 | .05943 | - .22420 | - .41526 | .21169 | .27627 | - .09170 |
| Q8 | - .05434 | .04377 | .15410 | - .45552 | - .17605 | .22068 | - .00985 | .13818 |
| Q9 | .02553 | - .05696 | - .00841 | .16486 | .03529 | .12837 | .43330 | - .13941 |
| Q10 | - .02235 | - .02551 | .05002 | - .19713 | - .11078 | .20761 | - .03627 | .48330 |
| Q11 | .34534 | - .14326 | .25158 | - .14731 | .04073 | - .03538 | .21291 | - .06303 |
| Q12 | .10188 | .01380 | .10447 | - .10944 | .06937 | - .00305 | - .01155 | .61116 |
| Q13 | .49320 | - .18928 | - .00075 | - .00854 | 1.4095 | .13444 | .00310 | - .13977 |
| Q14 | .23415 | .09519 | - .02209 | .43584 | - .14695 | .14064 | .00731 | .07242 |
| Q15 | .35909 | .05763 | - .17611 | .06297 | .22525 | .16609 | - .22661 | - .22531 |
| Q16 | .32241 | - .26112 | .04680 | .48532 | .08347 | .06547 | - .00310 | - .02478 |
| Q17 | .24801 | .07735 | - .23194 | .14467 | .24046 | .12249 | .09780 | - .10694 |
| Q18 | - .04235 | - .02780 | .00731 | .02911 | .06824 | .13854 | - .45873 | .16847 |
| Q19 | .38161 | - .19908 | .06050 | .03111 | .01545 | .06180 | .18458 | .02973 |
| Q20 | .06135 | .08002 | .01212 | .02171 | .01237 | .10093 | - .11040 | .59317 |
| Q21 | .51611 | - .21014 | - .06291 | .08282 | - .11861 | .24323 | .03053 | .14974 |
| Q22 | - .03602 | .13896 | - .08436 | .48011 | .09218 | - .02690 | .06191 | .04831 |
| Q23 | .61670 | - .19320 | .03123 | .00370 | .20571 | .14408 | .08545 | - .10389 |
| Q24 | .17920 | - .05755 | - .23133 | .67405 | .12275 | - .02062 | .05220 | .11135 |
| Q25 | .69391 | - .04058 | - .05168 | .02551 | .00946 | - .07836 | - .08129 | .06537 |
| Q26 | .00443 | .40723 | .06924 | .08340 | .17573 | .07723 | - .02970 | .36624 |
| Q27 | .16773 | - .07827 | - .07027 | .38268 | .34968 | - .04278 | .02409 | - .00364 |
| Q28 | - .07821 | .18537 | - .07030 | .09317 | .06769 | .03465 | - .29784 | .06459 |
| Q29 | .25514 | - .08307 | - .13881 | .17553 | .03694 | .30112 | - .13099 | - .28239 |
| Q30 | - .02092 | .03087 | - .07399 | .56259 | .11414 | - .05481 | - .14726 | .09580 |
| Q31 | - .07302 | .09214 | - .09401 | .12775 | .14440 | .58302 | .14736 | 1.12081 |
| Q32 | .00696 | .01310 | - .19105 | .56130 | - .05652 | .03563 | .03930 | .03934 |
| Q33 | .58083 | .04295 | .20509 | .05184 | .20292 | .11049 | .14457 | - .12159 |
Eight Factor Oblimin Rotation Factor Analysis of Multifactor Leadership Questionnaire 5X-Self (Cont.)

<table>
<thead>
<tr>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>Q34</td>
</tr>
<tr>
<td>Q35</td>
</tr>
<tr>
<td>Q36</td>
</tr>
<tr>
<td>Q37</td>
</tr>
<tr>
<td>Q38</td>
</tr>
<tr>
<td>Q39</td>
</tr>
<tr>
<td>Q40</td>
</tr>
<tr>
<td>Q41</td>
</tr>
<tr>
<td>Q42</td>
</tr>
<tr>
<td>Q43</td>
</tr>
<tr>
<td>Q44</td>
</tr>
<tr>
<td>Q45</td>
</tr>
<tr>
<td>Q46</td>
</tr>
<tr>
<td>Q47</td>
</tr>
<tr>
<td>Q48</td>
</tr>
<tr>
<td>Q49</td>
</tr>
<tr>
<td>Q50</td>
</tr>
<tr>
<td>Q51</td>
</tr>
<tr>
<td>Q52</td>
</tr>
<tr>
<td>Q53</td>
</tr>
<tr>
<td>Q54</td>
</tr>
<tr>
<td>Q55</td>
</tr>
<tr>
<td>Q56</td>
</tr>
<tr>
<td>Q57</td>
</tr>
<tr>
<td>Q58</td>
</tr>
<tr>
<td>Q59</td>
</tr>
<tr>
<td>Q60</td>
</tr>
<tr>
<td>Q61</td>
</tr>
<tr>
<td>Q62</td>
</tr>
<tr>
<td>Q63</td>
</tr>
<tr>
<td>Q64</td>
</tr>
<tr>
<td>Q65</td>
</tr>
</tbody>
</table>
Eight Factor Oblimin Rotation Factor Analysis of Multifactor Leadership Questionnaire 5X-Self (Cont.)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q66</td>
<td>.12809</td>
<td>-.13571</td>
<td>-.45432</td>
<td>-.16378</td>
<td>-.07337</td>
<td>.12495</td>
<td>.22867</td>
<td>-.18640</td>
</tr>
<tr>
<td>Q67</td>
<td>.21526</td>
<td>.04587</td>
<td>-.42810</td>
<td>-.16061</td>
<td>-.11846</td>
<td>.33865</td>
<td>.00516</td>
<td>.08525</td>
</tr>
<tr>
<td>Q68</td>
<td>.14680</td>
<td>.02399</td>
<td>-.50933</td>
<td>-.32057</td>
<td>-.00073</td>
<td>-.05825</td>
<td>.08542</td>
<td>-.08639</td>
</tr>
<tr>
<td>Q69</td>
<td>.40085</td>
<td>.02249</td>
<td>-.40935</td>
<td>-.20540</td>
<td>-.00198</td>
<td>.02501</td>
<td>.06726</td>
<td>-.03194</td>
</tr>
<tr>
<td>Q70</td>
<td>.45081</td>
<td>-.00214</td>
<td>-.47774</td>
<td>-.05469</td>
<td>.03064</td>
<td>.04769</td>
<td>.02429</td>
<td>.04165</td>
</tr>
<tr>
<td>Q71</td>
<td>.55012</td>
<td>.02539</td>
<td>-.17186</td>
<td>-.08230</td>
<td>.05629</td>
<td>-.01053</td>
<td>.12350</td>
<td>.01929</td>
</tr>
<tr>
<td>Q72</td>
<td>.42672</td>
<td>.01088</td>
<td>-.50045</td>
<td>-.17418</td>
<td>-.06061</td>
<td>.01015</td>
<td>-.24554</td>
<td>-.11844</td>
</tr>
<tr>
<td>Q73</td>
<td>.15144</td>
<td>-.10682</td>
<td>-.59654</td>
<td>-.24482</td>
<td>.20326</td>
<td>-.10238</td>
<td>-.10687</td>
<td>-.09230</td>
</tr>
<tr>
<td>Q74</td>
<td>.39655</td>
<td>-.08243</td>
<td>-.53531</td>
<td>-.10015</td>
<td>.16811</td>
<td>-.09820</td>
<td>.00020</td>
<td>.04151</td>
</tr>
<tr>
<td>Q75</td>
<td>.29874</td>
<td>.17994</td>
<td>-.02708</td>
<td>.16780</td>
<td>-.03644</td>
<td>.09027</td>
<td>.30425</td>
<td>-.07504</td>
</tr>
<tr>
<td>Q76</td>
<td>.10567</td>
<td>-.07145</td>
<td>-.19740</td>
<td>.10144</td>
<td>-.05951</td>
<td>.23945</td>
<td>.49436</td>
<td>.09828</td>
</tr>
<tr>
<td>Q77</td>
<td>-.22965</td>
<td>-.01317</td>
<td>-.48403</td>
<td>-.08479</td>
<td>.21369</td>
<td>.03235</td>
<td>.10944</td>
<td>-.04968</td>
</tr>
<tr>
<td>Q78</td>
<td>-.01776</td>
<td>.01915</td>
<td>-.51277</td>
<td>-.13075</td>
<td>.01548</td>
<td>.03457</td>
<td>.36018</td>
<td>-.07472</td>
</tr>
<tr>
<td>Q79</td>
<td>.07435</td>
<td>-.01604</td>
<td>-.58996</td>
<td>-.17742</td>
<td>-.02291</td>
<td>.08142</td>
<td>.21892</td>
<td>.00570</td>
</tr>
<tr>
<td>Q80</td>
<td>.22201</td>
<td>-.17528</td>
<td>-.21157</td>
<td>.05027</td>
<td>.01645</td>
<td>.02494</td>
<td>.48835</td>
<td>.10442</td>
</tr>
<tr>
<td>Q81</td>
<td>.13225</td>
<td>.03981</td>
<td>-.22316</td>
<td>-.07616</td>
<td>.13624</td>
<td>-.14140</td>
<td>.32437</td>
<td>-.22030</td>
</tr>
</tbody>
</table>