The Pennsylvania State University

The Graduate School

College of the Liberal Arts

# POLYCHRONICITY AND ITS IMPACT ON LEADER-MEMBER EXCHANGE AND OUTCOME BEHAVIORS

A Dissertation in

Psychology

by

Douglas R. Lindsay



Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

May 2008

The dissertation of Douglas R. Lindsay was reviewed and approved* by the following:

Rick R. Jacobs
Professor of Psychology
Dissertation Advisor
Chair of Committee

James L. Farr
Professor of Psychology

Susan Mohammed
Associate Professor of Psychology

Stephen Beckerman
Associate Professor of Anthropology

Melvin M. Mark
Professor of Psychology
Head of the Department of Psychology

*Signatures are on file in the Graduate School

# REPORT DOCUMENTATION PAGE

*Form Approved*
*OMB No. 0704-0188*



**PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

| 1. REPORT DATE *(DD-MM-YYYY)* | 2. REPORT TYPE | 3. DATES COVERED *(From - To)* |
|---|---|---|
| 04-02-2004 | THESIS | |

**4. TITLE AND SUBTITLE**
"AN EMPIRICAL TEST OF AFFECTIVE EVENTS THEORY"

**5a. CONTRACT NUMBER**

**5b. GRANT NUMBER**

**5c. PROGRAM ELEMENT NUMBER**

**6. AUTHOR(S)**
MAJ LINDSAY DOUGLAS R

**5d. PROJECT NUMBER**

**5e. TASK NUMBER**

**5f. WORK UNIT NUMBER**

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**
PENNSYLVANIA STATE UNIVERSITY

**8. PERFORMING ORGANIZATION REPORT NUMBER**
CI08-0024

**9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)**
THE DEPARTMENT OF THE AIR FORCE
AFIT/ENEL, BLDG 16
2275 D STREET
WPAFB OH 45433

**10. SPONSOR/MONITOR'S ACRONYM(S)**

**11. SPONSOR/MONITOR'S REPORT NUMBER(S)**

**12. DISTRIBUTION/AVAILABILITY STATEMENT**
Unlimited distribution
In Accordance With AFI 35-205/AFIT Sup 1

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**

**15. SUBJECT TERMS**

| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON |
|---|---|---|---|---|---|
| a. REPORT | b. ABSTRACT | c. THIS PAGE | | 68 | 19b. TELEPHONE NUMBER *(Include area code)* |

## ABSTRACT

Previous empirical leadership research has shown the value of a good relationship between the leader and the follower (known as leader-member exchange or LMX). Many positive organizational outcomes (i.e., job satisfaction, organizational commitment, reduced turnover). are a result of this relationship. More recently, temporal factors in the workplace have received attention with respect to how they influence workers and resultant employee outcomes. The goal of this study was to examine how the temporal factor of polychronicity influences the LMX relationship as well as the implications for individual and organizational outcomes (e.g., extra role behaviors, performance). It was found that polychronicity was related to positive extra role behaviors (citizenship behaviors) but not negative extra role behaviors (counterproductive behaviors). In addition, a match between how the individual prefers to do work and how the job requires them to work was related to more citizenship behaviors and lower intentions to turnover. Finally, this match also moderated the relationship between LMX and negative workplace behaviors.

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

## PREFACE

"The views expressed in this article are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government."

# CHAPTER 1

# INTRODUCTION

"And if the blind leads the blind, both will fall into a ditch."

- Jesus Christ (Matt 15:14)

It would be an understatement to say that today's organizations are experiencing rapid change (Cascio, 2003; Rousseau, 1997). This is evident not only in the type of work that is being done, but also in changes in the workforce itself (Ashkanasy, Hartel, & Daus, 2002; Fletcher, 1999). These changes have numerous implications for the structure and outcomes of organizations. One of these implications involves leadership and leadership development in the midst of these changes. In fact, leadership as an area of research has seen a drastic increase over the past 30 years. A keyword search of leadership in PsychINFO reveals this dramatic trend (Figure 1). In fact, publications on the topic of leadership have doubled in just the past five years and make it a very common area among researchers compared to other work-related topics (Figure 2).

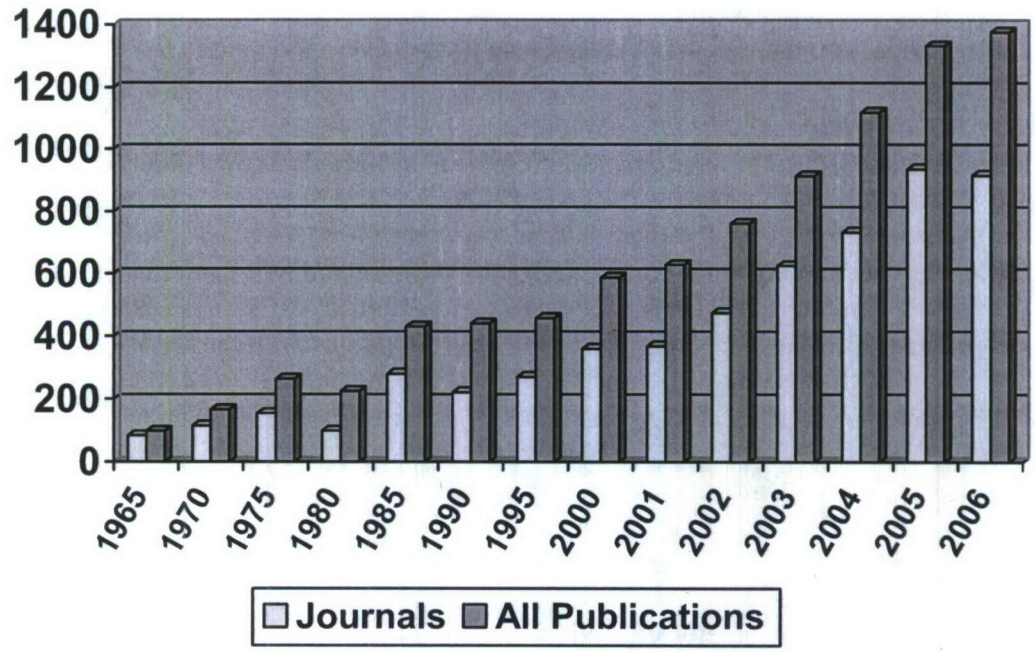


*Figure 1:* Leadership Publication Rate Over Time

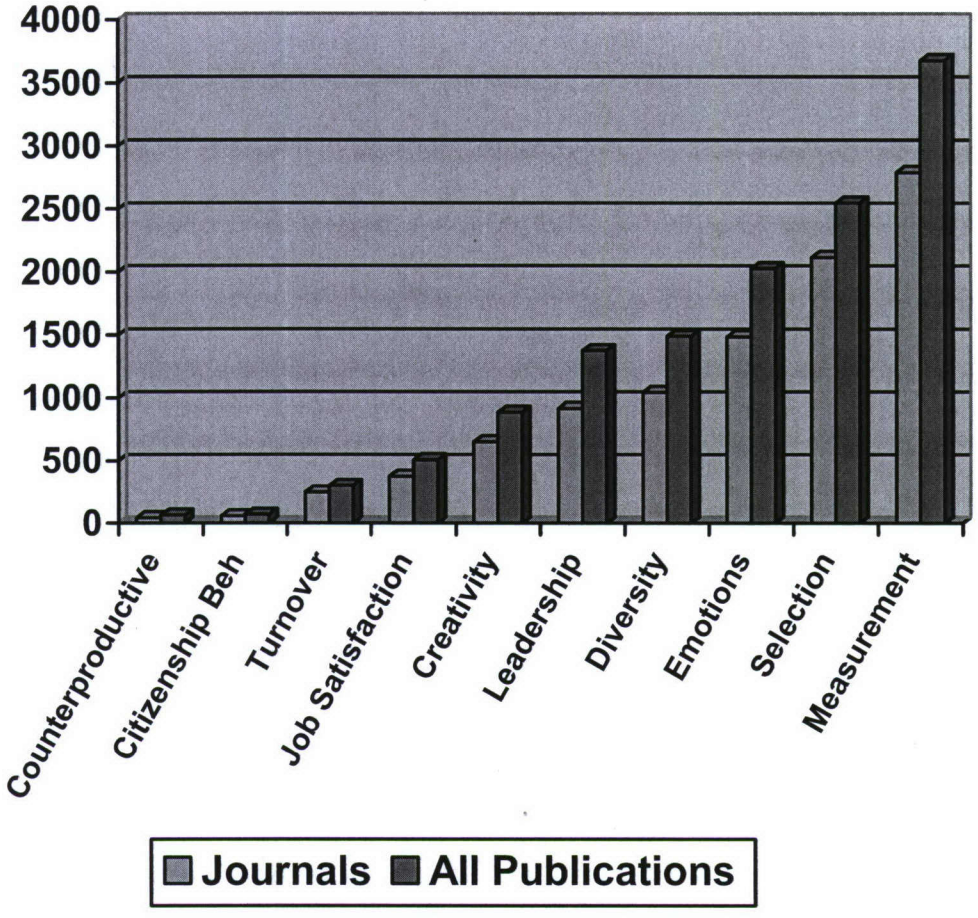


*Figure 2:* Leadership Publications Relative to Other Organizational Topics

This topic of leadership is quite varied and researchers have looked at it from many different perspectives. Several of these include types of leadership (Bono & Judge, 2004), effects of personality (Judge, Bono, Ilies, & Gerhardt, 2000), leader traits (Kirkpatrick & Locke, 1991), context within which leadership occurs (Arvey, Rotundo, Johnson, Zhang, & McGue, 2006), substitutes for leadership (Podsakoff, MacKenzie, & Bommer, 1996), leadership development (Day, 2001), relationships between leaders and followers (Danserau, Graen, & Haga, 1975; Dvir & Shamir, 2003), prediction of who will be successful in leadership positions

(Hogan, Curphy, & Hogan, 1994), and the effects of gender differences (Eagly, Karau, & Makhijani, 1995; Eagly, Johannesen-Schmidt & van Engen, 2003), just to name a few. While certainly not a new topic of research inquiry, there is still much that is unknown regarding leadership and its impact in the changing workplace.

Another implication of this shift in how work is done is the context of the workplace. Specifically, recent research has focused on the topic of time to help shed further understanding on what happens at work and why. While not a new topic to organizational researchers, time has taken on an increased emphasis due in part to the quickening pace of how work is done. For example, topics such as decision making (Perlow, Okhuysen, & Repenning, 2002), training (Zakay & Wooler, 1984), and relationships between a leader and follower (Liden, Wayne, & Stilwell, 1993) have all been examined with respect to time to see what impact it has on employees and their organizations.

The current study examines these implications (leadership and time) in a unique organizational setting: the United States Air Force Academy. Specifically, the focus of this study is to examine how an individual's orientation toward their work (or how they prefer to do their work) impacts employees, their supervisors, and the outcomes that result from these interactions. In other words, how might an individual's orientation toward how work should be done (versus how the leader thinks work should be done) impact their relationship with the leader? In addition, what are the resultant outcomes if the leader and the employee disagree on how the work should be done? In order to understand and answer these questions fully, several topics must be more closely examined.

## Leader-Member Exchange

Leadership research has focused on many different factors in order to determine why some leaders are effective (and just as importantly, why others are not). One focus of this research has been the relationship that forms between a leader and the follower, which is typically referred to as Leader-Member Exchange (LMX; Dansereau, Graen, & Haga, 1975; Graen & Schiemann, 1978; see Graen & Uhl-Bien (1995) for a review of LMX Theory development). It was perhaps best defined by Scandura, Graen, and Novak (1986) who said:

> "Leader-member exchange is (a) a system of components and their relationships (b) involving both members of a dyad (c) involving interdependent patterns of behavior and (d) sharing mutual outcome instrumentalities and (e) producing conceptions of environments, cause maps, and value" (p. 580).

Past research has shown many different positive effects of a good LMX relationship including increased job satisfaction (Murphy & Ensher, 1999), citizenship behaviors (Ilies, Nahrgang, & Morgeson, 2007), organizational commitment (Gerstner & Day, 1997), individual performance (Wang, Law, Hackett, Wang, & Chen, 2005), training motivation (Scaduto, Lindsay, & Chiaburu, 2008), and decreased turnover (Gerstner & Day, 1997).

One of the primary contributions of LMX theory to leadership research is that instead of focusing solely on the leader, characteristics of the follower and the organizational context are also considered. This is an important distinction because it examines leadership as more than just the characteristics of the leader and what they bring to the situation. In fact, it is really a combination of the follower, the leader, and the situation (e.g., organizational constraints) that determine the ultimate relationship between the leader and the member. In addition, LMX supposes that the leader will form different relationships with each follower (Liden, Wayne, & Stilwell, 1993). Therefore, according to LMX, the leader is likely to have high LMX relationships with some followers while simultaneously having low LMX relationships with

other followers. These differential relationships (either high or low) have a significant impact on the follower, their resultant attitudes, and individual performance, according to previous research.

Empirical work on LMX and its outcomes has been very supportive of the construct. For example, a meta-analytic review by Gerstner and Day (1997) showed significant positive relationships between LMX and objective performance, satisfaction with supervision, overall satisfaction, organizational commitment, role clarity and significant negative relationships with both role conflict and turnover intentions. Clearly, it is in the best interest of the organization to help foster or encourage these positive relationships (and minimize the negative relationships) between leaders and followers.

While it seems like a reasonably straightforward construct, a limitation in this area of research has to do with its actual measurement. One issue has to do with the scales used to measure LMX. Historically, researchers have used many different measures to examine the construct (see review by Schriesheim, Castro, & Cogliser, 1999, which covers the issue of measurement of LMX in detail), which has sometimes lead to equivocal support in past research. Recently, however, the field has seemed to agree more clearly on how it should be measured (using the LMX7 developed by Graen, Novak, & Sommerkamp, 1982). In fact, in their meta-analysis of LMX, Gerstner and Day (1997) stated that "one implication of these findings is that the LMX7 appears to provide the soundest psychometric properties of all available LMX measures" (p. 837). Consistent with this agreement in the field of LMX research, the LMX7 was selected for use in the current study.

The other issue regarding measurement has been a matter of perspective. Specifically, from whose perspective do you measure LMX? Should one measure it from the vantage point of

the leader or the member? Certainly, both have different, independent influences that could impact how the actual relationship is perceived. This is exactly what has happened. Instead of high agreement between the leader and the member on ratings of LMX, Gerstner and Day (1997) found only a .29 sample-weighted correlation between leader and member reports of the same LMX relationship (.37 corrected for leader & member unreliability). What this means is that depending upon whose perspective you take in measuring LMX, you could end up with very different results. This issue alone could help to explain some of the equivocal results that have been identified in past research. The current study addresses this issue by measuring LMX from both the leader and the follower's perspective.

In summary, there are many different positive effects that result from a good LMX relationship between the leader and the member. These benefits are not just for the employee, but for the entire organization. However, there is still much to learn regarding the specific antecedents of this relationship and other factors that may potentially moderate or affect this relationship. It is at this point, that the current study is focused.

## Time Orientation: Polychronicity

As previously mentioned, time is playing a larger role in our understanding of how work is done and its subsequent effects on employees and organizations. One way in which time has been classified is to examine how the individual employee prefers to do work (i.e., how they like to structure their time to complete tasks). This is referred to as polychronicity. The construct of polychronicity was first introduced by Hall (1959; 1983) as a way to describe how people approach time. In essence, it is an individual's personal preference as to how they prefer to accomplish tasks. Bluedorn, Kaufman, Felker, and Lane (1992) defined polychronicity along two dimensions. The first was that polychronic individuals have a preference to be involved in

two or more activities at the same time. This is in contrast to those who are monochronic and prefer to do things more sequentially (or one at a time). This is typified in the example of a: do one task, complete it, and then move onto another task type of work style (a serial processing of one's work). In contrast, an individual with a polychronic orientation would prefer to be working on multiple tasks during the same time period (or more of a parallel processing of their work). Characteristic of this type of work style is the employee who is constantly switching between tasks during a given work period. For example, they may be working on an e-mail, get interrupted by a phone call, then have to rush off to a meeting, only to return after the meeting to finish the e-mail. The second dimension is that those who are polychronic believe that their preference for doing things is the best way to do them. In other words, it is not just that they believe the polychronic way of working is best for them, but that it is the best way for everyone to work as well.

Previous research has focused on the first of these two dimensions. For example, prior studies have found empirical support for the construct of polychronicity (e.g., Conte & Jacobs, 2003; Conte, Rizzuto, & Steiner, 1999), and have found that it can be reliably and validly measured (e.g., Bluedorn, Kalliath, Strube, & Martin, 1999; Conte, Rizzuto, & Steiner, 1999). Additionally, polychronicity has been examined with respect to other variables such as employee personality (Conte & Jacobs, 2003), role overload (Kaufman, Lane, & Lindquist, 1991), performance ratings (Conte & Jacobs, 2003), schedules and deadlines (Benabou, 1999), job satisfaction (Arndt, Arnold, & Landry, 2006; Hecht & Allen, 2005), punctuality values (Bluedorn, et al., 1999), time awareness (Conte, Rizzuto, & Steiner, 1999), desire to remain in the organization (Slocombe & Bluedorn, 1999), creativity (Madjar & Oldham, 2006), use of

technology (Keating & Murgolo-Poore, 2001; Lee, 1999), and person-job fit (Hecht & Allen, 2005).

While the nomological network (Conte & Jacobs, 2003) surrounding polychronicity is being filled in by research such as those previously listed, there is still much that is unknown about the construct. For example, the link between polychronicity and performance is incomplete. Some research shows that a polychronic orientation is positively related to performance (Conte & Gintoft, 2005; Taylor, Locke, Lee, & Gist, 1984), where other research has not supported this relationship (Conte, Rizzuto, & Steiner, 1999; Frei, Raciot, & Travagline, 1999). In addition, there may be contextual workplace issues that impact this temporal construct (Schein, 1992). For example, Bluedorn (2002) suggests that not only is there an individual-level polychronicity that must be considered, there is also a job level of polychronicity. He states that there are some jobs that have more of a monochronic orientation (e.g., bus driver, train operator) and some that have a polychronic orientation (e.g., professor, manager, doctor). Therefore, the construct of polychronicity has several factors that must be considered (referred to from here on as individual level polychronicity and job level polychronicity) to appropriately understand what form of polychronicity is being referred to. The current study adds to this body of literature by examining polychronicity from both the individual level (employee's personal preference for polychronicity) and the occupation level (the job that they hold), which have not been previously addressed in the same study.

This is consistent with the current state of the field in which Conte et al. (1999) and others (i.e., Palmer & Schoorman, 1999) have called for more research with respect to polychronicity. Specifically, they stated that more work needs to be done in two areas. The first of these is to further establish the links between employee behavior and their performance at

work. The second area is to examine job level polychronicity as a moderator between individual level polychronicity and employee outcomes at work. The first of these will be examined in the current study with respect to outcomes such as citizenship and counterproductive behaviors.

With respect to leadership, this issue of time is particularly relevant. Since organizational leadership naturally occurs within the context of time (e.g., schedules, deadlines, project cycles), it is important to at least consider the role of time when examining leader-member relationships. Unfortunately, this time dynamic has received little attention from research on leadership. Time is a valuable influence to consider, particularly since leaders and employees may use different approaches to managing their time during the normal course of work, and this dynamic could potentially affect employees' productivity and satisfaction. For example, an employee may have a strong orientation to completing one task at a time (monochronically), while a supervisor expects the employee to multi-task on a number of assignments (polychronically). While the same amount of work may be accomplished in a given time period, this difference in how the employee manages their time could result in tension or conflict between the supervisor and the employee. Therefore, given the substantial influence that time factors could have on leader-member relations, it is expected to relate to the degree of fit between leaders and followers and resultant outcomes. Referring back to the definition of polychronicity, this specifically addresses the second dimension of polychronicity: their preference for doing things is the best way.

## Gender

The literature on gender and leadership is robust. Empirical studies are clear that both women and men lead equally as effectively (e.g., Cascio, 2003; Eagly, Karau, & Makhijani, 1995; Powell, 1993), but may differ in terms of the actual style that they use (e.g., Adler, 1996; Bass, Avolio, & Atwater, 1996). In addition, previous research is quite clear that there are

different stereotypes about men and women leaders and that these stereotypes lead to distinct limitations for women in the workplace (e.g., Eagly & Karau, 2002; Morrison, White, & Van Velsor, 1987).

A recent review by Eagly and Karau (2002) attempted to examine the current state of the literature regarding this topic. They examined the research related to women and leadership with respect to three main questions. The first asked whether people have a less favorable attitude toward women than toward men in leadership roles? In general, they found that women express less prejudicial attitudes toward women leaders than do men, and that overall prejudice toward female leaders has abated over time, but it still exists. The second question asked if women had less access than men to leadership roles. Previous research has supported this claim and showed that women earn less than men (Jacobsen, 1998) and may be disadvantaged by such non-leadership factors as physical attractiveness (Heilman & Saruwatari, 1979) and feminine clothing (Forsythe, Drake, & Cox, 1985).

The final question asked if females faced greater obstacles to success in leadership roles compared to men? Research found that women were less effective (than men) when the positions were male dominated and when the proportion of male subordinates increased (Eagly, Karau, & Makhijani, 1995). While several of the effects that were found in these studies were small, Eagly and Karau (2002) summarized this issue nicely by stating "Slight prejudice that is consistently acted on greatly reduces women's chances of rising to high-level positions in organizations" (p. 589). Therefore, even small biases, stereotypes, or other hindrances can have drastic implications for women in leadership positions.

One of the primary issues in the leadership literature with respect to gender deals with agentic behavior differences between men and women and the different perceptions that result

from these behaviors. This issue is directly tied to Eagly's (1987) social role theory that states that people are to act in a manner consistent with their gender roles. Women have been reported to exhibit more communal behavior where men are reported to exhibit more agentic behavior (e.g., Diekman & Eagly, 2000). When women try to exert themselves by enacting agentic characteristics, they are often ignored or reacted to negatively (Ridgeway, 1978; 1981; 1982; Rudman & Glick, 2001). In addition, when they exert influence, they are seen as less effective and liked less then men enacting similar levels of influence (Butler & Geis, 1990). Therefore, women are perceived (stereotypically) as having different leadership characteristics than men and when they try to use the "male" stereotyped characteristics, they face negative consequences.

The main point here is that while men and women perform equally well in leadership positions, there are factors that work differentially against women that can ultimately affect their performance and level of success in the organization. As it applies to the current study is the notion that stereotypes that men (and women) have about female leaders may impact their attitudes, actions, and subsequent relationships (LMX) with female leaders in the organization. The current study examines the role of gender (in a male dominated organization: the military) in two primary areas. The first is to determine how gender (a difference in gender between the leader and the member) may impact the LMX relationship. The second aspect is to see how a male's prior experience with a female leader impacts subsequent LMX relationships with female leaders. In other words, would a male follower who has had previous experience with a female leader have a different LMX relationship with a current female leader than a male who has not had previous experience with a female leader? While the first area has had some empirical support, to date, there have been no studies that have examined the second aspect (i.e., previous

experience with a female leader). This question is of specific interest to the current study which examines gender in a male-dominated environment.

## Outcomes

There are many different outcomes that result from the working relationship between an employee and the organization. For the current study, several outcomes that have been well validated in the literature will be used. Specifically, this study examines the outcomes of organizational citizenship behaviors (OCBs), counterproductive work behaviors (CWBs), employee attitudes (job satisfaction, organizational commitment, and intention to turnover), and individual performance.

Organizational citizenship behaviors have been studied extensively since their classification as such by Organ and colleagues (Bateman & Organ, 1983; Smith, Organ, & Near, 1983) over 20 years ago. In fact, there have been many meta-analyses and reviews that have examined the construct to determine its relationships and antecedents (e.g., Dalal, 2005; LePine, Erez, & Johnson, 2002; Morrison, 1994; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Through such research, OCBs have been shown to have significant relationships with such common workplace constructs as job satisfaction (LePine, Erez, & Johnson, 2002; Organ & Ryan, 1995), organizational commitment (Dalal, 2005; Meyer et al., 2002), personality (Organ & Ryan, 1995; Podsakoff et al., 2000), affect (Lee & Allen, 2002), leader behaviors (Podsakoff et al., 2000), organizational performance (Podsakoff & MacKenzie, 1997; Podsakoff, Ahearne, & MacKenzie, 1997) and organizational justice (Cohen-Charash & Spector, 2001; Colquitt et al., 2001), among many others. Based on the vast empirical support for OCBs, this construct will be examined as an outcome in relation to polychronicity and LMX.

On a related issue, it is not just important to examine those behaviors that an organization desires out of its employees. The organization is also concerned about limiting those behaviors that are counterproductive and not in the company's best interest. These behaviors have been classified many different ways such as antisocial behavior (Robinson & O'Leary-Kelly, 1998), workplace deviance (Lee & Allen, 2002), organizational misbehavior (Vardi & Wiener, 1996), and organizational retaliatory behavior (Skarlicki & Folger, 1997). However, they are most commonly referred to as counterproductive work behaviors (CWBs).

Robinson and Bennett (1995) defined the construct as "voluntary behavior of organizational members that violates significant organizational norms, and in so doing, threatens the well-being of the organization and/or its members" (p. 556). Therefore, like OCBs, they are extra role behaviors in addition to the actual job performance of the individual employee. CWBs have been previously examined with respect to topics such as personality (Colbert, Mount, Harter, Witt, & Barrick, 2004), OCBs (Dalal, 2005), and job stress (Penny & Spector, 2005). Of interest to the current study, is how might these behaviors be related to temporal dynamics within the organization (polychronicity) and leadership relationships (LMX)? Research to date has been silent on this issue and will therefore be addressed as an outcome measure in the current study.

In addition to extra-role behaviors (either "good" or "bad") there are other more traditional outcomes that are also important to consider. These include job satisfaction, organizational commitment, and intention to turnover. These employee attitudes are important because they are directly tied to individual performance on the job. For example, both job satisfaction (e.g., Fisher, 2003; Judge, Bono, Thoresen, & Patton, 2001) and organizational commitment (e.g., Wright & Bonett, 2002) have been linked to various degrees to employee

performance. If we know this is the case, then how might factors such as LMX and polychronicity impact these known relationships? In addition, intention to turnover is a critical outcome since it costs the organization time and money to replace every employee who leaves (in terms of recruitment, selection, and training). The final outcome is individual performance. From a functional standpoint, it is important to see if the factors listed above (leader-member exchange and polychronicity) actually impact employee performance.

## Fit

When examining constructs such as LMX and polychronicity with respect to different sources (leader and member), it can be viewed as a matter of fit. For example, as previously described, the construct of polychronicity has two factors that must be considered (individual level polychronicity and job level polychronicity). With respect to fit, there is fit with the supervisor as to how work is "expected" to be done and fit with the job as how work "should" be done. This notion of fit is one that has been well documented in the literature. Past research has focused on several different types of fit such as person-vocation fit, person-organization fit, person-group fit, person-supervisor fit, and person-job fit (see Kristof-Brown, Zimmerman, & Johnson, 2005, for a review of the different types of fit). Of interest to the current study are the issues of person-supervisor fit (LMX and individual level polychronicity) and person-job fit (personal and job related polychronicity).

Empirical support for the benefits of fit is quite robust. With respect to both person-supervisor and person-job fit, significant relationships have been found for individual performance (Arthur, Bell, Villado, & Doverspike, 2006), job satisfaction (Kristof, 1996), organizational commitment (Kristof-Brown, Zimmerman, & Johnson, 2005), and intention to turnover (Saks & Ashforth, 1997). This positions fit as an important construct in relation to

employee attitudes and behavior at work. While fit is not directly assessed in this study, it is a useful organizing concept in understanding and determining the relationships between the constructs of interest in the current study.

## Hypotheses

Hypotheses for this study will be broken down into two basic groups. The first group has to do with polychronicity's basic relationships with the outcomes of interest in this study (e.g., OCBs, CWBs; Figure 3). These are being examined in order to further investigate the nomological net surrounding the construct of polychronicity. The second set of hypotheses has to do with more specific relationships between the constructs that have been discussed previously (polychronicity & LMX; Figure 4).

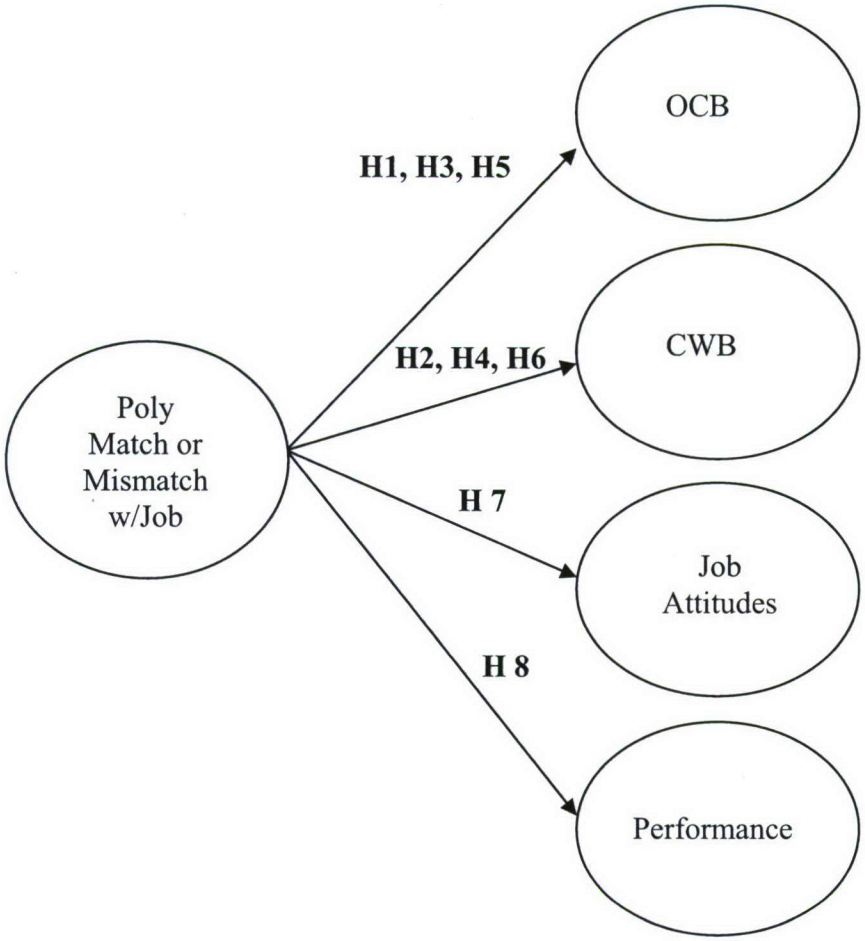


*Figure 3:* Proposed Relationships Between Polychronicity Fit and Outcomes

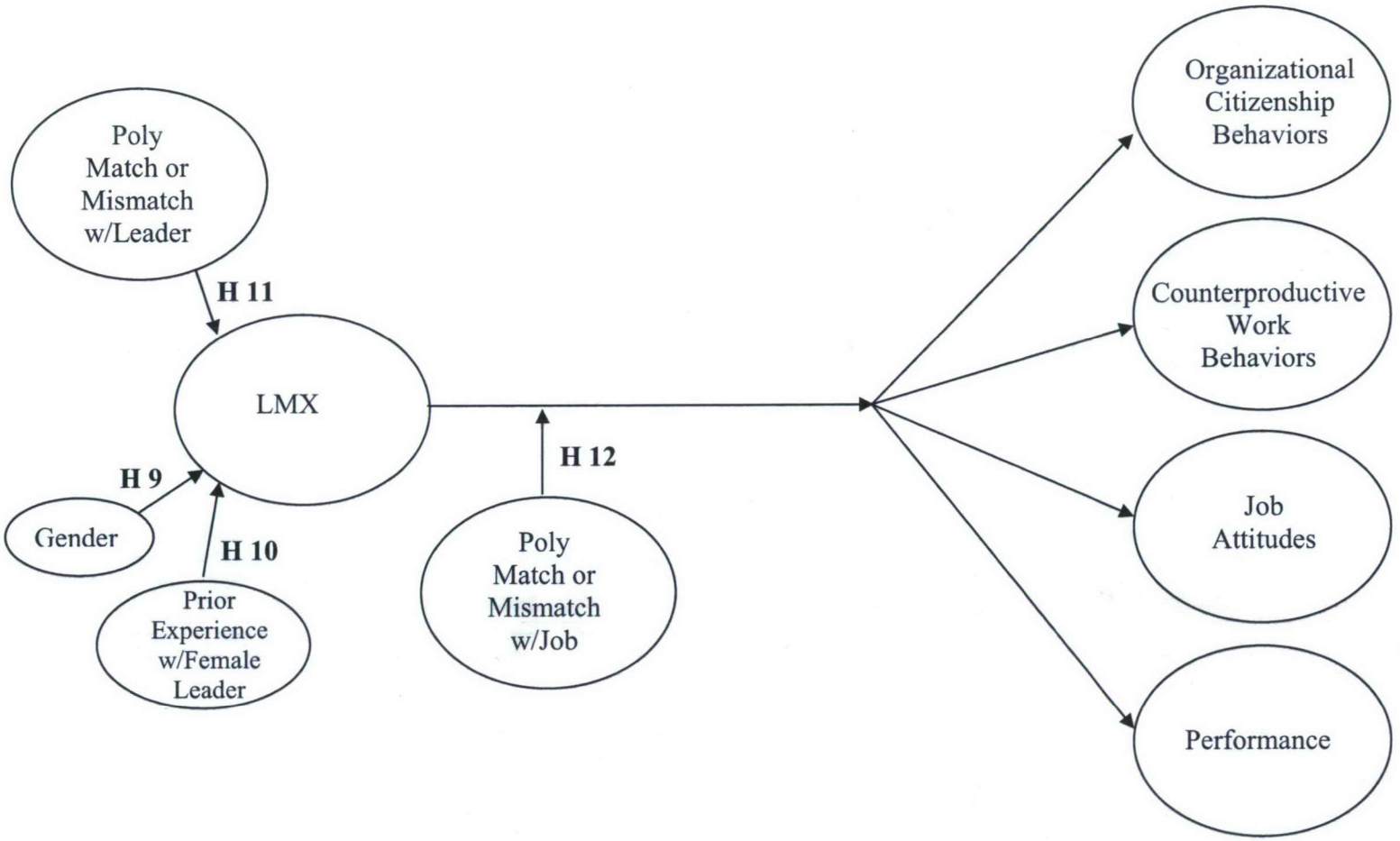


*Figure 4:* Proposed Relationships

*Nomological Net of Polychronicity*

As discussed previously, polychronicity has been examined with respect to several workplace variables. However, while research has been fairly thorough in examining these behaviors, there has yet to be research that examines extra role behaviors with respect to more temporal workplace aspects such as monochronicity and polychronicity. However, while there has been no direct examination of these relationships, there has been some empirical support for similar relationships. For example, Slocombe and Bluedorn (1999) in examining polychronicity in the workplace found that congruence between an individual's preferred work orientation (polychronicity) and their experienced work unit orientation (polychronicity) was related to higher organizational commitment and perceived fairness of one's performance evaluation. When taken together with the information that organizational commitment is also correlated with OCBs (Podsakoff et al., 2000) the question can be asked if both polychronicity and OCBs are significantly correlated with organizational commitment, are they related to each other? For that question, current research to date has been silent. As another example, Hecht and Allen (2005) found that person-job fit on the dimension of polychronicity was significantly related to job satisfaction and other variables (e.g., self-efficacy and psychological strain). Along with this, since job satisfaction has been shown to be significantly related to OCBs (Podsakoff et al., 2000), might there be a relationship between polychronicity and OCBs due to their pattern of relationships with similar variables?

Unfortunately, like OCBs, there has not been any direct work in relation to monochronicity, polychronicity, and CWBs. However, previous research does provide some clues as to how they might be related. In a study by Conte and Jacobs (2003), they examined the effect of individual level polychronicity with respect to a monochronic job (bus driver). They

found significant relationships between polychronicity and a couple of commonly studied counterproductive behaviors: absence and lateness. This finding is especially relevant to the study of polychronicity because it highlights the difference between individual level polychronicity and job level polychronicity. Specifically, it was the bus drivers that had a polychronic orientation (i.e., a lack of fit between individual level and job level polychronicity since the job of a bus driver was seen as monochronic) that had greater incidents of lateness and absence, not the monochronic bus drivers. Therefore, it appears like this mismatch of orientations may lead to less than desirable outcomes for the organization. As applicable to the current study is the question of what other types of behaviors might employees experience when in a mismatched situation versus a matched situation? Specifically, under what circumstances would a monochronic or polychronic employee exhibit these negative behaviors?

As further support of this possible relationship between polychronicity and counterproductive behaviors is a study by Bluedorn et al. (1999). They found that polychronicity was negatively correlated with adhering to schedules and deadlines. When taken together with the findings from Conte and Jacobs (2003), it may be that a combination of the polychronic orientation in addition to contextual features of the work environment (job level polychronicity) may influence the presence of CWBs in the organization.

Since there is limited previous research on which to base polychronicity's relationship with extra role behaviors, the following basic hypotheses are offered first:

***Hypothesis 1:*** Polychronicity will be significantly related to OCBs.

***Hypothesis 2:*** Polychronicity will be significantly related to CWBs.

Previous research has shown that differences between the individual's preference for polychronicity and the individual's job orientation toward polychronicity can lead to outcomes

such as lower performance ratings (Conte & Jacobs, 2003). However, it is unknown how these potential differences may also translate into the organization via extra role behaviors (supportive of the organization or not supportive of the organization). Since this mismatch can impact employee attitudes and opinions toward the organization, it is not unlikely that this difference could also impact the individual's actual behavior at work. Therefore, in this study, it is predicted that this difference will impact the presence of extra role behaviors. Therefore, the following predictions are offered:

***Hypothesis 3*:** Type of job influences the relationship between work orientation and OCBs such that a mismatch between preferred work orientation and job level polychronicity will result in fewer OCBs than when a match occurs.

***Hypothesis 4*:** Type of job influences the relationship between work orientation and CWBs such that a mismatch between preferred work orientation and job level polychronicity will result in more CWBs than when a match occurs.

In addition to the level of mismatch between individual level and job level polychronicity is the notion of the difference between monochronics and polychronics, in general. Specifically, would one expect someone who is high in polychronicity to exhibit more OCBs than someone who is monochronic assuming they are in a matched individual/job polychronic orientation situation? In other words, would an organization experience more OCBs from a polychron who is in a polychronic job or from a monochron who is in a monochronic job? Is it that someone who is polychronic is so busy with multiple tasks that they just don't have "time" to do extra role behaviors or is it that a polychron is used to doing multiple things and doesn't mind stopping to help out someone since they are used to jumping back and forth from task to task? The same question could be asked about monochrons. Is it that someone who is monochronic is so tied up

in the one task that they are accomplishing that they do not want to stop and help or is it okay to stop, briefly, to help as long as they can get back to the same work at hand? The answers to these questions are unknown. Therefore, while somewhat involving speculation as to the exact nature of these hypotheses, the following are proposed:

***Hypothesis 5*:** Those who are low in polychronicity and are in a monochronic job will report more OCBs than those who are high in polychronicity and are in a polychronic job.

***Hypothesis 6*:** Those who are high in polychronicity and are in a polychronic job will report more CWB s than those who are low in polychronicity and are in a monochronic job.

Along with polychronicity with respect to extra role behaviors, relationships with job attitudes (job satisfaction, organizational commitment, and intention to turnover) are examined with respect to polychronic match. Consistent with previous research, the following hypothesis is offered:

***Hypothesis 7*:** Those who have a match between their personal polychronicity and their job polychronicity (i.e., fit) will have higher (a) job satisfaction, (b) organizational commitment, and (c) lower intention to turnover than those with a mismatch.

In addition, the relationship between polychronicity and performance will be examined. Based on previous research linking employee performance and fit, it is predicted that:

***Hypothesis 8*:** Those who have a match between their personal polychronicity and their job polychronicity (i.e., fit) will have higher individual performance (as rated by their supervisor) than those employees with a mismatch.

*Proposed Relationships*

In concert with the proposed basic relationships of polychronicity referenced above, several other relationships are offered. A proposed model of these relationships can be seen in Figure 4.

The first of these relationships has to do with several proposed antecedents of the LMX relationship. Gender is one such antecedent of LMX that has received some attention by researchers. However, the research on gender and LMX has been mixed. Some research has supported this gender effect on LMX development. For example, Green, Anderson, and Shivers (1996) found that mixed gender differences (between the leader and the member) resulted in lower ratings of LMX. Additionally, in a study by Vecchio and Brazil (2007) same-sex leader-member pairings had more positive working relationships (higher ratings of LMX) than different-sex pairings. Interestingly, however, this difference in gender did not result in differences of leader ratings in subordinate performance. So while the LMX was rated as higher when both leader and member were of the same sex, leaders did not subsequently rate subordinates of the opposite gender differently based on gender. Contrary to these findings however, several researchers found no difference with respect to demographic characteristics (i.e., gender) and LMX development (Liden, Wayne, & Stilwell, 1993; Murphy & Ensher, 1999). Instead, it was found that perceived similarity was more important than actual demographic similarity in the development of LMX relationships.

Due to the particular sample used in this study (cadets at a Military Academy), a natural question is will there be a gender effect with respect to LMX development? One might argue that in a historically male-dominated environment and occupation, differences in gender are

more salient and could impact relationships that are formed between leaders and followers. Therefore, the following hypothesis is offered:

> ***Hypothesis 9*:** Leader-follower dyads with different-sex members will report lower LMX (as measured from both the leader and follower's perspectives) than leader-follower dyads with same-sex members.

Another issue to consider regarding gender is a subordinate's previous experience with a female leader. More specifically, would a male subordinate who works for a female leader have a different LMX relationship if they had previous experience with a female leader than a male who has never worked for a female before? This is an area that has received little (if any) attention. In this case, there is little previous work to base predictions on. However, in a male-dominated organization (which is likely to have stereotypic views about females) this could actually act as a buffer against such stereotypes. In other words, if a male has worked for a female in the past, and he saw directly that she was as capable as he was (if not more so), would this have lasting effects on subsequent LMX relationships? Following this line of reasoning, the following hypothesis is made:

> ***Hypothesis 10*:** In leader-member dyads (with different sex members) where the male subordinate has had previous experience with a female leader, reports of LMX will be higher than in leader-member dyads (with different sex members) where the male subordinate has had no previous experience with a female leader.

In addition to basic LMX relationships, the current research focuses on understanding how polychronicity affects leader-member relations (LMX) and resultant individual outcomes. Since leaders and employees may hold different attitudes toward and preferences for how work should be done, it is predicted that these differences will influence the LMX relationship. More

specifically, it is proposed that leader-member relations should be more positive when there is a high degree of fit between the leader and the follower with respect to polychronicity (e.g., individual level polychronicity) than when there is a mismatch. This has not been empirically examined in the literature to date and is predicted to influence the LMX relationship. Therefore,:

***Hypothesis 11*:** Leader-member exchange will be rated higher (as measured from both the leader and follower's perspectives) when there is agreement on polychronicity (individual level polychronicity) for work between the leader and the member.

Along with the fit between the leader and member regarding individual level polychronicity (or their preference for how the work should be done), there is also the fit between the follower and their job. This is also an issue of fit where the individual is assessing how they prefer to do work versus how the job is requiring how they will do their work (job level polychronicity). In addition to the hypotheses listed in Figure 3 and 4, it is expected that this issue of fit between individual level and job level polychronicity will moderate the relationship between LMX and various outcomes such as citizenship behaviors, counterproductive behaviors, employee attitudes and performance. More specifically, when there is a mismatch between how the follower prefers to work and how the job is expecting them to work, previously positive relationships between LMX and various outcomes (or a negative relationship in the case of turnover) will be affected. Therefore, the following hypothesis is made:

***Hypothesis 12*:** The relationship between LMX and (a) organizational citizenship behaviors, (b) counterproductive work behaviors, (c) job satisfaction, (d) organizational commitment, (e) intention to turnover, and (f) individual performance is moderated by job level polychronicity such that the relationship is

stronger when there is a match between job level polychronicity and individual level polychronicity than when there is a mismatch.

# CHAPTER 2

# METHOD

## Sample

The United States Air Force Academy (referred to hereafter as the Academy), located in Colorado Springs, Colorado, is one of the primary providers of officers for the U.S. Air Force. The Academy is a four-year university interwoven with demanding military training. In addition to receiving an all-expenses paid education (including room, board, tuition, etc.), cadets receive a monthly paycheck (typically, this payment is smaller in the beginning, but grows as the cadet progresses from the freshman to senior years). This unique contractual agreement clearly differentiates cadets from most university students. Moreover, because of expectations of post-Academy careers in the Air Force, the cadets' relationship with the Air Force is more similar to workers in full-time employment arrangements than traditional college students.

Cadets enter in June of their first year and undergo six weeks of basic training. Following this initial military "orientation," they begin academic classes and, if all goes well, graduate with a bachelor's degree four years later. Upon graduation, they will enter military service for a required period of time (between 5 to 10 years) depending upon their chosen occupation. For example, pilots have a greater time commitment than do engineers due to the length of time and expense in training a pilot. During their four years at the Academy, they receive intensive academic training (graduating with over 150 semester hours), military training during summers and weekends, athletic training (multiple mandatory physical education classes and intramurals), leadership training/development, character training, and spiritual opportunities.

In order to get at multiple LMX relationships, the sample for this study consisted of cadets within Squadrons at the Academy. This sample is appropriate due to the hierarchical structure that is present in military organizations (also known as the Chain of Command). Figure 5 shows a generic representation of a cadet squadron. Cadets are assigned to squadrons upon

their arrival at the Academy. Upon completion of their first year (freshman), they are moved into a new cadet squadron in order to get experience with a new group of military members (leaders and subordinates). Each squadron consists of approximately 100 cadets from all four year groups (freshman, sophomore, junior, and senior). More senior cadets hold positions of responsibility (e.g., jobs) within the squadron. Freshman cadets hold either lower responsibility jobs or sometimes do not have a formal job in the squadron except that of being a cadet (with a focus on academic and military development).

The cadet Wing is made up of 4 Groups. Within each of these Groups, there are 10 squadrons for a grand total of 40 cadet squadrons in the total organization. Since each of these squadrons (and Groups) have their own commander, that means that there are variations in leadership style that can and will occur in each squadron and group. Therefore, it was important to select a sampling strategy that included these differences in order to capture a representative sample of cadets. Therefore, three squadrons were randomly selected from each of the four group (for a total 12 squadrons) for participation in this study. Once these squadrons were selected, each of the commanders of these squadrons were contacted and their participation in the study was requested. Seven commanders agreed to participate in this project with all groups being represented (except for one group) in the final sample.

Initially, 700 cadets were identified for participation in the study (consisting of all cadets in the 7 different Squadrons). Of that number, four hundred and fifty cadets initially agreed to participate in the study. Of that total, 418 completed the survey and constituted the project sample: a participation rate of just over 59 percent from the initial eligible cadets. For a description of the survey sample, see Table 1. The sample obtained mirrored the cadet population at the Academy. The only difference of note was that females were slightly

overrepresented in the sample. In the cadet population, females only make up about 20% of total cadets. For the probation status, there are several different types of probation that can occur. A cadet will be placed on probation status if they are identified as deficient in the following areas: academic performance, military performance, physical fitness, and honor misconduct.

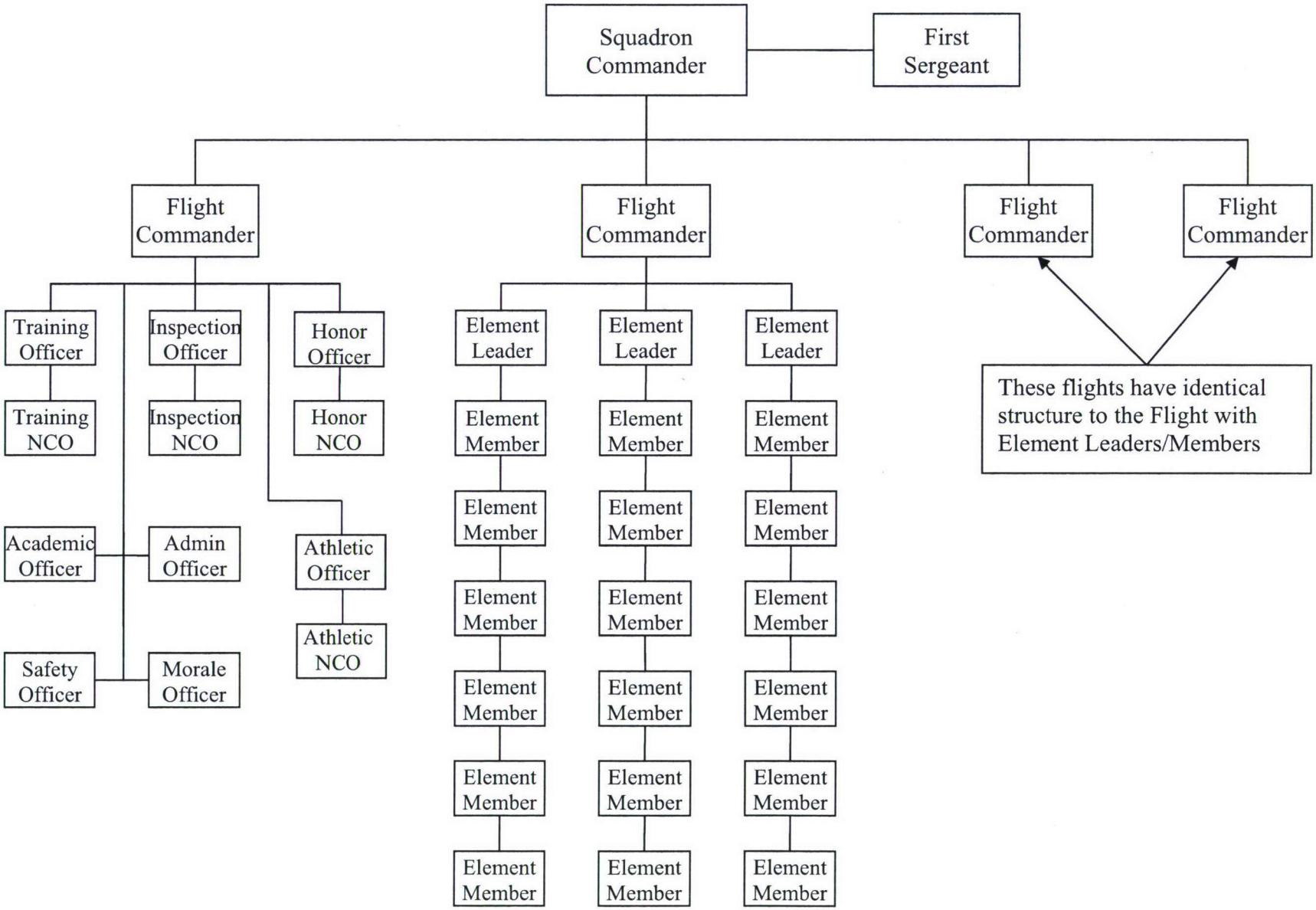


*Figure 5:* Typical Cadet Squadron Structure

**Table 1: Sample Characteristics**

| | Study Sample | Cadet Population |
|---|---|---|
| **Gender** | | |
| Male | 75.7% | 81.7% |
| Female | 24.3% | 18.3% |
| | | |
| **Academic Year** | | |
| Freshman | 32.9% | 26.6% |
| Sophomore | 24.9% | 25.0% |
| Junior | 22.7% | 25.0% |
| Senior | 18.7% | 23.4% |
| | | |
| **Race** | | |
| American Indian or Alaska Native | 1.9% | 1.8% |
| Asian (e.g., Chinese, Japanese, Korean) | 8.0% | 8.0% |
| Black or African American | 2.4% | 4.6% |
| Hispanic or Latino | 4.6% | 6.8% |
| Native Hawaiian or other Pacific Islander | 1.2% | -- |
| White/Caucasian | 79.7% | 74.3% |
| Other | 2.2% | 0.1% |
| Unknown | -- | 4.4% |

## Procedure

Subsequent to Institutional Review Board approval, subjects were recruited through coordination with each squadron's Commander (an active duty Air Force Officer). These Commanders were asked for permission to survey their entire squadron. Due to the constructs in question (i.e., LMX) it was necessary to survey entire squadrons in order to gather dyadic information on both leaders and followers. Cadets have a period of time in the evening called Military Call to Quarters in which cadets focus on military aspects of being a cadet (and a future officer). After permission was obtained by the Commander, this time period was used for data collection (survey administration).

On the prescribed day, cadets reported to their rooms and turned on their computers. They were provided a predetermined web address (the survey was hosted on-line) and told to access that web address and start the survey. The two pages contained an informed consent document. If they agreed to participate in the survey, they clicked the box corresponding to that choice and continued on with the survey. If they chose not to participate in the survey, they clicked the box corresponding to that choice and they were exited from the survey. Therefore, while the Commander of the squadron approved all cadets in the squadron to participate, it was up to the individual cadet to determine for themselves whether or not they would take the survey. This procedure was in accordance with Institutional Review Board requirements. Since the cadets were in their rooms when they took the survey, no one in the cadet's Chain of Command (leadership) knew if they took the survey or not. This feature added another layer of anonymity in a hierarchically structured environment.

## Measures

*Polychronicity.* Polychronicity was measured using the Inventory of Polychronic Values (IPV) developed by Bluedorn, Kalliath, Strube, and Martin (1999). It consisted of 10 items that examined the individual's perception of how work should be done (monochronically or polychronically). For this study, it was assessed with respect to two different targets. The first target was the individual cadet and how they prefer to do work. This is referred to as personal polychronicity (referred to earlier as individual-level polychronicity). The second target was with respect to the individual's job. This is referred to as the polychronicity of the job (referred to previously as job level polychronicity). The items for the two targets are generally the same, but were modified slightly to fit the target. For example, an item that read "I like to juggle several activities at the same time" for personal polychronicity read "This job demands that I juggle several activities at the same time" for polychronicity of the job. Items were rated based on a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree). Alpha for the scales were .82 for personal polychronicity and .86 for polychronicity of the job.

*Leader-Member Exchange.* The relationship between a leader and their subordinate was measured by a scale developed by Graen, Novak, and Sommerkamp (1982; known as the LMX7) and is considered the standard by which to measure LMX (Gerstner & Day, 1997). It is a seven item measure that gets at the unique relationship between leaders and members. For this study, it was assessed at different levels. The first level was that of the individual employee. They were also asked to rate the LMX relationship that they had with their immediate leader. The second level was the leader rating the relationship that they had with their direct reporting subordinate(s). Leaders filled out this measure for each subordinate that they had.

Since the cadet squadron is a nested organization, this process allowed for capture of LMX relationships at every level of the squadron. Examples of items from this measure were "How well does your leader understand your job problems and needs?" (subordinate rating leader), and "Does your subordinate usually know where they stand with you…does your subordinate usually know how satisfied you are with what they do?" (leader rating subordinate). Items for this scale were rated on a 5-point scale (rating scale labels varied by item; see Appendix for actual scale). Alpha for the scales were .88 for leader rating the subordinate and .86 for the subordinate rating the leader.

*Organizational Citizenship Behaviors.* This construct was measured by 16 items from Lee and Allen (2002) that focused on individual (8 items) and organizational (8 items) directed behavior. Examples of items include: "Go out of the way to make newer member's feel welcome in the Squadron" (individual) and "Show pride when representing the Squadron in public" (organizational). Responses were provided via a 7-point response scale (1 = Never; 7 = Always). Alphas for the scales were .87 (individual), .89 (organizational), and .92 (overall).

*Counterproductive Work Behaviors.* These behaviors were measured by a scale developed by Bennett and Robinson (2000). It consisted of 7 items regarding behaviors directed at interpersonal deviance (toward individuals) and 7 items directed at organizational deviance (toward the employee's organization) for a total of 14 items. Several items from the original scale were not included due to their lack of applicability for this sample (i.e., Falsified a receipt to get reimbursed for more money than you spend on business expenses.) Examples of items included: "Made fun of someone in the squadron" (interpersonal), and "Intentionally worked slower than you could have worked" (organizational). Responses were based on a 7-point

frequency response scale (1 = Never; 7 = Always). Alphas for the scales were .91 (interpersonal), .89 (organizational), and .93 (overall).

*Job Satisfaction.* Satisfaction for cadets was based on the job that they held in their squadron. They were asked to focus on their job when they were completing the survey. For those that did not have a specific job, they were asked to focus on their job as a squadron member. This was measured by the Job Satisfaction Survey developed by Spector (1985; 1997). Originally, the scale consisted of 9 dimensions (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, and communication) plus a summated overall rating of total satisfaction. For this study, the dimensions of pay, promotion, and fringe benefits were left out due to the organizational constraints of the sample (i.e., there is no variance in these items as they are determined by the Academy). Therefore, a total of 6 dimensions were measured with 24 items (plus the summated overall rating). Responses were based on a 5-point frequency response scale (1 = Disagree Very Much; 5 = Agree Very Much). Alphas were .79 (supervision), .74 (contingent rewards), .46 (operating procedures), .64 (coworkers), .79 (nature of work), .68 (communication), and .87 (overall total satisfaction). Due to the low ratings on several of the facets (i.e., operating procedures and coworkers), the scale was analyzed using the summated overall rating.

*Organizational Commitment.* This construct was assessed with items developed from a previous research study completed at the Academy (Smith, Lindsay, & Holtum, 2008) that examined turnover. It has 6 items each from Meyer and Allen's (1997) measures of affective commitment (alpha = .86), calculative or continuance commitment (alpha = .69) and normative commitment (alpha = .82) for a total of 18 items. The alpha for the overall scale was .61. Examples of items include: "It would be very hard for me to leave the Air Force Academy right

now, even if I wanted to" and "I feel that I have too few options to consider leaving the Air Force Academy." For all items, participants responded on a 5-point frequency-response scale (1 = Strongly Disagree; 5 = Strongly Agree).

*Intention to Turnover.* Intention to turnover was measured with three items developed for this study to examine this tendency in cadets. Items are: "How likely is it that you will leave the Air Force Academy instead of graduating," "How likely is it that you will remain at the Air Force Academy until graduation," and "I have considered leaving the Air Force Academy for another college/university." Participants responded on a 5-point frequency-response scale (1 = Very Unlikely; 5 = Very Likely). Alpha for the scale was .71.

*Performance.* This outcome was assessed using a common performance indicator for this sample. The performance that was measured was individual cadet military performance. Each semester cadets receive a military performance average (MPA) that is comparable to a grade point average, except that it has to do with military performance vice academic performance. These ratings are determined by the cadet's Chain of Command and every cadet receives an MPA. This data was collected from the squadron at the end of the semester in which the survey was administered.

*Demographics.* Various demographic information was gathered from each cadet that participated in the survey. Examples of such information included class year (e.g., freshman, sophomore), rank, last name (used to pair up dyadic information), race, and career aspirations. This data was collected to help contextualize the results. In addition, previous research has shown that some of these factors may influence LMX relationships (e.g., Liden, Wayne, & Stilwell, 1993).

One particular section of demographic information that was gathered had to do with gender since gender has been shown to influence LMX relationships (e.g., Vecchio & Brazil, 2007). Several different types of gender-related information were collected. First, the member's gender and the leader's gender were collected. Additionally, members were also asked to respond to whether they had ever worked for a female leader before (and for how long).

## Analyses

The analytical plan for this project took place in several steps. The first step was to examine the descriptive statistics for the data to check for any data that was input incorrectly or unusual (potential outliers). For example, participant's data was eliminated from further analysis if they logged into the survey and then opted out of the survey (as their information was incomplete). Once this was done, reliabilities for the scales were calculated. This step identified if there were any problems with the scales, or if they worked as expected. All reliabilities for the scales fell within acceptable range except for several of the facets of the job satisfaction scale. For that reason, aggregated job satisfaction (which had an acceptable Alpha of .87) was used instead of the 6 individual facets previously discussed. Once these preliminary steps (i.e., checks) were completed, more in depth analyses was begun.

The next step was to calculate and examine the correlations between the different constructs in the study. These basic correlations were used to examine Hypotheses 1 and 2. Specifically, individual level polychronicity and OCBs/CWBs were used for this comparison. In addition, the patterns of relationships were examined to determine if there were differences for different types of behavior. For example, consistent with Conte and Jacobs (2003), it may be that polychronicity is related to certain types of CWBs, but not necessarily all of them. In addition, due to past documented differences between leader and member ratings of the same

LMX relationship (Gerstner & Day, 1997) the correlation between leader and member ratings of LMX was also observed.

In order to examine Hypotheses 3 through 8, data were grouped according to variables of interest and then examined via T-test, where appropriate. The next Hypothesis (9) was examined through a comparison of LMX ratings of groups in same-sex dyads with those in mixed-sex dyads. This was done from both the leader and the follower's ratings of LMX to see if there was a difference from the leader's perspective versus the follower's perspective. Hypothesis 10 involved separating the data and then comparing those dyads with a male subordinate and a female leader with respect to ratings of LMX. Specifically, the comparison was between those male subordinates who had previously worked for a female leader (and currently have a female leader), and those who had not (and currently have a female leader). This is an important step and one that has not previously been made in the literature.

Prior to data analyses, the variables of personal polychronicity and job polychronicity were subjected to a data split. Due to the fact that many of the hypothesis in the current study had not been previously examined (leaving some uncertainty as to the directionality of the outcomes), a conservative split was utilized. Hence, a median split was examined in an effort to categorize polychronicity as either high or low. While the median split is only one of many ways in which the data could have been partitioned (thirds, quartile, etc.), it was chosen for this study since it represented a very conservative division of the data. In other words, if an effect was found for such a conservative test, it provides support that the effect may be stronger when other splits are considered.

Hypothesis 11 was examined in a method similar to those used to test Hypotheses 3 through 8. Following that analysis, Hypothesis 12 was examined (via moderated regression) to

see if polychronicity (fit between individual level and job level polychronicity) moderated the relationship between LMX and employee outcomes.

# CHAPTER 3

# RESULTS

## Hypotheses

Table 2 includes the descriptive statistics and the correlations for the variables that were used in this study. Hypotheses 1 and 2 dealt with the basic relationship between polychronicity (personal) and extra role behaviors (OCBs & CWBs). Specifically, Hypothesis 1 stated that polychronicity would be significantly related to OCBs, but did not predict whether there would be a positive or negative relationship. The results indicated that polychronicity was significantly, positively related to OCBs ($r = .17$, $p < .001$) supporting Hypothesis 1. In effect, those who have a preference for polychronicity as a working style tend to exhibit more citizenship behaviors. When examining the dimensionality of OCB (as some prior research has supported the notion that OCBs have two dimensions; Lee & Allen, 2002) with respect to personal polychronicity, results were significantly positive for citizenship behavior toward individuals ($r = .14$, $p < .01$) as well as citizenship behavior toward the organization ($r = .16$, $p < .01$).

For CWBs, the results were not significant with respect to polychronicity ($r = -.02$, $p = .74$). Therefore, the link between polychronic behavior and CWB (Hypothesis 2) did not receive support in this sample. In fact, of the 14 different types of counterproductive behavior that were examined, only one was significantly correlated with polychronicity. The item "Dragged out work" did have a significant negative relationship with personal polychronicity ($r = -.11$, $p = .03$). This relationship indicates that being polychronic was related to a decrease in dragging out work. This idea is consistent with the notion that one who is polychronic is likely to do multiple things at once, which according to some assertions would lead the individual to work on and complete several tasks simultaneously.

**Table 2: Descriptive Statistics and Correlations**

| | Variable | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Personal Polychronicity | 3.60 | 0.90 | (.82) | 376 | 386 | 207 | 368 | 364 | 366 | 366 | 363 | 361 | 360 | 382 | 380 |
| 2 | Job Polychronicity | 4.60 | 0.98 | .13** | (.86) | 376 | 202 | 364 | 360 | 360 | 360 | 357 | 356 | 355 | 372 | 371 |
| 3 | LMX (Leader) | 3.73 | 0.73 | .09 | .13** | (.88) | 214 | 368 | 364 | 366 | 366 | 363 | 361 | 360 | 402 | 400 |
| 4 | LMX (Subordinate) | 3.86 | 0.72 | .10 | .16* | .27** | (.86) | 201 | 201 | 196 | 194 | 193 | 192 | 192 | 214 | 211 |
| 5 | OCB | 4.79 | 0.82 | .17** | .19** | .26** | .33** | (.92) | 364 | 359 | 358 | 356 | 354 | 353 | 364 | 362 |
| 6 | CWB | 2.45 | 0.98 | -.02 | .00 | -.05 | -.12 | -.13* | (.93) | 358 | 355 | 354 | 352 | 351 | 360 | 358 |
| 7 | Job Satisfaction | 4.10 | 0.62 | .06 | .02 | .46** | .25** | .30** | -.31** | (.87) | 361 | 360 | 358 | 357 | 362 | 360 |
| 8 | Turnover | 1.81 | 0.81 | -.12* | -.00 | -.20** | -.18* | -.25** | .22** | -.30** | (.71) | 363 | 361 | 360 | 362 | 360 |
| 9 | Org Comm – Affective | 3.59 | 0.81 | .12* | .03 | .20** | .20** | .34** | -.23** | .46** | -.54** | (.86) | 361 | 360 | 359 | 357 |
| 10 | Org Comm – Continuance | 3.30 | 0.75 | -.01 | .03 | -.09 | .08 | .06 | .07 | -.17** | -.04 | -.04 | (.69) | 359 | 357 | 355 |
| 11 | Org Comm – Normative | 3.69 | 0.77 | .12* | .10 | .27** | .17* | .35** | -.14** | .35** | -.45** | .62** | .22** | (.82) | 356 | 355 |
| 12 | Gender | 1.24 | 0.43 | .15** | .06 | -.15** | .03 | .16** | -.21**. | .08 | -.04 | .11* | .02 | .02 | --- | 406 |
| 13 | Career Intentions | 1.31 | 0.46 | -.01 | -.04 | -.14** | -.14* | -.14** | .10 | -.18** | .34** | -.29** | -.00 | -.21** | .02 | --- |

Notes: Gender coded 1 for men, 2 for women; Career coded 1 for intend to stay in Air Force, 2 intend to leave Air Force after initial commitment; LMX (Leader) is the subordinate rating the leader and LMX (Subordinate) is the leader rating the subordinate; values in parentheses are coefficient alphas

*p<.05; **p<.01

The next set of hypotheses (3 through 8) dealt with the relationship involving the fit between an individual's personal polychronicity and job polychronicity and the outcomes that result from such a match (or mismatch). Hypothesis 3 stated that if there was a match on polychronicity (between personal and job ratings of polychronicity) then the result would be more OCBs than when there was a mismatch. Results indicated that when there was a mismatch between personal polychronicity (how the individual likes to work) and job polychronicity (how the job requires them to work), there were fewer OCBs ($t = -3.41$, $p = .001$). This result indicates that when there is a match, more OCBs were present, supporting Hypothesis 3. Hypothesis 4 predicted that there would be more CWBs when there was a mismatch versus a match on polychronicity. Results indicated that there was not a significant difference between a match and a mis-match with respect to CWBs ($t = .720$, $p = .472$). Therefore, Hypothesis 4 did not receive support.

Hypotheses 5 and 6 were more specific regarding the relationships between OCBs/CWBs and polychronicity matches. Specifically, Hypothesis 5 stated that for those where a match occurred for polychronicity, it is those that have a low match (monochronic personal preference and a monochronic job) that will exhibit more OCBs than those with a high match. Results indicated a significant difference, however, it was the other way around ($t = -3.794$, $p = .000$). It was a polychronic person in a polychronic job that exhibited more OCBs than a monochronic person in a monochronic job. So, Hypothesis 5 did not receive support as it was predicted, but there was a significant difference. Hypothesis 6 dealt with CWBs and predicted that a high match on polychronicity would see more instances of CWBs than a low match. Results did not indicate a difference for either match ($t = .581$, $p = .562$) failing to support Hypothesis 6.

The next Hypothesis (7) indicated that a polychronic match would be related to higher job satisfaction, organizational commitment, and a decrease in intention to turnover. Results indicated that a there was not a significant match difference for job satisfaction ($t = -.611$, $p = .541$) or for the three dimensions of organizational commitment (affective: $t = -1.051$, $p = .294$; continuance: $t = -1.252$, $p = .211$; normative: $t = -1.219$, $p = .244$). However, Hypothesis 7 did receive partial support as there was a significant difference regarding intention to turnover ($t = 2.308$, $p = .022$) indicating that when there was a match on polychronicity, intention to turnover was lower than when there was a mismatch.

Hypothesis 8 dealt specifically with the relationship between individual and job polychronicity with respect to individual military performance. It was hypothesized that a match on polychronicity would lead to higher ratings of individual performance. Results indicated that while there was not a significant difference for match vs. mismatch ($t = -1.88$, $p = .06$), it did indicate a trend for this hypothesis.

Hypotheses 9 and 10 examined the potential effects of gender on the LMX relationship. Hypothesis 9 stated that ratings of LMX would be lower for mixed sex dyads than for same sex dyads. The results showed no significant differences from either the follower ($t = .479$, $p = .633$) or leader's perspectives ($t = 1.322$, $p = .184$), although same sex dyad ratings of LMX were slightly higher for same sex over mixed sex dyads. Therefore, Hypothesis 9 was not supported. Hypothesis 10 examined whether or not previous experience with a female leader could have an impact on subsequent LMX relationships with leaders who are female. In particular, it was hypothesized that a male subordinate who had previous experience with a female leader would rate subsequent LMX relationships with female leaders higher than those male subordinates who did not have previous experience with a female leader. The results indicated that while ratings

were slightly higher for those who had a previous leader that was a female, the outcome was not significant ($t = .470$, $p = .640$). Of note here is that a trend was noticed even with the small sample size in this study ($n = 30$ for previous experience; $n = 26$ for no previous experience). Hypothesis 10 was therefore not supported.

The final two hypotheses (11 and 12) had to do with agreement on polychronicity, but in different ways. Hypothesis 11 predicted that the LMX relationship would be rated higher when the leader and the member agreed on how work should be done (either monochronically or polychronically with respect to personal polychronicity). Therefore, what was the effect of agreement, with respect to how work should be done, on the subsequent working relationship? Results indicated that a match or mis-match on polychronicity was not significantly different from either the leader ($t = .507$, $p = .613$) or follower ($t = -.381$, $p = .704$) perspective for LMX.

Hypothesis 12 examined the potential moderation of agreement on polychronicity (personal and job) between LMX and various outcome measures (i.e., job satisfaction, OCBs). In other words, how would a match (or mismatch) influence the previously documented positive effects of a good LMX? Results show that polychronicity fit was a significant moderator for CWBs ($\beta = -.167$). However, all other outcomes were not impacted by polychronicity fit (see Tables 3, 4, and 5).

**Table 3:** Regression Results of Polychronicity Fit Moderation on Citizenship Behaviors, Counterproductive Behaviors and Job Satisfaction

| | OCB | | | CWB | | | Job Satisfaction | | |
|---|---|---|---|---|---|---|---|---|---|
| | β | $\Delta R^2$ | Total $R^2$ | β | $\Delta R^2$ | Total $R^2$ | β | $\Delta R^2$ | Total $R^2$ |
| Predictors | | | | | | | | | |
| Step 1 | | .10*** | .10*** | | .005 | .005 | | .218*** | .218*** |
| LMX | -.263*** | | | .056 | | | -.466*** | | |
| Poly Match | .168*** | | | -.037 | | | .023 | | |
| Step 2 | | .001 | .101*** | | .014* | .018*** | | .002 | .220*** |
| LMX | -.296*** | | | .173* | | | -.507*** | | |
| Poly | .168*** | | | -.036 | | | .023 | | |
| LMX-Poly Interaction | .046 | | | -.167* | | | .057 | | |

* p<.05; ** p<.01; *** p<.001.

**Table 4:** Regression Results of Polychronicity Fit Moderation on Organizational Commitment

| | Affective | | | Continuance | | | Normative | | |
|---|---|---|---|---|---|---|---|---|---|
| | β | $\Delta R^2$ | Total $R^2$ | β | $\Delta R^2$ | Total $R^2$ | β | $\Delta R^2$ | Total $R^2$ |
| Predictors | | | | | | | | | |
| Step 1 | | .046*** | .046*** | | .013 | .013 | | .078*** | .078*** |
| LMX | -.208*** | | | .095 | | | -.271*** | | |
| Poly Match | .055*** | | | -.066 | | | .063 | | |
| Step 2 | | .001 | .047*** | | .004 | .018 | | .000 | .078*** |
| LMX | -.233*** | | | .030 | | | -.288*** | | |
| Poly | .055*** | | | .067 | | | .063 | | |
| LMX-Poly Interaction | .036 | | | .092 | | | .024 | | |

* p<.05; ** p<.01; *** p<.001.

**Table 5:** Regression Results of Polychronicity Fit Moderation on Intention to Turnover and Performance

| | Turnover | | | Individual Performance | | |
|---|---|---|---|---|---|---|
| | β | $\Delta R^2$ | Total $R^2$ | β | $\Delta R^2$ | Total $R^2$ |
| Predictors | | | | | | |
| Step 1 | | .059*** | .059*** | | .042* | .042* |
| LMX | .210*** | | | .122 | | |
| Poly Match | -.121*** | | | -.165** | | |
| Step 2 | | .001 | .060*** | | .003 | .060* |
| LMX | .244*** | | | .118 | | |
| Poly | -.121*** | | | -.110 | | |
| LMX-Poly Interaction | -.048 | | | -.077 | | |

* p<.05; ** p<.01; *** p<.001.

## Additional Results

In addition to the hypotheses that were predicted, several other analyses were completed in order to better understand the target population with respect to the variables of interest. The first of these had to do with LMX agreement. Previous research (Gerstner & Day, 1997) has shown that there is surprisingly little correlation between leader ratings of LMX and member ratings of the same LMX relationship. As previously mentioned, a meta-analysis on LMX found that the average correlation between leader ratings of an LMX relationship and follower ratings of the same relationship was .29 (.37 corrected; Gerstner & Day, 1997). For replication purposes, these relationships were examined from both the leader and member perspectives in the current study. The results indicate that the correlation between these two ratings of the same LMX relationship was not significant ($r = .17$, $p = .11$). This finding was somewhat unexpected since the two individuals were supposedly rating the same relationship.

One reason for the discrepancy in the current sample might be due to the rigid rank structure that exists for cadets. For example, in a typical organizational setting, a leader and follower may have a friendship or other social relationship along with the normal working relationship. In the current sample, due to certain fraternization rules that exist, these additional type of relationships cannot occur. This type of working situation where certain relationships are prohibited could cause very different perspectives of the same relationship. In addition, the LMX relationship is supposed to develop as a result of a negotiation between the leader and the follower (Graen, 1976). In such a constrained environment as a Military Academy, the member often has very little which they are allowed to "contribute" to this negotiation versus what the leader is authorized to contribute.

In an effort to try to understand this discrepancy in more detail, additional analyses were done. Specifically, those dyads with a match on their ratings (either both rated the LMX relationship high or both rated the relationship low) were compared to those dyads where there was a mismatch on their ratings of the LMX relationship. This analysis was done in two steps. First, group mean differences were examined to see if there were significant differences between the two groups on the variables used in the study. This was done to see if dyads that agreed on the LMX relationship were different (or rated different) than those that did not. If this were the case, it might provide some insight as to the low agreement on LMX. However, no significant differences were found.

As an additional step, the correlations were examined between LMX match (and mismatch) and the outcome variables. This analysis yielded one significant correlation. The correlation between LMX match and personal polychronicity was significant ($r = .31$, $p < .001$). This was somewhat unexpected. It could be that those who are polychronic are more perceptive about the leadership relationship and therefore are able to have higher agreement regarding the relationship. In other words, there might be something about being polychronic that allows them to more "accurately" assess the relationship. However, this is just speculation as the results are based on a rather small sample size ($n = 88$) and need more examination before a more definitive conclusion can be made.

In addition to the previous replication effort, mean levels of polychronicity were examined for the current sample to see how they relate to samples from previous research. Prior studies of over 2100 adult Americans reveal a mean average of between 3.8 to 3.9 for polychronicity (Bluedorn, Kalliath, Strube, & Martin, 1999). For the current sample, cadets reported mean levels of 3.59 on polychronicity. Due to their schedules and many institutional

demands on their time, intuitively it could be predicted that in order to survive in such an environment, one would need to be polychronic. However, at least for the current sample, this was not the case. Of note was the fact that there was a significant difference between males and females with respect to personal polychronicity (there was no different for job polychronicity). Males reported that they were less polychronic (i.e., more monochronic) than their female counterparts (M = 3.52; M = 3.83, respectively).

An underlying assumption regarding LMX relationships is that leaders will form different relationships with different subordinates (Liden, Wayne, & Stilwell, 1993). In other words, a leader doesn't just treat every follower the same. They will treat each subordinate in a different manner based on the individual relationship that the leader forms with each subordinate. This assumption is often made, but rarely examined. For the current study, the sample was relatively small where data was available on the leader and multiple subordinates. There were 21 supervisors who had 4 or more subordinates for whom LMX data on each subordinate was available. In almost half of these cases (n = 10) the scale difference between the highest LMX rating of a subordinate and the lowest LMX rating of a subordinate was over 1 point (significant difference) and in the remaining cases, it averaged over a ½ (.56) scale point (also a significant difference). While the sample is small, it does indicate that the cadet leaders were considering different factors when rating each subordinate instead of simply rating all LMX relationships the same (Table 6).

**Table 6:** LMX Ratings Across Subordinates (Same Leader)

| Leader | LMX 1 | LMX 2 | LMX 3 | LMX 4 | LMX 5 | LMX 6 | LMX 7 | Range Of Ratings* |
|---|---|---|---|---|---|---|---|---|
| 1 | **4.14** | 3.43 | **3.29** | 3.57 | --- | --- | --- | 0.85 |
| 2 | 3.57 | **3.00** | **4.00** | 4.00 | --- | --- | --- | 1.00 |
| 3 | 4.14 | 4.14 | 3.71 | 4.14 | --- | --- | --- | 0.43 |
| 4 | **4.43** | 4.29 | 3.86 | **3.71** | --- | --- | --- | 0.72 |
| 5 | **4.71** | 4.29 | 4.71 | **4.14** | --- | --- | --- | 0.57 |
| 6 | **4.14** | **3.29** | 4.00 | 3.71 | --- | --- | --- | 0.85 |
| 7 | **4.00** | **4.00** | 4.00 | 4.00 | --- | --- | --- | 0.00 |
| 8 | **3.29** | **4.29** | 4.14 | 4.29 | --- | --- | --- | 1.00 |
| 9 | **4.29** | 4.00 | **3.00** | 3.14 | --- | --- | --- | 1.29 |
| 10 | **4.00** | 4.00 | **4.29** | 4.14 | 4.00 | 4.00 | --- | 0.29 |
| 11 | **4.29** | **4.71** | 4.43 | 4.57 | 4.71 | 4.57 | --- | 0.42 |
| 12 | **4.86** | 4.71 | **4.43** | 4.71 | 4.71 | 4.71 | --- | 0.43 |
| 13 | 4.14 | **3.57** | 3.57 | 4.71 | 4.43 | **4.86** | --- | 1.29 |
| 14 | **3.43** | 4.43 | 3.57 | **4.71** | 4.57 | 4.14 | --- | 1.28 |
| 15 | 3.71 | 4.00 | **2.71** | **4.29** | 3.86 | 4.14 | --- | 1.58 |
| 16 | 4.14 | 4.29 | 3.86 | **4.43** | **3.57** | 3.86 | --- | 0.86 |
| 17 | **2.71** | 2.71 | 3.29 | **3.71** | 3.00 | 2.71 | --- | 1.00 |
| 18 | 3.43 | 3.43 | 3.43 | **3.00** | 3.43 | **3.71** | --- | 0.71 |
| 19 | 3.43 | 3.86 | **4.57** | 3.43 | 4.14 | **3.29** | 3.29 | 1.28 |
| 20 | **4.43** | 4.29 | 4.43 | 4.43 | **3.29** | 4.43 | 4.29 | 1.14 |
| 21 | 3.86 | **4.71** | **3.29** | 3.71 | 3.57 | 4.57 | 4.14 | 1.42 |

Note: Range for scale is 1-5;
* Range indicates the distance between the lowest and highest rating of subordinate LMX for that leader.

A final examination looked at LMX in relation to the various outcome measures that were used in this study. For example, as previously noted, a good LMX relationship with the leader is related to high ratings on such indicators as job satisfaction. In this study, similar findings were found. When examining LMX ratings (member's perspective), significant positive correlations were found for OCBs ($r = .26$), job satisfaction ($r = .46$), facets of organizational commitment (affective: $r = .20$; normative: $r = .27$) and a significant negative correlation was found for turnover ($r = -.20$).

## Group Differences

Due to the unique characteristics of the sample, group differences were examined along two dimensions: class year and gender. Due to the environment in which cadets live and work, it was not unexpected that some group differences might occur (see Tables 7 and 8 for class year and gender mean differences, respectively). This expectation is due in part to the fact that there are many restrictions that are placed on cadets and their time. Typically, these constraints lessen and change as cadets move from their freshman to their senior years. Specifically, with respect to class year, several significant mean differences were noted.

**Table 7:** Significant Mean Differences By Class Year

| *Variable* | *n* | *mean* | *Std Dev* | *F* | *p value* |
|---|---|---|---|---|---|
| Personal Polychronicity | | | | | |
| Senior | 69 | 3.88 | 0.97 | | |
| Junior | 82 | 3.53 | 0.94 | | |
| Sophomore | 100 | 3.49 | 0.90 | 2.95 | .033 |
| Freshman | 131 | 3.59 | 0.81 | | |
| Total | 382 | 3.60 | 0.90 | | |
| Job Polychronicity | | | | | |
| Senior | 68 | 4.69 | 1.17 | | |
| Junior | 79 | 4.58 | 0.89 | | |
| Sophomore | 97 | 4.09 | 0.91 | 17.56 | .000 |
| Freshman | 128 | 4.98 | 0.77 | | |
| Total | 372 | 4.61 | 0.97 | | |
| Turnover | | | | | |
| Senior | 63 | 1.52 | 0.59 | | |
| Junior | 76 | 1.64 | 0.63 | | |
| Sophomore | 94 | 1.99 | 0.96 | 6.46 | .000 |
| Freshman | 130 | 1.93 | 0.85 | | |
| Total | 363 | 1.81 | 0.82 | | |

**Table 8:** Significant Mean Differences By Gender

| *Variable* | *n* | *mean* | *Std Dev* | *F* | *p value* |
|---|---|---|---|---|---|
| OCBs | | | | | |
| Male | 274 | 4.72 | 0.84 | | |
| Female | 90 | 5.02 | 0.75 | 8.99 | .003 |
| Total | 364 | 4.80 | 0.83 | | |
| CWB | | | | | |
| Male | 270 | 2.57 | 1.05 | | |
| Female | 90 | 2.10 | 0.61 | 16.07 | .000 |
| Total | 360 | 2.46 | 0.98 | | |
| Personal Polychronicity | | | | | |
| Male | 288 | 3.52 | 0.89 | | |
| Female | 94 | 3.83 | 0.92 | 8.79 | .003 |
| Total | 382 | 3.59 | 0.90 | | |
| LMX for Leader | | | | | |
| Male | 303 | 3.79 | 0.72 | | |
| Female | 99 | 3.55 | 0.74 | 8.546 | .004 |
| Total | 402 | 3.73 | 0.73 | | |
| Organizational Commitment (Affective Component) | | | | | |
| Male | 267 | 3.55 | 0.83 | | |
| Female | 92 | 3.75 | 0.75 | 4.56 | .033 |
| Total | 359 | 3.60 | 0.81 | | |

The primary difference was with respect to polychronicity. Both types of polychronicity showed significant differences between year groups. With respect to personal polychronicity, seniors rated themselves as highest in polychronicity followed by freshman, juniors, and then sophomores. The results were different for job polychronicity where freshman saw their jobs as the most polychronic followed by seniors, juniors, and sophomores. Based on what is required of the freshman and senior classes with respect to school and military responsibilities, this result was not unexpected. The other class year difference was with respect to turnover. Freshman and sophomores had significantly higher ratings of intention to turnover than did juniors and seniors. Since juniors and seniors have already obligated themselves to military service and cannot just leave the Academy without some sort of remuneration to the Air Force (typically in the form of a period of time one must serve as an enlisted Airman), this result is also not surprising.

There were also some significant differences with respect to gender and the variables of interest. The first of these was for OCBs. Female cadets reported significantly higher rates of OCBs than did male cadets. One reason for this may be that in a traditionally male-dominated environment, female cadets may feel the need to do more in order to prove themselves. This was exactly the opposite result for CWBs where male cadets reported higher rates of CWBs than their female counterparts. This finding is of specific interest to this type of organization since the military is approximately 80% male. Another difference that was noted was personal polychronicity. Females reported significantly higher on personal polychronicity than male cadets. Whereas previous research had not indicated a gender difference, at least for this sample, females reported being more polychronic than their male counterparts. In addition, while females also perceived their jobs to be more polychronic than males, the difference was not

significant. Another difference of note was LMX. Females rated their LMX relationships with their supervisors significantly lower than male cadets. While the ratings were still high with respect to LMX, they were still significantly lower.

## Differences Between Cadet Sample Versus Other Samples

One important issue that needs to be addressed is the potential uniqueness of the sample chosen for the current study. While the sample itself has been described in previous sections, the question remains as to how might it be different (from other working samples) in terms of the variables examined in this study. In an attempt to understand this issue, mean and correlational differences were examined to see if cadet reports on certain constructs differed in drastic ways from other organizational samples that have been used in related research. If the numbers vary drastically, then it could be said that the findings of the current study may be interesting (at least in relation to military personnel), but only apply to very limited segment of the working population. However, if similar, then the results would potentially be more generalizable.

Table 9 is a comparison of means for the cadet sample with respect to other samples. In order to make an accurate assessment, all of the samples referenced in the Table used the same measures that were used in the current study (e.g.., LMX7). As can be seen, many of the values are very similar to each other (i.e., LMX, organizational commitment). However, several are noticeably different. The biggest of these has to do with CWBs. In a traditional job situation, a person may exhibit counterproductive behaviors in a number of ways. They may perform these behaviors at work, at a different venue (i.e., home), or some other means. In other words, the individual has other outlets by with they may be able to diffuse these negative behaviors. In the case of cadets, they live, work, and rest in the same area. They are in a constant military environment except for the times they have a pass to go off the school grounds (dependent upon

class year). For them, there are very few options by which they can diffuse these negative behaviors. Therefore, it is not that surprising that their ratings of CWB are slightly higher than other organizational counterparts.

**Table 9:** Comparison of Cadet Means Versus Previous Research

| Variable | Cadet Sample | Previous Research |
|---|---|---|
| LMX (Leader) | 3.73 (0.73) | 3.90 (0.85)<br>(Hoffman, Morgeson, & Gerras, 2003; military)<br>3.75 (0.88)<br>(Epitropaki & Martin, 2005; manufacturing)<br>3.50 (0.58)<br>(Wang et al., 2005; manufacturing)<br>3.04 (0.84)<br>(Scaduto, Lindsay, & Chiaburu, 2008; customer service) |
| Polychronicity | 3.60 (0.90) | 3.8 – 3.9 (not available)<br>(Bluedorn, Kalliath, Strube, & Martin, 1999; various) |
| Job Satisfaction | 4.10 (0.62) | 3.71 (not available)<br>(Spector, 2006; police)<br>3.67 (not available)<br>(Spector, 2006; medical)<br>4.04 (not available)<br>(Spector, 2006; retail) |
| OCB (Individual) | 4.75 (0.88) | 5.3 (0.80)<br>(Lee & Allen, 2002; nurses) |
| OCB (Organization) | 4.84 (0.96) | 5.4 (0.90)<br>(Lee & Allen, 2002; nurses) |
| CWBs | 2.45 (0.98) | 1.6 (0.50)<br>(Lee & Allen, 2002; nurses) |
| Organizational Commitment | Affective: 3.59 (0.81)<br>Continuance: 3.30 (0.75)<br>Normative: 3.69 (0.77) | 3.38 (0.51; overall)<br>(Smith, Lindsay, & Holtom, 2008; freshman only sample of cadets) |

Notes: Previous research cited in this table used the same scales as were used in the current study; standard deviations listed in parentheses.

In addition to mean level difference, correlations between the variables of interest were also examined for their similarity to other samples. Table 10 indicates how the cadet sample compares to other samples with respect to correlations. As can be seen, many of them are similar in reference to each other whereas several are quite different. One of those differences has to do with LMX and turnover (r = -.20 for cadet sample and -.03 in Gerstner & Day, 1997). For the cadet sample, there is a much stronger (and significant) relationship between these two variables. It is possible, that due to the hierarchical structure that exists in a military setting, this relationship is more salient since you are dealing with this person on a daily basis, and in many cases, living next door to them. Therefore, when the relationship is not good, you still have to deal with this individual daily (to include weekends), whereas in a traditional work setting, you may not interact with your boss every day (as in the case of geographically separated work units).

**Table 10:** Comparison of Cadet Correlations Versus Previous Research

| Variable | Cadet Sample | Previous Research (dimension) |
|---|---|---|
| OCB – CWB | -.13 | -.32<br>(Dalal, 2005) |
| OCB – Job Satisfaction | .30 | .28<br>(Podsakoff et al., 2000; generalized compliance) |
| OCB – Affective Commitment | .34 | .30<br>(Podsakoff et al., 2000; generalized compliance) |
| LMX – Job Satisfaction | .46 | .56<br>(Epitropaki & Martin, 2005)<br>.46<br>(Gerstner & Day, 1997)<br>.39<br>(Arndt, Arnold, & Landry, 2006)<br>.37<br>(Murphy & Ensher, 1999) |
| LMX- Turnover | -.20 | -.03<br>(Gerstner & Day, 1997) |
| LMX – OCBs | .26 | .29<br>(Wang, et al., 2005)<br>.37<br>(Ilies, Nahrgang, & Morgeson, 2007)<br>.30<br>(Podsakoff, et al., 2000) |
| LMX – Organizational Commitment | .20 (Affective)<br>.27 (Normative) | .49<br>(Nystrom, 1990)<br>.35<br>(Gerstner & Day, 1997)<br>.33<br>(Epitropaki & Martin, 2005) |
| LMX Agreement | .17 | .29<br>(Gerstner & Day, 1997) |
| CWB – Job Satisfaction | -.31 | -.28<br>(Dalal, 2005) |

In summary, while the cadet sample and other organizational samples that have previously been used to examine the constructs of interest are similar in many respects, there are certain unique features of using the cadet sample. It is important to make this distinction when considering whether these results will generalize to other organizations and to other types of employees. In either case, further research needs to be done to see if these results are idiosyncratic to this sample or generalizable to other working employees.

# CHAPTER 4

# DISCUSSION

The primary purpose of this study was to examine how polychronicity impacts the working relationship between a leader and their follower. Empirical research of polychronicity has been supportive (e.g., Bluedorn, Kalliath, Strube, & Martin, 1999; Conte & Jacobs, 2003) and this study furthers that empirical foundation by examining where polychronicity matters at work. More specifically, how do different types of polychronicity (personal versus job) fit into what we know about how work is done? In addition, the nomological net surrounding the construct of polychronicity was further developed by examining previously unresearched relationships between polychronicity and certain employee behaviors (OCBs and CWBs). Finally, multiple predictions were made regarding how polychronicity might directly or indirectly influence the LMX relationship as well as its impact on numerous individual outcomes. The data were supportive of several of these predictions, but not others. First, the nomological net surrounding polychronicity will be examined and then specific relationships will be addressed.

One of the primary types of behavior that was examined was extra-role behavior. Previous research has shown that while these are behaviors that are not actually required or formally recognized by the organization, they do have an impact on such things as evaluations of employee performance (i.e., Podsakoff, MacKenzie, Paine, & Bachrach, 2000). In fact, it was found in one study that OCBs accounted for more variance in overall performance evaluations than did objective performance (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). This finding suggests that while not directly evaluated or required, these behaviors do play a significant role in organizational practice and employee outcomes. As previously mentioned, very little is known regarding extra role behaviors and their relationship to polychronicity. A handful of

studies (Conte & Jacobs, 2003) have examined several of these specific negative behaviors, but an overall evaluation has not been completed, until now.

In the current sample, it was found that a member's personal polychronicity was significantly, positively related to positive extra role behaviors but not negative behaviors. In other words, a person's personal preference for doing work polychronically (regardless of what the job actually required) was related to more reported OCBs but not CWBs. This is good news for organizations since it implies that having employees who are polychronic (in how they prefer to do work) means they are likely to experience more OCBs in the organization. The flip side is also good news. Having employees that are less polychronic (more monochronic) does not necessarily imply that you are going to get negative workplace behaviors. This is an important distinction since it means that if you don't have one (OCBs), you are not automatically going to get the other (CWB). From a practical standpoint, this means that you can have diverse employees (in terms of polychronicity) without negative implications for the organization. This is consistent with Bluedorn's (2002) assertions that both the monochronic and polychronic strategies have specific strengths and weaknesses and they need to be recognized and understood in order to take advantage of each type.

Once basic relationship was established between polychronicity and extra role behaviors (at least for OCBs) it was important to also consider the individual's job. Since a person does work in the context of a job, a related question would be how would a matching of the person's preference and the nature of the job impact these extra role behaviors? This question is associated to the idea of fit. When a person "fits" at work and with their job, positive outcomes are the typical result (e.g., Arthur, Bell, Villado, & Doverspike, 2006; Kristof, 1996). It was hypothesized that a match on these two levels of polychronicity would mean more positive work

behaviors (OCBs) whereas a mismatch would result in more negative work behaviors (CWBs). Similar to the basic correlational relationships, there was support for the OCBs, but not the CWBs. When a person's personal work style matched how their job required them to work, this correspondence was related to more OCBs. However, when a mismatch occurred, there were not more CWBs. Again, as with the basic relationships, when fit was good with respect to polychronicity, good behaviors were present. However, when fit was not good (a mis-match), that did not necessarily result in negative behaviors for the organization. What this result points to is that polychronicity fit can act as an enhancer to certain positive workplace behaviors. Therefore, if you don't have it, it doesn't seem to adversely affect the workplace, but when you do have them, employee behavior is improved (in terms of citizenship behaviors).

As an added attempt at further examining the differences between monochronic employees and polychronic employees an analysis was conducted that examined different types of match. In other words, how would the behavior of a polychronic in a polychronic job differ from that of a monochronic in a monochronic job with respect to extra-role behaviors? The results of this analysis indicated that for OCBs those who were polychronic and were in a polychronic job exhibited more OCBs than a monochronic in a monochronic job. This is an important distinction since it indicates that there is something about having a preference for polychronicity and being able to work polychronically that is related to more OCBs over a monochronic orientation. There are a couple of possible explanations for this. The first is that since the individual prefers to work polychronically, they are used to switching from task to task. That means that it may not be a big deal for them to fit in an OCB here and there. They can just fit it in between the tasks that they are all ready switching between. Another potential explanation is that since the job they are working allows them to jump from one task to the other,

there is no big disruption in work since they have the flexibility to work that way. In either case, there is something about wanting to and actually working polychronically that is related to an increase in OCBs. Results for CWBs did not indicate a difference. Again, match or mismatch was not associated with more or less CWBs.

This notion of fit was examined not just with respect to behavior, but to workplace attitudes as well. Good fit has previously been related to such constructs as job satisfaction and organizational commitment (e.g., Kristof-Brown, Zimmerman, & Johnson, 2005). To be consistent with the previous literature, polychronic fit was examined with respect to job satisfaction, organizational commitment, and intention to turnover. Contrary to previous empirical research, there was no difference on fit (match versus mis-match on personal and job polychronicity) for job satisfaction (Hecht & Allen, 2005) or organizational commitment (Slocombe & Bluedorn, 1999). This might be a unique characteristic of this sample. Since there is a significant sacrifice that is made to attend a Military Service Academy (in terms of time that must be served after graduation, military training, etc.) it is likely that those who choose to attend already have a high level of organizational commitment and are somewhat satisfied with their jobs. It is likely that those who do not espouse the beliefs and buy into the lifestyle that is present at a Service Academy do not stay around very long since the longer you stay, the higher the payback if you later choose to leave.

Contrary to the previously mentioned findings, intention to turnover was significantly related to polychronic fit. Those cadets that had a match between their personal and job polychronicity reported lower intention to turnover than those cadets with a mismatch. This implies that while the mismatch is not something that impacts the cadets on a daily basis with regard to their attitudes toward their work (i.e., job satisfaction), it does impact their intentions to

want to stay in their current job (in this case, being a cadet). While intention to turnover is certainly not a guarantee of actual turnover, behavioral intentions have been shown to be good predictors of actual turnover behavior (Fishbein & Azjen, 1975; Griffeth, Horn & Gaertner, 2000; Hellman, 1997; Steele & Ovalle, 1984). More work needs to be done in this area to further determine the link between intention to turnover and actual turnover in this population.

The final aspect that was examined relative to fit was that of individual performance. It was predicted that if there was a match on polychronicity, then that would be related to higher ratings of individual performance. However, in this sample, while there was a good trend in this direction, it was not significant. One cause of this may be due to the fact that individual performance ratings are meaned by squadron. In other words, each squadron has a certain mean that they must have for military performance average. It is likely that this imposed level could have influenced this relationship by restricting the range of actual MPA that a cadet can receive.

To be consistent with analyses done with respect to extra role behaviors (even though not initially hypothesized), types of match (poly personal versus poly job) were also examined with respect to these attitude variables as well. Upon investigation, several of these variables were significantly different for the different types of match. First, LMX ratings of the leader were higher for polychronic cadets in a polychronic job versus those that were monochronic in a monochronic job. This result is somewhat unexpected. Why would this be the case? One reason may be that there is something about being polychronic that impacts how one views and perceives the working relationship with their supervisor. This suggestion is just speculation and further research needs to be done to see what is happening with this relationship. In addition to LMX, there were 2 facets of organizational commitment that were significantly different based on type of match. Both affective and normative commitment were significantly higher for the

polychronic person and polychronic job match. These differences are also unexpected and may indicate some differences in dimensionality for the polychronic construct as to how people approach their work based on their time focus.

The previous relationships give some insight into how the overall construct of polychronicity impacts the work environment. In addition to these primary relationships, it was a purpose of this paper to see how the context also has an impact on polychronicity and the leadership relationship. One way this could occur is through consideration of gender. The gender composition of Military Service Academies creates an interesting dynamic wherein females are typically outnumbered 5 to 1. In this type of situation, gender is certainly more salient than in an atmosphere of more equal ratios. Due to this disproportionate situation, gender is an important factor to examine with respect to leadership in this type of environment. As it relates to LMX, previous empirical work has shown equivocal findings for ratings of mixed gendered dyads. In the current sample, which consisted of 24.3% female, mixed dyads were examined for gender differences. The results indicate that there was not a significant difference on ratings of LMX from either the leader or member perspectives in these mixed gender dyads. While the hypothesis was not supported, this is a very encouraging finding from an organizational perspective. Specifically, what it means is that in a very male dominated organization (like a Military Academy), there were no differences on ratings when the gender of the dyad is mixed (either female leader or male leader) versus a non mixed gender dyad. This is contrary to what one would expect in a male dominated environment based on past research (e.g., Eagly, Karau, & Makhijani, 1995).

In addition to looking at mixed gender dyads, a goal of this paper was to see if there was a difference in LMX ratings with respect to previous experience with a female leader. Since our

previous experiences help to shape and determine our present attitudes, it was predicted that males who previously had a female leader(s) would rate their LMX relationship differently than males who had never had a female leader. This again was based on the idea that some previous research has indicated a gender difference with respect to LMX ratings. In this sample, those males with previous experience with a female leader did not rate the LMX relationship significantly different than those males who did not have previous experience with a female leader. Two notes should be made with regard to this finding. The first is that the result is based on a small sample size ($n = 30$ with previous experience and $n = 26$ without). Therefore, this research hardly definitively answers this question. More data needs to be collected to adequately determine if the result is due to a small sample size or that previous experience does not matter.

The other issue to consider is that cadets were just asked whether they previously had a leader who was a female. In order to more accurately examine this relationship, more information is needed about that relationship than was available for the current study. For example, it would be necessary to gather information such as the following: how long did you work for that leader?, how many female leaders have you had in the past?, and was that person considered a good leader? Having this information could help determine if factors such as length of time the individual worked for that leader and quality of that relationship would impact subsequent relationships, as was initially hypothesized.

Another issue with respect to polychronicity fit was its impact either directly or indirectly on LMX and resultant outcomes. For the direct relationship, it was predicted that a leader and member's agreement on polychronicity (in other words, how they each prefer to do their personal work) would influence their LMX relationship. However, results indicated that there was not a significant difference on ratings of LMX between those leaders and followers that

matched on personal polychronicity and those that did not match. This finding was checked from both the leader and the follower's perspectives and both were not significant. While not confirming the initial hypothesis, it can still be viewed as a very positive result. What this result means is that an employee is free to do work in the manner (polychronically or monochronically) that they please even if it is different than their leader with no apparent direct negative impact on the LMX relationship. The caveat here is that the member gets their work done. It is predictable that if the member is not completing their work on time, not only will their work style be called into question, but the LMX relationship will predictably suffer.

This finding is interesting from a fundamental point as well. As previously mentioned, one of the two parts of the definition of polychronicity was the fact that people who are polychronic believe that this is the best way to do things. If this is the case, than this is potentially problematic if the leader is polychronic and is expecting his/her people to do work in a similar polychronic manner (or vice versa). However, the findings from this study indicate that while the leader may feel that work needs to be done in one particular manner (and may feel this is the right way to do things), the employee is apparently not restricted to do work in this manner. If they do work in a manner inconsistent with how their leader works, their LMX is not damaged as a result. This outcome is critical due to the many positive outcomes that follow from a good LMX relationship.

Fit on polychronicity can also be viewed in an indirect manner as well. Since fit on polychronicity can be viewed from several different points of view (leader and member) and from different types (personal versus job), it is possible that it could influence the LMX relationship in different ways. One way in which it could influence LMX is as a moderator between LMX and various outcome measures. If this was the case, a match (or a mis-match)

would either strengthen or weaken the LMX relationship's effect on subsequent employee outcomes. When this relationship was examined, results indicated that polychronic fit moderated the relationship between LMX and CWBs where a mismatch on polychronic fit resulted in more CWBs. In other words, the relationship between LMX and CWBs was influenced by a mismatch on polychronicity. None of the other variables examined (e.g., job satisfaction, turnover) indicated any signs of moderation. While not a significant moderator for most of these outcome variables, that does not preclude polychronicity fit from affecting employees in other ways that were not examined in the current study.

The results of this study further point to the usefulness of polychronicity as an important construct to consider when examining employee behavior at work. It is clear that not only through direct relationships (as with polychronicity and OCBs) but also through fit examination (e.g., turnover intentions) that a person's preference for how they like to do work impacts the employee and ultimately the organization.

## Limitations

As with any study, there are several limitations that must be considered. The first of these has to do with the sample that was chosen. Certainly, this is a somewhat unique sample (as based on the previous description of cadets). These subjects are in a situation where there are very rigid hierarchical Chains of Command that must be adhered to. In addition, there is a rank structure that is strictly imposed. These two factors influence not only the types of relationships that will occur, but also put restrictions on how work can and will be done. Due to these factors, one could speculate that the results from this study may not generalize to other samples. While this is a valid perspective, many of the correlations that were examined in this study are consistent with others that have been found in previous studies (Table 10). In addition, since

cadets are under an obligation and do get compensated while they are cadets, this sample is closer to a working sample than the traditional college student sample. Therefore, the results from this sample would likely generalize more toward a working sample than a traditional college age sample. However, as noted earlier, there are some unique features of this sample that need to be considered.

Another limitation of this study is the self-report nature of the data collection. However, since many of the factors are based upon the individual cadet's perceptions and attitudes, this protocol was a necessary step in data collection. It would be difficult to think of another way in which one would collect data on an individual's job satisfaction or their personal polychronicity level. One way by which this limitation was overcome was by measuring the LMX relationship from both the leader and follower perspectives and considering both in the analyses. Most empirical studies of LMX only consider one of these perspectives. Taking this approach allowed for a unique view on how both individuals view the same relationship. In addition, individual performance was obtained directly from the Commander of each Squadron rather than through self-report as another step in guarding against common method variance. Future research could take steps to collect data from different sources, where possible. For example, OCBs could be reported from peers and/or leaders. For the current study (due to time constraints on when the cadets were available for data collection), several of these other sources of data collection were unavailable to the researcher.

A third limitation is that cadets were asked to reference their job in the squadron when they were asked about their job. However, it is likely that cadets might have had a difficult time separating their role as a cadet from their role as a job holder in the squadron. In fact, since they live, work, and study in the same room, their roles are often comingled with each other. In

addition, several of the cadets (especially the freshman cadets) do not hold formal jobs in the squadron. In these instances, they were asked to think about their "job" as a cadet. It could be that cadets respond differently when they are referencing their life as an officer candidate (cadet) versus a formal position that they hold in the squadron. With respect to leadership, however, every cadet has a formal leader appointed over them. So, while the job aspect may be a little unclear for them, the Chain of Command and their leadership is definitely not unclear.

A final limitation of note is that this data was collected at one point in time. Therefore, it was not possible to view how LMX relationships develop over time. The cadets were under their current hierarchy for approximately 4 months at the time of data collection. According to previous research (Liden, Wayne, & Stilwell; 1993), LMX relationships form rather quickly and this time frame allowed for the LMX relationships to develop. This means that relationships had already been established between the leader and the member. While the single point in time was appropriate for the current study, it would be interesting to see what factors initially affected the development of the LMX relationship through a longitudinal study.

## Future Research

The results from this study point toward several future research possibilities. The first of these has to do with other leadership relationships. Specifically, how might an individual's relationship with their supervisor impact their relationships with their subordinates? In addition to the focus on the relationship between just the leader and the member, there has been recent work on upward relationships in the workplace (e.g., Erdogan & Bauer, 2007). Specifically, it has been proposed that the relationship that a leader has with his/her leader (termed Leader-Leader Exchange, or LLX) can also have an impact on the organization and its employees. In fact, Tangirala, Green, and Ramanjuam (2007) found that supervisors who had high quality

relationships with their supervisors had greater influence (both positive and negative) on their employees than supervisors with low quality relationships with their immediate supervisors. Thus, they found that LLX moderated the relationship between LMX and employee outcomes (i.e., perceived organizational support, organizational identification). With respect to the current study, how might a leader's relationship with their leader impact the resultant relationships with their subordinates? Recent research is starting to examine this possibility, but these results need to be replicated in more samples before more definitive statements can be made. This moderation of LMX by LLX was attempted in the current study, but insufficient LLX ratings were obtained (n = 11) which precluded any data analysis.

Another area that that would benefit from consideration is that of implicit theories. "Implicit theories are constructions by people (whether psychologists or laypersons) that reside in the minds of these individuals" (Sternberg, 1985, p. 608). These theories are basically prototypes that we carry around with us as to how we perceive leaders to be. These implicit theories have been applied to leadership as a way to classify individuals as leaders or non-leaders (e.g., Lord, De Vader, & Alliger, 1986; Lord, Foti, & De Vader, 1984). They develop over time as people have different experiences with actual leaders (Offerman, Kennedy, & Wirtz, 1994). As relevant to the current study is how do these implicit theories of leadership influence LMX relationships? More specifically, what are the resultant effects on the LMX relationship with a member works for a leader that is not consistent with their implicit theory of a leader? To date, this is still unknown and could benefit from research to determine the effects, if any. One other avenue is with respect to gender. How might an individual's implicit theory of leadership change as the result of having male versus female leaders? This ties in directly to Hypothesis 10 in this study. Would prior experience with a female leader impact the formation of an

individual's implicit theory of leadership differently than if the individual did not have a different sex leader when forming their implicit theory? More work needs to be done to determine the effects (if any) of implicit theories on LMX development.

A third area has to do with sample selection for future research. There were several differences between this sample and samples from previous research that have been previously noted. Certainly, more research needs to be done to determine if these results were specific to this population or more generalizable to traditional organizational settings. In addition, the results with respect to polychronicity and OCBs as well as other types of behavior need to be replicated in order to determine their impact in military and non-military settings.

Finally, more advanced statistical techniques can be used to further tease apart reported differences. For example, response surface mapping (Edwards & Parry, 1993) has been used in previous research in order to more accurately determine how the variable of interest changes according to differences in fit (Hecht & Allen, 2005; Jansen & Kristof-Brown, 2005; Slocombe & Bluedorn, 1999). Through this methodology, it is possible to see how relationships change for each value of the variables of interest instead of just at specific points. While this is a relatively new form of analyses, it shows promise especially for the fit between personal and job polychronicity.

## Conclusion

Polychronicity has seen a recent increase in empirical support. However, much is still unknown about this construct. The current study helps to further refine the nomological net and examine its role with other important workplace variables. Even in the unique environment of a Military Academy, it has been found to be an important construct when considering extra role behaviors. Even though several of the different hypotheses were not supported in the current

study, the data shows that polychronicity is an important construct to consider when examining employees at work. However, it is obvious that more work needs to be done on this construct in many different work environments in order to see exactly how it can help to explain and potentially predict employee behavior.

# REFERENCES

Adler, N. J. (1996). Global women political leaders: An invisible history, an increasingly important future. *Leadership Quarterly, 7*, 133-161.

Arndt, A., Arnold, T. J., & Landry, T. D. (2006). The effects of polychronic-orientation upon retail employee satisfaction and turnover. *Journal of Retailing, 82*, 319-330.

Arvey, R. D., Rotundo, M., Johnson, W., Zhang, Z., & McGue, M. (2006). The determinants of leadership role occupancy: Genetic and personality factors. *Leadership Quarterly, 17*, 1-20.

Arthur, W., Bell, S. T., Villado, A. J., & Doverspike, D. (2006). The use of person-organization fit in employment decision making: An assessment of its criterion-related validity. *Journal of Applied Psychology, 91*, 786-801.

Ashkanasy, N. M., Hartel, C. E., & Daus, C. S. (2002). Diversity and emotion: The new frontiers in organizational behavior research. *Journal of Management, 28*, 307-338.

Bass, B. M., Avolio, B. J., & Atwater, L. (1996). The transformational and transactional leadership of men and women. *Applied Psychology: An International Review, 45*, 5-34.

Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." *Academy of Management Journal*, 26, 587-595.

Benabou, C. (1999). Polychronicity and temporal dimensions of work in learning organizations. *Journal of Managerial Psychology, 14*, 257-268.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*, 349-360.

Bluedorn, A. C. (2002). *The human organization of time: Temporal realities and experience.* Stanford, CA: Stanford University Press.

Bluedorn, A. C., Kalliath, T. J., Strube, M. J., & Martin, G. D. (1999). Polychronicity and the inventory of polychronic values (ipv): The development of an instrument to measure a fundamental dimension of organization culture. *Journal of Managerial Psychology, 14*, 205-230.

Bluedorn, A. C., Kaufman, C. F., Felker, C., & Lane, P. M. (1992). How many things do you like to do at once? An introduction to monochronic and polychronic time. *Academy of Management Executive, 6*, 17-26.

Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology, 89*, 901-910.

Butler, D., & Geis, F. L. (1990). Nonverbal affect responses to male and female leaders: Implications for leadership evaluations. *Journal of Personality and Social Psychology, 58*, 48-59.

Cascio, W. F. (2003). Changes in workers, work, and organizations. In W.C. Borman, D.R. Ilgen, and R.J. Klimoski (Eds). *Handbook of Psychology: Industrial and Organizational Psychology* (Vol 12, pp. 401-422). Hoboken, NJ: Wiley and Sons, Inc.

Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes, 86*, 278-321.

Colquitt, J. A., Conlon, D. E, Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology, 86*, 425-445.

Colbert, A. E., Mount, M. K., Harter, J. K., Witt, L. A., & Barrick, M. R. (2004). Interactive effects of personality and perceptions of the work situation on workplace deviance. *Journal of Applied Psychology, 89*, 599-609.

Conte, J. M., & Gintoft, J. N. (2005). Polychronicity, big five personality dimensions, and sales performance. *Human Performance, 18*, 427-444.

Conte, J. M., & Jacobs, R. R. (2003). Validity evidence linking polychronicity and big five personality dimensions to absence, lateness, and supervisory performance ratings. *Human Performance, 16*, 107-129.

Conte, J. M, Rizzuto, T. E., & Steiner, D. D. (1999). A construct-oriented analysis of individual-level polychronicity. *Journal of Managerial Psychology, 14*, 269-287.

Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology, 90*, 1241-1255.

Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership in formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance, 13*, 46-78.

Day, D. V. (2001). Leadership development: A review in context. *Leadership Quarterly, 11*, 581-613.

Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin, 26*, 1171-1181.

Dvir, T., & Shamir, B. (2003). Follower developmental characteristics as predicting transformational leadership: a longitudinal field study. *Leadership Quarterly, 14*, 327-344.

Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation.* Hillsdale, NJ: Erlbaum.

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*, 573-598.

Eagly, A. H., Karau, S., & Makhijani, M. (1995). Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin, 111*, 3-22.

Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin, 129*, 569-591.

Edwards, J. R., & Parry, M. E. (1993). On the use of polynomial regression equations as an alternative to difference scores in organizational research. *Academy of Management Journal, 36*, 1577-1613.

Epitropaki, O., & Martin, R. (2005). From ideal to real: A longitudinal study of the role of implicit leadership theories on leader-member exchanges and employee outcomes. *Journal of Applied Psychology, 90*, 659-676.

Erdogan, B., & Bauer, T. N. (2007, April). Extending LMX theory to a dual leadership context. Poster session presented at the annual meeting of the Society for Industrial and Organizational Psychology, New York, NY.

Fishbein, M. F., & Azjen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research.* Reading, MA: Addison-Wesley.

Fisher, C. D. (2003). Why do lay people believe that satisfaction and performance are correlated? Possible sources of a commonsense theory. *Journal of Organizational Behavior, 24*, 753-777.

Fletcher, J. K. (1999). *Disappearing acts: Gender, power, and relational practice at work.* Cambridge, MA: The MIT Press.

Forsythe, S., Drake, M. F., & Cox, C. E. (1985). Influence of applicant's dress on interviewer's selection decisions. *Journal of Applied Psychology, 70*, 374-378.

Frei, R. L., Raciot, B., & Travagline, A. (1999). The impact of monochronic and Type A behavior patterns on research productivity and stress. *Journal of Managerial Psychology, 14*, 374-387.

Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82*, 827-844.

Graen, G. B. (1976). Role-making processes within complex organizations. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 1201-1245). Chicago: Rand McNally.

Graen, G. B., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behavior and Human Performance, 30*, 109-131.

Graen, G. B., & Schiemann, W. (1978). Leader-member agreement: A vertical dyad linkage approach. *Journal of Applied Psychology, 63*, 206-212.

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly, 6*, 219-247.

Green, S. G., Anderson, S. E., & Shivers, S. L. (1996). Demographic and organizational influences on leader-member exchange and related work attitudes. *Organizational Behavior and Human Decision Processes, 66*, 203-214.

Griffeth, R. W., Horn, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*, 463-488.

Hall, E. T. (1959). *The silent language.* Garden City, New York: Doubleday.

Hall, E. T. (1983). *The dance of life: The other dimension of time*. Anchor Press, New York.

Hecht, T. D., & Allen, N. J. (2005). Exploring links between polychronicity and well-being from the perspective of person-job fit: Does it matter if you prefer to do only one thing at a time? *Organizational Behavior and Human Decisions Processes, 98*, 155-178.

Heilman, M. E., & Saruwatari, L. R. (1979). When beauty is beastly: The effects of appearance and sex on evaluations of job applicants for managerial and nonmanagerial jobs. *Organizational Behavior and Human Decision Processes, 23*, 360-372.

Hellman, C. M. (1997). Job satisfaction and intent to leave. *The Journal of Social Psychology, 137*, 677-689.

Hoffman, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology, 88*, 170-178.

Hogan, R., Curphy, G. J., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. *American Psychologist, 49*, 493-504.

Ilies, R., Nahrgang, J. D., & Morgeson, F. P. (2007). Leader-member exchange and citizenship behaviors: A meta-analysis. *Journal of Applied Psychology, 92*, 269-277.

Jacobsen, J. P. (1998). *The economics of gender* (2nd ed.). Malden, MA: Blackwell.

Jansen, K. J., & Kristof-Brown, A. L. (2005). Marching to the beat of a different drummer: Examining the impact of pacing congruence. *Organizational Behavior and Human Decision Processes, 97*, 93-105.

Judge, T. A., Bono, J. E., Thoresen, C. J., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*, 376-407.

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765-780.

Kaufman, C. F., Lane, P. M., & Lindquist, J. D. (1991). Exploring more than 24 hours a day: A preliminary investigation of polychronic time use. *The Journal of Consumer Research, 18*, 392-401.

Keating, S., & Murgolo-Poore, M. (2001). Technology and its impact on polychronic time use: A research plan. *Management Research News, 24*, 1-16.

Kirkpatrick, S. A., & Locke, E. A. (1991). Leadership: Do traits matter? *Academy of Management Executive, 5,* 48-60.

Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology, 49*, 1-49.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology, 58*, 281-342.

Lee, H. (1999). Time and information technology: monochronicity, polychronicity and temporal symmetry. *European Journal of Information Systems, 8*, 16-26.

Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology, 87*, 131-142.

LePine, J. A., Erez, A., & Johnson, D. E. (2002). The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology, 87*, 52-65.

Liden, R. C., Wayne, S. J., & Stilwell, D. (1993). A longitudinal study on the early development of leader-member exchanges. *Journal of Applied Psychology, 78*, 662-674.

Lord, R. G., De Vader, C. L., & Alliger, G. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology, 71*, 402-410.

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34*, 343-378.

Madjar, N., & Oldham, G. R. (2006). Task rotation and polychronicity: Effects on individual's creativity. *Human Performance, 19*, 117-131.

Meyer, J. P, & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior, 61*, 20-52.

Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal, 37*, 1543-1567.

Morrison, A. M., White, R. P., & Van Velsor, E. (1987). *Breaking the glass ceiling: Can women reach the top of America's largest corporations?* Reading, MA: Addison-Wesley.

Murphy, S. E., & Ensher, E. A. (1999). The effects of leader and subordinate characteristics in the development of leader-member exchange quality. *Journal of Applied Social Psychology, 29*, 1371-1394.

Nystrom, P. C. (1990). Vertical exchanges and organizational commitments of American business managers. *Group and Organization Studies, 15*, 296-312.

Offerman, L. R., Kennedy, J. K., & Wirtz, P. W. (1994). Implicit leadership theories: Content, structure, and generalizability. *Leadership Quarterly, 5*, 43-58.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 48*, 775-802.

Palmer, D. K., & Schoorman, F. D. (1999). Unpackaging the multiple aspects of time in polychronicity. *Journal of Managerial Psychology, 14*, 323-344.

Penny, L. M., & Spector, P. E. (2005). Job stress, incivility, and counterproductive work behavior (CWB): the moderating role of negative affectivity. *Journal of Organizational Behavior, 26,* 777-796.

Perlow, L. A., Okhuysen, G. A., & Repenning, N. P. (2002). The speed trap: exploring the relationship between decision making and temporal context. *Academy of Management Journal, 45*, 931-955.

Podsakoff, P. M., Ahearne, M., & MacKenzie, S. B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology, 82*, 262-270.

Podsakoff, P. M., & MacKenzie, S. B. (1997). Impact of organizational citizenship behavior on organizational performance: A review and suggestions for future research. *Human Performance, 10*, 133-151.

Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management, 22*, 259-298.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management, 26*, 513-563.

Powell, G. (1993). *Women and men in management* (2nd ed.). Newbury Park, CA: Sage.

Ridgeway, C. L. (1978). Conformity, group-oriented motivation, and status attainment in small groups. *Social Psychology, 41*, 175-188.

Ridgeway, C. L. (1981). Nonconformity, competence, and influence in groups: A test of two theories. *American Sociological Review, 46*, 333-347.

Ridgeway, C. L. (1982). Status in groups: The importance of motivation. *American Sociological Review, 47*, 76-88.

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multi-dimensional scaling study. *Academy of Management Journal, 38*, 555-572.

Robinson, S. L., & O'Leary-Kelly, A. M. (1998). Monkey see, monkey do: The influence of work groups on the antisocial behavior of employees. *Academy of Management Journal, 41*, 658-672.

Rousseau, D. M. (1997). Organizational behavior in the new organizational era. *Annual Review of Psychology, 48*, 515-546.

Rudman, L. A., & Glick, P. (2001). Prescriptive gender stereotypes and backlash toward agentic women. *Journal of Social Issues, 57*, 743-762.

Saks, A. M., & Ashforth, B. E. (1997). A longitudinal investigation of the relationships between job information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology, 50*, 395-426.

Scaduto, A., Lindsay D., & Chiaburu, D. (2008, April). Leader-member exchange and training outcomes. Poster presented at the 23rd Annual Society for Industrial and Organizational Psychology Conference, San Francisco, CA.

Scandura, T. A., Graen, G. B., & Novak, M. A. (1986). When managers decide not to decide autocratically: An investigation of leader-member exchange and decision influence. *Journal of Applied Psychology, 71*, 579-584.

Schein, E. H. (1992). *Organizational culture and leadership* (2nd ed.). San Francisco: Jossey-Bass.

Schriesheim, C. A., Castro, S. L., & Cogliser, C. C. (1999). Leader-member exchange (LMX) research: A comprehensive review of theory, measurement, and data-analytic practices. *Leadership Quarterly, 10*, 63-113.

Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology, 82*, 434-443.

Slocombe, T. E., & Bluedorn, A. C. (1999). Organizational behavior implications of the congruence between preferred polychronicity and experienced work-unit polychronicity. *Journal of Organizational Behavior, 20*, 75-99.

Smith, D. R., Lindsay, D. R., & Holtum, B. C. (2008, August). Boundary conditions: Attitudes, fit, and job embeddedness on turnover. Poster to be presented at the American Psychological Association Annual Conference, Boston, MA.

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational Citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*, 653-663.

Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the job satisfaction survey. *American Journal of Community Psychology, 13*, 693-713.

Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences.* Thousand Oaks, CA: Sage.

Spector, P. (2006). *Job Satisfaction Survey Norms.* Retrieved January 23, 2008, from http://chuma.cas.usf.edu/~spector/scales/jssnorms.html

Steele, R. P., & Ovalle, N. K. (1984). A review and meta-analysis of research on the relationship between behavioral intentions and employee turnover. *Journal of Applied Psychology, 69*, 673-686.

Sternberg, R. J. (1985). Implicit theories of intelligence, creativity, and wisdom. *Journal of Personality and Social Psychology, 49*, 607-627.

Tangirala, S., Green, S. G., & Ramanjuam, R. (2007). In the shadow of the boss' boss: Effects of supervisors' upward exchange relationships on employees. *Journal of Applied Psychology, 92*, 309-320.

Taylor, M. S., Locke, E. A., Lee, C., & Gist, M. E. (1984). Type A behavior and faculty research productivity: What are the mechanisms. *Organizational Behavior and Human Performance, 34*, 402-418.

Vardi, Y., & Wiener, Y. (1996). Misbehavior in organizations: A motivational framework. *Organizational Science, 7*, 151-165.

Vecchio, R. P., & Brazil, D. M. (2007). Leadership and sex-similarity: A comparison in a military setting. *Personnel Psychology, 60*, 303-335.

Wang, H., Law, K. S., Hackett, R. D., Wang, D., & Chen, Z. X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal, 48*, 420-432.

Wright, T. A., & Bonett, D. G. (2002). The moderating effects of employee tenure on the relation between organizational commitment and job performance: A meta-analysis. *Journal of Applied Psychology, 87*, 1183-1190.

Zakay, D., & Wooler, S. (1984). Time pressure, training and decision effectiveness. *Ergonomics, 27*, 273-284.

# APPENDIX

## SURVEY

# Time Effects on Leadership

## Informed Consent Document

DEPARTMENT OF THE AIR FORCE
Department of Behavioral Sciences and Leadership (DFBL)
USAF ACADEMY, COLORADO, 80840

Privacy Act and Freedom of Information Act
Records of your participation in this study may only be released in accordance with federal law. The Freedom of Information Act, 5 U.S.C. 552, the Federal Privacy Act, 5 U.S.C. 552a, and their implementing regulations may apply.

STUDY TITLE: Time Orientation Effects on Leader-Member Exchange
Protocol Number: FAC2007051H Date Study Approved: 25 Oct 07 Date ICD Approved: 25 Oct 07

INVESTIGATORS' NAME(S), DEPARTMENT(S), PHONE NUMBER(S)
Jeff Dyche, DFBL, 333-9891; Doug Lindsay, Penn State University, (814)360-9230; Rick Jacobs, Penn State University, (814)865-4820

PURPOSE OF STUDY
You are asked to consider participation in a research study. The purpose of the study is to see how different factors affect the relationship between a leader and a follower. The results of this study will be used to better understand how factors affect leadership and leadership development between military members. Only the researchers will have access to the answers that are provided to this survey. The study will include 6 squadrons of cadets. The study consists of a survey that will last approximately 25 to 30 minutes.

PROCEDURES
If you volunteer to participate in this study, you will complete a survey on your laptop computer. These questions deal mostly with your attitudes toward your job in the squadron, your immediate supervisor/leader, and subordinates (if appropriate). This survey will include some demographic information (class year, gender, squadron, job title, rank, last name, gender of leader, hours worked with leader, prior experience with a female leader, length of time with that leader, career intentions, probation status, race/ethnicity, and intercollegiate status). Additionally, the survey will request your name and the name of your leader. This will only be used to link the data when it analyzed. MPA data will also be collected (via the squadron AOC) and linked to individual participants in this study. Once these links have been made, all names will be deleted immediately from the data base. Squadron standing data will also be collected at the end of the semester. ONLY the researchers listed above will have access to the answers you provide to these surveys. The original survey response data are digital data and will be maintained on a password protected computer. In addition to the responses that you provide, there may be information provided about you by your immediate leader and follower(s) who may also choose to participate in this survey. If you choose not to participate in this survey, any data collected about you (i.e., from your leader and/or your followers) will be immediately destroyed and not used in any data analyses.

BENEFITS
There are no direct benefits to you for your participation in this study.

RISKS/INCONVENIENCES
This study poses minimal risks. Though the surveys are not anonymous, only the researchers will have access to the survey responses. All data from this study will be reported in summary form without individual responses reported.

ALTERNATIVES
The only alternative to participation in this research is to not participate.

IN THE EVENT OF INJURY
The entitlement to medical and dental care and/or compensation in the event of injury is governed by federal laws and regulations. If you have questions about your rights or if you believe you have received a research-related injury, you may contact the USAF Academy Institutional Research and Assessment Division (HQ USAFA/XPX) at 719-333-6593.

OCCURRENCE OF UNANTICIPATED ADVERSE EVENT
If an unanticipated event occurs during your participation in this study, you will be informed immediately. If you are not competent at the time to understand the nature of the event, such information will be brought to the attention of your next of kin.

# Time Effects on Leadership

## Informed Consent Document (Continued)

**COMPENSATION FOR TREATMENT OF INJURY**
If you should require medical care for injuries which result from participation in this study, the medical or dental care that you are entitled to is governed by federal laws and regulations. If you have questions about your rights or if you believe you received a research-related injury, please contact the USAF Academy Institutional Research and Assessment Division (HQ USAFA/XPX) at 719-333-6593.

**CONFIDENTIALITY**
When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. Once data has been collected, leader and follower data will be linked and then the names destroyed. The names are only used to link the data for analyses. Once this is done, the names will be destroyed. Complete confidentiality cannot be promised, particularly for military personnel, because information regarding your health may be required to be reported to appropriate medical or command authorities. All data will be held under password protection by the researchers until the end of the study. At the end of the study, they will be maintained (minus names) for up to three years. HQAF/SGRC may inspect study records.

**QUESTIONS REGARDING PARTICIPATION IN THIS RESEARCH STUDY**
If you have questions about this research study, you should contact the principal investigator Dr. Jeff Dyche, 333-9891. If you have questions about your rights as a research participant, or if you have received a research-related injury, you should contact the USAF Academy Institutional Research and Assessment Division (HQ USAFA/XPX) at 719-333-6593.

**DECISION TO PARTICIPATE**
Your participation in this project is voluntary. Your choice whether or not to participate will not affect your military or Air Force Academy career. If you decline to participate, there is no penalty or loss of benefits to which you are entitled under applicable regulations. You have the right to withdraw consent or stop participation at any time without penalty. Your withdrawal from this project will not cause loss of benefits to which you are otherwise entitled. You have the right to refuse to answer particular questions or to decline any procedure.
Consent to Participate:
- The decision to participate in this study is completely voluntary on my part. No one has coerced or intimidated me into participating in this program. I am participating because I want to.
- I understand that my decision about whether or not to participate will not affect my military career in any way.
- The investigators have adequately answered any questions I have about this study, my participation, and the procedures involved. I also understand that an investigator will be available to answer any questions concerning procedures throughout this study.
- I understand that if significant new findings develop during the course of this study that may relate to my decision to continue participation, I will be informed.
- I understand that I may withdraw this consent at any time and discontinue further participation in this study without prejudice to my rights.
- I also understand that the investigator may terminate my participation in this study at any time if he/she feels this to be in my best interest.

**1. My selecting the "CONTINUE" box below indicates my willingness to participate in this research study. If I choose not to participate in this study, I will select the "DO NOT CONTINUE" and will be exited from the survey.**

☐ CONTINUE ☐ DO NOT CONTINUE

# Time Effects on Leadership

## General Information

**The following survey is broken up into several sections. Please read the directions for each section carefully as they describe how to fill out the section and what to consider when filling out the items. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. Complete confidentiality cannot be promised, particularly for military personnel, because information regarding your health may be required to be reported to the appropriate medical or command authorities. The only individuals who will have access to the data are the researches previously listed on the Informed Consent Document (Dr. Dyche & Mr. Lindsay). Please continue to the next page to start the survey.**

# Time Effects on Leadership

## Background Information

**1. What is your class Year?**

- ☐ 2008
- ☐ 2009
- ☐ 2010
- ☐ 2011

**2. What is your gender**

- ☐ Male
- ☐ Female

**3. What is your Squadron?**

- ☐ CS-01
- ☐ CS-02
- ☐ CS-03
- ☐ CS-04
- ☐ CS-05
- ☐ CS-06
- ☐ CS-07
- ☐ CS-08
- ☐ CS-09
- ☐ CS-10
- ☐ CS-11
- ☐ CS-12
- ☐ CS-13
- ☐ CS-14
- ☐ CS-15
- ☐ CS-16
- ☐ CS-17
- ☐ CS-18
- ☐ CS-19
- ☐ CS-20
- ☐ CS-21
- ☐ CS-22
- ☐ CS-23
- ☐ CS-24
- ☐ CS-25
- ☐ CS-26
- ☐ CS-27
- ☐ CS-28
- ☐ CS-29
- ☐ CS-30
- ☐ CS-31
- ☐ CS-32
- ☐ CS-33
- ☐ CS-34
- ☐ CS-35
- ☐ CS-36
- ☐ CS-37
- ☐ CS-38
- ☐ CS-39
- ☐ CS-40

**4. Please type in your Job Title within the Squadron. If you have more than one job, please list the job that you spend the most time with. If you are a Fourthclassman or a cadet without a job, please list none.**

**5. What is your rank?**

**6. What is your last name? (This information is being collected to pair up your responses with those of your supervisor for data collection purposes. It will not be provided to anyone at USAFA or elsewhere. Once data is linked, the names will be deleted.)**

## Time Effects on Leadership

**7. What is the gender of your direct leader (Element Leader, Flight Commander, etc.)?**

- ☐ Male
- ☐ Female

**8. How many hours per week do you interact with your direct leader?**

- ☐ Less than 1 hour
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 3 Hours
- ☐ 4 Hours
- ☐ 5 Hours
- ☐ 6 Hours
- ☐ 7 Hours
- ☐ 8 Hours
- ☐ 9 Hours
- ☐ 10 Hours
- ☐ 11 Hours
- ☐ 12 Hours
- ☐ 13 Hours
- ☐ 14 Hours
- ☐ 15 Hours
- ☐ 16 Hours
- ☐ 17 Hours
- ☐ 18 Hours
- ☐ 19 Hours
- ☐ 20 Hours
- ☐ More than 20 Hours

**9. Have you ever had a leader who was a female (besides your current leader if they are a female)?**

- ☐ Yes
- ☐ No

**10. If you answered yes to question 9, how long did you work for that leader? If you answered no, please skip to question 11.**

**11. Do you intend to make the Air Force a career?**

- ☐ Yes
- ☐ No

**12. Are you currently on any type of formal probation (honor, academic, athletic)?**

- ☐ Yes
- ☐ No

**13. I consider myself to be:**

- ☐ American Indian or Alaska Native
- ☐ Asian (e.g., Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)
- ☐ Black or African American
- ☐ Hispanic or Latino (e.g., Cuban, Mexican, Puerto Rican, South or Central American)
- ☐ Native Hawaiian or other Pacific Islander (e.g., Samoan, Guamanian)
- ☐ White/Caucasian
- ☐ Other

**14. Are you an intercollegiate athlete?**

- ☐ Yes
- ☐ No

# Time Effects on Leadership

## Leadership

The following questions relate to your working relationship with your immediate leader (i.e., Element Leader, Flight Commander). Please answer the questions with that person in mind.

**1. What is your immediate leader's last name?**

**2. Do you know where you stand with your leader...do you usually know how satisfied your leader is with what you do?**

- ☐ Rarely
- ☐ Occasionally
- ☐ Sometimes
- ☐ Fairly Often
- ☐ Very Often

**3. How well does your leader understand your job problems and needs?**

- ☐ Not a Bit
- ☐ A Little
- ☐ A Fair Amount
- ☐ Quite a Bit
- ☐ A Great Deal

**4. How well does your leader recognize your potential?**

- ☐ Not at All
- ☐ A Little
- ☐ Moderately
- ☐ Mostly
- ☐ Fully

**5. Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

**6. Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out," at his/her expense?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

## Time Effects on Leadership

**7. I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly Agree

**8. How would you characterize your working relationship with your leader?**

- ☐ Extremely Ineffective
- ☐ Worse Than Average
- ☐ Average
- ☐ Better Than Average
- ☐ Extremely Effective

# Time Effects on Leadership

## Subordinates

The following questions relate to your working relationship with your subordinate. On the first question, please type in the last name of one of your subordinates and answer the questions with that person in mind. You will be filling out these few items for each subordinate that you have. If you have more than one subordinate (or person who reports directly to you) please select "Another Subordinate" below and then click "Next" to enter information for the next subordinate. If you do not have any subordinates, please select "No Subordinates" below and then click "Next" to continue with the rest of the survey.

**1. What is your subordinate's last name?**

**2. Does your subordinate usually know where they stand with you...does your subordinate usually know how satisfied you are with what they do?**

- ☐ Rarely
- ☐ Occasionally
- ☐ Sometimes
- ☐ Fairly Often
- ☐ Very Often

**3. How well do you understand your subordinate's job problems and needs?**

- ☐ Not a Bit
- ☐ A Little
- ☐ A Fair Amount
- ☐ Quite a Bit
- ☐ A Great Deal

**4. How well do you recognize your subordinate's potential?**

- ☐ Not at All
- ☐ A Little
- ☐ Moderately
- ☐ Mostly
- ☐ Fully

**5. Regardless of how much formal authority you have built into your position, what are the chances that you would use your power to help your subordinate solve problems in their work?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

## Time Effects on Leadership

**6. Again, regardless of the amount of formal authority you have, what are the chances that you would "bail your subordinate out," at your expense?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

**7. My subordinate would have enough confidence in me that he/she would defend and justify my decisions if I was not present to do so?**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly Agree

**8. How would you characterize your working relationship with your subordinate?**

- ☐ Extremely Ineffective
- ☐ Worse Than Average
- ☐ Average
- ☐ Better Than Average
- ☐ Extremely Effective

**9. Subordinates:**

- ☐ Another Subordinate
- ☐ No Subordinates

# Time Effects on Leadership

## Subordinates

Please answer the following questions with a different subordinate in mind.

**1. What is your subordinate's last name?**

**2. Does your subordinate usually know where they stand with you...does your subordinate usually know how satisfied you are with what they do?**

- ☐ Rarely
- ☐ Occasionally
- ☐ Sometimes
- ☐ Fairly Often
- ☐ Very Often

**3. How well do you understand your subordinate's job problems and needs?**

- ☐ Not a Bit
- ☐ A Little
- ☐ A Fair Amount
- ☐ Quite a Bit
- ☐ A Great Deal

**4. How well do you recognize your subordinate's potential?**

- ☐ Not at All
- ☐ A Little
- ☐ Moderately
- ☐ Mostly
- ☐ Fully

**5. Regardless of how much formal authority you have built into your position, what are the chances that you would use your power to help your subordinate solve problems in their work?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

**6. Again, regardless of the amount of formal authority you have, what are the chances that you would "bail your subordinate out," at your expense?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

## Time Effects on Leadership

**7. My subordinate would have enough confidence in me that he/she would defend and justify my decisions if I was not present to do so?**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly Agree

**8. How would you characterize your working relationship with your subordinate?**

- ☐ Extremely Ineffective
- ☐ Worse Than Average
- ☐ Average
- ☐ Better Than Average
- ☐ Extremely Effective

**9. Do you have any more subordinates besides the one listed above? If yes, select "Yes", and you will be directed to a page to enter data on the next subordinate. If no, select "No" and you will go to the next part of the survey.**

- ☐ Yes
- ☐ No

# Time Effects on Leadership

## Subordinates

Please answer the following questions with a different subordinate in mind.

**1. What is your subordinate's last name?**

**2. Does your subordinate usually know where they stand with you...does your subordinate usually know how satisfied you are with what they do?**

- ☐ Rarely
- ☐ Occasionally
- ☐ Sometimes
- ☐ Fairly Often
- ☐ Very Often

**3. How well do you understand your subordinate's job problems and needs?**

- ☐ Not a Bit
- ☐ A Little
- ☐ A Fair Amount
- ☐ Quite a Bit
- ☐ A Great Deal

**4. How well do you recognize your subordinate's potential?**

- ☐ Not at All
- ☐ A Little
- ☐ Moderately
- ☐ Mostly
- ☐ Fully

**5. Regardless of how much formal authority you have built into your position, what are the chances that you would use your power to help your subordinate solve problems in their work?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

**6. Again, regardless of the amount of formal authority you have, what are the chances that you would "bail your subordinate out," at your expense?**

- ☐ None
- ☐ Small
- ☐ Moderate
- ☐ High
- ☐ Very High

## Time Effects on Leadership

**7. My subordinate would have enough confidence in me that he/she would defend and justify my decisions if I was not present to do so?**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly Agree

**8. How would you characterize your working relationship with your subordinate?**

- ☐ Extremely Ineffective
- ☐ Worse Than Average
- ☐ Average
- ☐ Better Than Average
- ☐ Extremely Effective

**9. Do you have any more subordinates besides the one listed above? If yes, select "Yes", and you will be directed to a page to enter data on the next subordinate. If no, select "No" and you will go to the next part of the survey.**

- ☐ Yes
- ☐ No

# Time Effects on Leadership

## Individual

The following questions deal with your individual preferences on how you like to work.

### 1. Use the following scale to answer the questions below:

| | Strongly Disagree | Moderately Disagree | Slightly Disagree | Neither Agree Nor Disagree | Slightly Agree | Moderately Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|
| I like to juggle several activities at the same time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I would rather complete an entire project everyday than complete parts of several projects. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe people should try to do many things at once. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| When I work by myself, I usually work on one project at a time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I prefer to do one thing at a time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe people do their best work when they have many tasks to complete. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe it is best to complete one task before beginning another. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe it is best for people to be given several tasks and assignments to perform. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I seldom like to work on more than a single task or assignment at the same time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I would rather complete parts of several projects every day than complete an entire project. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Time Effects on Leadership

## Individual Job

The following questions deal with HOW YOUR JOB IN THE SQUADRON requires you to do work. In other words, how does the job you hold require you to work regardless of your personal preference? If you do not hold a formal job in the squadron, please think about the role that you play as a member of your Squadron.

### 1. Use the following scale to answer the questions listed below:

| | Strongly Disagree | Moderately Disagree | Slightly Disagree | Neither Agree Nor Disagree | Slightly Agree | Moderately Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|
| This job demands that I juggle several activities at the same time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| On the job, I am required to complete entire projects everyday, rather than completing parts of several projects. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| It is typical of this job to have many tasks to complete. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| When doing this job, work must be done one thing at a time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| This job requires me to complete one task before starting another. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| On this job, I am required to complete parts of several projects everyday, rather than completing an entire project. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| This job requires people to do many things at once. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| On the job, I am frequently asked to start new tasks when other tasks have not yet been finished. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| This job often requires that I spend a little bit of time on several tasks--moving back and forth from one thing to the other. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| The demands of this job are such that I repeatedly have to switch gears from one task to another. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Time Effects on Leadership

## Individual

The following is a list of behaviors. Please indicate which of these behaviors you have performed in the last semester in the accomplishment of your job in the Squadron.

**1. Use the following scale to indicate which behaivors you have done.**

| | Never | Very Rarely | Rarely | Occasionally | Frequently | Very Frequently | Always |
|---|---|---|---|---|---|---|---|
| Help others who have been absent. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Willingly give your time to help others who have job-related problems. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Adjust your work schedule to accommodate other Squadron member's requests for time off. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Go out of the way to make newer member's feel welcome in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Show genuine concern and courtesy toward Squadron members, even under the most trying military or personal situations. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Give up time to help others who have work or nonwork problems. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Assist others with their duties. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Share personal property with others to help their work. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Attend functions that are not required but that help the Squadron's image. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Keep up with developments in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Defend the Squadron when other members criticize it. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Show pride when representing the Squadron in public. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Offer ideas to improve the functioning of the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Express loyalty toward the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Take action to protect the Squadron from potential problems. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Demonstrate concern about the image of the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Made fun of someone in | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| the Squadron. | | | | | | | |
| Said something hurtful to someone in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Made an ethnic, religious, or racial remark. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Cursed at someone in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Played a mean prank on someone in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Acted rudely toward someone in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Publicly embarrassed someone in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Spent too much time fantasizing or daydreaming instead of working. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Taken an additional or longer break than is acceptable when doing your job. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Littered in the Squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Neglected to follow your leader's instructions. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Intentionally worked slower than you could have worked. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Put little effort into your work. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Dragged out work. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Time Effects on Leadership

## Cadet Job

The following questions deal with the job you have in your squadron.

**1. Please select the number for each statement that comes closest to reflecting your opinion about it. When your leader is referred to, answer the question with respect to your immediate leader (i.e., Element Leader, Flight Commander).**

| | Disagree Very Much | Disagree Moderately | Disagree Slightly | Agree Slightly | Agree Moderately | Agree Very Much |
|---|---|---|---|---|---|---|
| My leader is quite competent in doing his/her job. | ○ | ○ | ○ | ○ | ○ | ○ |
| When I do a good job, I receive the recognition for it that I should receive. | ○ | ○ | ○ | ○ | ○ | ○ |
| Many of our rules and procedures make doing a good job difficult. | ○ | ○ | ○ | ○ | ○ | ○ |
| I like the people that I work with. | ○ | ○ | ○ | ○ | ○ | ○ |
| I sometimes feel my job is meaningless. | ○ | ○ | ○ | ○ | ○ | ○ |
| Communications seem good within the squadron. | ○ | ○ | ○ | ○ | ○ | ○ |
| My leader is unfair to me. | ○ | ○ | ○ | ○ | ○ | ○ |
| I do not feel that the work I do is appreciated. | ○ | ○ | ○ | ○ | ○ | ○ |
| My efforts to do a good job are seldom blocked by red tape. | ○ | ○ | ○ | ○ | ○ | ○ |
| I find I have to work harder at my job because of the incompetence of people I work with. | ○ | ○ | ○ | ○ | ○ | ○ |
| I like doing the things I do at work. | ○ | ○ | ○ | ○ | ○ | ○ |
| The goals of this squadron are not clear to me. | ○ | ○ | ○ | ○ | ○ | ○ |
| My leader shows too little interest in the feelings of subordinates. | ○ | ○ | ○ | ○ | ○ | ○ |
| There are few rewards for those who work here. | ○ | ○ | ○ | ○ | ○ | ○ |
| I have too much to do at work. | ○ | ○ | ○ | ○ | ○ | ○ |
| I enjoy my coworkers. | ○ | ○ | ○ | ○ | ○ | ○ |
| I often feel that I do not know what is going on with the squadron. | ○ | ○ | ○ | ○ | ○ | ○ |
| I feel a sense of pride in doing my job. | ○ | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

| | | | | | | |
|---|---|---|---|---|---|---|
| I like my leader. | ○ | ○ | ○ | ○ | ○ | ○ |
| I have too much paperwork. | ○ | ○ | ○ | ○ | ○ | ○ |
| I don't feel my efforts are rewarded the way they should be. | ○ | ○ | ○ | ○ | ○ | ○ |
| There is too much bickering and fighting at work. | ○ | ○ | ○ | ○ | ○ | ○ |
| My job is enjoyable. | ○ | ○ | ○ | ○ | ○ | ○ |
| Work assignments are not fully explained. | ○ | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

### Leadership

**1. Please answer the following questions with your immediate leader in mind (i.e., Element Leader, Flight Commander).**

| | Strongly Disagree | Moderately Disagree | Slightly Disagree | Neither Agree Nor Disagree | Slightly Agree | Moderately Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|
| My leader is effective in representing the work unit to higher levels of leadership. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My leader is effective in meeting the job related needs of squadron members. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My leader is effective in meeting the needs of the squadron. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Time Effects on Leadership

## Commitment

**1. Please select the option that best represents how you feel:**

| | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I would be very happy to spend the rest of my college days at the Air Force Academy | ○ | ○ | ○ | ○ | ○ |
| I really feel as if the Air Force Academy's problems are my own. | ○ | ○ | ○ | ○ | ○ |
| I do not feel like "part of the family" at the Air Force Academy. | ○ | ○ | ○ | ○ | ○ |
| I do not feel "emotionally attached" to the Air Force Academy. | ○ | ○ | ○ | ○ | ○ |
| The Air Force Academy has a great deal of personal meaning for me. | ○ | ○ | ○ | ○ | ○ |
| I do not feel a strong sense of belonging to the Air Force Academy. | ○ | ○ | ○ | ○ | ○ |
| It would be very hard for me to leave the Air Force Academy right now, even if I wanted to. | ○ | ○ | ○ | ○ | ○ |
| Too much in my life would be disrupted if I decided I wanted to leave the Air Force Academy now. | ○ | ○ | ○ | ○ | ○ |
| Right now, staying at the Air Force Academy is a matter of necessity as much as desire. | ○ | ○ | ○ | ○ | ○ |
| I feel that I have too few options to consider leaving the Air Force Academy. | ○ | ○ | ○ | ○ | ○ |
| One of the few serious consequences of leaving the Air Force Academy would be the scarcity of available alternatives. | ○ | ○ | ○ | ○ | ○ |
| If I had not already put so much of myself into the Air Force Academy, I might consider going to school or working elsewhere. | ○ | ○ | ○ | ○ | ○ |
| I do not feel any obligation to remain at the Air Force Academy. | ○ | ○ | ○ | ○ | ○ |
| Even if it were to my advantage, I do not feel | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

| | | | | | |
|---|---|---|---|---|---|
| It would be right to leave the Air Force Academy right now. | | | | | |
| I would feel guilty if I left the Air Force Academy right now. | | | | | |
| The Air Force Academy deserves my loyalty. | | | | | |
| I would not leave the Air Force Academy right now because I have a sense of obligation to the people in it. | | | | | |
| I owe a great deal to the Air Force Academy. | | | | | |

## Time Effects on Leadership

### Turnover

**1. Please answer the following questions with respect to how you have felt over the last semester.**

| | Very Unlikely | Unlikely | Neither Likely or Unlikely | Likely | Very Likely |
|---|---|---|---|---|---|
| How likely is it that you will leave the Air Force Academy instead of graduating? | ○ | ○ | ○ | ○ | ○ |
| How likely is it that you will remain at the Air Force Academy until graduation? | ○ | ○ | ○ | ○ | ○ |
| I have considered leaving the Air Force Academy for another college/university? | ○ | ○ | ○ | ○ | ○ |

# Time Effects on Leadership

## Individual

**1. Please use this list of common traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and roughly your same age. Using the following rating scale, please select how accurately that trait describes you:**

| | Extremely Inaccurate | Moderately Inaccurate | Slightly Inaccurate | Neither Inaccurate Nor Accurate | Slightly Accurate | Moderately Accurate | Extremely Accurate |
|---|---|---|---|---|---|---|---|
| Bashful | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Bold | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Careless | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Cold | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Complex | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Cooperative | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Creative | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Deep | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Disorganized | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Efficient | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Energetic | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Envious | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Extraverted | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Fretful | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Harsh | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Imaginative | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inefficient | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Intellectual | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Jealous | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Kind | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Moody | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Organized | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Philosophical | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Practical | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quiet | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Relaxed | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Rude | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Shy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Sloppy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Sympathetic | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Systematic | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Talkative | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Temperamental | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Touchy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Uncreative | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Unenvious | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Unintellectual | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Unsympathetic | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Warm | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Withdrawn | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Time Effects on Leadership

### End

Thank you for your time in completing this survey. Once all data have been collected and analyzed the results of this survey will be provided back to the squadron in aggregate form (no personally identifying information will be provided). The data that were gathered in this survey will provide insight and information as to how work relationships between a leader and a follower can be improved for the benefit of both individuals. If you have any questions with regard to this survey, please contact Dr. Jeff Dyche at 333-9891 or Jeffrey.Dyche@usafa.edu

## Time Effects on Leadership

### End

**Thank you for your time. For the remainder of this Military Call to Quarters period, please stay in your room and work on any squadron responsibilities that you have. If you have any questions with regard to this survey, please contact Dr. Jeff Dyche at 333-9891 or Jeffrey.Dyche@usafa.edu**

# VITA

DOUGLAS R. LINDSAY

## EDUCATION

| | |
|---|---|
| May 2008 | Ph.D., Industrial/Organizational Psychology<br>The Pennsylvania State University<br>University Park, Pennsylvania |
| December 2003 | M.S., Experimental Psychology<br>The University of Texas at San Antonio<br>San Antonio, Texas |
| May 1992 | B.S., Behavioral Sciences<br>United States Air Force Academy<br>Colorado Springs, CO |

## SELECTED PUBLICATIONS AND PRESENTATIONS

Chiaburu, D. S., & Lindsay, D. R. (in press). Can do or will do? The importance of self-efficacy and instrumentality for training transfer. *Human Resource Development International.*

Lindsay, D. R., Tate, B. W., & Jacobs, R. R. (2008). Practicum: A teaching tool to highlight the scientist-practitioner model. *The Industrial-Organizational Psychologist, 45,* 39-47.

Smith, D., Lindsay, D., & Holtum, B. (2008, August). Boundary conditions: Attitudes, fit and job embeddedness on turnover. Poster to be presented at the American Psychological Association Annual Conference, Boston, MA.

Scaduto, A., Lindsay, D., & Chiaburu, D. (2008, April). Leader-member exchange and training outcomes. Poster presented at the 23rd Annual Society for Industrial and Organizational Psychology Conference, San Francisco, CA.

Rate, C. R., Clarke, J. A., Lindsay, D. R., & Sternberg, R. J. (2007). Implicit theories of courage. *Journal of Positive Psychology, 2*, 80-98.

Lindsay, D. R., & Baumann, M. R. (2007, April). Turnover, ocbs, and counterproductivity: Affective events theory and part-time employees. Poster session presented at the 22nd Annual Society for Industrial and Organizational Psychology Conference, New York City, NY.

Schraeder, M., Self, D. R., & Lindsay, D. R. (2006). Performance appraisals as a selection criterion in downsizing: A comparison of rank-order and banding approaches. *Managerial Law, 48*, 479-494.