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Walden University
2014

Abstract

Work Group Composition Effects on Leadership Styles in Aircraft Manufacturing Organizations

by

Monica Dunnagan

MS, Walden University, 2011

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

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November 2014

Abstract

The use of contractor staffing continues to increase in an attempt to reduce labor costs. In the midst of these trends, the effect of a composite organic and contractor workforce is not clear. The present study was designed to determine if homogeneous versus heterogeneous workgroup in conjunction with leader demographics can predict leadership style in aircraft manufacturing organizations. Situational leadership theory was used to understand the types of leadership styles used in aircraft manufacturing organizations. A sample of 150 aircraft manufacturing leaders that was solicited through LinkedIn completed a Manufacturing Leader Demographic Questionnaire and the Leader Behavior Analysis II to obtain information on the workforce, leader, work environment, and responses to situations. The analysis suggested workgroup composition is predictive of leadership styles and that aircraft manufacturing leaders exhibit 1 of 4 leadership styles: directive, coaching, delegating, or supportive. Specifically, it was found that workgroup composition is a significant predictor of the leader's flexibility and effectiveness scores. The findings contribute to positive social change by informing organizations of the impact of workgroup composition and leadership styles. Revising leadership training and awareness on negative issues that are often associated with contractual workers has the potential to incorporate contractors into the workgroup more efficiently and effectively. Although this study only represents a small portion of aircraft manufacturing leaders, it can lead to future studies that will further validate and expand on the need to improve leadership styles within both homogeneous and heterogeneous workgroups.

Work Group Composition Effects on Leadership Styles in Aircraft Manufacturing Organizations

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Chapter 1: Introduction to the Study

Organizational teams are built by merging diverse employees in order to interact and develop new work relationships (Kirkman, Mathieu, Cordery, Rosen, & Kukenberger, 2011). It is vital for organizations to understand and manage the structure of work relationships in order to remain competitive within a constantly changing economy (Gossett, 2006). Through organizational change and the process of team building, an organization shares its vision through leaders in upper-level positions to lower-level ones, and then to the hourly employees (James & Lathi, 2011).

Among the many changes that organizations and leaders must address today are complex staffing systems that allow the company to draw from outside sources of highly skilled and experienced workers (Gossett, 2006). While using outside or contract workers is not a new concept to organizations, how leaders choose to respond to the composite workgroups has been inadequately researched (Winkler, 2011). Even though organizational goals remain the same over time, group composition within organizations may change, leaving the leaders to adapt their leadership styles while trying to keep team members motivated (Johnson & Wallace, 2011).

Since the 1950s, organizations have expanded employment relationships by increasing the use of contractual employees in order to fill empty employment positions (Gossett, 2006). Consequently, organizations have had to examine the intricate nature of the relationships that take place between leaders and workgroup members (Klein, Knight, Ziegert, Lim, & Saltz, 2011; Torraco, 1999). An example of a complex organizational network is one comprising permanent employees with flextime, contractual, or virtual

workers (Armstrong-Stassen, 1998; Klein et al., 2011). Temporary or contractual employees often include retired individuals and women re-entering the workplace, as well as college students who are provided job placement by outside contract agencies (Wheeler & Buckley, 2004).

The flexibility and freedom of contract employment can create a desirable arrangement between workers and management (Jong, Schalk, & Cuyper, 2009). Even though contract employment entails a defined span with an organization, it has positive aspects, such as flexibility and increased experience, as well as an opportunity for workers to find full-time employment (Jong et al., 2009). Many contractual employees view their work placement as more favorable than permanent employment status because they have more freedom to move between workplaces (Wheeler & Buckley, 2004).

How leaders respond to contract employees, on the other hand, may be viewed as negative and influence permanent employees to see them in a negative light (Clark, Halesleben, Lester, & Heintz, 2010), given such leadership behaviors as their style, communication skills, or even lack of innovative training (Judge, Bono, Ilies, & Gerhart, 2002). If leaders lack the ability to communicate with the workgroup in a positive manner, then motivation and encouragement may be absent (Yukl & Mahsud, 2010). For example, leaders may tend to ignore contract employees or place them in a category of not belonging to a workgroup, and not provide them with any motivation or encouragement (Chemers, 2000). Leaders need strong leadership skills in order to adapt to workgroup changes and increase the power of influence or motivation with workgroups comprised of both permanent and contract workers (Yukl & Mahsud, 2010).

The work-related attitudes displayed by permanent employees might be key factors when determining positive and negative influences on employee relations (Madlock, 2008). For instance, if employers perceive a leader's attitude as a positive trait in the impact of employee relationships, the leader can be seen positively influencing and motivating employees (Judge et al., 2002) with his or her good quality communication skills, planning skills, as well as relational behavior skills such as encouragement, trust, and motivation (Yukl, Gordon, & Taber, 2002). When leaders do not perceive the value added from contract employees, a resulting increase of negative attitudes may be evident among the organization's permanent employees (Winkler, 2011).

The ability of leaders to adapt their leadership style to fit the needs of the work environment while remaining flexible might be the key to allowing communication to remain open between all employees and leaders (Madlock, 2008). Leadership styles become increasingly effective when leaders also rely on a positive influence, trust, and the ability to respond to competition, creative thinking, and rapid change (Yukl & Mahsud, 2010). A quality leader remains flexible and conscientious about task-oriented details while focusing on high levels of communication and motivation for the workgroup (Judge et al., 2002). Leaders may then gain substantial knowledge concerning leadership styles, which increases understanding of how to influence the workgroup (Arvonen & Ekvall, 1999; Meurling, Hedman, Fellander-Tsai, & Wallin, 2013).

Leadership theories such as contingent and situational may provide some knowledge on how leaders can close communication gaps between the leaders and all

employees by focusing on organizational leadership styles and employee behaviors (James & Lathi, 2011; Meurling et al., 2013).

Background

The evolution of employment changes organizations have witnessed over the past several decades began in the 1950s, when temporary or contractual employment became an immediate and alternative solution to meet staffing needs (Gossett, 2006). Throughout the 1990s, leaders began to see a change in transforming how new types of employment jobs would affect organizations, providing researchers the incentive to study the impact of negative employee attitudes and leadership styles (Kraimer, Wayne, Liden, & Sparrowe, 2005). While temporary agencies have been providing organizations with workers since 1950, only around 1990 were contract workers finally accepted as an option to the labor market (Chemers, 2000; Gossett, 2006). Figure 1 provides a breakdown of alternative employment arrangements to traditional full-time labor (Bureau of Labor Statistics [BLS], 2005). The percent of contract workers may be proportionally small, but they comprised 5.7 million employees (BLS, 2005). Contract workers are considered part of professional labor services that provide educated workers from various backgrounds such as nursing, information technology, administration, manufacturing, and the skilled trades (Gossett, 2006).

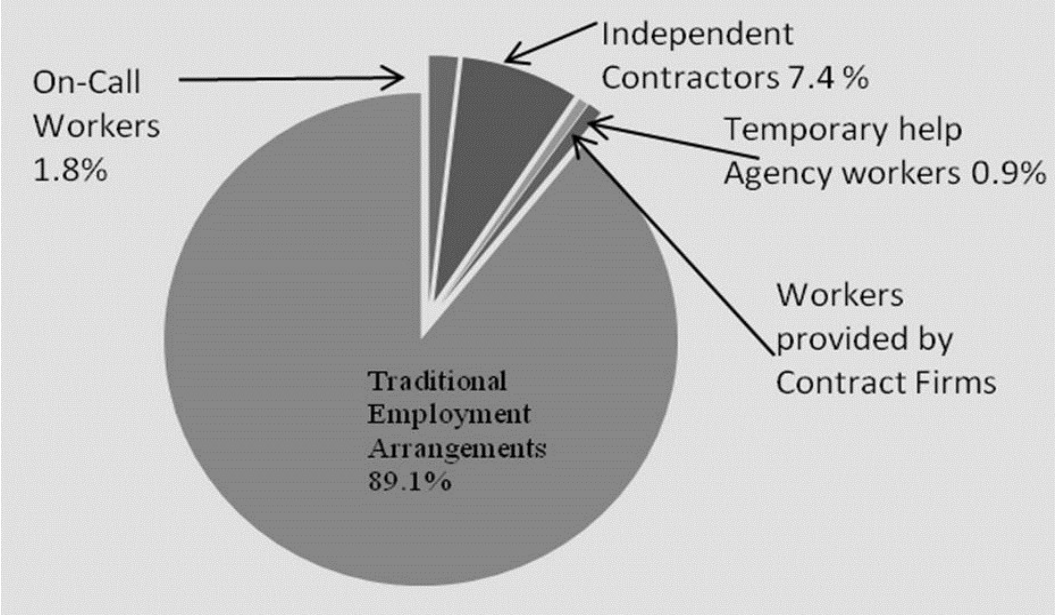

Figure 1. Alternative employment arrangements. Adapted from "Contingent and Alternative Employment Arrangements," by the Bureau of Labor Statistics, 2005. Retrieved from http://www.bls.gov/cps.

Corporate social performance, or simply how higher levels of leaders perceive employee performance, may allow organizations to apply scientific knowledge concerning the attitudes and behaviors of employees' performance perceptions (Stites & Michael, 2011). Permanent employees may perceive contractors as individuals who are there to take their jobs, or that the positions they fill are the good jobs those that a permanent position may take years to obtain (Armstrong-Stassen, 1998; O'Higgins, 2011). When the role of a temporary or contractual employee becomes a perceived threat to an individual's livelihood, conflict may arise, and new perceptions can be formed as a type of influence from leaders (Kraimer et al., 2005). Perceptions of how employees view one another can be vital to an organization's survival, and such work-related

attitudes are critical to successful production within manufacturing organizations (Stites & Michael, 2011).

Workers classified as contractors often do not own a permanent contract with the organization in which they work. Permanent contract also classifies a worker as one not having a signed agreement to work to work as a permanent employee for the current organization. Contract workers, who make up about 11.3% of today's work force (Clark et al., 2010), are often employed for work considered to be of limited duration or requiring experienced skilled laborers (Cuyper et al., 2010). Another term used in place of temporary or contract worker *is nonstandard employee*, which is a flexible contract employee who is employed in order to accommodate the organization's need for an increase in production rates (Winkler, 2011). Nonstandard employees often agree to different working contracts than full-time workers concerning wages and career options.

A contractor may also be referred to as volunteer temporary workers and can be classified as an employee who chooses to work on a part-time basis rather than the traditional full-time permanent employment position (De Cuyper & De Witte, 2008; Ellingson, Gruys, & Sackett, 1998; Silla, Gracia, & Peiro, 2005). Temporary, contract, or even volunteer part-time workers make up a majority of today's nontraditional labor force, and contract workers reported preferring their employment arrangements versus permanent employment (BLS, 2005).

Given the high volume of both permanent and contractor employees required to produce commercial airplanes, the aircraft manufacturing industry is the researcher's target for this study. The aircraft manufacturing industry is a leading industry of the

global market for commercial and civil defense and provides jobs for millions of permanent and contract employees (BLS, 2005).

Problem Statement

Leadership studies have been conducted on different characteristics of quality leaders, as well as how leaders can influence followers (Van Vugt, Hogan, & Kaiser, 2008). Attitudes of leaders toward contractual workers have been well researched, but few studies have examined the amount of influence that workgroup composition contributes toward leadership styles. Employees listen to and follow leaders who are most influential to them. With organizations desiring to employ skilled contract workers and innovative strategies, research is required to increase the forward progress of employee/leader relations (Gossett, 2006). Therefore, organizations need to develop flexible, effective ways to encourage and carry out changes within the relationships between the leaders and workers (Benson, Zigarmi, & Nimon, 2012; Blanchard, 2001; Hanbury, 2001). The aircraft manufacturing industry is the researcher's target for this study because of the high volume of employees both permanent and contractor required to produce the demands of commercial airplanes.

Purpose of the Study

The present study was designed to determine if leader demographics, in conjunction with homogeneous versus heterogeneous workgroups, predict leadership style in the aircraft manufacturing industry. Specifically, the study measured leader responses to the LBAII questionnaire and demographic variables, including age, tenure, gender, leader education level, as well as workgroup composition and function. The

objective was to provide leaders and aircraft manufacturing organizations insight on how workgroup composition, both homogeneous and heterogeneous, would predict leadership styles.

Research Questions and Hypotheses

In order to understand how leadership responses vary within homogeneous workgroups of permanent employees versus heterogeneous workgroups comprised of permanent employees and contractors, the following research questions and associated hypotheses were considered:

RQ1: Does workgroup composition predict the leadership style in aircraft manufacturing organizations?

$H1_o$: Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing industry leader's leadership style (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

$H1_a$: Workgroup compositions (homogeneous versus heterogeneous) predicts an aircraft manufacturing industry leader's leadership style (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

RQ2: Does workgroup composition predict an aircraft manufacturing organizations leader's effectiveness scores?

$H2_{o:}$ Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing organizations leader's effectiveness scores

(i.e., excellent, good, fair, or poor and the high to low level score) as assessed by the LBAII in aircraft manufacturing organizations.

$H2_{a:}$ Workgroup composition (homogeneous versus heterogeneous) predict an aircraft manufacturing organizations leader's effectiveness scores (i.e., excellent, good, fair, or poor and the high to low level score) as assessed by the LBAII in aircraft manufacturing organizations.

RQ3: Do leader demographics and/or workgroup composition predict leadership flexibility styles as accessed by the LFS in aircraft manufacturing organizations?

$H3_{o}$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not predict leadership flexibility style (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

$H3_{a}$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict leadership flexibility style (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

RQ4: Do leader demographics and/or workgroup composition predict leadership effectiveness styles as accessed by the LES in aircraft manufacturing organizations

$H4_{o}$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not

predict leadership effectiveness styles (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

$H4_a$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict leadership effectiveness styles (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

Nature of the Study

This quantitative study examined the influence of homogeneous versus heterogeneous workforce composition on predicting an aircraft manufacturing leaders' leadership style. The LBAII was the assessment administered to determine the type of responses that leaders choose to various work situations when leading workgroups within an aircraft manufacturing organization. A demographic questionnaire (MLDQ) provided this study with background information. The independent variables (IV) in this study were leader demographics including age, educational level of the leader, tenure, and gender, workgroup composition, and the composite leadership style scores. The dependent variables (DV) were the leadership styles raw scores, leader's flexibility raw scores, and the leader's effectiveness raw scores.

Characteristic variables distinguished the different organizational workgroups of the leaders. The characteristic variables included repair station, assembly, flight line, human resources, administration, planning and engineering, safety and lean manufacturing, material and tool control, quality and inspection, as well as union and contract leaders. Homogeneous workgroups consist solely of the permanent workers,

whereas heterogeneous workgroups include both permanent and contractual workers. The effectiveness and flexibility leadership raw scores placed each of the leaders within a particular leadership style category: S1-directing, S2-coaching, S3-supporting, or S4-delegating. I obtained the MLDQ and LBAII assessment test scores and used them to derive the IV data. Leaders should be capable of adapting individual leadership styles to work situations throughout the four leadership styles (Benson et al., 2011; Blanchard, 2001; Blanchard et al., 1999).

Theoretical Framework

The framework for this study was Hersey and Blanchard's (2000) situational leadership theory (SLT), first introduced as the life cycle theory of leadership in the late 1960s and later changed to the SLT II. The SLT II changed the terms of the four different leadership styles from delegating, participating, selling, and telling to delegating, supporting, coaching, and directing (Blanchard, Zigarmi, & Nelson 1993). Situational leadership theory focuses on the internal and external structures that influence leadership style and development, serving to explain how those external structures project upon employee attitudes and leadership styles (Avolio, 2007). The SLT II can communicate gaps between leaders and employees by focusing on organizational communication, employee motivation, and behavior (James & Lathi, 2011).

With the changing needs of organizations, it might become value-added to employ experienced contract employees along with the permanent employees to perform certain functions (Peel & Boxall, 2005). By expanding the methods in which employers seek out skilled employees, organizations should be more adaptable to innovative

working environments (Kraimer et al., 2005). The SLT II allows for an examination of the types of leadership styles that leaders use daily in employee relations and defines the level of effectiveness using those styles based upon the needs of the workgroup; i.e., whether or not the workgroup needs constant direction or if they can work productively through a delegating leadership style (Hersey & Blanchard, 2008). Organizations may not be adequately acknowledging contractors they hire, thus leaving them perceiving they are unwelcomed and consequently influencing negative attitudes that come from the permanent employees (Peel & Boxall, 2005). Working relationships or an exchange between both the leaders and the followers allows both leaders and employees of all types to gain respect and build trust while taking pride in task performance (Wang, Law, Hackett, Wang, & Chen, 2005).

SLT II is relevant to the present study by broadening the aspect of employee relations between contract workers and leaders in terms of perceptions, attitudes, and behaviors, as well as the relationship between the leader and all of the workers within the cohort (Graen et al., 1970; Salahuddin, 2010; Shamir, 2007). Effective leaders should be capable of adapting a leadership style that responds to any situation within any workgroup composition (Hersey et al., 2008). Flexible leadership then becomes important because the workers/followers actually determine the power of the leader (Hersey et al., 2008). The SLT II proposes that the most effective leadership style is defined by the developmental needs of the workgroup (Kivlighan, 1997; Salahuddin, 2010). However, the maturity level of the followers was not included in the study due to the lack of approval from an aircraft manufacturing organization. To add this would have

required the use of the LBAII Other in order to match followers with their leaders in an organization (Zigarmi, Edeburn, & Blanchard, 1997).

Significance of the Study

The purpose of the present study was to determine if homogeneous versus heterogeneous workgroups in conjunction with leader demographics, predict leadership style in the aircraft manufacturing industry. Blanchard (2001) pointed out that followers having too much or not enough of the right guidance may negatively affect the work environment. Therefore, researchers need to study the changes that may be present with the addition of contractors within the working environment.

Kirkman et al. (2011) contended that building a scholarly knowledge of the relationship between organizations, leaders, and team members might result in organizational communities in which leaders, cohorts, and their organizations are characterized by the following:

- Task performance such as group effectiveness.
- Leadership development that is dynamic.
- Structure that allows the emergence of external influence and direction.
- Holding leaders accountable for creating positive organizational change.

The flow of external resources to increase creativity among managers may result in positive change among leadership and employee relationships Kirkman et al. (2011). Guidance, support, readiness and direction from the leaders should improve the relationship between the leaders with the permanent and contractual workers (Hersey et al., 2008). The analysis of the different leadership styles provides a pathway to

challenging the role of leaders and encouraging a more open atmosphere of learning, trust, and inspiration (Harms & Crede, 2010). When organizations provide flexible leaders who understand the needs of experienced and skilled workers from across organizations, it may become possible to increase the level of working relationships among all employees and improving the commitment of temporary workers (Gossett, 2006; Winkler, 2011).

Definition of Terms

The following definitions are used throughout the research study in order to reflect organizational terms related to temporary worker status:

Coaching: A leadership style of the SLT II replaced the original section of "the telling" style and may use a medium - high type of direction from the manager/leader while providing constant feedback to their followers (Blanchard, 2001).

Contractual workers: Workers hired at certain times by an organization in order to boost production, yet work for two employers: the temporary agency and the user firm (Kraimer et al., 2005).

Delegating: Leadership styles of the SLT II, where a leader focuses upon trust within his or her followers and provides very little direction, thus allowing the followers to work through problem solving skills (Blanchard, 2001).

Directing: A leadership style of the SLT II may use a high degree of a particular task that is given to the followers/employees to accomplish during their work period (Blanchard, 2001).

Effectiveness: As used in the LBAII, refers to the ability to choose the appropriate leadership style based upon the situation and the four styles of leadership: directive, supportive, coaching, and delegating (Blanchard et al., 1985).

Flexibility: As used in the LBAII, refers to the ability for a leader move freely among the four styles of leadership (Blanchard et al., 1985).

Heterogeneous workgroup: A cohort that includes both permanent and contractual workers (Broschak & Davis-Blake, 2006).

Homogeneous workgroup: A cohort that consists solely of the permanent workers (Broschak & Davis-Blake, 2006).

LBAII: Leader Behavior Assessment II – Developed by Blanchard, Hambleton, Zigarmi, and Forsyth (1985) in order to assess leadership styles, the LBAII provides two distinct sets of scores, Leader Effectiveness and Flexibility. (See Appendix D for permission to use the LBAII.)

There are four subcategories of the LBAII (Blanchard, 2001):

S1: Directive and considered to be a leadership style that is low in support and high in directive behavior.

S2: Coaching and considered to be a leadership style that is high in directive and high in support.

S3: Supporting and considered to be a leadership style that is high in support and low in directive behavior.

S4: Delegating and considered to be a leadership style that is low in support and low in directive behavior.

Leadership: A process of social influence, which one person can gain support from others who follow and work cohesively to accomplish a common task (Chemers, 2000).

Nonstandard employees: Flexible employees who accommodate organizational needs to increase production at peak times of the year (Winkler, 2011).

Permanent workers: Employees who are considered traditional employees who may work for one company for job security, retirement, or health benefits (Armstrong-Stassen, 1998).

Supportive: A leadership style of the SLT II that replaced the original section "participating style" and emphasizes a very supportive leadership behavior and does not employ styles from the other three styles (Blanchard, 2001).

User firm: The organization in which temporary workers mix into their work assignment (Hakansson & Isidorsson, 2012).

Volunteer temporary employee: An employee who chooses to only work on a part-time basis (Ellingson et al., 1998).

Assumptions, Limitations, and Delimitations

Assumptions

In this study, it is assumed that the leaders from both groups (homogeneous and heterogeneous workgroups) would be equal participants within an aircraft manufacturing organization. I also assumed that the leaders would complete the LBAII and the demographic questionnaire in a truthful manner and to the best of their ability. Finally, I assumed leaders within the homogeneous and the heterogeneous workgroups would

afford valuable information concerning how leaders choose leadership styles when working with different types of workgroups.

Limitations

Hakansson and Isidorsson (2012) contended that research has not given temporary workers or temporary agencies enough attention to the impact they may have upon organizations. Thus, organizations and leaders may not understand the necessity of this study concerning contractors in the workgroup. A limitation to this study was the willingness of leaders within aircraft organizations to participate. Another limitation to concerns the maturity level of the followers, which have required using the LBAII Other. However, it require matching followers to their leaders in an organization and since permission form the organization was not secured and Linked-in was used to not solicit subject this was not possible.

Delimitations

The LBAII and demographic questionnaire targeted 350 leaders via LinkedIn to aircraft manufacturing organizations across the country that serve as local parts manufacturers for the larger regions. This size was chosen to provide an offset for potential participants who chose not to volunteer for the study. The final sample resulted in 150 anonymous aircraft manufacturing leaders.

Implications for Social Change

This study has the potential to create positive effects in the way that leaders perceive their leadership style choices in the future. By providing current data that focuses upon the behavioral attitudes toward contractual workers within aircraft

manufacturing organizations, this study was intended to increase the knowledge of organizations, leaders, and permanent employees. Through the development of awareness concerning a lack of positive or effective relationships with contractual employees and the lack of leader motivation, commitment, and trust, this study has the potential to create change even in the smallest of increments. The addition of new information may give rise to new training methods that encourage leaders to become more flexible and effective in their leadership styles. The present study provides new insight on the leadership styles of leaders who directly oversee contractual workers and motivate leaders to create a more trusting work environment between homogeneous and heterogeneous workgroups.

Summary and Transition

Chapter 1 described how aircraft manufacturing organizations have expanded their employee workgroups to include contract workers from contract agencies. Contract workers provide aircraft manufacturing organizations the opportunity to bring in more experienced employees during peak production seasons. Although the extra workers provide an increase in production, they may also create a change in employee-to-employee and employee-to-leader relationships. Chapter 1 explained these changes in employee makeup that organizations have faced since the 1950s, when contractors were introduced to different organizations. Negative effects from the addition of contract workers may include permanent employees' perceptions of losing valuable work positions or leaders being unable to adapt to changing workgroup compositions.

Chapter 1 provided a list of terms used throughout the research, such as contract workers, permanent workers, and the instruments. The research questions and hypothesis

outlined in Chapter 1 supported the research problem and the intent of this study, which was to measure workgroup composition effects on leadership styles of aircraft manufacturing leaders. It examined whether workgroup composition can predict leadership styles of aircraft manufacturing leaders according to the SLT II theory.

Chapter 2 provides additional empirical data concerning leadership styles where contractual employees are an equation of the work environment. Chapter 2 also outlines the leadership theories that paved the way for the foundational theory that support this study. Leadership theories outlined in Chapter 2 include trait leadership, contingency leadership, and situational leadership. Each of these leadership theories measures various aspects of great leaders, such as traits, cognitive skills, personalities, characteristics, goals, structure, vision, motivation, communication, and skill sets that different leaders choose.

Chapter 2 provides an extensive overview of the effectiveness, and the flexibility scores of leaders collected through the use of the LBAII. Chapter 2 also establishes how, because of the changes in the way organizations select the workers for certain jobs, contractors are becoming a standard variable within aircraft manufacturing organizations. Yet only a small portion of research provides accurate analyses concerning leader and contractor relationships.

Chapter 3 outlines the methodology used within this study and further examines the different variables that may become predicting factors. The study examines predictor variables, such as, age, gender, tenure, the leader's level of education, and the workgroup composition (homogeneous versus heterogeneous). The rights and protection of human

participants are demonstrated and conveyed through the narrative of the consent form; all participants were informed of their right to exit the study at any time.

Chapter 4 presents the leader's demographic characteristics, LBAII scores, the leader flexibility and effectiveness raw scores, and the regression analyses. Chapter 5 provides an overview of the interpretations of the results of the current study, implications for social change and recommendations for future research.

Chapter 2: Literature Review

Introduction

This chapter is a discussion of the nature and importance of contract workers within aircraft manufacturing organizations, and the influence that workgroups may exert over leadership styles. The review includes factors concerning industrial aircraft manufacturing organizations' reasons for employing contract workers and the empirical data supporting negative stigma associated with contract workers. The review of literature is based upon professional books and journals including statistical information obtained from the Bureau of Labor Statistics concerning the percentages of contingent employees currently in the work force. Walden University's librarians contributed to finding materials for this literature review. The databases searched included Sage Premier, Psych Articles, and Thoreau for articles from various journals. Keywords used for research included *leadership, temporary workers, permanent worker, contract workers, Fielder's contingency theory, Hersey and Blanchard's situational theories, trait theories, dual leadership, contractual agencies, negative employee perceptions, a negative stigma of employees, homogeneous versus heterogeneous workgroups, effectiveness,* and *flexibility*.

Organizational Reasons for Employing Contract Workers

Structural changes of aircraft manufacturing organizations have included employing experienced temporary or contractor employees versus utilizing unskilled or inexperienced permanent employees to perform certain job-related functions (Peel & Boxall, 2005). One of the primary reasons researchers have indicated why organizations

utilize contract workers would coincide with downsizing and restructuring of the company in order to arrive at a more economic workforce (Armstrong-Stassen, 1998; De Cuyper et al., 2008). Employment agencies are capable of offering experienced skilled workers in order to reduce organizational overhead cost and reduce the number of permanent employees that are required to accomplish a work task (Winkler, 2011). Hakansson and Isidorsson (2012) outlined three principal reasons for employing temporary or contract workers: (a) they can begin work quickly when given simple tasks to perform, (b) they contribute to functional flexibility, and (c) they are easily introduced into the workflow and easily terminated.

Job skills and organizational commitments give rise to a greater demand for temporary or contract workers to increase productivity during peak seasons and to seek out experts that would require little or no training (De Cuyper et al., 2008; Torraco, 1999). Nonstandard employees have become a financial plus to the organization, due to temporary and contract workers experienced trade skills, knowledge, and flexibility for comparable wages while requiring less supervision (Winkler, 2011). With the high level of education and experience of the temporary or contract workers, organizations are capable of pulling from a larger source of employees when permanent employees are absent or lack the necessary knowledge to complete their work assignment (Hakansson & Isidorsson, 2012).

Contract workers who choose employment on a part-time basis have been reported to possess the quality of higher extrinsic work values, which could be mainly due to the freedom of flexibility and location choice (Armstrong-Stassen, 1998;

Hakansson & Isidorsson, 2012). Strategic placement of temporary or contract workers allows human resources the opportunity to observe possible future employees while reducing the cost related to the application process (Cuyper, Notelaers, & Witte, 2009). Temporary employment through an organization may also become an avenue of gaining new work experience that an organization requires for permanent placement (Wheeler & Buckley, 2004).

Cuyper et al. (2009) argued organizations can innovate by hiring temporary or contractual employees who (a) actively seek a permanent position with a prospective organization, and (b) appreciate the ability to remain flexible in their jobs and the ability to move around when they see fit. Employee motivation may become a key factor to encourage the acceptance of temporary or contract employment in order to achieve customer needs and organizational quotas, including the hopes of achieving skilled employees for permanent positions (Jong & Schalk, 2010). Along with employment and motivational factors, it may be viewed as intrinsic and extrinsic values that keep employees satisfied within their work environment (Tremblay et al., 2009). Regardless which reason organizations choose to employ temporary or contract workers, the rapid growth and the strategy of organizational transformation and cost efficiency, it is most likely that the addition of contract workers continue to rise throughout the future of organizations (Armstrong-Stassen, 1998; De Cuyper et al., 2008; Cuyper et al., 2009). Products that aircraft manufacturing organizations produce, along with an increase in contract workers, have the potential to encourage negative socialization, which requires

an examination of relationships with the manufactures social structure (Stites & Michael, 2011).

Negative Stigmas That Follow Contract Workers

One prevalent negative aspect perceived about a contract worker is that they want to take a job away from traditional permanent workers (Hakansson & Isidorsson, 2012). When permanent employees perceive contractual employees to have a higher skill level, they work under the assumption that these employees are consuming all of the quality job positions, causing a reduction in promotions (Armstrong-Stassen, 1998). False assumptions may lead to a sense of job insecurity or a sense of betrayal, which may impact production performance on behalf of permanent employees (Cuyper et al., 2009). Contractual employees may have an advantage by having more flexibility in their employment field of choice, versus the permanent employees who may have a sense of being stuck on a bad job (Jong & Hartog, 2010).

Contract workers are often viewed as lazy or performing poor quality work, thus being alienated from the permanent employees and the managers (Clark et al., 2010). Attributes such as poor quality workmanship, and lack of status are many of the stigmas that contract workers may endure (Boyce, Ryan, Imus, & Morgeson, 2007). Social isolation and the lack of work status forces contract workers to be classified as the out-group within an organization, often becoming a target of humiliation by the types of badges they wear or their workspace (Boyce et al., 2007). Leaders may tend to increase the lack of socialization within the workgroup by separating the workspaces between the

contract and the permanent employees, thus sending a signal to permanent employees not to associate with the temporary workers (Kraimer et al., 2005).

Negative influence among employee relations may stem from a leader's choice of leadership style and the lack positive communication skills (Judge, Bono, Ilies, & Gerhart, 2002). A leader who lacks the ability to adapt to a diverse group of employees or responds with the wrong leadership style may weaken the power to influence teams or motivate the employees, both permanent and contractors (Yukl & Mahsud, 2010). Since contractors are considered temporary employees and quickly terminated, leaders are less likely to include them in discussions concerning the value of the workgroup assignments (Winkler, 2011). As a result, leaders may communicate less with contract workers, thus adding to possible feelings of low commitment and decreasing work motivation from a leader-worker relationship (Winkler, 2011).

Dual Leadership

One situation that most contractual workers face is they must work under two different agencies, and the lack of proper integration into the workplace makes the transition increasingly difficult (Gossett, 2006). An outsourcing company employs a contract worker, and the organization that hires the contractor from the outsourcing agency is referred to as "the user firm," thereby working for two different types of leaders (Hakansson & Isidorsson, 2012). The combination or the minimal amount of efforts that exist in the integration of contract workers may be a source of conflict for both the contract worker and the user firm (Hakansson & Isidorsson, 2012). While working under a dual leadership, most contractual workers are committed to the temporary agency first

and then to the user firm, where they are an employee on an assignment (Clark et al., 2010). Once placed on assignment, contract workers are often separated and alienated by their leaders; therefore, the lack of positive working relationships and proper leader and worker communications are reinforced (Clark et al., 2010).

Leaders of the user firm often do not engage and invest time and effort into a relationship with contractual workers due to the timeframe of employment (Winkler, 2011). When leaders avoid leader-employee relationships with the contractual workers, permanent employees are influenced by this choice of leadership style and perceive they, too, should not commit to a worker relationship (Winkler, 2011). As a consequence, contractual workers are left to conduct work alone, without guidance from user firms' leaders, and without constant contact from the temporary agency leaders (Clark et al., 2010). Without a proper relationship between leader and worker, contractors are uncertain whom they are to trust; and, without a leader and worker communication and interaction, contract workers are less likely to be motivated by their hiring organization (Gossett, 2006).

With the integration of contract workers into manufacturing organizations, organizations and leaders must understand how to motivate and lead homogeneous and heterogeneous workgroups (Gossett, 2006). Torraco (1999) wrote, "Leaders acknowledge that performance improvements do not endure unless they are systemically integrated within the entire system" (p. 97). Temporary agencies and contract workers share similar concerns and interest with the leaders of the user firm and should work to address and improve the relationships between all members of each organization (Winkler, 2011).

Leadership Styles

Leadership is a process of social influence, whereby one person can gain support from others who follow and work cohesively to accomplish a common task (Chemers, 2000; Yukl & Mahsud, 2010). Leadership styles are the focus of industrial and organizational psychology in order to understand the traits, behaviors, and styles of leaders and their followers (Schriesheim et al., 1994; Yukl & Mahsud, 2010). Leadership is a combination of communication, motivation, charisma, and the ability to share a common goal (Madlock, 2008). Leadership is a flexible component between the worker and the organization and influences others to follow (Van Vugt et al., 2008).

Leadership styles have become an unavoidable topic of concern, especially among industrial/organizational psychologists (Van Vugt et al., 2008). Fiedler's contingency theory has been used to measure the situational favorableness of leaders by the method of dichotomized situational factors (Peters, Hartke, & Pohlmann, 1985; Vroom et al., 2007). While the contingency theory was popular in the 1960s and the 1970s, situational leadership theory was being developed by Hersey and Blanchard, in which leadership was assumed to have the capability to adapt to a given situation (Benson et al., 2011; Chemers, 2000). The leadership behaviors and style that a leader chooses to model can be considered through many theories; among the theories is trait, contingency, and situational.

Trait Leadership

Trait leadership is defined by a leader's personality and character, but should be comparable to the workgroup (Bass, 1981). Gordon Allport (as cited in Larse & Buss,

2009), who is considered the father of trait theory, described in the 1920s personality traits as being inherited and learned. Allport's trait theory paved the way for the so-called Big Five dimensions, developed from Cattell and Eysenck's extension of Allport's work on personality traits (as cited in Larsen & Buss, 2010). The Big Five measured personality on openness, conscientiousness, extraversion, agreeableness, and neuroticism, to experience (Paunonen, 2003). In the area of industrial and organization psychology, the conscientiousness item of the Big Five is a good predictor of a leader's job performance (Paunonen, 2003). In a meta-analysis review of Stogdill and Mann they show that the personality traits do not relate to leader perceptions (Lord, Vader, & Alliger, 1986). Ng, Ang, and Chan (2008) also contended trait theory does not determine the leadership abilities based upon situational aspects of the work environment.

Fiedler's Contingency Theory

Fiedler's contingency theory leaders may be more achievement related. The leader is task oriented, focusing on obtaining goals for the organization, and not the relationship of the team members in low and high control work environments (Vroom & Jago, 2007). For example, leaders may not listen to team members, but would rather proceed with moving the project forward for the sake of the group while determining the path of correcting or not correcting any given mistakes (Avolio et al., 2009). Leaders who behave in accordance with Fiedler's contingency theory are placed in a position to focus more on organizational goals and structure (Avolio et al., 2009). Through Fiedler's contingency theory, leaders view their roles as obligated and committed to the

organization; therefore, leaders are goal-oriented, as well as more traditional employee-oriented (Felfe & Frank, 2010).

Leader behaviors and styles are not always defined by the type of traits that leaders possess, especially when situations make a difference in the choices that a leader makes (Bass, 1981).

Situational Leadership Theory

Situational leadership's foundation is the idea that several factors are necessary in order to determine effective leadership styles, such as guidance and direction, relationships, and the workgroup's readiness to follow the leader (Hersey et al., 2008). Leadership style is determined and defined by the behavior of the leader and how the workgroup perceives the leader (Hersey et al., 2008). The focus of the leader should be on the workgroup composition, the team's structure, and to determine what work best for the group to be effective in any situation (Messick, & Kramer, 2005). Situational Leadership should be transferable from one situation to the next within homogeneous and heterogeneous workgroups (Bass, 1981).

While leadership styles are the focus of research, the relationship between leaders and their employees, including both homogeneous and heterogeneous workgroup, has received slight attention in the research literature (Hersey & Blanchard, 2008; Kivlighan, 1997). Researchers have covered areas such as why individuals choose temporary work, as well as the benefits of permanent employment such as job security, health benefits, and stability (Kraimer et al., 2005). Attitudes concerning work status and job satisfaction are present while a firm definition of contractor work status continues to be misrepresented

by employees and the leaders (Holtom, Lee, & Tidd, 2002). Effective leaders not only need good traits, character, and charisma; they also need to be flexible, attend to the needs of the followers, and be aware of all the situational factors around the workgroup (Hersey, et al., 2008). Therefore, to bring the discussion of theories back to the Situational Theory II model, a further discussion of contingency leadership will pave the way for situational leadership theory.

Contingency Leadership

Contingency theory over the years established a foundation for organizational design and method, which follows an adaption process that continually takes place within organizations aiding leaders in their ability to adapt to changing work environments (Donaldson, 2009). Fiedler developed the contingency theory in 1967 to conduct research concerning not only the style of leadership but also the relationship leaders had with team members (Graen, Alvares, Orris, & Martella, 1970; Vroom et al., 2007). The essential feature of contingency theory focuses on the interactions between the leaders and the followers, and it assumes that the leaders do contribute to the performance of the groups (Graen et al., 1970). Contingency theory is assessed by the Least Preferred Co-Worker (LPC) scale, which measures the influence leaders hold over workers through relationships, task orientation, and power (Miller, Butler, & Cosentino, 2004; Miner, 2005; Schriesheim, Tepper, & Tetrault, 1994; Vadi, & Vedina, 2007). Each of the variables is dichotomized into octants of high to low, in which low signifies a leader who is more effective under both favorable and unfavorable conditions, and high signifies only favorable situations (Schriesheim et al., 1994).

Fiedler's contingency theory is based upon the LPC scale, which measures the abilities of a leader on the scale of 1-8, with a high correlating to a leader who is relational oriented and the low as more task oriented (Bedian & Gleuck, 1983; Miner, 2005; Vadi, & Vedina, 2007). The method can measure the emotional aspects of an individual a leader can or cannot work with (Bedian & Gleuck, 1983). Bedian and Gleuck (1983) also pointed out that Fiedler's theory divides leaders into three categories: (a) Leader-Member Relations, focusing upon employee/leader acceptance; (b) Task Structured, concerning how excellent leaders detail employee job descriptions; and (c) Position Power, referring to formal authority. Hersey et al. (2008) stated Fiedler was focusing on two leadership styles, task and relationship, where several combinations are likely favorable. Leaders who are liked by their team may have an increase in power to accomplish their task; yet a leader who is task oriented might also be liked by his or her team (Hersey et al., 2008). In other words, the basic concept of contingency theory is that the performance of a team would be contingent upon the interactions and the favorableness of the leader (Miner, 2005; Mitchell, Biglan, Oncken, & Fiedler, 1970).

Contingency theory may be more achievement related; that is, the leader focuses on obtaining goals for the self, the organization, and is more authoritative in manner (Vroom & Jago, 2007). Contingency theory places the leader in a position to focus on the organizational goals and structure versus the situation that is present (Avolio et al., 2009). Through contingency theory, one may view leadership as obliging and in commitment to the organization and more permanent employee oriented (Felfe & Frank, 2010). Contingency leaders play an increasing part of how employee attitudes present toward

contractual workers, yet research continues to demonstrate differences with interpretations of Fiedler's results (Felfe & Frank, 2010).

Contingency theory has received criticism for the way the model does not match training modules, leaders with leadership styles, and the current work situation, thus referring to situation control (Avolio, Sosik, Jung, & Berson, 2003; Miner, 2005; Jago & Ragan 1986). Past research on contingency theory shows that inconsistencies are present in the model, which provide evidence that three of the favorable octants show that the low-LPC leaders are more effective than high LPC leaders (Avolio et al., 2003; Miner, 2005; Jago & Ragan 1986). Weill and Olson (1989) argued that contingency theory receives criticism because the model variables only account for a minuscule percentage in previous studies. Weill and Olson also demonstrated that through the use of the management information systems, and by choosing more variables in smaller amounts, contingency theory could better explain how organizations and leaders function on a much larger scale.

Fiedler's contingency theory has always presented the task-oriented leadership style, and many modules have attempted to duplicate it; however, researchers have consistently showed that Fiedler's participant pool was simply too small to result in a valid study (Miner, 2005; Peters et al., 1985). Peters et al. (1985) reported that due to the small sample size, it is difficult to report the significant criteria; therefore, it cannot be meaningfully applicable. Still, even though contingency theory's structure leads to much criticism, it also led to more innovation and development of situational leadership factors, thus paving the way for Hersey and Blanchard's situational theory (Chemers, 2000).

Situational Leadership

Situational leadership theory appears to be one of the most popular theories tested across a broad band of organizations (Benson et al., 2011; Butler & Reese, 1991). Situational leadership theory focuses on the worker's level of maturity and the readiness to follow the leader and his or her commitment to the required work in order to accomplish the task at hand (Benson et al., 2011; Butler & Reese, 1991). Hersey and Blanchard (1984) developed a 2 x 2 matrix, breaking down the situational leader into four main styles that consist of delegating, participating, selling, and telling. Within these quadrants, the model demonstrated the different levels that followers or working teams may display, as well as different styles of leadership that leaders may need to adapt to in order to lead the workgroup (Butler & Reese, 1991). It is not enough simply to match leaders with styles of leadership; rather, leaders should be matched with leadership styles and the behaviors of the followers (Benson et al., 2011; Jago & Ragan 1986).

Blanchard (2009) indicated that the relationship between the leader and the maturity of the followers determines which leadership style is suitable for a given situation. The leader moves between four styles of leadership (Hersey, 1984).

- Delegating: Sees more group responsibility for their decisions, defining it as low-task/low-relationship.
- Participating: Views a relationship that shares ideas/decisions and is defined as low-task/high-relationship.

- Selling: Is more of a directive style, and leaders conduct more job task explaining in a supportive manner and are defined as high-task/high-relationship.
- Telling: Micromanages, and is defined as high-task/low-relationship.

During the 1980s, the Situational Leadership II model was developed, and the four quadrants were changed to delegating, supporting, coaching, and directing (Blanchard, Zigarmi, & Nelson 1993). Although the Situational Leadership II style is in four quadrants, it is possible to arrive at any variation of leadership style and level of readiness (Hersey et al., 2008). Hersey and Blanchard (2008) found that although leaders attempt to learn a particular leadership style, it is the followers who determine the behavior of their leader.

Hersey (2009) believed that in order to serve an organization of any type, effective leaders should be able to adapt to any situation and be capable of influencing and increasing the performance of the followers. Effective leaders should possess the qualities that allow them to display high concerns not only for the organization's mission and products but for the followers as well, thus being able to adapt the style of leadership to the current situation (Hersey-Blanchard, 1982). Kivlighan (1997) contended that effective leaders should be capable of leading based upon the needs of the group, thus accomplishing both task and relationship oriented goals. In other words, a leader would match leadership style to the individual needs of the workgroup, thereby changing and adapting a leadership style depending upon the willingness and the abilities of the followers (Hersey, 2009).

Along with the four styles of leadership are the four levels of readiness based upon follower ability, which are described as "*R1*: unable and insecure or unable and unwilling; *R2*: unable but confident or willing; *R3*: able but insecure or able but unwilling; and *R4*: able and confident and willing" (Hersey, 2009). Thus, the different leadership styles are then matched with different followers based upon individual maturity levels (Blake & Mouton, 1982; Hersey, 2009). As an example of how the two levels work together, a leader would observe the abilities of the followers and adapt to the level of leadership to best fit that requirement (Hersey, 2009). Hersey (2009) suggested an *R1* level follower who is not sure of how to continue without guidance might need a leader who can adapt to a selling style that is more directive.

The role of situational leadership can then be summed up into three aspects:

1. Organizational effectiveness – leaders are more affected by their current environment and situational factors that arise.
2. Situations shape leader behavior – leaders are affected by their external factors in their environment.
3. Situations influence a consequence of leader behavior – leaders tailor their behavior and leadership style based upon the demands of each individual situation (Vroom & Jago, 2007).

Johnson and Wallace (2011) referred to this type of leadership role as one that can access through cognition and emotion the context of the followers and be able to use language strategically in order to increase the effectiveness. Situational leaders are then able to access the attitudes and the emotional ability of not only the permanent workers,

but also the temporary or contract workers in order to shape the leadership styles (Slattery & Selvarajan, 2011).

The Situational Leadership Theory II model is a two-variable approach to measuring leadership effectiveness within organizations, with the two variables being task and relationship (Blake & Mouton, 1982). Blake and Mouton (1982) pointed out that with the two variables being independent of each other, other variables could be added or removed in order to change the magnitude of the research study being conducted. The main variable that all leaders have in common is that they have at least one or more followers; yet, there is no clear decisive manner in which to arrive at a reliable scientific term for leadership, thus leaving room for future studies (Vroom & Jago, 2007).

Because industries have begun to employ temporary agencies in order to find workers who are already trained and educated in their work-related fields, how leaders lead the followers has changed (Slattery & Selvarajan, 2011). This approach to filling work positions has brought to research a new angle in which to study the effectiveness and the influence that organizational leaders have over permanent and temporary or contract workers (Slattery & Selvarajan, 2011). However, not only are leaders faced with a different approach to leading team members, contract workers or nonstandard employees must also be flexible because they now work for two sets of leaders (Winkler, 2011). With the increase in strategic workforce hiring practices, contract workers are mainstreamed into the work environment as substitutes for permanent employees and to increase production during seasonal periods. Research is lacking data that explain how leaders influence or lead both types of workgroups (Hakansson & Isidorsson, 2012).

Effectively addressing the impact of the relationship between leaders and all employees, a quality leader would remain open to flexibility, remain conscientious about task-oriented plans, and remain focused on high levels of communication and encouragement for the employees (Judge et al., 2002). Leaders may tend to ignore contract employees or either place them in a category of not belonging to the leader's workgroup, thus creating an environment that lacks direction for temporary or contract workers and influences permanent employees also to ignore temporary or contract workers (Yukl & Mahsud, 2010). Effective communication between leaders and the team members, including temporary or contract employees, is a factor in job satisfaction, thus leading to an increase in the confidence level of the followers (Madlock, 2008). Leaders must be capable of adapting to the diverse situations within the work environment (Arvonen & Ekvall, 1999). Changes within organizational leadership should reflect the situational demands, as well as the changes that are occurring between leaders and the team members and affecting behavior styles and production (Arvonen & Ekvall, 1999). Leaders should focus on the individual, along with the entire group's survival (Van Vugt et al., 2008).

Summary and Transition

This chapter was a brief overview of what constitutes a leader as defined by Allports' Trait leadership of personality to Fiedler's contingency theory, through Hersey and Blanchard's Situational leadership. This chapter provides a brief review of the history of Fiedler's contingency theory, which has been a basis for measuring the amount of favorableness within the relationship of the leader and the followers. Researchers have

provided a solid foundation to follow when attempting to advance the understanding of leadership styles and behaviors. From Fiedler's contingency theory to the beginning of Hersey and Blanchard's leadership behavior model under the life cycle theory of leadership, researchers are able to follow the path to Blanchard's Situational Leadership II theory.

Also reviewed was Hersey and Blanchard's situational leadership theory, which distinguishes different styles of leadership in relation to the readiness, or the maturity levels, of the followers. Blanchard's Situational Leadership II theory moved away from selling and telling to supporting and participating and from the readiness levels to development levels of high competence and commitment to low competence and commitment (Blanchard et al., 1993). These changes in the leadership behavior models have paved the way for Blanchard and Zigarmi's Leader Behavior Analysis II, which provides the foundation for the present study. The LBAII has assisted research on leadership styles when contractual employees are a variable within the group relationship. The LBAII has been used in this study to examine whether (homogeneous and heterogeneous) workgroup composition predicts the leadership styles of aircraft manufacturing leaders, i. e., directive, coaching, delegating, or supportive leadership styles.

Chapter 3 continues to address the Situational Leader II theories of Blanchard and Zigarmi in order to conclude whether the composition of the two workgroups compositions predicts a leader's leadership style. It examined the instruments that obtained the base scores of the LBAII, including the Leader Effectiveness Scale (LES)

and Leader Flexibility Scale (LFS), and the Manufacturing Leader Demographic Questionnaire (MLDQ). These raw scores provided the actual data for analysis for answering the research questions. The regression methodology examines the relationship between the two workgroup compositions and the leader's leadership styles scores. Chapter 3 also provides the overview of ethical concerns and the method in which each participant received the consent forms and survey instruments.

Chapter 4 presents the demographic characteristics, LBAII scores, , the leaeder flexibility and effectiveness raw scores, and the regression analyses. Chapter 5 provides an overview, of the interpretations of the results of the current study, implications for social change and recommendations for future research.

Chapter 3: Research Method

Introduction

The chapter is an outline of the research method that addresses the research questions and tests the hypotheses. It is a description of the instruments used, an assessment of reliability and validity of the instruments, and the manner in which the data were collected and analyzed. The following sections are presented: (a) population, including the sample; (b) instrument; and (c) data analysis strategy.

The basis of the current study is an alternative employment pattern, as provided by the BLS (2005), which suggests that organizations are experiencing an increase in contract workers. The present study was designed to examine whether workgroup composition, homogeneous versus heterogeneous, can predict leadership styles of aircraft manufacturing leaders. It was the intent of the present study to identify leadership styles that are predicted by workgroup composition, both homogeneous and heterogeneous. Examining the current patterns of leadership styles in workgroups of different composition can provide future leaders insight to improve leader and worker relationships. The following research questions and hypotheses assisted in determining whether workgroup composition can predict leadership styles.

Research Questions

The three research questions and associated hypotheses with the corresponding plans for the completed investigation follow:

RQ1: Does workgroup composition predict the leadership styles in aircraft manufacturing organizations?

$H1_o$: Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing industry leader's leadership styles (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

$H1_a$: Workgroup composition (homogeneous versus heterogeneous) predicts an aircraft manufacturing industry leader's leadership styles (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

To investigate RQ1, I obtained the raw flexibility scores that the participants provided on the LBAII. The results from the LBAII flexibility scores, ranging from 0-30 and leadership style level S1, S2, S3, or S4, along with a regression analysis, determined whether the workgroup compositions were predictive of leadership styles of aircraft manufacturing industry leaders. The predictor variable was the workgroup composition and the criterion variable was the leadership style (i.e., directive, coaching, delegating, and supportive).

The raw scores were used to determine if the homogeneous and heterogeneous workgroup compositions predict the leadership style. In general, if aircraft manufacturing leaders have scores closer to the S4 style, then the S4 leadership style would be congruent with the leaders being less trusting of their employees and provide a more directive leadership style with the heterogeneous workgroups.

RQ2: Does workgroup composition predict an aircraft manufacturing industry leader's effectiveness scores?

$H2_{o:}$ Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing industry leader's effectiveness scores (i.e., excellent, good, fair, or poor and high to low levels on scores) as assessed by the LBAII in aircraft manufacturing organizations.

$H2_{a:}$ Workgroup composition (homogeneous versus heterogeneous) predict an aircraft manufacturing industry leader's effectiveness scores (i.e., excellent, good, fair, or poor and high to low level scores) as assessed by the LBAII in aircraft manufacturing organizations.

To investigate RQ 2, I obtained the raw effectiveness scores that the participants provided on the LBAII. The results from the LBAII raw effectiveness scores range from (E) for excellent, (G) good, (F) fair, and (P) poor leadership style levels, and 0-80 with a normal range occurring between 50-58. These raw scores, along with the regression analysis, were used to determine if the workgroup composition were predictive of the leadership styles. The effectiveness raw scores were used to predict whether homogeneous versus heterogeneous workgroup composition predict the leader's effectiveness scores. The predictor variables were workgroup composition and leadership style composite scores and the criterion variable is the leader effectiveness raw scores. If the workgroup compositions are predictive of the leadership style, then the leaders in the heterogeneous workgroup have scores closer to the (P) poor scale. The workgroup composition predicts the leadership styles to be less trusting of the employees and have less influence as a leader.

RQ3: Do leader demographics and/or workgroup composition predict leadership flexibility styles as accessed by the LFS in aircraft manufacturing organizations?

$H3_o$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not predict leadership flexibility styles (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

$H3_a$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict leadership flexibility styles (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

To investigate RQ 3, I obtained the raw flexibility scores that the participants provided on the LBAII and the MLDQ. The results from the flexibility raw scores range from 0-30. The raw scores from the MLDQ would be used to determine whether leader demographics and workgroup compositions are predictive of leadership styles. The predictor variables consist of the leader demographic characteristics, which were tenure, age, gender, and education level of the leader along with workgroup dummy coded The criterion variable is the raw scores from the LFS questionnaire.

RQ4: Do leader demographics and/or workgroup composition predict leadership effectiveness styles as accessed by the LES in aircraft manufacturing organizations?

$H4_o$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not

predict leadership effectiveness style (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

$H4_a$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict leadership effectiveness style (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

To investigate RQ 4, I obtained the raw effectiveness scores that the participants provided on the LBAII and the MLDQ. The results from the effectiveness raw scores range from (E) for excellent, (G) good, (F), fair and (P) poor leadership style levels range from 0-80 with a normal range between 50 -58. The raw scores from the MLDQ would be used to determine whether leader demographics and workgroup compositions are predictive of leadership styles. The predictor variables consist of the leader demographic characteristics, which were tenure, age, gender, and education level of the leader along with workgroup composition dummy coded. The criterion variable is the raw scores from the LES questionnaire.

Population and Sample

The leadership participants were selected from several aircraft manufacturing organizations that employ contractor workers as a portion of their staff. The MLDQ determined which aircraft manufacturing leaders work with the homogeneous versus the heterogeneous workgroups. The population of leaders within manufacturing organizations consists of approximately 15,030 production leaders, as obtained from the 2012 U. S. Census Report.

I aimed at the power of .8 or 80% in order to increase the chances of detecting an effect. With a confidence level of 95% and a confidence interval of 5 and the estimated population of 15,030, the appropriate sample size was determined. The G*power three calculator revealed that for a regression analysis with $p < .05$, to detect an effect size of .30 with the power of .80, the present study needed at least 350 participants (Faul, Buchner, & Lang, 2009). With the large sample size of 350, it was expected that the total received completed survey forms would meet the required number of participants.

Instruments

The LBAII and the MLDQ were the two instruments used in this study. The LBAII provides the raw scores for the Leader Effectiveness Scale (LES) and the Leader Flexibility Scale (LFS). The following sections cover each instrument with respect to use, validity, and reliability.

Leader Behavior Analysis II

The LBAII assessment represents the proprietary copyrighted intellectual property of the Ken Blanchard Companies, and is used herein, with permission, for the use of research to support this dissertation (see Appendix A). The LBAII instrument was used to assess the participants' leadership styles. The LBAII, developed by Blanchard et al. in 1985 and revised in 1991 assesses leadership styles and provides two distinct sets of scores. Previous studies using the LES and LFS scores resulted in reliability coefficients ranging from .54 to .86 within a median value of .74 (Zigarmi et al., 1995).

The LBAII was distributed to the volunteer participants via a web link posted on my LinkedIn website. Once participants signed the informed consent, they were able to

access the LBAII covering the 20 scenarios questions. Zigamri et al. (1997) developed the 20 LBAII questions, each of which provides a scenario concerning a situation that may arise when leading a group of workers, along with four possible responses to the situation. Participants were asked to read the scenarios and then choose the best response based upon personal leadership style and work experience. After the participants completed the survey, I hand-scored the LBAII questionnaire for both the LES and the LFS raw scores. Zigarmi et al. (1995) asserted that the effectiveness score is the most important score in determining leadership styles.

Leader Effectiveness Scale. The LES measured and represented the degree that the leader chooses as the most appropriate response for each situation. The LES assigned a letter value to each score as (E) excellent, (G) good, (F) fair, and (P) poor. A numerical value of (4) for excellent, (3) good, (2) fair, and (1) poor was given for each column as instructed in the LBAII survey (Zigamri et al., 1997). When scoring the respondents' answers, for example, if the respondent were to choose all excellent answers, then the score would be computed by multiplying 4 x 20 questions answered to produce a score of 80 points Zigamri et al. (1997). The LBAII Self-Assessment provided the effectiveness score as an indicator of the respondent's diagnostic skill in choosing the appropriate style assigned by the model Zigamri et al. (1997). Each of the 20 questions included four situations in which S1, S2, S3, and S4 styles would be more effective, given the competence and commitment of the follower Zigamri et al. (1997). The effectiveness scores as an indicator of how well a leader matched personal styles from a leader perception to an employee's developmental needs ranged from 20-80 (Blanchard et al.,

2005). The normal range of leadership styles, according to the LBAII effectiveness graph, is between 50 and 58 based upon the rating scale (Blanchard et al., 2005).

Leader Flexibility Scale. The LFS represented the responses from leaders covering varying leadership style choices based upon the same 20 questions. The LFS differed from the LES in that the LBAII self-score for flexibility there is a numerical indicator of how often a participant utilized a different style; S1, S2, S3, and S4, to solve each of the 20 different situations Zigamri et al. (1997). The more often a participant chooses a single situation or style over the 20 total situations, the less flexibility is evident. However, the more evenly that the four choices appear over the 20 situations, the more flexibility is evident within the scores Zigamri et al. (1997). The flexibility score calculates a scale that ranges from 0-30 and is subjected to the traditional parametric statistics (Blanchard et al., 2005). Leadership styles have the ability to flow between four distinct styles of leadership, S1 is high directive to low supportive and task specific; S2 is high directive to high supportive, providing flexibility; S3 is low directive to high supportive and very supportive of the followers, and S4 leaders complete with a low directive to low supportive, and trusting their cohorts with shared leadership (Blanchard, 2001; Blanchard et al., 1993, 2007).

Validity and reliability. In the timeframe of 1983-1987, assessment owners of the Ken Blanchard organization strengthened the instrument utilized to measure Situational Leadership Styles through flexibility and effectiveness in regard to the content validity, predictive validity, and internal validity (Blanchard, 2001, p. 4). Two other test assessments were used to test the validity of the LBA and the LBAII. The Wilson

Multilevel Management Survey (MLMS) had previously established the history of validity with the contents measuring leadership behavior (Zigarmi et al., 1997). The MLMS and the LBAII measured $N = 552$ subordinates which worked under $N = 122$ managers in order to determine the validity of the LBAII (Zigarmi et al., 1997, p. 17). The MLMS measured 23 items of leadership and 15 subscale items measuring leader behavior. The 15 subscales of the MLMS and the LBAII were consistent at $p < .0001$ (Zigarmi et al., 1997, p. 22). The LBA was measured by the Leader Behavior Description Questionnaire (LBDQ), which also measures leader behavior, providing its history of validity (Zigarmi et al., 1997). The LBAII was measured by both the MLMS and the LBDQ and has been administered by more than 100 college students using the assessment in their dissertation research projects (Zigarmi et al., 1997). The data collected on the MLMS and the LBAII were found to be consistent with the SLT II (Zigarmi et al., 1997 p. 70).

The LBAII self-assessment has been shown to be reliable due to its measuring through several procedures including a total of four specific measurements: internal consistency, split-halves, test-retest, and an alternate form (Zigarmi et al., 1997). Reliability is measurable by the internal consistencies, tested by Cronbach's alpha of the LBAII with a range of 0.42-0.70 and 0.56 – 0.86, which suggest strong correlations (Zigarmi et al., 1997).

Manufacturing Leader Demographic Questionnaire

To measure demographic differences among participants the MLDQ was developed by the researcher; it is an assessment package covering the following personal

characteristics: age, gender, tenure, education level of the leader, and homogeneous versus heterogeneous workgroups. This questionnaire is vital to the assessment in order to code each leader into the required homogeneous and heterogeneous workgroups. The leader workgroup codes are (0) for leaders in the homogeneous workgroup and (1) for leaders in the heterogeneous workgroup. The workgroup composition is key to understanding the influence that leaders reflect upon employees. Smaller aircraft manufacturing organizations were assumed to have more influence upon the employees than larger organizations, which employ fewer contract workers.

Validity and reliability. The MLDQ is a demographic questionnaire and can be valid and reliable only if the respondents answer each question truthfully. The questionnaire provides no reason for any of the participants to provide false answers, and it was assumed questions were answered honestly. The MLDQ is reliable in that the same questions can repeatedly be given to participants.

Data Collection

The following section is a presentation of how participants accessed the survey instruments, as well as an explanation of the final coding of the data. Once permission was obtained from the IRB to continue with the research, each participant was given access to the following: (a) invitation letter to participate (see Appendix E); (b) informed consent (see Appendix D); (c) MLDQ (see Appendix B), (d) LBAII; and (e) thank-you letter (see Appendix F).

The participants were given access to the questionnaires via my LinkedIn website. LinkedIn is a social site for various organizations to network with other professionals.

The LinkedIn websites' search engines were set to seek out possible aircraft manufacturing organizations. The sampling framework was determined by the size of the responding aircraft manufacturing organizations, thus resulting in a population of fewer than 8,000 potential participants. All potential participants were taken directly to the opening page of the LinkedIn site with the invitation letter. At the end of the invitation letter a link provided each participant access to the informed consent and the survey. All potential participants were first given the informed consent to review, which provided the nature of the study, along with their right to withdraw from the study at any time. Participants were directed to sign a consent form electronically by clicking on the "I Consent" or "I Do Not Consent" button, before gaining access to the LBAII and the MLDQ.

Of the 189 responses, 39 respondents did not consent to take the survey, thus disqualifying them. The remaining 150 responses were transferred to a clean Excel spreadsheet for data coding and final analysis.

Data Coding and Screening

After the "I Consent" form was chosen, the participants were taken through the MLDQ and then the LBAII. The MLDQ provided the data needed for the regression analysis. The data coding began by coding workgroups as 0 = homogeneous and 1 = heterogeneous. The variable gender was coded as 2 = male and 3 = female. The leadership styles are coded as S1 = directive, S2 = coaching, S3 = supporting, S4 = delegating, and an additional S5 for respondents scoring a combination of S1, 2, 3, or 4. The LBAII was hand-scored with the Style Flexibility Grid and the Style Effectiveness

Grid, provided with the instrument. Further coding was necessary in order to convert group numbers into whole numbers for analysis. The variable age was recoded into (4) for age group 18-24, (5) age group 25-34, (6) age group 35-44, (7) age group 45-54, (8) age group 55-64, (9) age group 65-74, and, finally, (10) age group 75+. The variable education required recoding into (12) for high school diploma, (14) for a college degree, (16) for a master's, and (18) for a doctorate. The last group variable, which required a recode into whole numbers, was the group variable tenure, as (21) for 1-5 years, (22) for 1-10 years, (23) for 11-15 years, (24) for 16-20 years, and (25) for 21 + years of service. Once all of the LBAII assessments were hand-scored they were then entered into the clean Excel sheet in preparation for SPSS analysis.

The MLDQ variables consisted of gender, age, leader level of educational, tenure, number of employees in workgroup, and workgroup composition and function. The MLDQ also classified the workgroup composition and function by the following variables: repair station, assembly, flight line, human resources, administration, planning & engineer, safety & lean manufacturing, material & tool control, quality & inspection, and union and contractor leaders.

The LBAII provided vital information concerning the leader styles and choices to the 20-item questionnaire developed by Blanchard et al. (1999). The leadership scores were present after the LBAII was hand-scored using the Style Flexibility Grid and the Style Effectiveness grid per the instructions set forth with the instrument. The LBAII Flexibility Score breaks the leadership scores into four categories; S1 – Directing, S2 – Coaching, S3 – Supportive, and S4 – Delegating. The Style Flexibility Grid set forth the

instructions for scoring each participant's questionnaires. The appropriate responses were placed on the grid within four columns in order to obtain the final LFS score.

The LBAII Effectiveness Scores breaks the leadership scores into the following four categories; (P) Poor, (F) Fair, (G) Good, and (E) Excellent. The appropriate responses were placed on the grid within four columns in order to obtain the final LES score. Once the LFS and the LES scores were present from the LBAII questionnaire, I began the process entering all of the data into the clean EXCEL spreadsheet in preparation for SPSS. The LBAII questionnaire results ($N = 150$) were entered into the statistical database. Through the process of the data analysis, it was my assumption that the homogeneous versus the heterogeneous workgroup compositions and functions would be predictive of the leadership styles of the aircraft manufacturing leaders. I expected to see a difference in the leadership styles between the leaders of both the homogeneous and the heterogeneous workgroup compositions.

Statistical Analysis

The Statistical Package for the Social Sciences Version 21 (SSPS) was used to analyze the descriptive calculations to determine the percentage of leaders in terms of tenure, work title, and workgroup characteristics, including their compositions and functions. The descriptive calculations were vital for determining the distribution, percentage, and the frequency, based upon the answers to the 20 LBAII question. By utilizing the LBAII scores and the predetermined statistical analysis, the present study provides a sample of 150 respondents from a given population of 8,000 leaders within

several aircraft manufacturing organizations and measure by $\alpha = .50$, with the power of 80% and a medium effect size of $r = .3$.

While searching for the normal curve distribution, the analysis would search for the skew and the *SD* error of the skew, attempting to eliminate all possible error within the research data. Once the data were input into SPSS, and all possible errors were present, I began to measure whether leadership styles can be predicted when leading homogeneous versus heterogeneous workgroups. The multiple regression analysis provided statistical data to determine whether workgroup composition could be predictive of the leadership styles of aircraft manufacturing leader's.

Descriptive analysis includes tables to provide an overview of the standard mean of the leader's scores by the covariate variables, gender, tenure, and, leader level of education. Tables were also created to provide data required by the Ken Blanchard Companies. The LBAII provided the following scores: average flexibility, average effectiveness, average styles score 1-4 with the mean and standard deviation, along with the percentages of primary styles 1 -4, the percent of development styles 1-4, maximums and minimums, and the standard deviations by gender (Blanchard, 2005).

A suitable significance level for this study was $\alpha = .05$, corresponding to a 0.95 probability, or $(1 - \alpha)$; in other words, there was a 95% chance to statistically conclude that the null hypothesis was true when it actually was or to reject the alternative hypothesis (Field, 2005). I set the alpha at $\alpha = .05$ with a 95% chance to obtain an error of either Type I, which occurs when an effect is identified, when one does not exist; or Type

II, which, provides evidence that there is an effect when the researcher believes there would not be an effect (Verhoeven, Simonsen, & McIntyre, 2005).

The MLDQ provides the mean scores measured with the mean scores of the LBAII and provide valuable data that determines whether any outside variables are predictors of leadership styles of the aircraft manufacturing leaders in respond to the LBAII assessment. Given the assumption that the two ends of a normal curve correspond with the scores obtained, it was possible to determine whether leadership styles of the aircraft manufacturing leaders are predictive. At one end of the normal curve is the (P) poor – (F) fair scores on the effectiveness scale or negative (-1) and S1-S2 on the flexibility scale. The opposite end of the normal curve is the positive effects corresponding to (E) excellent – (G) good scores on the effectiveness scale or positive (1) and S3-S4 for the leadership flexibility scores. The probabilities of leadership styles of the aircraft manufacturing leaders are predictive when the majority of the scores fall within the negative end of the normal curve for the heterogeneous workgroup.

Ethical Concerns and Protection of Human Participants

Human research is a systematic investigation through which there is interaction with a living person who volunteers to participate in a research study in order to obtain general knowledge (Arford, 2004). Integrity, both scientifically and human, is the utmost concern in any research study. Responses to all survey questionnaires remained confidential and eliminated the requirement of the survey to be signed by the participant. The LBAII questionnaire posed little if any negative influence upon the human subject that agreed to participate.

Before any statistical data were collected and before any human participants were approached as potential for research participation, the IRB review process (approval #03-17-14-0194674) assisted in ensuring that the present study causes no harm to any participant. The rights and protection of human participants were demonstrated and conveyed through the narrative of the consent form; all participants were informed of their right to exit the study at any time. All assessment materials will be kept in a locked and secured container for the duration of 5 years. All of the participants signed the electronic consent form anonymously.

Summary and Transition

A variety of leadership assessment scales have been developed in order to measure the characteristics and the components of leadership abilities or styles. The LBAII has been used since 1983 by more than 100 researchers (Blanchard, 1993). The LBAII allows researchers to explore 20 questions in response to different situations that leaders may be faced with when working within organizations, in this case, aircraft manufacturing organizations. The scores obtained from the present study contribute to the knowledge of leadership styles. The LBAII and the demographic results were used to determine whether gender, leader level of education, and tenure are predictive of the leadership styles among the workgroups compositions.

With a sample of 150 participants ($\alpha < .05$), the analysis examined leadership styles within homogeneous and heterogeneous workgroup compositions and functions. The descriptive scores are in SPSS, and the scores are filtered for missing data or out of range values through the normal curve eliminating room for error. The study did not pose

any known or knowable threats to leaders who participated, and all precautions were followed to ensure participant confidentiality. The leaders who agreed to participate in the study should find the data useful for future purposes in order to improve leader/employee relationships.

Chapter 4 presents the demographic characteristics, LBAII scores, the leader flexibility and effectiveness raw scores, and regression analyses. Chapter 5 provides an overview, of the interpretations of the results of the current study, implications for social change and recommendations for future research.

Chapter 4: Results

Introduction

The present study was designed to determine if homogeneous versus heterogeneous workgroups, in conjunction with leader demographics, predict leadership style in the aircraft manufacturing industry. This study captured leader responses to the LBAII questionnaire and demographic variables, including age, tenure, gender, education level of leader, and workgroup composition. The demographic variables were introduced into the analysis to determine whether they were predictive of the effectiveness and the flexibility scores from the LBAII.

Participant Characteristics

Table 1 shows the gender, age, and tenure breakout for the participants in the sample, as well as the mean and standard deviation. The aircraft manufacturing leaders *(N* = 150) survey responses included 68 males (45.3%) and 82 females (54.7%). The majority of the participants were 35-44 years old *(n* = 45; 19%); the cohort 55-64 years was the second most frequent group *(n* = 33; 22%). The variable age was grouped into ranges of 10 years, except for the first group, which began at the legal age of 18 with a range of 7 years. The variable tenure found the plurality of the participants *(n* = 52; 35%) to be in the range of 1-5 years, and the next highest *(n* = 36; 24%) in the range of 21 + years. The participants for the variable tenure were divided into ranges of 1-5, 1-10, 11-15, 16-20, and 21+ years. Once the breakout for tenure was evident it became apparent that the distribution might impact the subsequent analysis. Tenure contained one categorical section to cover years of work from 1 – 15, but only one participant gave this

response. Since this participant did not elect the 11 -15 responses, this variable was combined and represented in the group that covered years of work in the 1 – 10 year tenure category.

Table 1

Participant Characteristics: Gender, Age, Tenure

Characteristics	*n*	%	*M*	*SD*
Gender				
Male	68	45.3	2.40	1.067
Female	82	54.7	2.61	1.235
Age				
18-24	12	8.0	2.50	1.168
25-34	19	12.7	2.68	1.157
35-44	45	30.0	2.42	1.076
45-54	28	18.7	2.32	1.124
55-64	33	22.0	2.70	1.334
65-74	9	6.0	2.67	1.225
75+	4	2.7	2.25	1.258
Tenure				
1-5	52	34.7	2.50	1.094
1-10	28	27.0	2.19	.962
11-15	15	10.7	2.75	1.291
16-20	19	12.7	2.65	1.089
21+	36	24.0	2.60	1.376

The variable leader level of education showed the majority of the participants had a high school diploma *(n* = 52; 35%), college degree *(n* = 48; 32%), or masters degree *(n* = 38; 25%). Table 2 shows the frequencies and the percentages for leader level of education, as well as the mean and standard deviation. Leader level of education are recorded as, high school diploma, college degree, masters degree, and doctorate.

Table 2

Participant Characteristics: Leader Level of Education

Characteristics	*n*	%	*M*	*SD*
High School	52	34.7	2.37	1.253
College Graduate	48	32.0	2.34	.939
Masters	38	25.3	2.87	1.174
Doctorate	12	8.0	2.67	1.371

Workgroup characteristics include composition and function (see Table 3). The majority of the participants' workgroups were homogenous *(n* = 91; 60.7%) and the rest heterogeneous *(n* = 59; 39.3%). The variable workgroup organization covered 11 different aircraft manufacturing organizations: administration, human resources, assembly, contractor lead, engineer and planning, flight line, materials and tools, quality inspection, repair station, safety and lean and union leaders. The majority of the participants *(n* = 63; 42%) and work in assembly *(n* = 31; 21%).

Table 3

Workgroup Characteristics: Composition and Function

Characteristics	*n*	*%*	*M*	*SD*
Composition				
Homogeneous	91	60.7	2.48	1.214
Heterogeneous	59	39.3	2.56	1.087

Table 3

Workgroup Characteristics: Composition and Function (cont.)

Characteristics	*n*	*%*	*M*	*SD*
Function				
Administrator	31	20.7	2.68	1.326
Assembly	63	42.0	2.30	1.116
Contract Leader	4	2.7	2.50	1.000
Engineer/Planning	8	5.3	2.75	1.282
Flight line	6	3.1	1.80	.447
Human Resources	5	10.0	3.27	1.223
Materials & Tools	2	1.3	3.00	.000
Quality & Inspection	11	7.3	2.18	.982
Repair Station	4	2.7	3.00	.000
Safety & Lean	3	2.0	2.00	1.732
Union Leader	3	2.0	3.00	.000

LBAII Research Variables

The section on the LBAII research variable explains the characteristics of the leadership style, flexibility, and effectiveness scores, which are combined with the demographic variables to explain the results of the research questions. The LBAII section provides an analysis that meets the requirements set forth by the Ken Blanchard Co., as a criterion for utilizing their instrument. These areas include the average flexibility and effectiveness scores, average leadership style scores with means and standard deviations, percentages for the primary styles 1-styles 4, percentages for the development styles 1-4, as well as the maximums and the minimums. Each of the research questions combines both the demographic and the LBAII. The LBAII Flexibility Score breaks the leadership scores into four categories; S1 – Directing, S2 – Coaching, S3 – Supportive, and S4 –

Delegating, as shown in Table 4. Once the Style Flexibility Grid contains the LBAII scores, each column is totaled and then subtracted by the given number directly related to each column and then totaled. Table 4 also provides a fifth category, as a result of the primary and developing style matrix data analysis in which the leadership scores of participants (*n = 14;* 9%) resulted in two or more primary or developmental leadership styles in their flexibility score. Out of the four leadership categories, 54 (36%) participants scored as S3, which means their leadership styles are more supportive of their workgroup. The remaining leadership styles scored as S1 – Directing *(n = 33; 22%)*, S2 – Coaching *(n = 42; 28%)*, and S4 – Delegating at *(n = 7; 5%)*.

Table 4

LBAII Characteristics: LFS

Leadership Styles	*n*	*%*	*M*	*SD*
S1 Directive	33	22.0	18.64	5.499
S2 Coaching	42	28.0	18.86	4.719
S3 Supportive	54	36.0	20.02	4.277
S4 Delegating	7	4.7	21.71	3.352
Combination	14	9.3	19.43	4.603

The LBAII variables in the effectiveness raw scores, as shown in Table 5, represent (E) excellent, (G) good, (F) fair, and (P) poor. Table 5 provides the frequencies and the percentage of raw scores that are used for further analysis in the regression model, which are interpreted within the research questions and in chapter 5. The raw frequency and percentage scores for the LBAII‘s flexibility and effectiveness scores also provide the data needed in order to determine if any outlying scores are present from the

LBAII questionnaire.

Table 5

LBAII PFGE Effectiveness Scores

Effectiveness	*n*	*%*	*M*	*SD*
(E) Excellent	9	6.0	52.000	4.0927
(F) Fair	58	38.7	43.500	3.3469
(G) Good	63	42.0	49.063	4.9672
(P) Poor	20	13.3	32.050	16.3207

The Effectiveness Scores range from (E) Excellent to (P) Poor according to each participant's leadership style choices. Table 5 shows the majority of the effectiveness scores at (F) (n = 58; 38.7%), (G) (n = 63; 42%), (P) (n = 20; 13.3%), and with only a few outlying scores at (E) (n = 9; 6%). Once the Style Effectiveness Grid contains the LBAII scores, each column is totaled and then subtracted by the given number directly related to each column and then calculated for a final score. The final total then becomes the participant's effectiveness score. Both were used for the calculations of the research data.

The frequency and percentages for the flexibility and the effectiveness scores are present in Table 6. In order to reduce the size of the table, certain scores were grouped together. Table 6 also includes the mean, standard deviation as well as the minimum and maximum scores for both the flexibility and the effectiveness questionnaires.

Table 6

Flexibility and Effectiveness Raw Scores

Characteristics	*M*	*SD*	Minimum	Maximum
Flexibility Style	19.41	4.678	2	30
Effectiveness Style	44.820	9.095	2	62
Flexibility Raw Scores	*n*	*%*		
2 – 15	12	8.0		
14	20	13.3		
16	21	14.0		
18	19	12.7		
20, 21, & 23	12	1.4		
22	26	17.3		
24	23	15.0		
26	15	10.0		
Effectiveness Raw Scores	*n*	*%*		
2 – 41	21	14.4		
42.0	16	10.7		
43.0	19	12.7		
44 - 45	18	12.0		
46	23	15.3		
47 – 62	53	35.3		

Descriptive Statistics

Table 7 summarizes the mean and standard deviation for each of the variable categories and corresponds with the leadership style scores, the LFS and the LES raw scores. Each of the variables as shown in Table 7 are cross-referenced with the leadership style scores, the flexibility and the effectiveness as the dependent criterion variable in

order to show the effects of each independent predictor variable category under the LBAII questionnaire. Table 7 demonstrates a slight increase in mean scores with the predictor variables age, education, and tenure.

Table 7

Descriptive Statistics: Mean and Standard Deviations (*n* = 150)

Variables	Descriptive Statistics	Leadership Style	LFS	LES
Age				
18-24	*M* (*SD*) *n*	2.50(1.17)12	19.08(3.9)12	44.8(7.14)12
25-34	*M* (*SD*) *n*	2.68(1.17)19	19.53(7.8)19	41.1(13)19
35-44	*M* (*SD*) *n*	2.42(1.1)45	18.69(4.1)45	45.29(6)45
45-54	*M* (*SD*) *n*	2.32(1.12)28	19.68(4.4)28	44.32(11.6)28
55-64	*M* (*SD*) *n*	2.70(1.33)33	19.52(5.5)33	45.8(9.6)33
65-74	*M* (*SD*) *n*	2.67(1.23)9	20.22(5.2)9	47.111(5.11)9
75+	*M* (*SD*) *n*	2.25(1.26)4	23.50(19.41)4	48.00(4.55)4
Gender				
Male	*M* (*SD*) *n*	2.40(1.07)68	19.84(4.63)68	45.27(6.87)68
Female	*M* (*SD*) *n*	2.61(1.24)82	19.06(4.72)82	44.45(10.70)82
Education Level				
High School	*M* (*SD*) *n*	2.37(1.26)52	18.44(5.2)52	43.35(11.27)52
College	*M* (*SD*) *n*	2.34(.94)47	19.17(4.33)47	45.2(7.80)47
Master	*M* (*SD*) *n*	2.87(1.18)39	20.31(4.37)39	45.13(8.13)39
Doctorate	*M* (*SD*) *n*	2.67(1.38)12	21.67(3.90)12	48.80(4.58)12
Tenure				
1-5	*M* (*SD*) *n*	2.50(1.1)52	18.67(4.55)52	44.06(8.55)52
1-10	*M* (*SD*) *n*	2.19(.96)27	19.85(4.55)27	45(4.796)27
11-15	*M* (*SD*) *n*	2.75(1.3)16	18.13(6.5)16	40.81(15.519)16
16-20	*M* (*SD*) *n*	2.65(1.09)20	19.25(4.4)20	46.80(11.312)20
21+	*M* (*SD*) *n*	2.60(1.38)35	20.86(3.95)35	46.51(6.61)35
Leadership Styles				
S1 Directive	*M* (*SD*) *n*		18.64(5.5)33	42.00(10.80)33
S2 Coaching	*M* (*SD*) *n*		18.86(4.72)42	43.55(10.33)42
S3 Supportive	*M* (*SD*) *n*		20.02(4.23)54	45.83(7.41)54
S4 Delegating	*M* (*SD*) *n*		21.71(3.40)7	48.86(6.62)7
Combination	*M* (*SD*) *n*		19.43(4.60)14	49.36(4.43)14
Workgroup Composition				
Homogenous	*M* (*SD*) *n*	2.48(1.214)91	18.74(4.65)91	45.11(8.45)91
Heterogeneous	*M* (*SD*) *n*	2.56(1.09)59	20.46(4.56)59	44.38(10.07)59

Research Question 1. Does workgroup composition predict the leadership styles in aircraft manufacturing organizations?

$H1_o$: Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing industry leader's leadership style (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

$H1_a$: Workgroup composition (homogeneous versus heterogeneous) predicts an aircraft manufacturing industry leader's leadership style (i.e., directive, coaching, delegating, or supportive) as assessed by the LBAII in aircraft manufacturing organizations.

The LBAII mean score for the homogeneous workgroup was $M = 2.48$, with a LFS raw score of $M = 18.74$ and a LES raw score of $M = 45.11$, whereas the heterogeneous workgroup had a mean score of $M = 2.56$ and a LFS raw score of $M = 20.46$ and a LES raw score of $M = 44.38$ (see Table 7). For the first hypothesis, the predictor variable was workgroup composition and the criterion variable was leadership style (i.e., directive, coaching, delegating, and supportive), S4 delegating had the highest means $M = 21.71$ for the LFS and $M = 48.86$ for the LES style. The multiple regression yielded an Adjusted $R^2 = .006$, $F = .151$, $p = .698$; therefore the null hypothesis was not rejected which indicates that workgroup does not predict leadership style (see Table 8).

Table 8

RQ1: Multiple Regressions: Leadership Style & Workgroup Composition

Leadership Styles	*F*	*p value*	*Adjusted* R^2
Workgroup Composition	.151	.698	.006

Research Question 2. Does workgroup composition predict an aircraft manufacturing leader's effectiveness scores?

$H2_{o:}$ Workgroup composition (homogeneous versus heterogeneous) does not predict an aircraft manufacturing industry leader's effectiveness score (i.e., excellent, good, fair, or poor and high to low levels on scores) as assessed by the LBAII in aircraft manufacturing.

$H2_{a:}$ Workgroup composition (homogeneous versus heterogeneous) predicts an aircraft manufacturing industry leader's effectiveness scores (i.e., excellent, good, fair, or poor and high to low level scores) as assessed by the LBAII in aircraft manufacturing.

The highest leadership style mean was for S4 delegating, $M = 21.71$ for the LFS raw score and $M = 48.86$ for the LES raw scores (see Table 7). The effectiveness raw scores ranged between 20 and 80 on the style effectiveness grid. The norm for the style effectiveness grid ranged between 50 and 58; therefore, the test results showed the LES mean score falls just below the grids norm. For the second hypotheses, the predictor variables were workgroup composition and leadership style scores and the criterion variable is the leader effectiveness raw scores. The *F* test for workgroup composition

($F = .234$, $p = .629$), was not significant; however leadership style scores ($F = 2.477$, $p = .047$) was significant in predicting leader effectiveness scores (see Table 9). The overall regression model predicts the criterion variable leader effectiveness (Adjusted $R^2 = .052$, $F = 5.116$, p = .007); therefore, the null hypothesis was rejected and the alternative hypothesis was accepted; only the leadership style scores predict leader effectiveness (see Table 9).

Table 9

RQ 2: Multiple Regressions: Effectiveness Scores & Workgroup Composition

Effectiveness Scores	*F*	*p value*	*Adjusted* R^2
Workgroup Composition	.234	.629	
Leadership Styles	2.477	.047	
Multiple Regression	5.116	.007	.052

Research Question 3. Do leader demographics and/or workgroup composition predict leadership flexibility styles as accessed by the LFS in aircraft manufacturing organizations?

$H3_o$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not predict leadership flexibility style (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

$H3_a$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict

leadership flexibility style (i.e., directive, coaching, delegating, or supportive) as assessed by the LFS in aircraft manufacturing organizations.

For the third hypotheses, the predictor variables were leader's demographic characteristics and workgroup composition. The criterion variable was the leader flexibility raw scores. The separate multiple regression analyses for gender *(F* = 1.027, *p* = .313), age (*F* = .755, *p* = .606), tenure (*F* = 1.551, *p* = .191), and education (*F* = 2.248, *p* = .085) with leader flexibility were not significant (see Table 10).The variable leadership styles (*F* = 1.026, *p* = .396) was also not significant. Only the predictor variable workgroup composition (*F* = 4.976, *p* = .027) was significant in predicting leader flexibility. The overall regression model does predict the criterion variable leader flexibility (Adjusted R^2 = .50, *F* = 2.135, *p* = .037). Consequently, the null hypothesis was rejected; workgroup composition predicts leadership flexibility styles therefore the alternative hypothesis was accepted.

Table 10

RQ3: Multiple Regressions: LFS & Demographics

Flexibility Scores	*F*	*p value*
Gender	1.027	.313
Age	.755	.606
Tenure	1.551	.191
Education	2.248	.085
Leadership Style	1.026	.396
Workgroup Composition	4.976	.027
Regression Model	2.315	.037

Research Question 4. Do leader demographics and/or workgroup composition predict leadership effectiveness styles as accessed by the LES in aircraft manufacturing organizations?

$H4_o$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) do not predict leadership effectiveness styles (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

$H4_a$: Leader demographics (i.e., tenure, age, leader education level, and gender) and/or workgroup composition (homogeneous versus heterogeneous) predict leadership effectiveness styles (i.e., excellent, good, fair, or poor) as assessed by the LES in aircraft manufacturing organizations.

For the fourth hypothesis the predictor variables were leader's demographic characteristics and workgroup composition. The criterion variable was the leader effectiveness raw scores .The separate multiple regression analysis for gender ($F = .298$, $p = .587$), age ($F = .810$, $p = .564$), tenure ($F = 1.428$, $p = .228$), and education ($F = 1.249$, $p = .294$) with leader effectiveness were not significant (see Table 11). The predictor variable workgroup composition ($F = .234$, $p = .629$) was also not significant. Only the predictor variable leadership style composite scores ($F = 2.477$, $p = .047$) was significant in predicting leader effectiveness. The overall regression model does predict the criterion variable leader effectiveness style (Adjusted $R^2 = .64$, $F = 2.698$, $p = .017$). Consequently, the null hypothesis was rejected and the alternative hypothesis was accepted; however only the leadership style scores predict leader effectiveness.

Table 11

RQ4: Multiple Regressions: LES & Demographics

Effectiveness Scores	*F*	*p value*
Gender	.296	.587
Age	.810	.564
Tenure	1.428	.228
Education	1.249	.294
Leadership Style	2.477	.047
Workgroup	.234	.629
Regression Model	2.689	.017

LBAII Reliability

Reliability analysis shows the flexibility, effectiveness, and the leadership styles indicate the Cronbach's alpha at $\alpha = .494$. The demographic variables also indicated a fair reliability at $\alpha = .388$, as seen in Table 12. Although the reliabilities fall just below the standard alpha of .050, they are still acceptable for this study.

Table 12

Variable Reliability Scale

Scale	Cronbach's alpha reliability
Flexibility, Effectives, and Leadership Styles	.494
Demographic variables	.388

Summary and Transition

The demographic statistical data indicated that of the participating aircraft manufacturing leaders, 54.7% were female, and 45.3% were male. In addition, 60.7% were leaders in the homogeneous workgroups while 39.3% reported leading heterogeneous workgroups. The plurality of the participants, 35%, reported working for

an aircraft manufacturing organization for 1-5 years, with the next highest group at 24%, exceeding 21 years in aircraft manufacturing. Within the workgroup organization, 42% reported working directly in assembly, and 31% reported working in administration.

The flexibility and effectiveness raw scores from the LBAII questionnaire reportedly showed the plurality of the participants for the flexibility style showed 21.3% scored 14 and below, while 43.7% scored 20 and above. The LBAII norm for the flexibility style scores should fall between 14 and 20, with 14 being the low score and 20 being the high score (Zigarmi, Edeburn, & Blanchard, 1997). The effectiveness style raw scores report at 35.3% above the score of 47 and 65% below the score 47. The norm for the effectiveness raw scores is between 50 and 55, with a mean score of 54 (Zigarmi et al., 1997).

In response to Research Question 1, the null hypothesis 1 was not rejected, which indicated that the predictor variable workgroup composition does not predict leadership styles. For Research Question 2, the null hypothesis 2 was rejected and the alternative hypothesis was accepted; which indicated that leadership style scores do predict leader effectiveness. In addressing Research Question 3, the null hypothesis was rejected and the alternative hypothesis was accepted, which indicated workgroup composition was a significant factor in predicting leader flexibility. Finally, in examining Research Question 4, the null hypothesis 4 was also rejected and the alternative hypothesis was accepted which indicated that leadership style scores do predict leader effectiveness.

Chapter 5 summarizes the intent of this study and describes in more detail the interpretation of the data analysis for the leadership scores. Chapter 5 also addresses the

reliability and validity of the LBAII in regard to aircraft manufacturing leadership styles and workgroup composition. Chapter 5 discusses the limitations of the current study and provides recommendations for future studies and provides implications for social change based upon the results of this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Study Overview

The present study was designed to determine if homogeneous versus heterogeneous workgroups, in conjunction with leader demographics, predict leadership style in the aircraft manufacturing industry. More specifically, the study was designed to examine whether a leader's style would be able to be predictive given the presence of contractors within the workgroup. To accomplish this research aircraft manufacturing leaders were invited to participate in the study. The study was designed utilizing the following three research questions:

1. RQ1: Does workgroup composition predict the leadership style in aircraft manufacturing?
2. RQ2: Does workgroup composition predict an aircraft manufacturing leader's effectiveness scores?
3. RQ3: Do leader demographics and/or workgroup composition predict Leadership flexibility styles as accessed by the LFS in aircraft manufacturing organizations?
4. RQ4: Do leader demographics and/or workgroup composition predict leadership effectiveness styles as accessed by the LES in aircraft manufacturing organizations?

The MLDQ and the LBAII questionnaire were the two instruments used to gather the data. A total of 350 aircraft manufacturing leaders across the United States who were qualified were asked to participate in this study. The final sample consists of 150

participants. Participants volunteered for the study and were contacted via the LinkedIn website.

A demographic survey of the aircraft manufacturing leaders showed that 45.3% were male, 54.7% female, and the participants fell in the range of 35-44 years of age with 35% tenure of 1-5 years and 35% with a high school diploma. The results are consistent with the sample of Voon et al. (2011), whose median age was 40-49, 2-6 years of service, and ranking in the lower percentile of leadership position and education level of the leader. The results are also consistent with Salahuddin (2010); that is, a small portion of the leadership styles resulted in the S4 style of delegating and taking charge of their workgroup assignments.

Interpretations of Results

Research Question 1. Does workgroup composition predict the leadership style in aircraft manufacturing? The multiple regressions yielded ($R^2 = .006$, $F = .151$, $p = .698$), which indicates that workgroup does not predict leadership styles. The overall flexibility scores for $N = 150$ ranged from 2 – 26. While this seems to be a rather large range, the flexibility mean score ($M = 18.74$) is consistent with the Zigarmi et al. (1997) flexibility composite mean score of 16.69 for all of the studies that had been performed using the LBAII. Zigarmi et al. (1997) pointed out that the mean scores of the leader flexibility had increased since 1982 – 1993 ($M = 17.63$). The mean score within the current study also displays an increase ($M = 18.74$), which shows that leaders use one of the four leadership styles, and that they are all collectively used, even in homogeneous and heterogeneous workgroups. A flexible leader therefore would be capable of

incorporating contractual workers into the workgroup more efficiently. Thus, the leader is capable of working with both types of workers. This type of leadership could allow the workgroup to function with fewer hazarders than a homogeneous workgroup.

Research Question 2. Does workgroup composition predict an aircraft manufacturing leader's effectiveness scores? The multiple regressions, yielded (R^2 = .052, F = 5.116, p = .007); however, that was solely due to the variance accounted for by the leadership style scores. Thus, workgroup composition does predict aircraft manufacturing leaders' effectiveness scores. I had anticipated seeing scores closer to the (P) poor range on the effectiveness scale because that would show an influence of the employee/leader relationship of a less trusting and a less effective leader. The effectiveness score range is between 20 and 80 on the style grid of the LBAII questionnaire, with the norm falling between 50 and 58. The results of the current study show that 55.3% were at or below the M = 49, which is just under the norm. The effectiveness raw scores had 65% below the raw score of 46 and 35.3 % with a range of scores from 47-62 on the effectiveness grid. These scores are not consistent with the composite mean score of 50.17 in all other leadership studies performed using the LBAII with Zigarmi et al. (1997). Although the effectiveness scores fell just below the norm, this may interpret this group of aircraft leaders to be more flexible in their leadership styles. Experience has taught me that when leaders of a heterogeneous workgroup in aircraft manufacturing are more flexible they are more effective in leading their workgroup. I have worked beside leaders who lacked the knowledge and understanding that it required to work with both permanent and contractual workers. The lack of understanding could be from the lack of experience or a

short tenure on the worksite. The plurality of the participants in this study had only worked as a leader in aircraft manufacturing for 1-5 years.

Research Question 3. Do leader demographics and/or workgroup composition predict leadership flexibility styles as accessed by the LFS in aircraft manufacturing organizations? The overall multiple regression model of the aircraft manufacturing leader demographics, does predict the criterion variable leader flexibility ($R^2 = .050$, $F = 2.135$, $p = .037$). Only the predictor variable workgroup composition ($F = 4.976$, $p = .027$) was significant in predicting leader flexibility.

According to Zigarmi et al. (1997), demographics in previous leadership style research yielded no significant results with age, experience, and education levels. The demographic variables in this study yielded no significant results, which is consistent with past research using the LBAII. However the workgroup composition was significant in predicting leader flexibility. Overall, the multiple regression models did predict the criterion variable workgroup composition of aircraft manufacturing leader's flexibility. The plurality of the participants scored under the S3-supportive style, which provides aircraft organizations with the understanding that even leaders in heterogeneous workgroups can support both permanent and contractual workers cohesively, without having to separate contractors from the workgroup. The findings of Research Question 3, also suggest that workgroup composition is a predictor variable for leadership flexibility styles between workgroups. Leaders in the heterogeneous workgroups had higher flexibility scores; this is a good indicator that contractual workers can be incorporated into the workgroup without being separated from the group.

The findings related to leadership style were noteworthy. The $M = 20.02$ score was for the S3 Supportive style, which is consistent with the findings of Voon, Lo, Ngui, and Ayob, (2011), suggesting workers need to have leaders who are more capable of motivating and supporting their workgroups. What appear to be conflicting are the LFS and the LES score between the homogeneous versus the heterogeneous workgroup scores. The homogeneous workgroup showed the highest mean score in the LES ($M = 45.11$), while the heterogeneous workgroup for the LFS resulted in a higher mean score of 20.46. In other words, the leaders for the heterogeneous workgroup scored above the norm for the flexibility style grid, while the leaders for the homogeneous workgroup fell below the norm for the effectiveness style grid.

Research Question 4. Do leader demographics and/or workgroup composition predict leadership effectiveness styles as accessed by the LES in aircraft manufacturing organizations? The overall multiple regression model of the aircraft manufacturing leader demographics, does predict the criterion variable leader effectiveness ($R^2 = .064$, $F = 2.698$ $p = .017$). Only the predictor variable leadership style ($F = 2.477$, $p = .047$) was significant in predicting leader effectiveness.

The leadership style composite scores are the key element in Research Question 4, due to the type of leadership style that it represents. Workgroup composition did not predict the leadership styles or leader effectiveness. The findings of Research Question 4, also suggest that demographics are not significant predictor variables, but composite leadership style score is a predictor variable for leadership effectiveness styles.

The analysis for the current study shows a distinct significance in the overall increases that occurred within the mean score of each variable. Analyzing the demographic variables across the board as depicted showed a slight increase within each category. For example, the predictor variable age the mean increased from $M = 2.42$ at age group 35-44 to $M = 2.67$ for the age group 65-74; however, the number of participants at the age group of 65-74 was too small to make a firm conclusion. The education level of the leader was depicted in Table 2. The mean number of participants in the high school level was at $M = 2.37$ with the master's level at $M = 2.87$. The effect of the highest leader level of education, the doctoral level, was too small to measure.

Leaders who have a higher tenure within an aircraft organization have the experience to work with both types of work groups. Extensive training for leaders under 5 years tenure may be required in order to have all leaders scoring higher on the flexibility style grid. On the other hand, leaders within a homogeneous workgroup scored slightly higher on the effectiveness grid; this provides aircraft organizations with scientific data which is a reflection of the need to review leader/employee knowledge concerning communication skills with both permanent and contractual employees.

Implications for Social Change

The findings of the current study suggest that workgroup composition is not a predictor for chosen leadership styles. However, in Research Question 2, it is evident that leadership style scores do predict leadership effectiveness scores. One of the major past findings concerning leadership style is that leaders have the ability to exercise both negative and positive influence through deploying situations (Northouse, 2010).

Organizational leaders are often unaware of their ability to influence workgroups through their leadership styles (Northouse, 2010). Effective leadership should be capable of providing direction, being supportive, and leading their followers to achieving higher goals (Voon et al., 2011).

This study has the potential to effect positive social change even in a small increment. Since the results were not only internally consistent but inconsistent with previous findings, future researchers on leadership styles have the opportunity to further explore the scope of the variables used in this study. Developing an awareness of leader and employee relations for both homogeneous and heterogeneous workgroups is essential in any organization. For instance, potential areas of concern would center on, reducing employee conflict and tension. Permanent employees need to understand that contractual employees are not present to take their jobs away. This has the potential to reduce a hazardous work environment. Revising leadership training and awareness on negative issues that are often associated with contractual workers has the potential to incorporate contractors into the workgroup more efficiently and effectively. While this study only represents a small portion of aircraft manufacturing leaders, it can lead to future studies that will further validate and expand on the need to improve leadership styles within both homogeneous and heterogeneous workgroups. Future studies are needed on leadership in aircraft manufacturing to better determine how leadership training can impact an industry employing a large number of contract workers.

Recommendations for Further Study

In the past, leadership style most strongly related to how leaders could mobilize and motivate employees. A shift has occurred that now runs parallel to how changes should be made in how knowledge is perceived (Komives & Dugan, 2010). Although the findings of this study shed some light on how leaders choose their leader styles among aircraft manufacturing leaders, future studies can have more impact on understanding the influence of homogeneous versus heterogeneous workgroups on leadership styles. Little research has examined leadership styles and contract employees. The current study provides aircraft manufacturing organizations with possible variables to advance new studies in concern with their leaders' organizational leadership styles. Chosen leadership styles provide organizations with the ability to learn from the leaders they currently employ and enhance developmental training for future leaders of their organization. From a contemporary view, organizations must focus their leadership on empowerment, shared visions, temporary employees, the ability to create knowledge, and a leader-full organizations rather than a leader-led organization (Komives & Dugan, 2010).

While the current study did find that workgroup composition is not a predictor of leadership styles, the sample size may have been too small to yield strong findings based upon the three research questions. The current research findings suggest future studies should be conducted in order fully to understand the relationship between leaders and heterogeneous versus homogeneous workgroups. The current study needs to be replicated with the addition of the LBAII Others, in order to include the maturity level of the

followers. The findings also suggest that a qualitative component could garner additional valuable information from the two workgroups.

Summary

The current research method study was designed to measure whether homogeneous versus heterogeneous workgroup compositions and functions could predict leadership styles, and whether individual demographic variables were predictors of leadership styles. While the research findings do suggest that workgroup composition is not a predictor variable of leadership styles, workgroup composition does predict leadership flexibility styles.

Effective leadership strategies have in the past relied upon leadership and employee job satisfaction to improve the capability of leader and follower to direct toward a higher achieved goal (Voon et al., 2011). Leadership strategies are the focus of the individual leadership styles that encompass an organization's main voice, and it is this voice of their leaders that different workgroups learn to follow. Directive and supportive behaviors from leaders are the types of leadership styles that should govern all workgroups within any organization. These two leadership behaviors allow followers to become motivated to grow within individual organizations.

The current study provides evidence that workgroup composition is not a predictor of leadership styles and that the majority of the leadership styles fall within the S3-supporting (n = 54) in the LFS style grid. Northouse (2010) suggested leaders influence workgroup identity, and it is this power that is central to leader control. In Research Question 2, findings suggest that leadership style scores are significant in

predicting leadership style effectiveness scores. These findings also suggest that leaders can choose the ability to incorporate contract workers into their workgroup in a positive manner. Although the study was limited by a sample size of 150, Research Question 3 did show a significance with the predictor variable workgroup composition (homogeneous versus heterogeneous) for leaders flexibility styles. However, the study can still have a valuable impact on the nature of contract workers in the workgroup. Future studies replicating the current study and adding additional elements such as the LBAII Other and a qualitative view are suggested to better understand the effects of workgroup composition and functions on leadership styles. It is also suggested to use the LBAII Other in order to measure the maturity level of the workgroups.

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Appendix A: Permission Letter

I hereby grant you permission to use the quantity of LBAII® assessments outlined within this document following receipt of this letter signed by you and your department chair agreeing to the above stipulations.

If you have any questions, please do not hesitate to contact Dr. Vicki Essary at 760-839-8165.

Sincerely,

Drea Zigarmi, Ed.D.
Research Director

Appendix B: Manufacturing Leader Demographic Questionnaire

Completion of the demographic questionnaire is significant for determining the influence of variety of factors on the results of this study. All of these records remain confidential and are shredded at the completion of this study. Any reports that may be published do not include any identifying information of the participants in this study. Please check the appropriate line. Please do not sign your name or initial this document.

Gender:

_____Male

_____Female

Age: _____

Educational background: (check the highest level of earned academic degree)

_____ High School Diploma

_____College graduate (4 year degree)

_____Master's Degree

_____Doctoral Degree

Tenure: (Years worked as a Manufacturing Leader)

_____ 1-5

_____ 6-10

_____ 11-15

_____ 16-20

_____ 21+

Number of permanent employees in workgroup: _____

Are contractors present in the working group?

_____ Yes

_____ No

If yes to contractors included in the workgroup; how many? _____

Which of the following Aircraft Manufacturing Organizational workgroups do you lead?

_____Repair Station

_____Assembly

_____Flight Line

_____Human Resources

_____Administration

_____Planning & Engineering

_____Safety & Lean Manufacturing

_____Material & Tool Control

_____Quality & Inspection

_____Union Leaders

_____Contractor Leaders

Appendix C: Copyright Information

Copyrights and BLS Publications

- The Bureau of Labor Statistics (BLS) is a Federal government agency and everything that we publish, both in hard copy and electronically, is in the public domain, except for previously copyrighted photographs and illustrations. You are free to use our public domain material without specific permission, although we do ask that you cite the BLS as the source.
- The public domain use of our materials includes linking to our website. You do not need to obtain special permission from the BLS to link to our site.

Retrieved from: www.bls.gov/cps

Appendix D: Aircraft Manufacturing Leaders Consent Form

You are invited to take part in a research study of leadership styles. The researcher is inviting aircraft manufacturing leaders to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Monica Dunnagan who is a PhD Student.

Background Information:
The purpose of this study is to gain further understanding of leadership styles of leaders working within aircraft manufacturing organizations. The results of this study should help aircraft manufacturing leaders discover qualities about their own personal leadership styles and whether or not they find themselves flexible and adaptable to different leadership situations across different departments. This study reveals the different types of leadership styles across different departments, and determines if certain demographic variables have a bearing on the type of leadership style one chooses.

Procedures:
If you agree to participate in this study, please electronically anonymously sign the informed consent in the designated area below, you are also asked to:

Completely answer all the questions on a Manufacturing Leader Demographic Questionnaire; which should only take about a minute or two of your time.

Completely answer all twenty questions on the LBAII questionnaire, which requires participants to choose an appropriate response based upon their work experience and knowledge of leading Homogeneous vs Heterogeneous workgroup. The entire survey should only take approximately thirty minutes to complete.

Voluntary Nature of the Study:
This study is voluntary. Everyone respects your decision of whether or not you choose to be in the study. No one in your immediate work organization can treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this study would not pose risk or provide any benefits to your safety or wellbeing. Participants are not obligated to complete any parts of the questionnaires with which they are not comfortable.

Payment:
No payments, thank you gifts, or reimbursements are provided to participants.

Privacy:
Any information you provide is be kept confidential. The researcher does not use your personal information for any purposes outside of this research project. Also, the researcher does not include your name or anything else that could identify you in the study reports. Data is kept secure in a locked file, and only the researcher has access to the records. Data is kept for a period of at least 5 years as required by the IRB.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via monica.dunnagan@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 3121210. The approval number for this study is # 03-17-14-0194674 and expires on March 16, 2015 per IRB instructions.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. In order to protect the privacy of each volunteer participant signatures are not required, simply place an X on the line below which states "I Consent" or I Do Not Consent". By marking the "I Consent" section it implies that you understand that you are agreeing to the terms described above and that you have asked any necessary questions and received the answers to them. Each volunteer participant should keep a printed copy of this consent form.

I Consent _____

I Do Not Consent _____

Appendix E: Invitation Letter

Colleagues,

I am Monica Dunnagan, and I am conducting research for my Dissertation about situational leadership styles within Homogeneous vs Heterogeneous workgroups within Aircraft Manufacturing Organizations. I am inviting each of you to participate on a volunteer basis, because you are employed within an Aircraft Manufacturing Organization within different departments. This research study completes the requirements set forth to accomplish my PhD in Organizational Psychology. I believe that the data obtained from this study has the ability to assist Aircraft Manufacturing Leaders in gaining a greater perspective on the type of leadership skills necessary to successfully work with the challenges of Homogeneous and Heterogeneous work groups within an organization.

The study is based upon the foundation of The Situational leadership II Theory by Ken Blanchard Inc. and indicates that leaders can choose a leadership style based upon their ability to properly communicate and interact with their workgroup. The Leader Behavior Analysis II provides insightful information concerning leadership styles across twenty different work environment situations.

If you choose to participate simply click on the link below and follow through the entire process from beginning to end. The first page you see is the informed consent page which you are advised of your rights as a volunteer participant. After reading the consent form, please click on the “I agree” or “I disagree” button to move on to the first of two short questionnaires. Once you have completed the research study, the last page is a thank you note for you volunteer participation and that you have successfully completed this study. Once the research is completed I am going to post the results via a web link on the same LinkedIn account that you have participated through.

Thank you for your time and consideration to participate in this study.

Sincerely,

Monica Dunnagan

https://www.surveymonkey.com

Appendix F: Thank You Letter

Colleagues,

I would like to take a moment and say thank you to each individual that volunteered to participate in my dissertation research study titled: "Work Group Composition Effects on Leadership Styles in Aircraft Manufacturing." The research is now under data analysis and continues through the IRB regulations board. Once the research is completed and approved, a link is posted to provide you with results of my research.

Thank you for participating in this study.
Monica Dunnagan

Curriculum Vitae

Monica Dunnagan, M.S.

Summary of Qualifications:

- Trainer, educator, and consultant, with experience designing and delivering training to diverse individuals. Modify classroom settings to meet individual client requirements and curriculum. Develop training modules and implement them for large work groups for individual client locations.
- Mentoring progress providing lesson plans and classroom instructions to execute management change through professional development training courses, conducting performance appraisals for promotions and developing a stronger workforce.
- Classroom experience, through different levels of student development, teacher/student mentoring, community service, and behavior modification. A very active listener, possessing critical thinking skills to adapt to a variety of learning needs and providing hands on experience.
- Consulting, educating, and increasing families' awareness through developing life time protection plans.

Education

PhD in Organizational Psychology November-2014
Walden University, Minneapolis, MN
Psi Chi International Honor Student

Dissertation: Work Group Composition Effects on Leadership Styles in Aircraft Manufacturing Organizations

Master of Science in Psychology
Walden University, Minneapolis, MN 2011

Bachelor of Science in Educational Psychology
University of Southern Mississippi, Hattiesburg, MS 1994

Teaching & Leadership Experience

Volunteer Teacher 2010-Present

After School Math and Science Program in correlation with Boeing

- Taught afterschool program for grade 5 in science with 20 students.

Volunteer Tutor 2012-2013

Mercy Housing

- Coached and educated remedial reading skills for 15 adults which includes non-English speaking adults from multiple countries.

Professional Experience

National Outreach Ambassador 2011-Present

Xcellence, Inc. Non – Profit Organization: Nashville, TN

- Develop training modules for Regional Coordinators to model their leadership mentor programs within their communities.
- Train/Coach Regional Coordinators through community leadership programs as mentors to college, high school, and grade school students as well as young entrepreneurs.
- Lead Regional Coordinators Nation Wide through community involvement. Developed the 3 E's of Xcellence which teaches others to Expose, Engage, & Expand through leadership.
- Developed and implemented "Book Mark my Future" Scholarship Program for students to apply for book tuition.

University of Phoenix 2013-Present

- Facilitator – Psychology Department: Theories of Personality; I/O Psychology; Essentials of Psychology.

American Income Life 2014-Present

- Consult with over 48,000 Associations on Family Protection for Funeral & Final Expenses. Educating Families on Life Insurance.

Contract Consultant 2009-2013

Boeing Aircraft Manufacturing Organization, Everett, Washington

- Train/coach in various environmental settings how to maximize strengths for 20-30 team members.
- Promoted to team lead to coach, train and guide a team of 20 mechanics through their daily processes as integration mechanics.
- Working directly with Design & Manufacturing Engineer in order to develop the mechanics build plans and blue prints, through the use of various computer programs such as ENVOIA, CATIA, REDARS, AND VELOCITY.

- Promoted to Project Engineer for the 747-8 & KC-2 Tanker Program.
- Develop installation plans that enable mechanics to increase their effectiveness and the quality of the aircraft.
- Expert experience on various computer programs such as DEEM, CATIA, ENOVIA, REDARS, PDM, and CAPPII.
- Train/Coach Manufacturing Engineer's to improve the build planning of commercial aircraft.
- Train/Coach Manufacturing Mechanic builds process and blueprint reading; skills necessary to perform their tasks.

Additional Experience

Mechanic 2006-2009

Vought, Inc., Nashville, TN

- Responsible for composite material, lay-up, and machinery in order to build the DA-Flap and Airbus access panels for A330, 340, & 360.
- Conducted training for 40 contractual workers brought in during a strike.
- Assisted the Shops Teacher in training hand tool applications as well as ergonomic safety.

Manager 2000-2006

Guardsmark Security, Nashville, TN

- Developed and implemented training modules to enhance Officer Effectiveness for 12 client locations.
- Developed Client contracts and negotiated Officer pay scales on a yearly basis.
- Assisted within Human Resources, administering the MMPII, processing new hires packets, conduct interviews and initiated on the job training. Supervised site training for new client locations, including up to 50 employees in each group.
- Created and instituted individual Business Safety & Evacuation Plans, Officer Training programs and Fire & Safety Training tailored to fit the design and needs of individual corporations, Officers in groups of 20 to increase transferable skills that will cover 12 different client locations.

Correctional Officer 1995-2000

Harrison County Sheriff's Department: Gulfport, MS.

- Worked with institutional elements including, adult corrections and juvenile detention.
- Taught remedial lesson plans in; math, history, and reading skills.

- School Security Counselor, Monitored all teach/student functions.
- Conducted counseling sessions on Drug & Alcohol Abuse and Low Self-Esteem. Corresponded with the Juvenile Judge and Social Workers in order to develop, implement, and provide comprehensive behavior change agreements between juveniles and their families. Accepted extra assignments as an Officer on Duty at the local high school in order to deter from negative behavior and crime; setting a Zero Tolerance presence on campus.

Community Service

Martial Arts Scholarship Target – Sept. 2016
This program will work with various schools and churches in order to prevent and deter "Bully" Behavior, teaching students positive life changing skills by rewarding positive behavior.

Volunteer: 2011

Christian Community Services, Everett, WA.

- Volunteered to help individuals in need of assistance performed light duties in their home environment.

Volunteer: Walden Global Day of Service 2011, 2012

Mercy Housing: Lynnwood, WA.

- Organized & Developed Walden's Nationwide Global event at Mercy Housing in Lynwood, WA.
- Developed and implemented an entire afternoon event to teach approximately 40 plus children on how to create art work, work in teams to accomplish goals, and learn about nutrition and healthy behavioral habits.

Walden University Ambassador 2012 - Present

Walden University

- Spoke to potential students about career choices, educational needs, and benefits of Walden University's program for adults in higher learning programs.

Publications

Dunnagan, M. (2012) *Your Legacy: Finding your roots.* Thorofare, NJ: Xlibris Corporation.

Dunnagan, M. (expected 2015). *A Gathering of Shepherds.* Thorofare, NJ: Xlibris Corporation.

Honors and Awards

Member of the Year - Xcellence, Inc. Outstanding Leadership Qualities	2012-2013
Strathmore's Who's Who's for outstanding Leadership qualities	2012
PSI CHI International Honor Student	2011-Present

Professional Affiliation

Associate Member: American Psychological Association	2010-Present
Associate Member: Society for Industrial and Organizational Psychology	2011-Present
Member: Psi Chi International Honors Society	2011-Present
Member: Alumni Association	1993-Present