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GRADUATE RESEARCH PAPER

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Abstract

Air Mobility Liaison Officers (AMLOs) provide a valuable service to Air Mobility Command as embedded liaisons to Army and Marine Units. This paper looks at the perceptions and realities of AMLO career advancement, and seeks to answer two research questions: 1) Is there a perception in the MAF that an AMLO assignment will negatively affect an officer's promotion opportunity, and 2) Does having an AMLO assignment in one's record affect promotion opportunity? All 18th AF Operational and OSS squadron commanders were surveyed to determine if the perception exists. To determine if an AMLO assignment actually affects promotion opportunity, HAF A1 data for mobility officers (pilots and navigators who have flown a mobility aircraft) were analyzed for promotion to Major and promotion to Lieutenant Colonel. The survey results revealed a perception that an AMLO assignment is not good for an officer's career progression. The data revealed that prior AMLO experience has no negative effect on promotion to Major or Lieutenant Colonel. The paper concludes with recommendations on how to address this false perception.

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I. Introduction

Background

Modern-day Air Mobility Liaison Officers (AMLOs) can trace their origins back to the Vietnam War. During the initial stages of the Vietnam War, there was an increased demand for Air Force airlift from the Army (Bower, 1982). While the Air Force was able to meet much of this demand, there was a noticeable inability of the Air Force to effectively meet the Army's requests for rapid airlift. Late in 1966, Lieutenant Colonel Thomas M. Sadler proposed a solution to this problem. He recommended the Air Force experiment with temporarily assigning 30 airlift officers to various Army Brigades and Divisions on the ground in Vietnam. The original tasking for these men was to "be a staff officer within the ground force unit, capable of planning and managing tactical air movements and resupply operations" (Bowers, 1982). This experiment proved successful and by 1967 the Tactical Liaison Officer (TALO) was a permanent billet assigned to Tactical Air Command (TAC) and located within Army Divisions. Almost immediately, these men received praise from the Air Staff on the resultant decrease in rapid airlift response times (Bowers, 245).

After Vietnam, the TALO moved from TAC to Military Airlift Command (MAC), which changed the TALO chain-of-command from the senior Air Liaison Officer (ALO)

to a Mobility Support Squadron Commander. Also, the TALO duties increased to include surveying drop zones, controlling airdrop operations, assisting with Landing Zone Coordination, and exercise assistance. In 1992, MAC was inactivated, and Air Mobility Command (AMC) was activated, with MAC elements and some elements of the former Strategic Air Command (SAC). Soon thereafter, TALOs became AMLOs (Air Mobility Command Historian, 2003). The year 2003 saw significant changes in the AMLO community. During that year, AMC began allowing pilots and navigators from Tankers to serve as AMLOs, and females were also now permitted to serve as AMLOs (Broekemeier, 2015).

Since their inception during the Vietnam conflict, AMLOs have distinguished themselves in numerous conflicts including Operation Desert Storm, Operation Iraqi Freedom and Operation Enduring Freedom (Air Mobility Command Historian, 2003). They have also been prevalent in numerous humanitarian operations including the Hurricane Katrina response, Operation Unified Response (Haitian earthquake response), and Operation United Assistance (United States Ebola Response). Recently, AMLOs have either been assigned directly to a Contingency Operations Support Group (COSG) or to an Air Support Operations Squadron (ASOS). The AMLOs assigned to an ASOS work with and are rated on by an officer with either an ACC (Air Combat Command) or GSC (Global Strike Command) background (usually Squadron Commander). For the AMLOs assigned to the COSG before 2015, there was not an AMLO squadron commander, only a Chief AMLO (usually a Lieutenant Colonel) that would oversee many of the same AMLO administrative functions. Six additional AMC AMLOs are assigned either to the Expeditionary Operations School or to a training squadron.

In June of 2015 the first AMLO squadron was activated under the 621st Contingency Response Wing (Bailey, 2015). This new squadron, the 621st Mobility Support Operations Squadron (MSOS), holds 50 billets for AMLOs assigned to 20 Army and Marine units around the globe. The majority of AMLOs now fall under the 621st MSOS, while 8 AMLO billets continue to fall under different Air Support Operations Squadrons (ASOS), and 3 other AMLO billets are not attached to Army Units.

Despite the stand-up of this new squadron, the volunteer rate for incoming AMLOs is low. While in the recent past there have been periods where AMLO billets were entirely filled with volunteers, today between 33% and 40% of AMLOs are non-volunteers (O'Keefe, 2015). This lack of volunteerism could be caused by a number of factors. When surveyed regarding the worst aspects of the job, AMLOs identified three top issues: working directly with the Army or Marines, reduced or no flying time, and possible negative career/promotion consequences. It is likely that these issues would also be preventing other officers from volunteering for AMLO assignments. The first of these issues, a lack of desire to work with the Army or Marines, is a matter of personal preference, and probably cannot be influenced by a change in Air Force policies. The second issue, reduced or no flying time, is a real barrier to AMLO recruitment. Of the current AMLOs, 61% (39 of 63) are in flying billets. However, even these individuals only fly the minimum needed to maintain currency (Broekemeier, 2015). This generally allows them to complete only 1 or 2 flights per quarter. The final issue, negative career/promotion consequences is an issue worth exploring.

Problem Statement

Despite AMLO history and recent advancements within the community, there continues to be a problem with real and perceived career progression issues regarding AMLOs. AMC's personnel directorate (AMC/A1) started tracking the promotion rates of prior AMLOs with the 2009 promotion boards. From 2009 to 2015, individuals who had previously served as AMLOs were promoted at a rate below their MAF peers. According to AMC numbers, individuals who either currently were AMLOs, or had previously served as an AMLO had a selection rate to Lieutenant Colonel below 52% (27 of 52 were selected for promotion) (See Appendix A for AMC's full promotion results for Major and Lieutenant Colonel). During those seven years, the MAF rate only fell below 69.9% once (2015 – 66.4%), and had a high of 76.4%. The promotion rates to Major were similarly reduced for AMLOs. According to AMC, individuals with AMLO experience had a 73% promotion rate to Major. During the same time period[1], the MAF promotion rate varied between 85.7% (2012) and 92.2% (2014). This paper seeks to investigate these low AMLO promotion rates, the perceptions that accompany them, and how much impact an AMLO assignment actually has on an officer's chances for promotion.

Research Questions

The objective of this research project is to look at the perceptions of how an AMLO assignment affects promotion results, explore the accuracy of those perceptions, and determine the implications of these findings. To that end, two research questions must be answered.

RESEARCH QUESTION 1: Is there a perception in the MAF that an AMLO assignment will negatively affect career advancement?

[1] Only five years were covered for the Major promotion boards. 2015 data was not available yet, and there was no Major promotion board in 2013.

To answer this question, all Operational and Operational Support Squadron (OSS) commanders were surveyed within 18th Air Force. This is an appropriate sample group because these commanders have a proximity to line flyers, influence in the assignment decisions of MAF Captains and Majors, and a requirement to mentor line flyers. If there are perceptions about the AMLO community in the MAF, it will be known by, if not originate from, these squadron commanders.

H_1: There is a perception in the MAF that an AMLO assignment negatively affects career advancement.

RESEARCH QUESTION 2: Does having an AMLO assignment in your record affect your promotion opportunity?

To answer this question, data on all mobility pilots or mobility navigators in the Air Force between 1995 and 2015 was analyzed. A logistical regression of non-performance factors was used in order to determine how much each factors into whether or not an officer is selected for promotion. A logistical regression analysis should show whether or not an AMLO assignment makes it less likely for an individual to be promoted, and how statistically significant an AMLO assignment really is in determining promotion outcomes.

H_2: An AMLO assignment does not negatively affect an officer's promotion opportunity.

Assumptions / Limitations

There are a number of assumptions present in this research. It was assumed that squadron commanders wish to guard themselves from reprisal or retaliation in speaking negatively about an AMC program. To protect the confidentiality of the MAF squadron commanders surveyed, no personally identifiable information was asked for. There was

some demographic data requested (weapons system, for example). It was further assumed that any respondents would not willingly misrepresent themselves. It was also assumed that there were a number of polled individuals who would not respond because of their highly demanding schedules. In the survey of Squadron Commanders, there was a 61% response rate. The collected sample provides an acceptable sample size. Some research has determined that a response rate as low as 30% is acceptable for analysis (Smith et. al., 1995). Finally, this study assumed that Squadron Commanders would accurately represent the feelings of all MAF pilots and navigators. This representation was assumed because squadron commanders are responsible for mentoring individuals in their squadrons on career progression, and because they are also responsible for filling the AMLO assignments allocated to their squadron.

A number of limitations were also present in this analysis. First, performance data was not available for review. This information includes officer performance reports (OPRs), promotion recommendation forms (PRFs) and training reports (TRs) (training reports reveal officer performance in formal training, to include distinguished graduate (DG) status). While AMC/A1 lists performance as the most important factor in promotion selection (AMC/A1KO, 2015), the data analyzed consisted entirely of non-performance factors.

Second, the data did not include promotion board results. Whether or not an officer made Lieutenant Colonel was determined by whether or not an individual was a Major at the time of his board to Lieutenant Colonel, and whether that officer appears as a Lieutenant Colonel at any time in the records. Potentially, officers could meet their Lieutenant Colonel promotion board, make Lieutenant Colonel, but separate before

pinning on. While this would represent a small number of officers, there is a potential that this could affect the overall results.

Third, AMLO assignments represent a significant opportunity cost. AMLOs are not co-located with their Squadron, Group or Wing leadership. This results in limited interactions with the Chain-of-Command, and limited opportunities for jobs at the Group or Wing level. Further, all current AMC AMLOs fall under the Contingency Response Wing (CRW), where their officer peers are largely composed of boarded Phoenix Mobility (PM) officers, who have previously been identified as having senior leader potential. Competing against such a distinguished peer group could make stratification above the squadron level difficult. All of these costs could affect career progression as well as discourage potential AMLOs from volunteering for the assignment.

Fourth, although this research defines career progression in terms of selection for promotion, this is only one measure of career progression. Other measures of career progression include school-select status, Below-The-Zone (BTZ) selection, selection for squadron command, and promotion to Colonel or General Officer. AMLOs continue to be under-represented in nearly all of these other measures of career progression.

Finally, the data analyzed contained only the data of individuals who met their Lieutenant Colonel promotion board from 2004 to 2013. AMC only started keeping track of AMLO promotion statistics since the 2009 board. Interestingly, from 2013 to 2015, only 38% (11 of 29) AMLOs were selected for promotion (See Appendix A). Because this research only had data up to the 2013, this paper does not account for the recent drop off of AMLO promotion rates.

II. Literature Review

Overview

The perception that AMLOs are promoted at a rate less than that of other MAF rated officers can induce a number of feelings in individuals who are currently AMLOs, who are considering volunteering for an AMLO assignment, and others who interact with AMLOs and former AMLOs. This perception can have a number of repercussions. This research will address two of these. First, it could prevent individuals who would be excellent AMLOs from volunteering for the position. Second, it could cause AMLOs to feel a sense of injustice within the Air Force, which can lead to the restriction of positive behaviors and the exhibition of negative behaviors. It is appropriate to review the academic literature that shows how feelings of unfairness and injustice can influence the behavior of employees.

Some research suggests that employment can be modeled by social exchange theory. Within this framework, promotion is an important factor. When specific groups are not selected at the same rate as their peers (or even perceived to not be promoted at the same rate) it can affect perceptions of fairness. In research, perceptions of fairness fall under the concept of Organizational Justice. Further, perceptions of organizational justice can affect behavior in both positive and negative ways.

Social Exchange Theory

Originally, the relationship between employees and the organization was viewed strictly in economic terms. Firms paid employees a set wage for accomplishing a set amount of work. However, in the early 1960's researchers began to explore other aspects of this relationship, and they were able to show that it was based not only on an economic

exchange, but also on a social exchange (Adams, 1963; Blau, 1964). Blau (1964) defines social exchange as the "voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others." While economic exchanges are characterized by tangible expectations and rewards (i.e. a specific wage for a specific period of work), social exchange is characterized, instead, by unspecified obligations by both parties, and therefore go beyond the scope of anything that can be captured in a contract. Social exchange theory is important in understanding employees' perceptions of the organization, and it can provide insight into a number of employee work attitudes (Colquitt et. al., 2001; DeConinck, 2009; Eisenberger et. al., 1990). Blau (1964) identified trust and fairness as the two fundamental facets of social exchange.

Inequity Theory

Research further looked at what happens when employees perceive an inequity between their inputs and the outputs provided to them by the organization, and what behaviors can arise from these perceptions. Adams (1963) first looked at "the conditions under which inequity will exist and the means by which it may be reduced or eliminated." He concluded that inequity exists whenever a person perceives that the ratio of his outcomes to inputs and the ratio of another's outcomes to his inputs are unequal. This could happen when the person and another are directly interacting with each other, or when each are interacting with the same or similar third party. Adams (1963) considered outcomes to be things and events such as pay, promotion or job status, and inputs to be what the employee brings to the job, such as experience, education and effort. Adams (1963) was the first to show that when employees perceive that they are treated fairly by the organization, they are more likely to participate in innovative work behaviors (IWBs),

and when they perceive that they are not being treated fairly by the organization, they restrict those same IWBs.

Organizational Justice

With Social Exchange Theory and Inequity Theory concepts of fairness and trust within the organization began to come to the forefront of research. From these two theories of interaction, French (1964) developed the concept of organizational justice, which he used to describe employee's perceptions of fairness in organizations. There are generally accepted to be three different forms of organizational justice: distributive justice, procedural justice and interactional justice (Cohen-Charash & Spector, 2001; DeConinck, 2010; Li & Cropanzano, 2009). Some researchers have chosen to divide up interactional justice into inter-personal justice and informational justice (Colquitt, 2001) but for the purposes of this paper, organizational justice will be discussed in only three forms.

The first form of organizational justice is distributive justice. Adams (1965) first developed the concept of distributive justice, which he used to describe the perceived fairness in the allocation of outcomes. More specifically, Adams found that employees compared their input/output ratios to the input/output ratios of others. If there were many individuals who were found to have been under-or over-rewarded, feelings of distributive justice were low. Adams found predictable behavioral changes in his test subjects directly related to their perceptions of distributive justice. When workers perceived a strong sense of distributive justice, they altered their inputs and worked more diligently. However, when they perceived a lack of distributive justice, they did not work as hard at their tasks, and also tended to voice their displeasure. Also, Adams found that

individuals perceiving a lack of distributive justice were more likely to withdraw (quit, engage in absenteeism, obtain a transfer, etc.).

The second form of organizational justice is procedural justice. Procedural justice is generally defined as the fairness of the process by which outcomes are determined (Lind & Tyler, 1988). Further, procedural justice is said to exist when procedures adhere to normatively accepted principles. Generally, employees perceive strong levels of procedural justice when they have a voice or input into the outcome (DeConinck, 2010). Because perceptions of procedural justice are focused on how decisions are made, and not necessarily on the outcomes, it is possible to mitigate the effects of an unpopular decision by allowing employees to have a voice in how that decision is made (DeConinck, 2010). Cohen-Charash & Spector (2001) identified six rules for procedural justice: consistency, bias suppression, accuracy, correctability, representativeness and ethicality. Further, other studies (Greenberg, 1990; Cohen-Charash & Spector, 2001; Jones, 2009; Colquitt et. al., 2013) have found that a perceived lack of procedural justice will lead to an overall negative perspective of the organization as a whole and lead to additional counter-productive work behaviors (CWBs).

Bies and Moag (1986) described the third form of organizational justice, interactional justice, as the aspects of the communication process between members of the organization and the recipient of justice, which includes factor such as politeness, honesty and respect. Research has shown interactional justice to be highly related to the employee's opinion of his supervisor, and specifically to the trustworthiness of that person, versus how the employee feels about the organization, which is a more typical aspect of procedural justice (DeConinck, 2010). Perceptions of high interactional justice

have been linked to an increase in organizational citizenship behaviors (OCBs) (Moorman, 1991), suggesting that a supervisor who is perceived among his employees as treating his subordinates fairly can overcome other perceptions of unfairness. (Because AMLOs have had a Squadron Commander for less than a year at the time of this paper, interactional justice is not investigated as a determinant of organizational justice.)

Research has shown that organizations with high levels of organizational justice can realize a number of benefits. Specifically, researchers have shown that favorable perceptions of organizational justice can lead to higher incidents of OCB, organizational commitment, increased job satisfaction, increased pay satisfaction and improved task performance from employees (Moorman, 1991; Colquitt et. al., 2001; Cohen-Charash & Spector, 2001; Fatt et. al., 2010). Further, organizational justice has been shown to be positively related to employees' evaluations of themselves (Brockner et. al., 2008). Some studies have also shown a specific link between procedural justice and job performance, implying that job performance may be more related to an employee's view of the organization, as opposed to the employee's perceptions of the supervisor (Kanfer et. al., 1987; Cohen-Charash & Spector, 2001; Li & Cropanzano, 2009; Colquitt et. al., 2013). Finally, all three forms of organizational justice have been shown to influence how much employees trust the organization (Eisenberger et. al., 1990); DeConinck, 2010; Colquitt et. al., 2001). High levels of organizational justice can greatly benefit both individual employees and the organization as a whole.

However, a perception of low or no organizational justice can harm an organization. Research has shown that people are more about fairness when they receive an outcome they do not want or do not prefer (Li & Cropanzano, 2009). This means that

the negative feelings associated with injustice are more common and of a higher intensity than the positive feelings associated with strong perceptions of organizational justice. Further, employees who perceive an atmosphere of organizational injustice are more likely to engage in CWBs, including withdrawal, anger, theft, lower commitment levels, and a wide variety of other negative behaviors (Greenberg, 1990; Cohen-Charash & Spector, 2001; Latham & Pinder, 2005; Jones, 2009; Colquitt et. al., 2013). Perceived injustice has been shown to produce a wide range of negative emotions in wronged employees including hopelessness, sadness, rage, irritation, shame, dread and cynicism (Latham & Pinder, 2005).

Promotion, Justice and the Air Force

It is important to study promotion systems because of the large impact internal advancement can have on both the organization and the individual. For the organization, promotions ensure the best allocation of personnel within an organization, while for the individual, promotions provide an opportunity for increased social standing, increased pay, and additional or new work (Kaplan et. al., 2001). Also, unlike other outcomes, promotions are indivisible. Promotions are not simply a matter of one person getting a larger reward than another person. A person who is not promoted does not simply get less of a reward, they get no reward at all. Further, in the military, a failure to be promoted not only prevents an individual from obtaining the next rank and obtaining a larger paycheck, but could also lead to that individual being removed from the service. Because they impact so much of the relationship between an employee and the organization, promotions have been considered by some to be the most important component of the employer-employee relationship (Sharabi, 2008).

Much is at stake for an individual when a promotion decision is made, making it no surprise that actual promotion and perceptions of promotion opportunities have been shown to heavily influence perceptions of justice and fairness within organizations (Harel et. al., 2003; Garica-Inquierdo et. al., 2012). Employees who perceive high levels of organizational justice will sense a direct relationship between performance and promotion, causing an increase in organizational effectiveness (Kaplan et. al., 2001). Understandably, individuals not selected for promotion tend to have a reduced view of organizational justice (Odeku, 2013). However, it may be surprising that individuals can also have a reduced view of organizational justice even when they are selected for promotion. Lemons and Jones (2001) found that individuals who felt they were unfairly selected for advancement had lower perceptions of organizational justice within their organizations. Research has identified a clear link between promotion opportunity and perceptions of organizational justice.

Research has shown that positive perceptions of promotional opportunity and fairness in the promotion process can lead to many organizational benefits. Even when controlling for pay, promotions have been shown to lead to increased OCB and higher levels of job satisfaction (Kosteas, 2011). Kosteas (2011) further found that even among employees who are not promoted, the perception that a promotion opportunity is available will increase job satisfaction. Other research has shown that perceptions of a just and fair promotion system lead to higher levels of employee commitment (Lemon & Jones, 2001). Fair promotion systems were also shown to have significant negative effects on quitting intention (Carson et. al., 1994; Rubel & Kee, 2015).

However, there are also consequences to less-than-ideal promotion systems. In one study, dissatisfaction with promotion opportunities was shown to have a stronger effect on turnover than workload and even pay (Rubel & Kee, 2015). Further, negative perceptions of promotion systems have led to anger, hopelessness, withdrawal, reduced performance, and lower rates of job satisfaction (Tzafrir & Hareli, 2009; Sharabi & Simonovich, 2012; Webster & Beehr, 2013). Somewhat surprisingly, research has also shown that even individuals who are promoted can still strongly experience a sense of injustice (Tzafrir & Hareli, 2009). To avoid these negative consequences employees must feel that there is a high level of procedural justice within the organization. In other words, if the process used to make promotion decisions are transparent and based on factors within the control of individuals, employees are more likely to accept promotion decisions, good or bad, in a positive manner.

As alluded to above, the United States Air Force has some unique considerations in its promotion process. Research suggests that non-performance indicators can effectively predict promotion results in the Air Force (Bruns & Eichorn, 1993). Bruns and Eichorn (1993) performed a regression analysis on non-performance data for individuals promoted within the Air Force, and found that among their criteria, Squadron Officer School Distinguished Graduate status, graduating from a service academy, being a pilot and completing Professional Military Education in-residence as all being positive and significant indicators of future promotion. Because there is no formal guidance on how promotion board with the Air Force are to consider non-performance criteria, and because what the service values is continually evolving, these specific criteria may not still be relevant today.

Justice and Work Settings

Organizational constraints have also been shown to affect perceptions of organizational justice and employee behavior. Organizational constraints are best described as work conditions beyond the control of employees that inhibit or constrain completion of implicit and explicit work-related tasks (Gilboa et. al., 2008). Liu et. al. (2007) identified five categories of organizational constraints: employment conditions (problems relating to pay and benefits), lack of training, lack of team coordination and support, equipment/situational constraints and lack of structure (unclear assignments and/or disorganized work). Numerous studies have concluded that organizations should attempt to limit employee constraints, and acknowledge that the presence of constraints can have serious consequences (Hershcovis et. al., 2007, Liu et. al., 2007, Gilboa et. al., 2008). There has been some uncertainty on how constraints affect United States Air Force members. Steel and Mento (1989) found that constraints were related to Air Force member performance levels, as rated by the individual's supervisor. However, Peters et. al. (1998) found no relationship between constraints and performance, although the authors did find a relationship between some CWBs and constraints.

Inequity theory (Adams, 1964) acknowledges constraints as a stress to the individual that prevents him or her from engaging in positive behaviors, and, if the stressor is significant enough, it could drive employees to engage in negative behaviors. Because the model views the workplace environment as a scale balancing the inputs and outputs of each employee with the perceived inputs and outputs of the organization and other employees, any constraints are likely to be viewed as requiring more input from the employee, which should, in theory, reduce the output provided to the organization.

Constraints should be viewed seriously by any organization determined to maximize the potential of their employees.

Researchers have found a strong negative correlation between constraints and job satisfaction (Steel & Mento, 1989) and a strong positive relationship between constraints and CWBs (Hershcovis et. al., 2007). Some research has further shown that constraints do not influence job satisfaction (Peters et. al., 1988; Gilboa et. al., 2008). Further, constraints have been shown to be related to many negative employee behaviors including decreased satisfaction, increased frustration, withdrawal, and even organizational aggression (Peters et. al., 1988; Spector et. al., 2006; Hershcovis et. al., 2007).

Perceived organizational support (POS) is defined as "the extent to which employees perceive that their contributions are valued by their organization and that the firm cares about their well-being" (Eisenberger et. al., 1986). In other words, employees' perceptions of support are determined by how much they perceive that the organization values their contributions and the extent to which they feel that the organization takes an interest in their well-being (DeConinck, 2010). POS has been associated with higher levels of organizational justice, greater incidents of innovation, increased organizational involvement, trust in the organization and more conscientious job performance (DeConinck, 2010; Eisenberger et. al., 1990). POS has also been negatively associated with withdrawal (Eisenberger et. al., 1990; Rhoades et. al., 2001). Also, research had found that high levels of POS and organizational justice lead to a greater expectation for future promotion and advancement within the organization (Eisenberger et. al., 1990).

Behaviors

Perceptions of organizational justice are important because they have been shown to heavily influence the behaviors of employees (Colquitt, 2001; Cohen-Charash & Spector, 2001; DeConinck, 2010). Employee behaviors are generally categorized by researchers into two types: inter-role behavior and extra-role behavior (Blau, 1964). Inter-role behaviors are tasks, or the assigned work to be completed. Extra-role behaviors can either be positive behaviors (referred to as organizational citizenship behaviors (OCBs)) or negative behaviors (referred to as counter-productive work behaviors (CWBs)) (Williams & Anderson, 1991; Colquitt, 2001). Research has focused on ways to ensure the completion of tasks while simultaneously maximizing OCBs and minimizing or eliminating CWBs.

OCBs are "contributions to organizational effectiveness that are neither mandated by individual job requirements no recognized by the formal reward system" (Organ & Moorman, 1993). Organ later re-defined OCBs as "performance that supports the social and psychological environment in which task performance takes place" (Organ, 1997). This revision attempts to distinguish OCBs from mere task performance. OCBs can encompass many different types of positive employee behavior, and researchers have subdivided OCBs into different categories. Organ (1997) initially proposed five categories of OCBs: altruism, compliance, sportsmanship, courtesy and civic virtue (Organ, 1997). However, other researchers have chosen to classify OCBs based on who these behaviors benefit: behavior that benefits other individuals (OCB-I) and behavior that benefits the organization as a whole (OCB-O) (Organ, 1997; Williams & Anderson, 1991). Regardless of the specific of sub-categorization used, the important point is that

OCBs are not homogenous, and instead incorporate a broad range of potential employee behaviors.

OCBs are related to a number of other employee characteristics. OCBs have been shown to have a strong positive correlation with organizational justice (Organ & Moorman, 1993; Moorman, 1991; Moorman & Niehoff, 1993; Janssen, 2000; Eisenberger et. al., 1990). Further, some research has shown a positive relationship between OCBs and productivity, efficiency and organizational effectiveness, and a negative relationship to cost (costs were reduced) (Podsakoff et. al., 2009). Further research has shown that perceptions of organizational justice are greater determinants of OCBs than even job satisfaction or organizational commitment (Organ & Moorman, 1993; Moorman et. al., 1993). In other words, employees do not engage in OCBs because of job satisfaction or commitment, but instead because they feel it necessary to reciprocate the fair treatment they received from the organization. This supports the main arguments of social exchange theory.

There are many benefits for an organization whose employees engage in OCBs. Podsakoff et. al. (2009), in a landmark meta-analysis, found a strong relationship between individual OCBs and a number of organizational level outcomes including increased productivity, improved efficiency, reduced cost, increased customer satisfaction, and lower turnover. Those same researchers found that individuals who displayed OCBs were more likely to have a higher performance rating, and were more likely to receive individual rewards (Podsakoff et. al., 2009). Further, it can be argued that OCBs are not only nice to have, but essential for an organization to succeed. Research has shown that for an organization to grow and succeed, managers must motivate employees to exceed

their basic task accomplishment and demonstrate OCBs (Janssen, 2000). The supporting argument for this position is that if work continues in the same manner and at the same rates with no growth or increase in efficiency, an organization will struggle to either gain or keep success.

In much the same way that OCBs can benefit both the individual and the organization, counterproductive work behaviors (CWBs) can harm both entities. CWBs are intentional behaviors enacted to harm either an organization, its members, or both (Spector et. al. 2006). The specification that CWBs are intentional is important. For example, an individual who intentionally crashes a forklift would be demonstrating a CWB, while a worker who accidentally crashed a forklift would not be demonstrating a CWB. Even though the two events may cause the same amount of damage, only one is considered a CWB because of the requirement for intentionality. CWBs are divided into the categories of abuse towards others, production deviance, sabotage, theft and withdrawal (Spector et. al, 2006). While some of these are self-explanatory, others require more description. Production deviance occurs when an employee purposefully performs a job task incorrectly, while withdrawal defines behaviors that intentionally restrict the amount of time employees work at their jobs to a level below that which is required by the organization (i.e. leaving work early, arriving late, long breaks, unexcused absence, etc.) (Spector et. al., 2006).

Levels of organizational justice have been shown to be inversely related to CWBs by numerous studies (Greenberg, 1990; Jones, 2009; Hershcovis et. al., 2007). Specifically, research has found that low perceptions of procedural injustice were shown to contribute to CWB, while the promotion of procedural justice was shown to reduce the

occurrence of CWBs (Jones, 2009). Other studies have shown that distributive and procedural justice are both equally associated with OCBs (Cohen-Charash & Spector, 2001). Still other studies have shown a strong connection between distributive justice and CWBs (Hershcovis et. al., 2007). The research clearly shows a strong link between organizational justice and CWBs.

Air Mobility Liaison Officers

It is worth examining the qualifications required for an officer to be considered for an AMLO tour. The AMLO career field is governed by Air Force Instruction (AFI) 13-106, dated June 2013, which has not been updated to reflect the recent creation of an AMLO squadron. This publication states that the basic qualifications for an officer to be an AMLO are the "ability to authoritatively represent the Air Force, explain mobility systems… and capabilities to their supported unit." Further, it stipulates that officers need only be "qualified mobility pilots or navigators with airlift and airdrop experience highly desired." Despite, or perhaps because of, this lack of explicit requirements, AMC has decided to recruit to a higher standard. The *AMC Rated Officer Force Development Roadshow* presentation (2015) lists the qualifications for AMLO as: Major Weapons System (MWS) instructor, over 90 on the Air Force Fitness Test, and appropriate level of PME complete. This presentation also references the Rated Staff Allocation Plan (RSAP). The FY15 RSAP dictates that ALOs/AMLOs will be filled to between 95% and 100% before any additional rated staffs are filled. This makes AMLO assignments "must-fill" billets, which puts additional pressure on squadron commanders, AMC and Air Force Personnel Center (AFPC) staffs to non-volunteer individuals for this position.

Logistic Regression

Because promotion is a binary variable (an officer is either selected for promotion or not selected for promotion), and many of the non-performance variables that determine promotion are either binary or categorical, an ordinary least squares model will not sufficiently describe its characteristics (Pregibon, 1981). In this case, a logistic regression is a more appropriate method of analysis. Logistic regression is appropriate for describing and testing hypotheses about the relationship between categorical outcome variables and categorical predictor variables (Peng et. al., 2002). The logistic regression is based on the concept of the logit (the natural logarithm of the ratio of probabilities of Y happening to Y not happening) (Peng et. al., 2002). The logit introduces the logarithmic function to the variables, which ultimately gives researchers the ability to apply linear models to cases with non-linear outcomes.

Peng et. al. (2002) further stated that researchers should address the following information when analyzing and presenting a logistical regression: overall evaluation of the logistic model, statistical tests of individual predictors, goodness of fit statistics and an assessment of the predicted probabilities. When evaluating overall fit, a logistic model provides a better fit to the data if it shows an improvement over the intercept-only model (Peng et. al., 2002). The intercept-only model can also be referred to as the reduced model, while the full logistic model can be referred to as the full model. The whole model test in JMP is a provides this evaluation of the logistic model, determining if the change in the independent variables has a statistical effect on the dependent variable. The extent of this effect can be seen in the p-value, where a p-value less than .05 shows a statistically significant difference.

The statistical significance of individual regression coefficients is best tested using the Wald chi-square statistic (Peng et. al., 2002). In this test, each variable and the intercept are tested for significance, and then evaluated using its p-value. The p-value represents the probability of getting, by chance alone, a chi-squared value greater than the one observed (SAS Institute, 2008). For variables, they are held to be significant if the p-value is less than .05. The p-value of the intercept suggests whether or not it should be included in the model.

Goodness of fit can be evaluated by looking at the area under the Receiver Operating Characteristics (ROC) curve. The ROC curve plots the probability of detecting a true signal versus a false signal for the entire range of data (Fawcett, 2006). To express the curve as a single, scalable value, researchers use the area under the curve (AUC) (Fawcett, 2006). The AUC is a number between 0 and 1.0, giving the reader an idea of how well the model predicts an outcome (the close to 1.0 the AUC is, the better the model is at prediction, with .7 being the minimum of the acceptable region) (Fawcett, 2006, Pines et. al., 2012).

Finally, researchers can use a confusion matrix to evaluate how accurately the model predicts the actual outcome. The confusion matrix (see figure 1) displays the results in four categories: true positives (results that the model predicted to be true that were actually true), false negatives (results that the model predicted would be false, but that were actually true, false positives (results that the model predicted would be true, but were actually false) and true negatives (results that the model predicted would be false and were actually false). To determine the accuracy of the model, the sum of the true positives and true negatives are divided by the total number of samples (Fawcett, 2006).

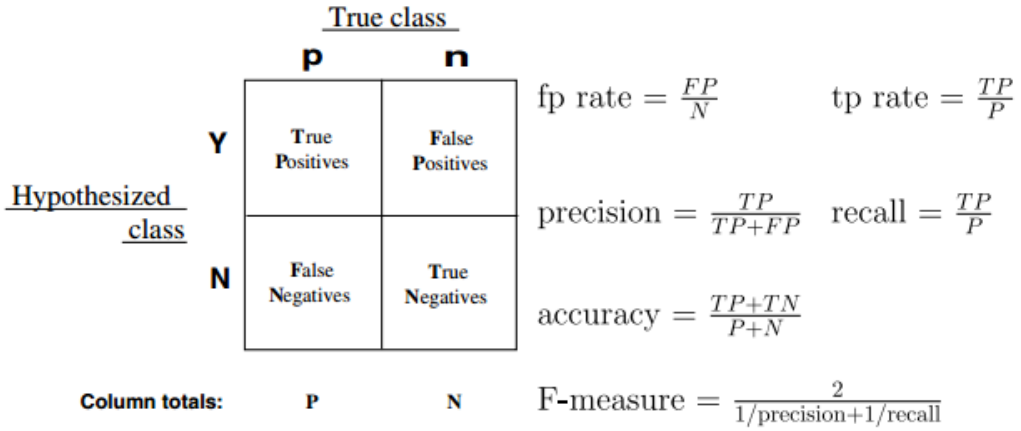


Figure 1. Confusion Matrix and Common Performance Metrics (Fawcett, 2006)

III. Methodology

Chapter Overview

This research used two distinct methodologies to answer the research questions posited at the beginning of this paper. To ascertain if there is a perception that an AMLO assignment will negatively affect career advancement, 18th Air Force squadron commanders of operational and operational support squadrons were surveyed. To determine whether being an AMLO negatively affects an individual's chances to be promoted, data from Headquarters Air Force, Directorate for Manpower, Personnel and Services was evaluated. Each of these unique methodologies will be discussed in detail in this section.

Survey Methodology

Because of specificity of this topic, and the lack of previous research into perceptions of the AMLO career field, findings must come directly from individuals with knowledge of the current MAF environment. To determine the perceptions of what an AMLO assignment does to the careers of individuals, all operational flying squadron commanders and operational support squadron (OSS) commanders falling under 18th Air Force were surveyed. Squadron commanders were chosen for the survey for a number of reasons. First, it is not feasible to survey every MAF officer, but surveying MAF squadron commanders provides a fair compromise between feasibility and reliability, since the 18th AF squadron commanders provide an adequate cross-section of rated MAF backgrounds. Second, surveying squadron commanders is appropriate because they are mandated to mentor the officers in their squadrons. AFI 1-2 (2014) requires squadron commanders to support the professional development of their subordinates through

formal mentoring and other methods. Also, as noted earlier, AMLO is a "must-fill" assignment, often requiring squadron commanders to nominate individuals for the assignment who are not volunteers. Further, squadron commanders are a good choice because they are "front-line" supervisors who are able to gauge perceptions within their units, whereas officers removed from the squadron are not able to measure the pulse of rated aircrew with the same accuracy. Finally, 18th AF squadron commanders represent all Major Weapons Systems within the MAF, and the majority of MAF rated aircrew fall under the command of 18th AF. 18th AF operational and OSS squadron commanders are able to provide the information necessary to determine if there is a perception that AMLO assignments will negatively affect the careers of MAF officers.

To determine the presence of a bias against the AMLO assignment, a survey was offered to all 49 operational and OSS squadron commanders within 18th AF, asking various questions about the AMLO career field using a combination of open responses, responses utilizing the Likert scale, and asking respondents to rank-order a list of possible assignments (Likert, 1932). The goal was to select questions designed to uncover any bias against recommending an officer to pursue an AMLO assignment. As such, Air Force Institute of Technology (AFIT) professors, Senior Air Force leaders, current squadron commanders and various MAF instructor and evaluator pilots were all consulted during the question formation of this survey. AFIT professors were consulted to ensure the survey met the academic standards required for this research. Senior Air Force leaders were consulted to ensure that the survey covered all of the issues surrounding AMLO assignments, and that the questions were at the appropriate level for Squadron Commanders. Finally, current squadron commanders (outside of 18th AF) were

consulted to determine how the survey could be improved, and to ensure that the list of potential assignments was complete.

First, demographic information was requested, including previous assignment opportunities and primary MWS. Next, respondents were asked to rank order a list of 11 assignments that would generally be open to MAF rated Captains and Majors. First, they were asked to rank these assignment opportunities in terms of professional development opportunities. Next, they were asked to rank the same assignments as to how much potential they offer for career advancement. These results were then compared based on a confidence level of their means. After two questions about what qualities AMLO assignments instill in mobility officers, the respondents were asked whether an AMLO assignment hurts an officer's career development and whether an AMLO assignment helps professional development. Respondents were asked to respond to these two questions using a five-point Likert scale. These questions asked directly about how an AMLO assignment affects career advancement in order to compare responses to the similar questions having respondents rank an AMLO assignment amongst other assignment options using the same criteria. By asking the same question in two different manners, the true opinion of the respondents is obtained. Also, survey members were asked how likely they were to recommend an AMLO assignment to a high performing officer in their unit (defined as top one-third of their peer group). Responses utilized the Likert scale for this question as well. It was hoped that answers to this question would again verify perceptions gauged in the previous questions, and additionally show how mentorship might affect AMLO selection. Finally, survey members were asked to rate their knowledge of the AMLO program using a 4-point Likert scale response.

Promotion Rates

The data obtained for this research included information on all air force officers who had been identified as a mobility pilot or navigator at any point during the time frame from 1995 to 2015. The information provided included Duty Air Force Specialty Code (DAFSC), duty title, rank, source of commissioning, formal schooling method and completion dates, age, years of service and separation date. Determining exactly what information to use was an important consideration for this research. Air Mobility Command publishes a Force Development Ribbon Chart (FDRC) for its officers to complete in order to see what career milestones have been met (see Appendix B). The milestones that are on this document include whether or not an individual has accomplished the following items: Squadron Officer School (SOS), Flight Commander (Flt/CC), Main Weapons System (MWS) Instructor Pilot (IP), Boarded Programs, Exec/Aide, IDE, and Staff. Since AMC uses this as a barometer to see how a mobility officer is progressing throughout their career, these data points should give a statistically significant answer to how influential an AMLO assignment is in mobility officer promotions. Also, Bruns & Eichhorn (1993) found that age and commissioning source were significant predictors of promotion for Air Force Officers, and these two variables were included in the analysis.

From the given information, several further observations can be made. The DAFSC allows observers to know a significant amount of information about an officer, including if he or she is a pilot, navigator, AMLO, Instructor, Evaluator, Weapons Officer, or Commander. Researchers can discern from an officer's duty title if the individual is an AMLO, flight commander, formal student, executive officer, aide-de-

camp, or staff officer. Once an officer's commissioning source is identified, researchers can determine if the individual was commissioned through a service academy, Reserve Officer Training Corps (ROTC) program, or through Officer Training School (OTS). From the formal schooling method and completion date information, researchers can conclude whether or not an individual has completed the rank appropriate level of professional military education (PME), and whether that was completed in-residence or via correspondence. All of this information combined can give researchers a good picture of an officer's non-performance characteristics.

By looking at historical data from when promotion boards met, researchers can see if an officer was promoted to the next rank on-time. For example, individuals who pinned on the rank of Major in 2006 met their promotion board in 2011, and would have pinned on in 2012 if they were promoted on-time. Researchers can get a fairly accurate picture of who was and was not promoted on-time by looking at individuals who pinned on Major in 2006 and were still Majors in 2012. Using this method, it is possible to see if being an AMLO affected whether or not an officer was selected for promotion to the next higher rank.

The data was first focused to only look at individuals who pinned on Major between 1 June 2000 and 31 July 2008, and individuals who pinned on Captain from 1 Jan 2000 and 31 Dec 2008. These ranges were chosen in order to ensure as many AMLOs were included as possible (AMLOs were first given the moniker in 2000, and the 2008-year group was the latest group for which promotion information was available). Individual records were removed from the sample if they had less than 5 years of records (lack of data), if they had over 20 years of records (obvious error since

only 20 years were recorded). To determine which factors were influential in officers who were denied promotion, a logistic regression analysis was performed using JMP ® analysis software. The following binary variables were used to determine which non-performance characteristics most influence a mobility officer's lack of promotion: evaluator status, weapons officer status, instructor status, pilot status, if the officer served on staff as a Major, if the officer was a flight commander, executive officer, if the officer had previously been an aide-de-camp or an AMLO, source of commissioning, if the officer completed the appropriate level of PME, and if it was accomplished in residence, and age.

IV. Results and Analysis

Chapter Overview

The methodologies employed in analyzing the data revealed distinct answers to both research questions. The survey administered to 18th AF squadron commanders revealed a perception in the MAF that AMLOs do not enjoy the same career advancement opportunities as other mobility pilots and navigators. The analysis of the Air Force personnel data revealed that having an AMLO assignment in your duty history is not a factor in individuals who are not promoted to either Major or Lieutenant Colonel.

Survey Results

The individuals who responded to the Squadron Commander survey represented a broad cross-section of the MAF (See Appendix C for a complete list of survey questions). Every major weapons system was represented, with 15 of the respondents commanding members of the airlift community (C-130, C-17 or C-5 aircraft), 12 commanding members of the tanker community (KC-135 and KC-10 aircraft) and the remaining 3 members commanding Operational Support Aircraft (OSA) (Distinguished Visitor (DV) aircraft including the C-21 and C-40) (See Figure 1). Interestingly, none of the respondents had previously been an AMLO or Remotely Piloted Aircraft (RPA) pilot, but all other assignment types were represented by multiple individuals.

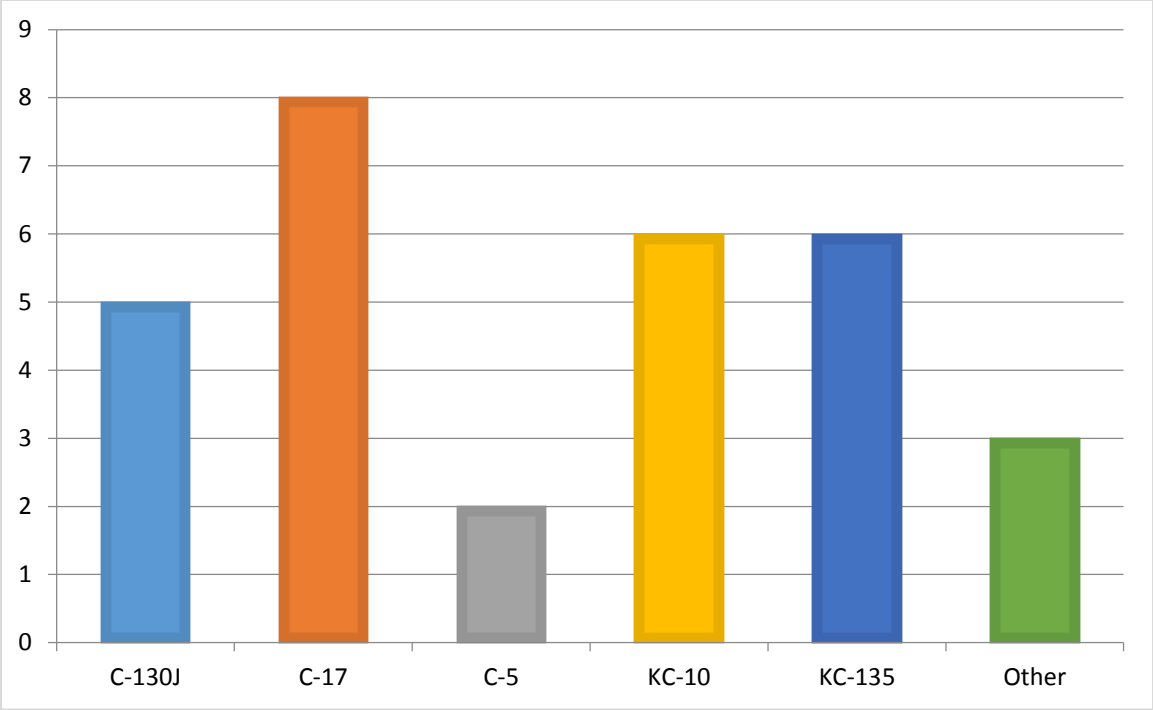


Figure 2. Primary Aircraft of Surveyed Squadron Commanders

Generally, respondents seemed to view AMLO assignments as valuable to the MAF. When asked to rank order the different assignments generally open to MAF pilots and navigators at the Captain and Major level, the surveyed Squadron Commanders ranked AMLO as the 6th best assignment for providing an officer with the best opportunity for professional development (defined in the question as "deepen and/or broaden the individual's knowledge, skills, and abilities in the Mobility Air Force and as an overall leader") (See Figure 2). Statistically, the possible responses divided themselves into three distinct categories. We can say with 90% confidence that respondents viewed AMLO, Regional Affairs Specialist / Political Affairs Specialist (RAS/PAS), Air Education and Training Command (AETC) and an additional Operations Assignment as better than OSA/VIP assignments and an RPA tour, but worse than the

three Phoenix programs, Weapons Instructor Course (WIC) and a staff assignment, as these assignments relate to professional development.

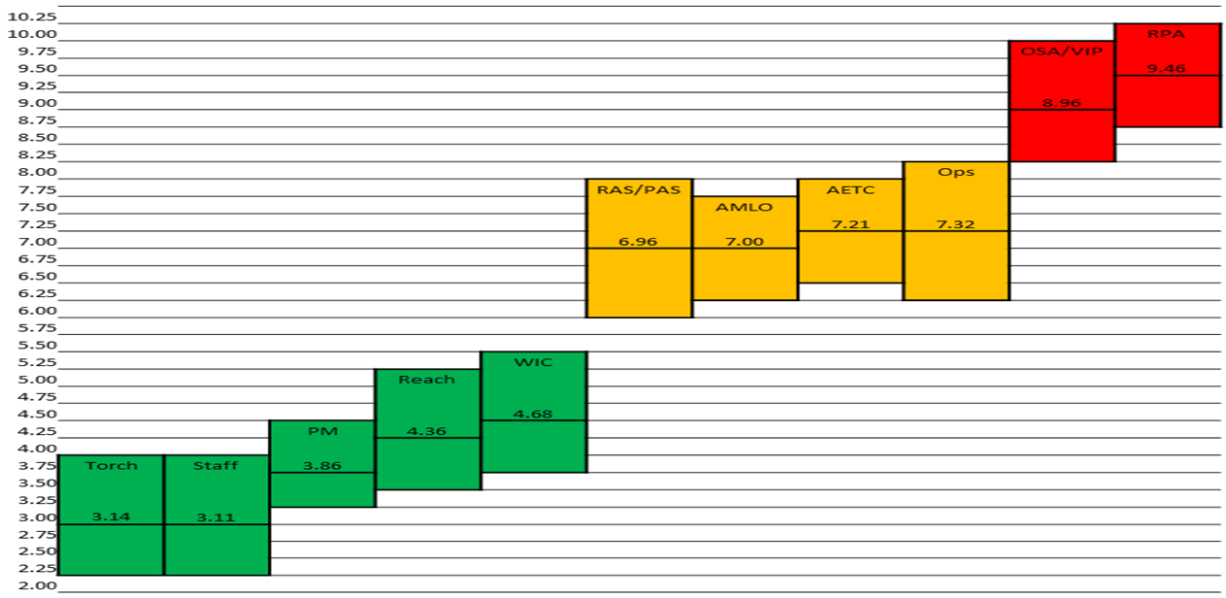


Figure 3. Ranking of Assignments Based on Professional Development

Further, 82% of respondents considered AMLO an effective use of rated officers, and only 10% of the respondents disagreed with the statement "an AMLO assignment makes a mobility pilot/navigator a better officer and leader." These results show that MAF squadron commanders see value in the work that AMLOs do.

However, the survey results also indicate that Squadron Commanders feel that AMLO assignments do not benefit an officer's career progression. When asked to rank assignments in terms of which assignments make the officer more likely to be promoted to the next rank, the mean for AMLO assignments ranked 9 of 11 (See Figure 3). Again, the responses categorized into three groups. However, for this question, at the 90% confidence interval, it is now not possible to differentiate between AMLO and OSA/VIP and RPA assignments. The AMLO assignment dropped in relative value, revealing that

respondents saw an AMLO assignment as having a greater benefit to professional development than to career progression (1.46 regression) (See Figure 4). Interestingly, all other assignment options stayed within .53 points except Phoenix Mobility (1.10 improvement), Phoenix Torch (.9 improvement), and RAS/PAS (.68 improvement).

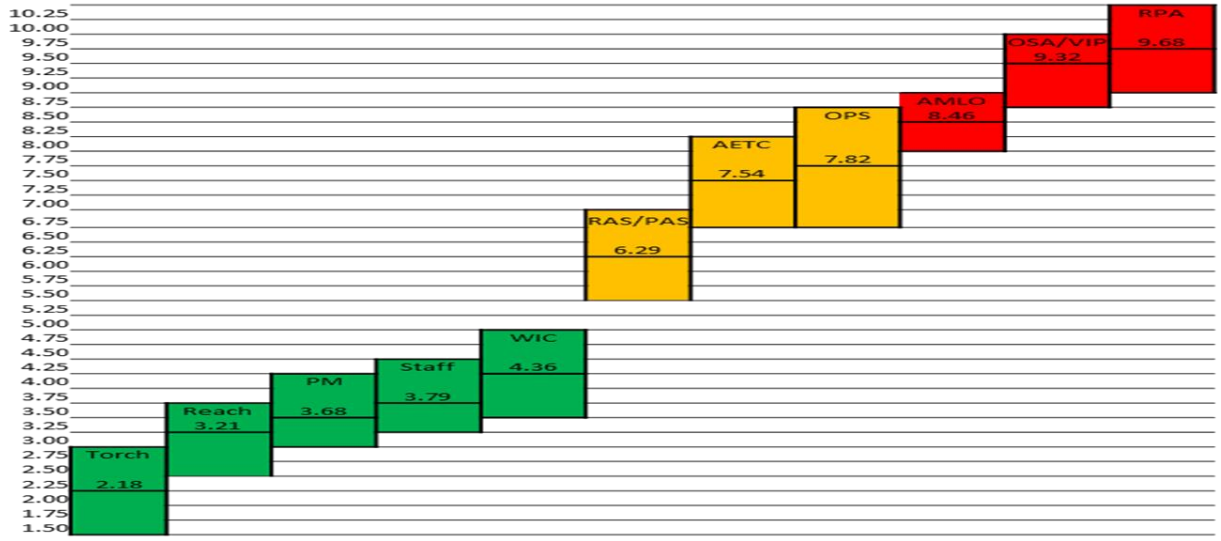


Figure 4. Ranking of Assignments Based on Career Progression

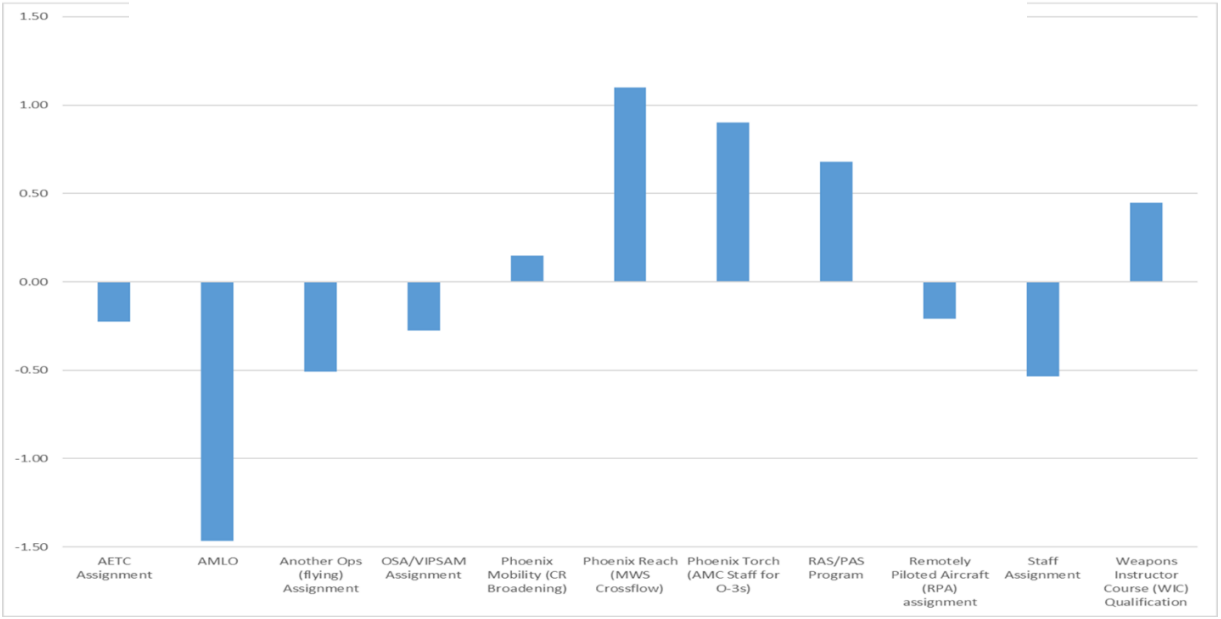


Figure 5. Difference Between Professional Development and Career Progression Rankings

Further, when asked to respond to the statement that "an AMLO assignment hurts an officer's career development" only 20% disagreed (6 of 30 respondents) (see Figure 5). Finally, when asked how likely they were to recommend an AMLO assignment to a top performer in their unit (defined as top 1/3 of his or her peer group), 66% (20 of 30 respondents) responded either "Not Likely" or "Would Not Recommend" (see Figure 6). The survey responses clearly show that MAF squadron commanders perceive that an AMLO assignment is not good for an individual's career progression and promotion opportunities.

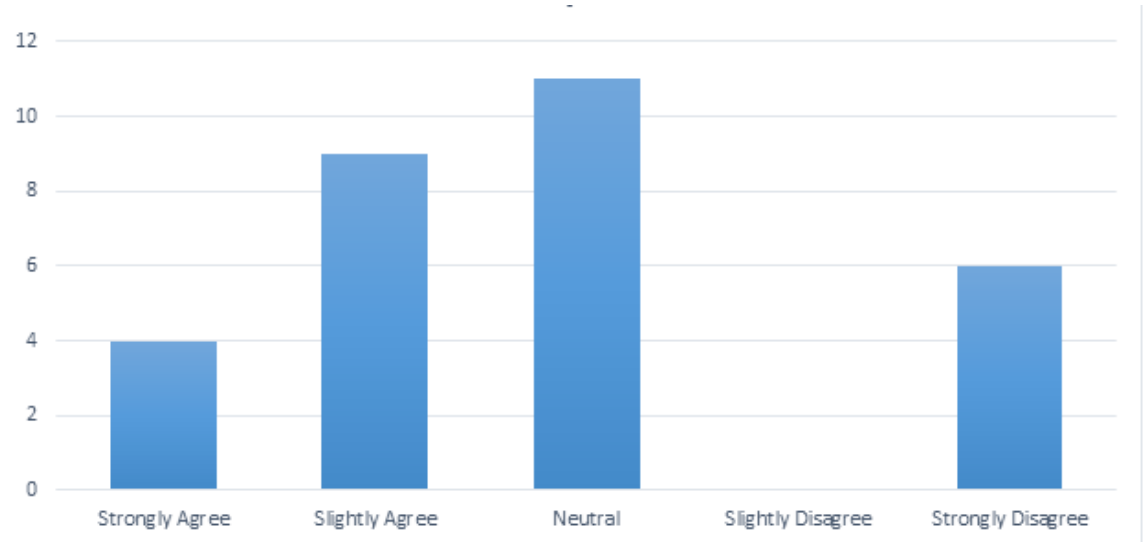


Figure 6. Squadron Commander Responses to the Question "An AMLO Assignment Hurts an Officer's Career Development."

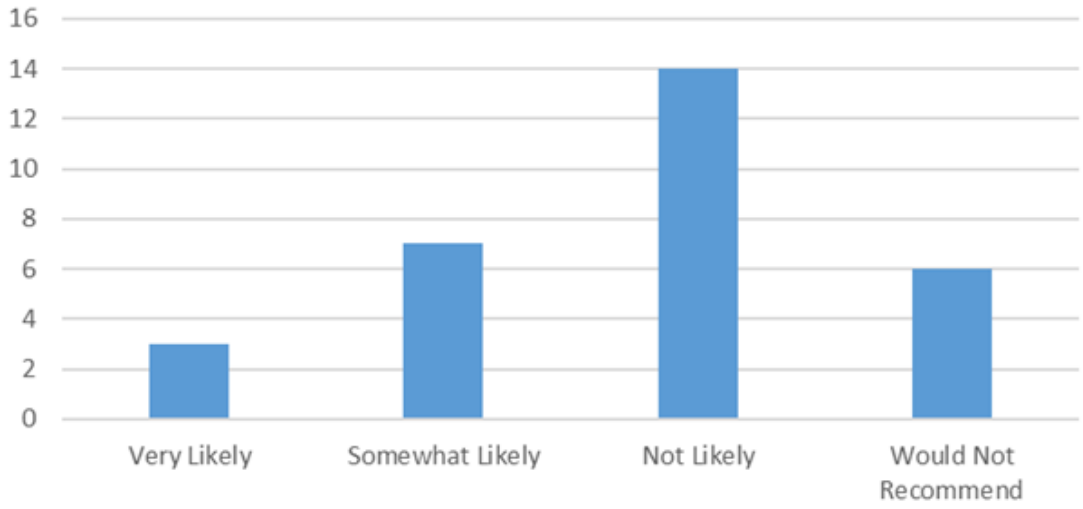


Figure 7. Squadron Commander Responses to the Question "How Likely Are You to Recommend AMLO to a High Performing Member of Your Squadron?"

Promotion Results

The analysis of the promotion results demonstrated exactly what influence being an AMLO had on whether or not a mobility officer was promoted. The analysis focused first on how having previously been an AMLO influenced whether an officer was not promoted to the rank of Major (see Figures 8-11), and then whether having been an AMLO affected promotion to Lieutenant Colonel (see figures 12 - 15). Both sets of results are presented in accordance with established standards: a whole model test was used to evaluate the overall model, a Wald chi-square test was utilized to evaluate individual predictors, the area under the Receiver Operating Characteristics (ROC) curve was used to evaluate the goodness of fit, and a confusion matrix was utilized to assess the prediction capabilities of the logistic regression analysis. For both sets of data, the dependent variable was non-selection for promotion (1 = not selected for promotion, 0 = selected for promotion), in order to see what factors significantly affect an officer's chances of being passed over (not selected for promotion).

Non-Selection to Major Model

The data shows that most aspects of the Major model suggest a good fit, however, the goodness of fit test fell below the satisfactory level. The whole model test (figure 7) shows that the model provides a significant improvement over the intercept-only model ($p < .0001$). Also, the Wald chi-square test reveals that there are a number of statistically significant factors that influence who is not promoted (figure 8). Further, the Wald test shows with certainty that AMLO is not a statistically significant factor ($p = .9323$). An analysis of the confusion matrix (figure 10) reveals that the non-selection for Major model has an accuracy rate of 80.6% (3196/3963) in predicting who was and was not promoted to Major. However, when evaluating the model's goodness of fit, this model only covered 68% of the area under the ROC curve (figure 9), which is just below an acceptable level of discrimination (.7) (Pines et. al., 2012). This is likely attributed to the fact that performance is such a large factor in determining promotion to Major. For promotion, performance is reflected by DG status, officer stratification among peers, and recommendation for promotion on the promotion recommendation form (PRF). None of this data was available for review, and it would appear that this information would provide a more accurate determination of who would and would not be selected for promotion to Major.

Whole Model Test

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	147.1778	11	294.3556	<.0001*
Full	1821.1334			
Reduced	1968.3112			

RSquare (U)	0.0748
AICc	3666.35
BIC	3741.68
Observations (or Sum Wgts)	3963

Measure	Training	Definition
Entropy RSquare	0.0748	1-Loglike(model)/Loglike(0)
Generalized RSquare	0.1137	(1-(L(0)/L(model))^(2/n))/(1-L(0)^(2/n))
Mean -Log p	0.4595	∑ -Log(ρ[j])/n
RMSE	0.3822	√ ∑(y[j]-ρ[j])²/n
Mean Abs Dev	0.2921	∑ |y[j]-ρ[j]|/n
Misclassification Rate	0.1935	∑ (ρ[j]≠ρMax)/n
N	3963	n

Figure 8. Whole Model Test for Promotion to Major

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-3.3105592	0.982699	11.35	0.0008*
Instructor as a Capt	-0.188372	0.1169316	2.60	0.1072
AMLO as a Capt	0.02785778	0.3278482	0.01	0.9323
Eval as Capt	0.31796578	0.0962122	10.92	0.0010*
WIC as Capt	1.776353	0.3925325	20.48	<.0001*
Flt/CC as Capt	0.52045386	0.0837881	38.58	<.0001*
Exec as a Capt	0.76064376	0.0964822	62.15	<.0001*
Ever Pilot?	0.61518022	0.1453746	17.91	<.0001*
Academy	0.05445611	0.1573615	0.12	0.7293
ROTC	0.26800835	0.1421669	3.55	0.0594
Ever BDE In-Res?	1.21667176	0.1289671	89.00	<.0001*
age	0.07563443	0.0275242	7.55	0.0060*

Figure 9. Parameter Estimates for Promotion to Major

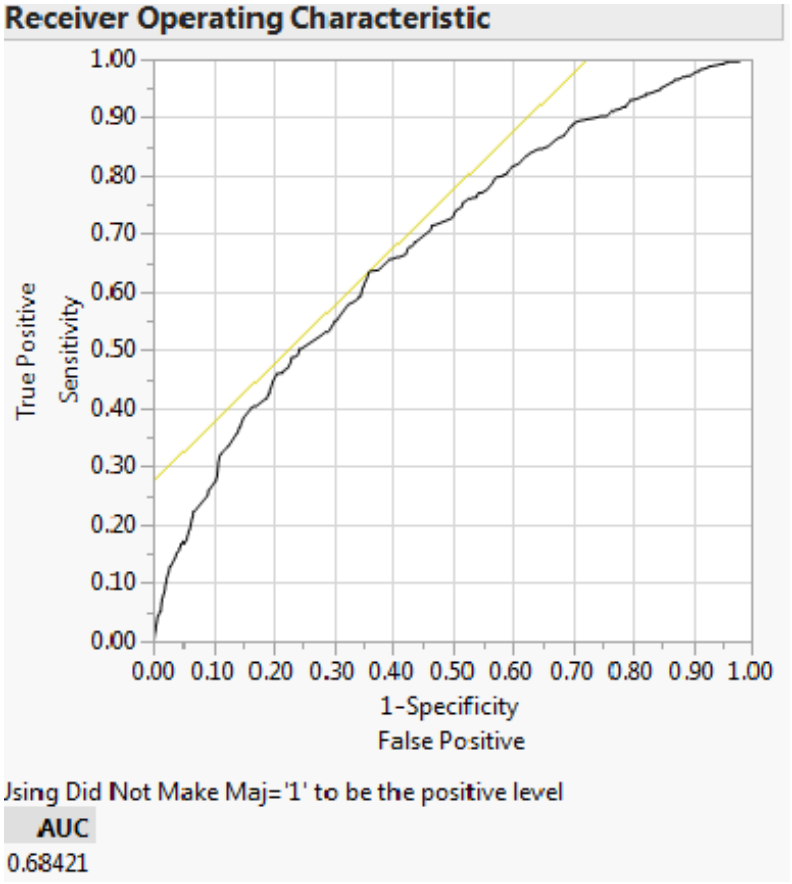


Figure 10. Area Under the ROC for Promotion to Major

Confusion Matrix

Actual		Predicted
Training	**0**	**1**
0	3132	49
1	718	64

Figure 11. Confusion Matrix for Promotion to Major

Non-Selection to Lieutenant Colonel Model

Next, the effect of an AMLO assignment on making Lieutenant Colonel was analyzed (See Figures 12-15). Overall, this model showed encouraging results in all four of the standardized tests. The whole model test reveals a good fit for the model (p-value less than .0001). This model again shows that there are numerous variables that are

statistically significant in determining promotion to Lieutenant Colonel, and that AMLO is not a statistically significant factor (p = .5322). This model covered 90% of the area under the ROC curve (Figure 13), giving it a superior level of discrimination. Finally, the accuracy of this model is at 87.9% (1934/2200). These results seem to show that non-promotion to Lieutenant Colonel can be accurately predicted using the variables presented, and that the AMLO variable is not a statistically significant factor.

Whole Model Test

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	682.7840	13	1365.568	<.0001*
Full	766.9185			
Reduced	1449.7025			

RSquare (U)	0.4710
AICc	1562.03
BIC	1641.58
Observations (or Sum Wgts)	2200

Measure	Training	Definition
Entropy RSquare	0.4710	1-Loglike(model)/Loglike(0)
Generalized RSquare	0.6315	(1-(L(0)/L(model))^(2/n))/(1-L(0)^(2/n))
Mean -Log p	0.3486	∑ -Log(ρ[j])/n
RMSE	0.3202	√ ∑(y[j]-ρ[j])²/n
Mean Abs Dev	0.2124	∑ |y[j]-ρ[j]|/n
Misclassification Rate	0.1209	∑ (ρ[j]≠ρMax)/n
N	2200	n

Figure 12. Whole Model Test for Promotion to Lieutenant Colonel

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	11.5233832	1.4730674	61.19	<.0001*
Ever Eval?	0.63803598	0.1355684	22.15	<.0001*
Ever WIC?	0.14795543	0.2951175	0.25	0.6161
Ever IP?	0.51900687	0.3321615	2.44	0.1182
Ever Pilot?	0.35338518	0.1983805	3.17	0.0749
Staff as a Maj?	0.73171945	0.1375506	28.30	<.0001*
Ever Flt/CC?	0.1525933	0.1312145	1.35	0.2449
Ever Exec?	0.79151093	0.1417298	31.19	<.0001*
Ever AMLO?	0.23523923	0.3765961	0.39	0.5322
Academy	-1.2393507	0.2213859	31.34	<.0001*
Ever IDE Complete?	8.29305311	1.019874	66.12	<.0001*
Ever IDE In-Res?	2.75965895	0.4746432	33.80	<.0001*
age	-0.5183283	0.0286581	327.13	<.0001*
ROTC	-0.6529378	0.1994283	10.72	0.0011*

Figure 13. Parameter Estimates for Promotion to Lieutenant Colonel

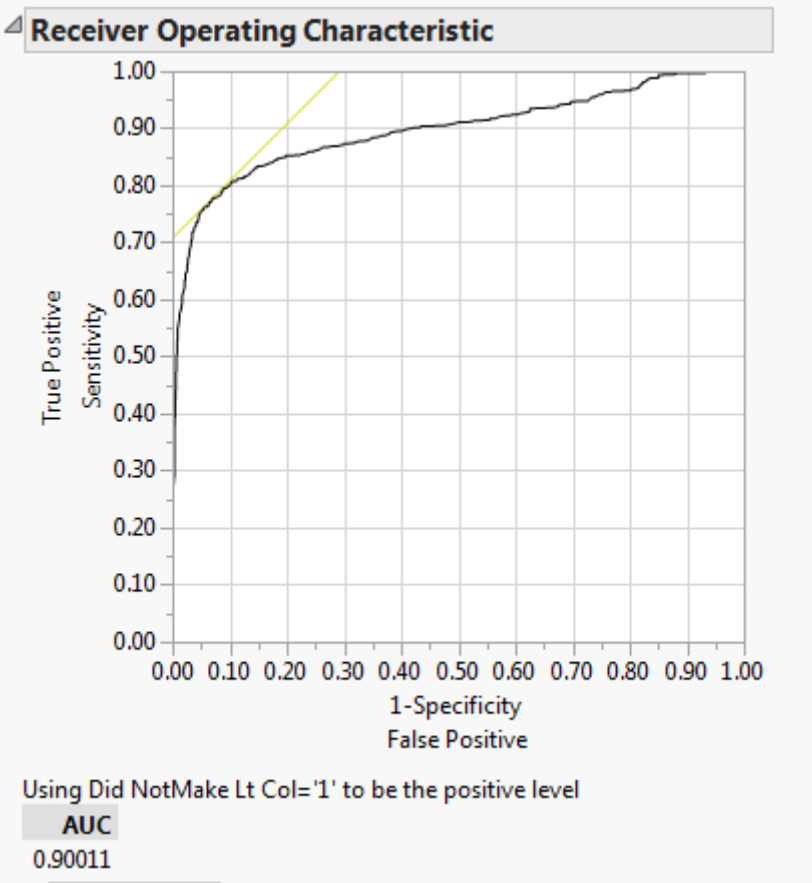


Figure 14. Area Under the ROC for Promotion to Lieutenant Colonel

Confusion Matrix

Actual		Predicted
Training	0	1
0	1320	66
1	200	614

Figure 15. Confusion Matrix for Promotion to Lieutenant Colonel

Chapter Summary

The survey data reviewed here clearly shows that MAF squadron commanders see AMLO as an assignment with a negative impact to career progression relative to other assignment options. Only 20% of (6/30) squadron commanders slightly or strongly disagreed that an AMLO assignment hurt an officer's career development. Further, Squadron Commanders are unlikely to recommend AMLO assignments to their top performers. Clearly, there is a perception among MAF squadron commanders that an AMLO assignment is harmful to an officer's career. However, the promotion data analyzed showed that this was not necessarily the case. When promotion to Major was analyzed, the data showed that whether or not an officer was or previously had been an AMLO did not influence the likelihood that that individual was not promoted. Similarly, being an AMLO did not influence whether or not officers were promoted to Lieutenant Colonel. This research collectively shows a perception among squadron commanders that an AMLO assignment hurts an officer's promotion potential, however, there is no data to support this perception as being true.

V. Conclusion and Recommendations

Summary of Research

This paper demonstrated that there is a perception that an AMLO assignment is detrimental to an officer's career progression, and that this perception is false. The perception was uncovered through a survey of 18th AF operational and OSS squadron commanders, asking them directly if they thought AMLO assignments were detrimental to an officer's career progression, and indirectly by having them rank order 11 assignments by how likely they were to advance an officer's career. The perception that AMLOs are promoted at a rate below their peers was shown to be false by examining the career advancement of mobility pilot and navigators of nine separate year groups. This data showed that AMLOs are promoted at a rate similar to other mobility pilots and navigators, and that having previously been an AMLO is not a statistically significant factor in predicting promotion.

Theoretical Implications

This paper began with a history of AMLOs and the raw numbers showing that AMLOs are not promoted at the same rates as their peers. The survey data identified that the MAF community values the work done by AMLOs, but it also identified a perception that an AMLO assignment will be detrimental to an individual's career. When the actual data was analyzed, it was determined that having served in an AMLO assignment does not affect an officer's likelihood for promotion. The fact that the MAF community espouses the value of AMLOs while at the same time perceiving that serving as an AMLO will lower an individual's likelihood of promotion has interesting theoretical implications.

First, this disconnect within the MAF likely leads to issues in organizational justice, and specifically procedural justice. If there is a perception that AMLOs are not promoted at the same rate as their peers, that is a procedural issue (having to do with the process of determining who gets promoted). Research has shown that perceptions of organizational justice are one of the strongest identifiable determinants of OCBs (Organ & Moorman, 1993; Moorman et. al., 1993). Given this, it would not be out of line to expect the amount of positive extra-role behaviors, OCBs, exhibited by AMLOs to decline. Shim and Faerman (2015) list example of OCBs exhibited specifically by public sector employees as helping co-workers with tasks, actively attempting to identify problems and suggesting solutions, and helping to maintain a favorable external image of the agency. The loss of any or all of these characteristics could significantly impact AMC's ability to seamlessly conduct missions with the other services.

Besides not engaging in positive behavior, there is the potential that perceptions of injustice could lead to AMLOs engaging in counterproductive behavior, CWB. As mentioned previously, levels of organizational justice have been shown to be inversely related to CWBs (Greenberg, 1990; Jones, 2009; Hershcovis et. al., 2007). Theoretically, problems could arise including absenteeism, withdrawal, anger and reduced levels of organizational commitment (Greenberg, 1990; Cohen-Charash & Spector, 2001; Latham & Pinder, 2005; Jones, 2009; Colquitt et. al., 2013).

Further, the perception that an AMLO assignment hurt's an officer's career only adds to the workplace settings of AMLOs that already detract from the organizational justice environment within the community. AMLOs face problems with a number of constraints including reduced support (often no Military Personnel Section (MPS) exists at

AMLO operating locations), limited face-to-face time with leadership, and a peer group among the wing that consists primarily of officers in the Phoenix Mobility program. Numerous studies have shown that just these constraints can lead to weak perceptions of organizational justice (Hercovis et. al., 2007, Liu et. al., 2007, Gilboa et. al., 2008), while some have shown that this will reduce performance in Air Force members (Steel and Mento, 1989). In other words, from an organizational justice perspective, AMLOs already start out behind, and should be looking for ways to improve perceptions of organizational justice, like the improvements that come with increased actual and perceived promotion opportunities.

There will be fewer volunteers for AMLO assignments if the current perceptions continue in the MAF. In terms of social exchange theory, it will be difficult to get high quality individuals to volunteer for jobs which require a high input from employees (reduced or no flying, outside of the Air Force, interacting with another service daily), while receiving a reduced output from the organization compared to other assignment choices (perceived lower promotion potential). Social exchange theory would predict fewer individuals volunteering to be AMLOs, and that current AMLOs will not produce at the same level.

Finally, it is important to remember what Amos Tversky and Daniel Kahneman (1971) call the law of small numbers, and how it applies in this case. For the vast majority of promotion boards looked at in this study, less than 11 individual AMLOs were being considered for promotion. As Taversky & Kahneman (1971) point out, it would be erroneous to have "exaggerated confidence in the validity of conclusions based on small samples."

Recommendations for Action

Senior leaders have the opportunity to use this research to affect positive change. First, the mobility community should be educated that in reality, an AMLO assignment does not affect an officer's promotion potential. This information should be presented to all levels of MAF officers. First, sitting Squadron Commanders should receive this information in order to better mentor rated officers under their command. Also, this information should be presented at the AMC Squadron Commanders Course, so that mobility leaders can be armed with this information before taking command. Finally, junior MAF pilots and navigators who are potential AMLOs should be given this information. To simply show low promotion rates with no analysis promotes a negative perception of the AMLO community. Education is the ideal way to eliminate the perception that having been an AMLO will make an officer less likely to be promoted.

However, there is still the fact that individuals who have been AMLOs are selected for promotion at a rate below that of their mobility peers. Even though this research has shown that it is not because of the AMLO assignment, mobility leaders can put policies in place to ensure that the individuals who receive AMLO assignments are individuals who are likely to be promoted and who are more likely to succeed at the unique challenges of an AMLO assignment. This would include ensuring that potential AMLO candidates met minimum requirements (MWS IP, worldwide deployable, no unfavorable personnel actions on record, eligible for a Top Secret security clearance, excellent physical fitness scores, and PME complete (commensurate with rank). Further, allowing the AMLO squadron commander to have a voice in the AMLO selection process would improve the

community, since ostensibly that individual would know exactly what qualities would make for a good AMLO in the current operations tempo.

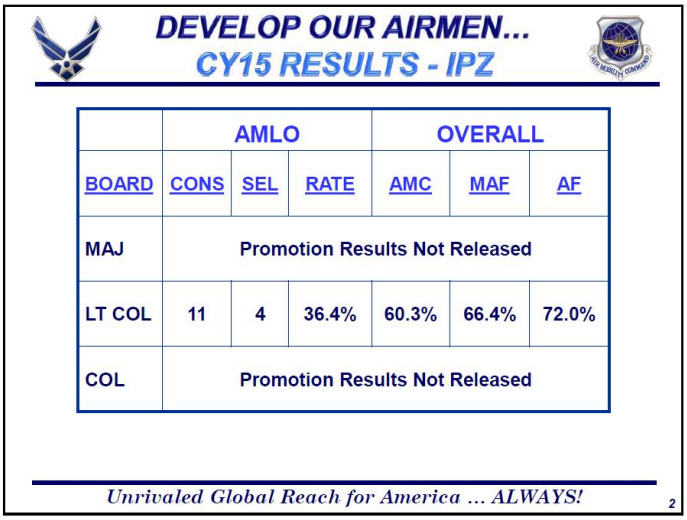
Finally, AMLO promotion rates would become a non-factor if AMC began to offer incentives for individuals to become AMLOs. These incentives would offset and (hopefully) eventually overcome any negative perceptions of an AMLO assignment. Incentives available range from priority in follow-on assignment, to Joint or Staff credit, to raising the AMLO program to the level of other force development programs in AMC (Phoenix Reach, Phoenix Horizon, Phoenix Torch, etc.). Each of these incentives comes with a trade-off, and it is valid to question if every program in AMC needs to be incentivized. However, the Phoenix Mobility program has shown how an assignment that was once considered to be undesirable can become sought-after with the proper incentives.

Recommendations for Future Research

This research only begins to look at the research associated with AMLOs, and the perceptions and realities associated with their career development. This paper looked at promotion to Major and Lieutenant Colonel, but promotion to full Colonel may be worth exploring as well. Further, promotion is only one measure of an Air Force Officer's career. Other aspects include the opportunity to command. It would be worthwhile to look at AMLO selection rates for Phoenix Eagle boards, Intermediate Developmental Education (IDE), IDE Select status (determined at the Major Promotion Board), and actual selection for squadron command. Finally, it has been noted that AMLOs experience a unique career opportunity in the Air Force. It would be interesting to look at how the Air Force uses this career experience in future assignments, and also what is the best way to use someone with

AMLO experience. There are a number of AMLO issues available to be explored in future research.

Appendix A – AMLO Promotion Results



	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	Promotion Results Not Released					
LT COL	11	4	36.4%	60.3%	66.4%	72.0%
COL	Promotion Results Not Released					

1

DEVELOP OUR AIRMEN...
CY14 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	6	6	100%	91.9%	92.2%	91.8%
LT COL	8	3	37.5%	61.5%	69.9%	67.0%
COL	0	0	0.0%	42.1%	43.3%	46.4%

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3

DEVELOP OUR AIRMEN...
CY13 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	No Promotion Board In 2013					
LT COL	10	4	40.0%	65.6%	71.0%	74.4%
COL	2	0	0.0%	34.5%	42.3%	40.8%

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DEVELOP OUR AIRMEN...
CY12 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	6	2	33.3%	85.2%	86.7%	88.9%
LT COL	10	7	70.0%	64.4%	76.4%	75.4%
COL	3	0	0.0%	34.8%	40.9%	46.0%

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DEVELOP OUR AIRMEN...
CY11 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	5	4	80.0%	89.6%	88.7%	89.3%
LT COL	5	4	80.0%	65.4%	71.4%	75.3%
COL	3	1	33.3%	26.6%	30.9%	45.7%

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3

DEVELOP OUR AIRMEN...
CY10 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	8	7	87.5%	87.7%	85.7%	89.1%
LT COL	4	3	75.0%	66.3%	73.4%	73.7%
COL	2	0	0.0%	42.3%	38.7%	45.6%

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7

DEVELOP OUR AIRMEN...
CY09 RESULTS - IPZ

	AMLO			OVERALL		
BOARD	CONS	SEL	RATE	AMC	MAF	AF
MAJ	9	6	66.7%	91.8%	91.8%	93.7%
LT COL	4	2	50.0%	71.8%	72.9%	74.0%
COL (CY09D)	3	0	0.0%	37.5%	36.3%	45.5%
COL (CY09A)	2	1	50.0%	34.9%	42.9%	44.0%

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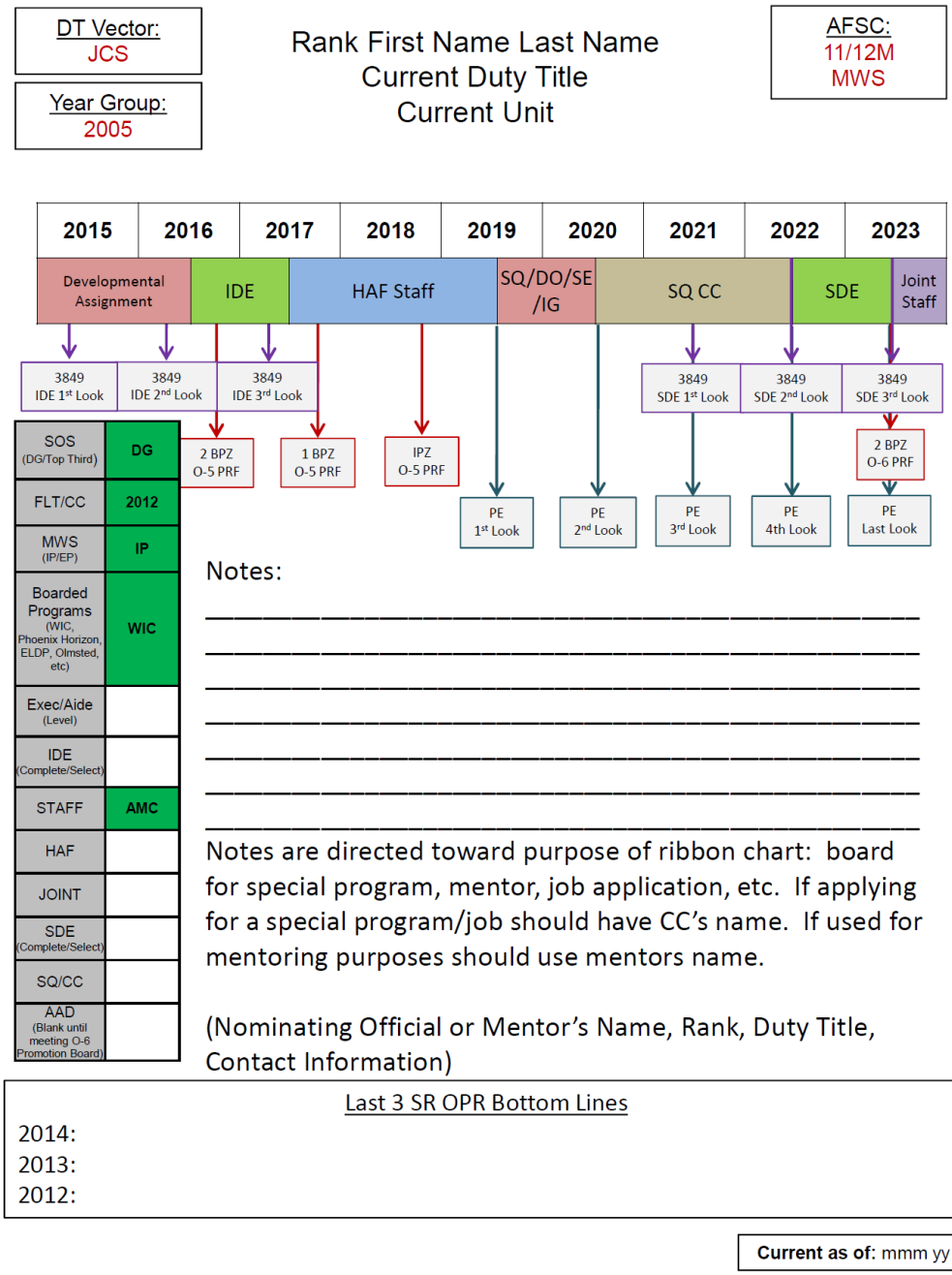
8

4

Appendix B – Force Development Ribbon Chart (Rated)



Appendix C – Squadron Commander Survey

Questions for Sq/CC and Senior MAF leaders

1. What aircraft does your Sq/Unit fly?
    a. C-130
    b. C-17
    c. C-5
    d. KC-10
    e. KC-135
    f. OSA

2. Rank the following assignments (1 = highest potential, 11 = lowest potential) that, from your perspective, offer the greatest officer professional development opportunities (i.e. deepen and/or broaden the individual's knowledge, skills, and abilities in the Mobility Air Force and as an overall leader):
    a. AETC assignment..... ____
    b. AMLO..... ____
    c. Another Ops (flying) assignment..... ____
    d. OSA/VIPSAM Assignment..... ____
    e. Phoenix Mobility (CR broadening)..... ____
    f. Phoenix Reach (MWS cross-flow)..... ____
    g. Phoenix Torch (AMC Staff for O-3s)..... ____
    h. RAS/PAS program..... ____
    i. Remotely-Piloted Aircraft (RPA) assignment..... ____
    j. Staff Assignment..... ____
    k. Weapons Instructor Course (WIC) qualification..... ____

3. Rank the following assignments (1 = highest potential, 11 = lowest potential) that, from your perspective, offer the greatest potential to advance an officer's career (make the person more likely to be promoted to the next rank):
    a. AETC assignment..... ____
    b. AMLO..... ____
    c. Another Ops (flying) assignment..... ____
    d. OSA/VIPSAM Assignment..... ____
    e. Phoenix Mobility (CR broadening)..... ____
    f. Phoenix Reach (MWS cross-flow)..... ____
    g. Phoenix Torch (AMC Staff for O-3s)..... ____
    h. RAS/PAS program..... ____
    i. Remotely-Piloted Aircraft (RPA) assignment..... ____
    j. Staff Assignment..... ____
    k. Weapons Instructor Course (WIC) qualification..... ____

4. Which of the following qualities do you think an AMLO assignment develops in an officer?
    a. Ready and Responsive
    b. Critical Thinking
    c. Adaptive Behaviors
    d. Innovation
    e. Creativity
    f. Collaboration
    g. Social Networking Skills
    h. Emotional/Cognitive Intelligence
    i. Imitative
    j. Resilience

5. Do you think AMLO is an effective use of Rated Officers?
    a. Yes
    b. No
    c. Why or why not?_____
    _____
    _____

6. How do you feel about the following statement: An AMLO assignment hurts an officer's career development.
    a. Strongly Agree
    b. Slightly Agree
    c. Neutral
    d. Slightly Disagree
    e. Strongly Disagree
    f. Please briefly explain your response:_____
    _____
    _____

7. How do you feel about the following statement: An AMLO assignment makes a mobility pilot/navigator a better officer.
    a. Strongly Agree
    b. Slightly Agree
    c. Neutral
    d. Slightly Disagree
    e. Strongly Disagree
    f. Please briefly explain your response:_____
    _____
    _____

8. How likely are you to recommend AMLO to a high performing officer in your squadron (top 1/3 of peer group)?
    a. Very Likely
    b. Somewhat Likely
    c. Not Likely
    d. Would Not Recommend

9. How familiar are you with the AMLO program?
    a. Very Familiar
    b. Somewhat Familiar
    c. Not Familiar

Appendix D – Quad Chart

AMLO Promotions: Perception and Reality

Maj Nicholas J. Conklin
Advisor: Jeffery D. Weir, PhD
Advanced Studies of Air Mobility (ENS)
Air Force Institute of Technology

Introduction

This paper looked at the perceptions and realities of AMLO career advancement, and seeks to answer two research questions: 1) Is there a perception in the MAF that an AMLO assignment will negatively affect an officer's promotion opportunity, and 2) Does having an AMLO assignment in one's record affect promotion opportunity? All 18th AF Operational and OSS squadron commanders were surveyed to determine if the perception exists. To determine if an AMLO assignment actually affects promotion opportunity, HAF A1 data for mobility officers (pilots and navigators who have flown a mobility aircraft) were analyzed for promotion to Major and promotion to Lieutenant Colonel. The survey results revealed a perception that an AMLO assignment is not good for an officer's career progression. The data revealed that prior AMLO experience has no negative effect on promotion to Major or Lieutenant Colonel. The paper concludes with recommendations on how to address this false perception.

Research Questions

1. Is there a perception in the MAF that an AMLO assignment will negatively affect career advancement?
2. Does having an AMLO assignment in your record affect your promotion opportunity?

Collaboration

HQ AF A1PF

AIR FORCE INSTITUTE of TECHNOLOGY

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-3.3105592	0.982699	11.35	0.0008*
Instructor as a Capt	-0.188372	0.1169316	2.60	0.1072
AMLO as a Capt	0.02785778	0.3278482	0.01	0.9323
Eval as Capt	0.31796578	0.0962122	10.92	0.0010*
WIC as Capt	1.776353	0.3925325	20.48	<.0001*
Flt/CC as Capt	0.52045386	0.0837881	38.58	<.0001*
Exec as a Capt	0.70064376	0.0904822	62.15	<.0001*
Ever Pilot?	0.61518022	0.1457746	17.91	<.0001*
Academy	0.05445611	0.1573615	0.12	0.7293
ROTC	0.26890819	0.1428669	3.55	0.0594
Ever IDE In-Res?	1.23667176	0.1298671	89.00	<.0001*
age	0.07563443	0.0275242	7.55	0.0060*

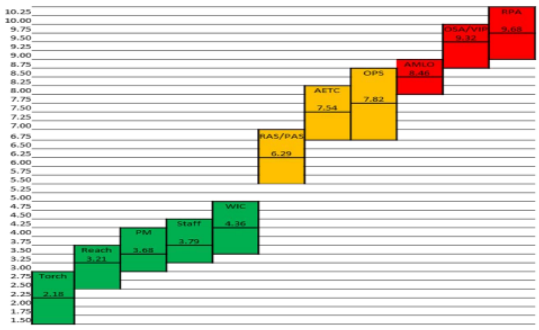
Parameter Estimates for Promotion to Major

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	11.5233882	1.4730674	61.19	<.0001*
Ever Eval?	0.63803588	0.1355684	22.15	<.0001*
Ever WIC?	0.14795541	0.2951175	0.25	0.6161
Ever IP?	0.51900687	0.3221615	2.44	0.1182
Ever Pilot?	0.35320518	0.1983805	3.17	0.0749
Staff as a Maj?	0.72171945	0.1375506	28.30	<.0001*
Ever Flt/CC?	0.1525933	0.1312145	1.35	0.2449
Ever Exec?	0.79151093	0.1417298	31.19	<.0001*
Ever AMLO?	0.23523923	0.3765961	0.39	0.5322
Academy	-1.2393507	0.2213859	31.34	<.0001*
Ever IDE Complete?	8.29305311	1.019874	66.12	<.0001*
Ever IDE In-Res?	2.75965895	0.4746432	33.80	<.0001*
age	-0.5183283	0.0286581	327.13	<.0001*
ROTC	-0.6520878	0.1094283	10.72	0.0011*

Parameter Estimates for Promotion to Lieutenant Colonel

Ranking Assignments Based on Benefits to Career Progression



Methodology

To ascertain if there is a perception that an AMLO assignment will negatively affect career advancement, commanders of 18th Air Force of operational and operational support squadrons were surveyed. These surveys questioned commanders about their attitudes towards AMLO assignments, and asked them to compare AMLO assignments to other possible assignments in regards to both officer development and career advancement. To determine whether being an AMLO negatively affects an individual's chances to be promoted, data from Headquarters Air Force, Directorate for Manpower, Personnel and Services was evaluated using a model composed of multiple variables that potentially could affect promotion. This model was used to determine what factors influenced non-selection to Major and non-selection to Lieutenant Colonel, and then evaluated using accepted criteria.

Summary of Research

This paper demonstrated that there is a perception that an AMLO assignment is detrimental to an officer's career progression, and that this perception is false. The perception was uncovered through a survey of 18th AF operational and OSS squadron commanders, asking them directly if they thought AMLO assignments were detrimental to an officer's career progression, and indirectly by having them rank order 11 assignments by how likely they were to advance an officer's career. The perception that AMLOs are promoted at a rate below their peers was shown to be false by examining the career advancement of mobility pilot and navigators of nine separate year groups. This data showed that that having previously been an AMLO is not a statistically significant factor in predicting promotion.

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14. ABSTRACT

Air Mobility Liaison Officers (AMLOs) provide a valuable service to Air Mobility Command as embedded liaisons to Army and Marine Units. This paper looks at the perceptions and realities of AMLO career advancement, and seeks to answer two research questions: 1) Is there a perception in the MAF that an AMLO assignment will negatively affect an officer's promotion opportunity, and 2) Does having an AMLO assignment in one's record affect promotion opportunity? All 18th AF Operational and OSS squadron commanders were surveyed to determine if the perception exists. To determine if an AMLO assignment actually affects promotion opportunity, HAF A1 data for mobility officers (pilots and navigators who have flown a mobility aircraft) were analyzed for promotion to Major and promotion to Lieutenant Colonel. The survey results revealed a perception that an AMLO assignment is not good for an officer's career progression. The data revealed that prior AMLO experience has no negative effect on promotion to Major or Lieutenant Colonel. The paper concludes with recommendations on how to address this false perception.

15. SUBJECT TERMS
Air Mobility Liaison Officer; AMLO; Air Force; Promotion; MAF

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