



January 2023

The Impact Of The Authority Gradient Created By Rank Imbalance On The Role Effectiveness Of U.S. Coast Guard Safety Officers

James Bernard McCormack

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: <https://commons.und.edu/theses>

Recommended Citation

McCormack, James Bernard, "The Impact Of The Authority Gradient Created By Rank Imbalance On The Role Effectiveness Of U.S. Coast Guard Safety Officers" (2023). *Theses and Dissertations*. 5254.
<https://commons.und.edu/theses/5254>

This Thesis is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

THE IMPACT OF THE AUTHORITY GRADIENT CREATED BY RANK IMBALANCE ON
THE ROLE EFFECTIVENESS OF U.S COAST GUARD SAFETY OFFICERS

by

James Bernard McCormack
Bachelor of Science, United States Coast Guard Academy, 2011

A Thesis

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of


Master of Science
Aviation


Grand Forks, North Dakota


May
2023

Name: James Bernard McCormack
Degree: Master of Science

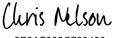
This document, submitted in partial fulfillment of the requirements for the degree from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

DocuSigned by:

UACU7535ZZAE45C...
Mark Dusenbury, Ph.D.

DocuSigned by:

6706D21C81124B7...
Shayne Daku, Ph.D.

DocuSigned by:

5B748286E761432...
Brandon Wild, Ph.D.

This document is being submitted by the appointed advisory committee as having met all the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

DocuSigned by:

2E0A7088C733403...
Chris Nelson
Dean of the School of Graduate Studies

4/28/2023

Date

PERMISSION

Title The impact of the authority gradient created by rank imbalance on the role effectiveness of U.S Coast Guard safety officers

Department Aviation

Degree Master of Science in Aviation

In presenting this thesis in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my thesis work or, in his absence, by the Chairperson of the department or the dean of the School of Graduate Studies. It is understood that any copying or publication or other use of this thesis or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my thesis.

James Bernard McCormack
March 28, 2023

Table of Contents

ACKNOWLEDGMENTS.....	v
ABSTRACT.....	vi
Chapter I: Introduction.....	1
Chapter II: Methodology.....	15
Chapter III: Results.....	22
Chapter IV: Discussion.....	28
Appendix.....	37

ACKNOWLEDGMENTS

To my wife and children, for giving me a fantastic two years while working on this degree. To my mother and father, for pushing me to accomplish goals regardless of difficulty. To my committee and professors at the University of North Dakota, who helped guide me through this research and degree program. To the United States Coast Guard, for giving me the opportunity of a lifetime to explore this degree program. To my Coast Guard mentors, for guiding me throughout my career.

ABSTRACT

Coast Guard air station commands have three department heads referred to as the Tri-P, consisting of the safety officer, operations officer, and engineering officer. The safety officer is generally junior in rank to the other members of the Tri-P despite what is advertised as an equal position within the command structure. The purpose of this study was to explore rank imbalance for Coast Guard safety officers at air stations throughout the United States by examining their perceptions in a quantitative survey. All current Coast Guard safety officers were eligible for participation in the survey. The survey revealed that safety officers did not perceive their rank affected their ability to conduct their assigned duties despite being junior to other members of the command structure. Safety officers did not perceive resistance to their ideas with other members of the command and rank imbalance was not a factor in a safety officers' ability to raise concerns to their superior officers. Differences between rank groups of safety officers were mostly non-significant. This quantitative instrument revealed that rank imbalance is not a perceived issue for safety officers assigned as junior members to the Tri-P.

Keywords: Rank, Rank Imbalance, Safety

Chapter I: Introduction

The United States Coast Guard (USCG) is an organization that employs a Safety Management System (SMS). An SMS is a federally mandated system that designates how aviation safety programs should function within an organization and consists of four pillars (Federal Aviation Administration, 2010):

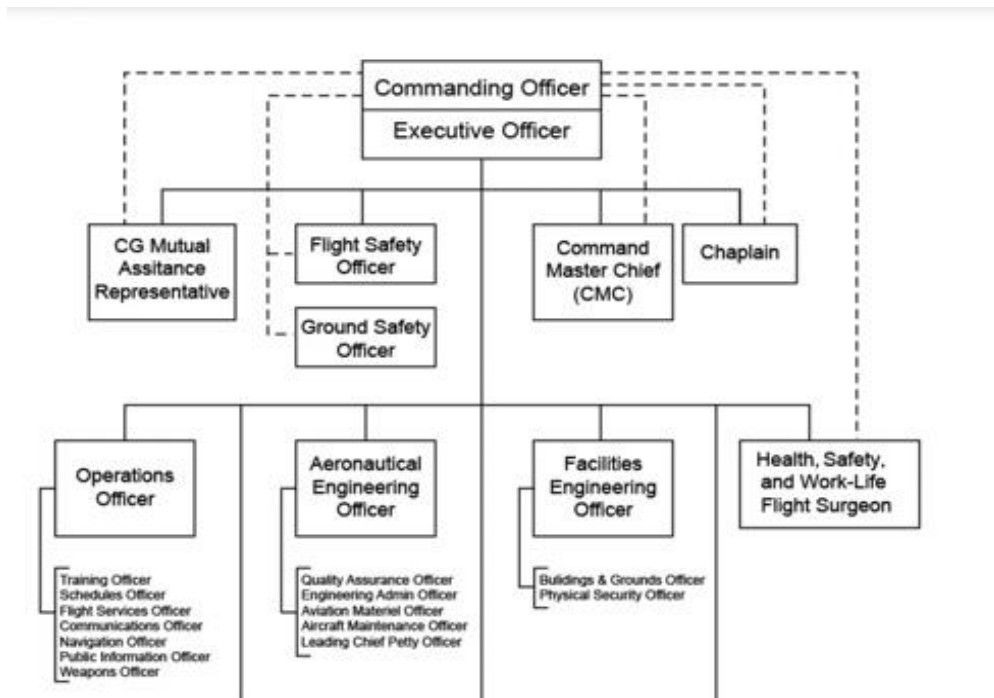
1. Policy: Procedures and organizational structures.
2. Safety Risk Management: Hazard identification and tools necessary to control risks.
3. Safety Assurance: Maintaining effectiveness of systems in a changing environment.
4. Safety Promotion: Creating and maintaining safety as a core value.

The office charged with overall implementation of the organization's SMS is the Office of Safety and Environmental Health located in Washington, DC. This office oversees all the Coast Guard's subunits and their personnel in all matters relating to safety management.

Coast Guard aviation is a specific community within the service that is divided into numerous units located across the United States called "air stations." Each air station has its own command structure and safety office and are responsible for SMS implementation at the local level.

Figure 1

USCG Air Station Structure



Coast Guard Air Stations

Air stations are located along all major coastlines of the United States, including Alaska, Hawaii, and Puerto Rico. Air stations are classified as either large or small and the command structure as it relates to their respective safety office is based on the overall size of the air station.

Large air station safety departments are composed of one Command Safety Officer (CSO), one Flight Safety Officer (FSO) per airframe, and at least one Ground Safety Officer (GSO). Small air station safety departments consist of an FSO and a GSO (United States Coast Guard, 2021a). At small air stations where no formal CSO is assigned, the senior FSO typically assumes the responsibilities of the CSO.

The USCG employs SMS at air stations with what is informally named the “Tri-P.” This group of personnel consists of the Operations Officer (OPS), Engineering Officer (EO), and Command Safety Officer (CSO) (United States Coast Guard, 2016). Their primary function is to

make recommendations to the Executive Officer (XO) and Commanding Officer (CO) regarding flight operations, aircraft maintenance, and safety related issues (United States Coast Guard, 2021b).

Positions in the Tri-P are reserved for senior aviators, typically Lieutenant Commander (O-4) or above. At large air stations, OPS, EO, and XO are typically the same rank, usually Commanders (O-5s) while the CSO is typically subordinate in rank, usually a Lieutenant Commander or Lieutenant (O-3). Rank imbalance amongst members of the Tri-P complicates the expectation that members of the Tri-P are intended to be equal parties within the command structure.

Operations and Engineering are the two major defined career paths Coast Guard aviators can follow. These career tracks eventually lead to a person obtaining the Commander positions of OPS or EO. The safety career track is a narrower career field in which CSO is the highest position a person can obtain at a unit level. Following successful completion of a CSO assignment, safety officers typically attempt to compete with their peers for an OPS position.

Consequently, the general stigma associated with aviation career tracks is that OPS and EO are the premier positions whereas CSO is merely a transitional billet on the way to the OPS position. Safety Officers are not eligible for EO positions due to a lack of a completed Assistant EO tour.

Safety Culture and Climate

Aviation accidents and mishaps are more often than not caused by some form of human error (Wild et al., 2017). Every Coast Guard accident investigator is encouraged to complete a human factors analysis into the causative chain of events leading to the accident (United States Coast Guard, 2016). Within human factors analysis, investigators have the option to explore

organizational influences or upper-level management decisions, actions, or influences that either directly or indirectly affect an operator's decision (Department of Defense, n.d.). This organizational influence is commonly referred to as culture or climate.

Culture is the overall force that affects everyday aspects within the workplace setting. Within the overall culture, safety culture and its components exist. The Federal Aviation Administration (FAA) defines safety culture as the organizational climate associated with safety (Federal Aviation Administration, 2010). More specifically, safety culture is a set of values and beliefs that organizations and their members share to achieve something greater than the individual (D. A. Wiegmann et al., 2004).

To achieve a successful safety record, Coast Guard air stations must understand how safety culture and climate impact all levels of organizational structure. Safety culture is defined in numerous ways throughout a variety of literature. Wiegmann (2002) examined these numerous definitions and discovered commonalities that could be combined into a singular definition of safety culture. "Safety culture is the enduring value and priority placed on worker and public safety by everyone in every group at every level of an organization. It refers to the extent to which individuals and groups will commit to personal responsibility for safety, act to preserve, enhance and communicate safety concerns, strive to actively learn, adapt and modify (both individual and organizational) behavior based on lessons learned from mistakes, and be rewarded in a manner consistent with these values" (p. 8).

Safety climate is described throughout literature in various ways as an acute snapshot of safety culture. Wiegmann (2002) again examined the numerous definitions and combined commonalities into a singular definition. "Safety climate is the temporal state measure of safety culture, subject to commonalities among individual perceptions of the organization. It is

therefore situationally based, refers to the perceived state of safety at a particular place at a particular time, is relatively unstable, and subject to change depending on the features of the current environment or prevailing conditions." (p. 10).

Climate can be viewed on an annual basis while culture is a longstanding tradition of organizational behavior and shared values. Climate is largely affected by the Coast Guard's personnel rotation schedule. Personnel rotate between different air stations at intervals of three to four years. On average, at least 20-30 percent of aviation unit personnel rotate to different air stations any given year. Safety climate, therefore, is a much more fluid construct than safety culture. Coast Guard safety officers are often referred to as the unit "climate officers" as one of their primary duties is to foster a positive safety climate in the two-year period in which they hold the position.

USCG Safety Program Objective

The Coast Guard's stated SMS objective is to "maximize mission effectiveness by mitigating hazards to manage risk to acceptable levels and prevent mishaps" (United States Coast Guard, 2021b). It is the safety officer's responsibility to achieve this objective at the unit level. While it is the goal of all command members within an air station to mitigate hazards and manage risk to prevent mishaps, there are competing demands relating to operations and aircraft maintenance that may conflict with safety officer recommendations.

To reach this stated objective, the Coast Guard strives to achieve a generative culture. Generative culture occurs when safety management systems are integral in every facet of the organization. The organization's leaders, members, and partners internalize the safety system and the system is transformed into a pro-active action item (Mihai & Ciuica, 2015). This would manifest itself within Coast Guard aviation within the Tri-P and competing demands would be

worked through regardless of rank imbalance. Safety officers would perceive that their rank has no effect on their duties in a generative culture as the entirety of the organization's leaders and members internalize the system.

Once a generative culture is achieved, the Coast Guard will realize it through decreased mishap (accident) rates, initiated safety procedures amongst operations and engineering personnel, and continuous monitoring and improvement of systems. (Mihai & Ciuica, 2015).

USCG Safety Culture Components

The Coast Guard has adopted a safety culture definition based on five subcultures. The totality of these subcultures combine to form overall safety culture (United States Coast Guard, 2021b):

Reporting Culture “refers to a climate where people are encouraged, prepared and equipped to report hazards, errors and near-misses” (pp. 1-5).

Learning Culture “refers to using safety information systems to analyze and develop accurate conclusions regarding hazard exposure and safety” (pp. 1-5).

Just Culture “refers to an atmosphere of trust where people willingly and freely provide safety-related information without fear of reprisal” (pp. 1-6).

Informed Culture “refers to safety system managers having accurate and current knowledge about factors that determine safety of the system” (pp. 1-6).

Flexible Culture “refers to the organization reconfiguring its hierarchy as necessary to adapt during high-tempo or extraordinary hazard exposure, and recognizing the hazard associated with normalized deviation” (pp. 1-6).

Safety Survey

The Coast Guard's annual organizational climate survey (commonly referred to as "safety survey") seeks to identify the overall safety climate at Coast Guard air stations. The survey is offered to all personnel involved in the execution of the Coast Guard's aviation mission which consists of pilots, aircrew, and maintenance personnel. The survey is broken into various subsections where Operations, Engineering, and Safety Departments are examined to assess safety climate within specified areas of the air station.

The safety survey provides the Tri-P with areas of strengths, weaknesses, and areas in need of improvements. The Office of Safety and Environmental Health issues a document titled "Intervention Strategies: Aviation Safety Climate" to assist air station leaders in developing action plans to address weaknesses within the safety survey (USCG Office of Safety and Environmental Health (CG-113), 2021).

The intervention strategies are categorized into constructs that directly mirror the sections of the safety survey (USCG Office of Safety and Environmental Health (CG-113), 2021):

1. Just Culture
2. Reporting Culture
3. General Communication
4. Risk Management
5. Safety Oversight
6. Safety Fundamentals
7. Safety Leadership

Intervention strategies provide primary interventions which are "actionable steps unit commands may implement to enhance their safety climate", and secondary interventions that

“are more theoretical, offering ideas to reflect on” (USCG Office of Safety and Environmental Health (CG-113), 2021).

These interventions strive to improve general safety and safety climate. The issue that commonly arises with the implementation of these interventions is the competing demands of Safety, Engineering, and Operations Departments. When these competing demands are present, the XO and CO are forced to choose between competing interventions.

CSOs may experience professional pushback from the other members of the Tri-P. It is common practice that CSOs must route mishap reports through OPS and EO for input prior to signature by the XO and CO. Input can range from simple suggestions to mandated changes, and since OPS and EO almost always outrank the safety officer, the changes are oftentimes implemented with limited interference from the safety officer. In previous experience as a command safety officer, reports from safety officers were sometimes changed without consent from the safety officer writing the report.

The mishap reports contain valuable safety analysis, oftentimes sharing information about errors made by maintenance personnel or aircrews (United States Coast Guard, 2021b). These maintenance personnel and aircrews report directly to EO and OPS. In an organization where promotions are driven by evaluations from superior officers, members of the Tri-P may act in self-interest or preservation. This personal preservation may at times outweigh safety analysis.

Perceptions Between Rank Groups

Researchers in the United Kingdom examined perceptions of safety issues between hierarchical groups that included staff, supervisors, and senior level managers. The authors

sought to determine if there were shared safety perceptions between the groups, which is a critical element of a positive safety culture as indicated by Weigmann (2004).

The study found that while the three groups shared the perception that safety culture was important, there were significant differences between each group's perceptions of themselves and how the other groups view them. Of note, the study found that senior level perceptions may be biased "due to their lack of contact with the operational end of the business" (Clarke, 1999). Coast Guard aviation differs slightly in the fact that EO and OPS while members of senior management, still fly aircraft with junior members of the command. The importance of this study indicates that perceptions amongst groups where a hierarchical structure exists may differ.

Rank and its Effect on Safety Culture

There is limited literature on how rank imbalance amongst upper-level leadership affects safety culture. Existing literature that focuses on military rank and safety culture primarily examines how individuals feel about culture and climate within their organizations. Existing literature sought to identify differences in perception between senior personnel and junior workforce.

The United States Navy (USN) conducted a study exploring how their aviators viewed safety culture and compared these aviators across their ranks and the type of aircraft flown. There are many similarities between USN aviation and USCG aviation. Rank structures are identical, and there are numerous "communities" based on the type of aircraft flown. Previous research indicated that "shared perceptions amongst managers and staff concerning the importance of safety" is a key driver of an organization's safety culture (Clarke, 1999). For this reason, there is value in measuring differences in safety culture perception amongst various rank groups.

The study discovered that within the USN, there was a lack of significant effects of rank on personnel leadership and availability of resources (O'Connor et al., 2011). The authors connect this conclusion to the fact that in Naval Aviation, senior personnel carry out the same tasks as the rest of their workforce (O'Connor et al., 2011). For example, COs of naval squadrons or USCG air stations still fly the aircraft, participate in missions, training, etc.

There is an overall lack of literature regarding how the rank of a safety officer compared to other organizational leaders affects culture or climate. In addition, there is a lack of literature regarding if upper-level managers are more likely to implement suggestions from subordinates based on their relative rank or position within an organization. This study will add to existing literature regarding safety climate and culture with regards to rank imbalance amongst senior members of an organization.

Accountable Executive

The International Civil Aviation Organization (ICAO) defines the accountable executive as “a single, identifiable person having responsibility for the effective and efficient performance of the service provider’s SMS.” ICAO further states that the accountable executive is “typically the chief executive officer” (International Civil Aviation Organization, 2018).

The chief safety officer at Coast Guard air stations is the XO and mirrors what is recommended by ICAO standards in terms of position of the accountable executive. An argument can be made that local aviation units do not have accountable executives and that the accountable executive is the Vice Commandant of the Coast Guard. In a military organization with individual command structures, local XOs function much more like civilian and industry accountable executives than the Vice Commandant. This argument can be furthered by the fact

that each individual command is tasked with authoring its own safety policy for release to its members (United States Coast Guard, 2021b).

The Coast Guard departs from ICAO recommendations in that ICAO states “the service provider should aim to avoid conflicts of interest between staff members’ safety responsibilities and their other organizational responsibilities” (International Civil Aviation Organization, 2018).

XO safety responsibilities overlap with mission execution, maintenance, and administrative duties in a way that can complicate intervention implementation. This is potentially exacerbated when a rank imbalance occurs between the Tri-P and has the potential to negatively affect safety climate.

Power Distance

Hofstede (2011) Power Distance theory which is defined as, "the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally" (p. 9). Soeters and Boer described this theory stating, "In countries with a large power distance, subordinates are, both actually and in terms of experience, subordinate to their superiors (...the private to the general...)" (p. 120). In an organization or country with smaller power distances, subordinates will hold more discussions with superiors where the experience may contain a great deal of "give and take" between parties. Hofstede indicates that in the most severe cases of small power distance, the subordinate would not hesitate to correct superiors if necessary.

Military rank structures create high power distances. Subordinates within the military are expected to follow orders regardless of their personal or political belief systems. Oaths of office taken by all military members solidify this with inclusion of a clause where the member agrees to follow all lawful orders of superiors within the organization. High power distance has led to

major disasters in human history such as the Chernobyl disaster where superiors ignored warnings of subordinates, and the Tenerife Airport disaster of 1977 where a senior captain ignored a first officers warning regarding take off clearance.

As a result of disasters or accidents like the ones mentioned, high power distance has been examined in numerous studies. In the aviation community, high power distance has been attributed to a reduction in safety voice (verbally identifying safety issues) amongst junior aircrew in a study where 172 cockpit voice recorders were examined from various aviation accidents (Noort et al., 2021). The study indicated that subordinate members raising concerns did not necessarily prevent accidents. There was an active need for what the researchers called "safety listening", or the willingness for senior members to actively hear and respond appropriately to safety voice. While this study examined voice recordings in cockpit scenarios, the lessons learned where a need for the senior member to actively listen apply in the Coast Guard's Tri-P discussions where safety officers attempt to implement intervention strategies that may compete with OPS or EO wants or needs.

Certain communities within military organizations, strive to create environments of low power distance, or environments where subordinates expect to have a more significant role in decision making. Coast Guard aviation is one such community, where low power distance is sought. This is evident in the numerous flight briefs where pilots request aircrew address them by their first name without rank. A common phrase in C-130J flight briefs between pilots and aircrew include, "If you see something, say something. No rank in the aircraft. I (Aircraft Commander) want to hear your voice loud, clear, and concise on any issues you may have."

It is grounded in the thought that lower power distance organizations foster an inclusive climate where subordinates are more likely to raise concerns to superiors which can prevent or

lessen the severity of aviation accidents (Noort et al., 2021). As Soeters and Boer indicate, " Air force organizations, for many years, have been trying relatively hard to bring about a smaller power distance in their airborne units as compared to the armed forces as a whole" (p.120).

Rank imbalance amongst members of the Tri-P does not guarantee high power distance if the safety officers do not expect or accept unequal power distribution (Hofstede, 2011). This expectation or acceptance may have to do with personality traits of the senior ranking members of each command and the type of organizational climate that is fostered but is worth examining in this research regardless of personality trait. Rank imbalance coupled with high degrees of power distance are however, counterproductive to what is intended to be three equal members within the Tri-P and has the potential to lead to multiple dysfunctions within an organization (United States Coast Guard, 2016).

Organizational Dysfunctions in Flight Safety

Organizational structure issues as identified by Mihai and Ciuica (2015) can serve as dysfunction in flight safety culture. It occurs when there is an absence or incorrect implementation of a critical component. This dysfunction is visible in part when there is an "absence of a body holding exclusive responsibilities on safety or its subordination to an inferior level represents a major risk of accidents" (Mihai & Ciuica, 2015).

The Coast Guard's willingness to billet the CSO as a subordinate rank to OPS and EO despite what is supposed to be an equal partnership falls within this organizational dysfunction and may influence the safety officer's ability to carry out their assigned duties and subsequently negatively influence USCG safety culture subcomponents. Mihai and Ciuica (2015) identify this dysfunction as a potential latent failure that is not necessarily causal to any accident or mishap but has the potential to negatively influence any of the safety culture components. Latent failures

or conditions are most notably mentioned in James Reason's Swiss Cheese model as the first piece in the trajectory of accident opportunity (Reason, 1990). Since the safety officer's primary duty is to ensure implementation of the Coast Guard's SMS which includes an objective of reduced accident rates, this potential dysfunction warrants examination.

Problem Statement

Despite the organization's commitment to a Tri-P with equal considerations for each of its members, military organizations have since their inceptions been based on hierarchical structures. Simple oaths of office that each military member swears to imply that they will follow lawful orders of superiors. Rank imbalance within the Tri-P has the potential to impact command decisions as more senior members of the Tri-P may have more influence based on their rank, experience, and positional power that is generally greater than that of the safety officer.

Rank imbalance amongst members of the Tri-P has been discussed at numerous safety officer trainings and conferences without any statistical evidence that this imbalance has any negative effects on safety culture or climate. Given that a positive safety culture and climate stems from shared perceptions, examining safety officer perceptions regarding job effectiveness relating to SMS implementation and rank imbalance may provide a starting point for future research on whether rank imbalance has any effects on safety climate or culture. If proven that rank imbalance in combination with higher levels of power distance has a negative effect on either safety climate or overall safety culture, the Coast Guard may be willing to consider assigning senior officers with similar rank to CSO positions.

Purpose Statement

The purpose of this research will be to test how rank imbalance amongst the Tri-P has an impact on perceived safety officer effectiveness for safety officers throughout the Coast Guard.

The independent variable, “rank imbalance” will be defined as the difference in rank between the safety officer and operations or engineering officers. The dependent variable safety officer effectiveness will be defined as self-perception of how easily the safety officer can conduct their assigned duties.

Research Questions

1. Do Coast Guard safety officers perceive resistance or pushback against intervention strategies or ideas from other members of the Tri-P, XO, or CO?
2. Do Coast Guard safety officers perceive their rank relative to the rank of the operations or engineering officers affects their ability to do their job?
3. Are Coast Guard safety officers hesitant to raise concerns with other members of the command due to their rank?

Chapter II: Methodology

Given the need to test perceptions of Coast Guard safety officers, it was necessary to distribute a survey to all the active safety officers throughout the Coast Guard. Unique specificity of the research questions and population made it challenging to locate existing surveys surrounding rank imbalance in an organization with an SMS. The survey instrument utilized was derived from experiences as a safety officer, went through several modifications, and was reviewed with subject matter experts throughout the Coast Guard. A pilot test was not allowable given Coast Guard regulations regarding Institutional Review Boards and Privacy Analysis.

Institutional Review Board

The research topic and questions were developed and modified several times from August 2021 through June 2022 with assistance from the Office of Safety and Environmental Health. The University of North Dakota's Institutional Review Board approved the study in

September 2022, and the USCG Institutional Review Board approved the study in September 2022. Due to the population of respondents intended to be surveyed, a Department of Homeland Security Privacy Threshold Analysis was required. This approval was granted in October 2022.

Participants were notified via email of the purpose of the study, its voluntary nature, and verified consent to participate in the study prior to commencing the quantitative survey. As a requirement with the Department of Homeland Security's Privacy Threshold Analysis, no Personally Identifiable Information (PII) was collected. Demographic items such as rank, aircraft flown, and experience in terms of years were collected to assist in analysis. These demographic items were not viewed on an individual basis to protect the identities of the respondents. Responses were only viewed on aggregate for statistical purposes.

Population and Sample

All US Coast Guard aviation safety officers currently assigned to a safety officer position were eligible to participate in the research. Due to a lack of recency in their respective position, prior safety officers were not included in the sample.

Consideration was given to surveying unit OPS and Engineering Officers to elicit their perceptions in how they view their unit safety officers. This undertaking was decided against until a proof of concept with the initial survey could be achieved. For future research surrounding rank imbalance within the Tri-P, other command members should be surveyed to gauge their perceptions.

A quantitative approach using a survey instrument was used to elicit the perceptions of US Coast Guard safety officers throughout the entire service. The entirety of the population is 81 safety officers. A single stage convenience sampling design was utilized. The small population led to the decision to utilize the entirety of the population, and thus, a sample size determination

is not applicable. The survey link was distributed by the research team through the Coast Guard Flight Safety Officer distribution list. The list is updated annually following assignment to safety officer positions and is safe to assume that the distribution list is accurate and up to date.

Safety officers were notified that their participation was entirely voluntary and that they would receive no personal benefit from participation. Participants were notified that their responses would be used in statistical analysis that could benefit the future of the Coast Guard's safety officer assignment process.

Demographic items including, military rank (O-2, O-3, O-4), rank of their OPS and EO (O-3, O-4, O-5), years military experience, type of aircraft currently flown (C-130, H-60, etc.), and safety officer position (CSO or FSO), were collected. Distributions across these demographics are shown below in Tables 1-4.

18 Lieutenants and 17 Lieutenant Commanders participated in the survey with 5 responses lacking respondent rank information. 28 of the respondents were assigned as Flight Safety Officers and 12 were assigned as Command Safety Officers.

Table 1. *Demographics*

	N
Lieutenant (O-3)	18
Lieutenant Commander (O-4)	17
FSO	28
CSO	12

Table 2. *Aircraft Flown*

	N
H-65	18
H-60	13
C-130	4
C-144	2
C-27	2
Other	1

The rank of the Operations and Engineering officers were surveyed, and results displayed. Initial overview of these results shows that most OPS and EO positions are filled by O-5s whereas all safety officers are either O-3 or O-4s.

Table 3. *OPS and EO Ranks*

	OPS	EO
O-3	0	2
O-4	1	5
O-5	33	28

Military experience was surveyed, and the results are displayed in Table 4.

Table 4. *Military Experience (years)*

N	35
Mean	11.314
Median	11.0
Mode	10.0
Std. Deviation	3.4685
Skewness	.569
Std. Error of Skewness	.398
Kurtosis	.286

Final Survey Instrument

A self-developed survey without the ability to pilot test presents a significant challenge and limitation of the study. Reliability and construct validity had to be assessed following the completion of the survey which could have resulted in a complete redesign of the survey instrument with additional IRB approvals, etc.

Following survey development, face validity was performed with Coast Guard safety professionals that were not eligible to participate in the survey. These tests enabled feedback used to clarify wording of survey items for consistency throughout the instrument as well as overall clarity for the participants. The final survey was distributed for a period of two weeks starting on October 30, 2022. Survey items were randomized to attempt to prevent "straight-

lining" answers from respondents. Negatively worded items were included and likert values recoded appropriately to prevent and detect "straight-lining" of answers.

The final survey instrument is shown in the Appendix.

Reliability

One of the challenges with this study was the lack of existing proven and tested surveys surrounding rank imbalance and perceived job effectiveness. The Coast Guard's procedures stating that full IRB approval is required for a pilot test combined with time constraints associated with this plan of study prevented the opportunity to make any significant adjustments prior to implementation. The survey items were examined for internal reliability utilizing Cronbach's alpha.

RankImb1, RankImb2, and RankImb3 intended to measure whether differences in rank amongst the Tri-P affects safety officer job effectiveness. These 3 items were tested for reliability and found to have relatively high internal consistency ($\alpha = .865$). RankImb4 and RankImb5 were removed from this construct as the survey questions were specific to singular members of the Tri-P. While there is value in examining the descriptive statistics and independent t-tests of these survey items it would be inappropriate to include them in this overall construct. The ability to pilot test the survey could have led to removal of these questions and the creation of additional constructs surrounding individuals.

Hesit1, Hesit2, and Hesit3 intended to measure hesitation levels of safety officers to raise concerns or ideas to other members of the command. These 3 items were tested for reliability and found to have an acceptable level of internal consistency ($\alpha = .720$). Upon review of the survey items within this construct, wording could have been improved to increase consistency or

the items could have been separated to form distinct constructs with the creation of additional survey items.

PushBack1, PushBack2, and PushBack3 intended to measure how much resistance safety officers perceive to their ideas and interventions. These 3 items were tested for reliability and found to have a high level of internal consistency ($\alpha = .869$).

Participants were surveyed about other members of the Tri-P and their command to determine if these members were receptive to concerns from all their junior workforce. RaisingConcerns2, RaisingConcerns3, and RaisingConcerns4 were analyzed and found to have an acceptable level of internal consistency ($\alpha = .764$). These survey items were designed to test whether other command members are perceived to be receptive to concerns raised from air station personnel. The individual nature of these survey items likely led to only an acceptable internal consistency. The ability to pilot test would have likely led to additional survey items and the splitting of these survey items into separate constructs surrounding the individual command members that were measured.

Given that the survey items were found to be reliable in measuring the respondent's perceptions surrounding various issues regarding rank imbalance, new average variables were created in SPSS for each of the constructs mentioned. These average variables were analyzed using various statistical tests and are discussed in the following sections.

Chapter III: Results

General Results: Air stations consist of both pilots and aircrews to complete assigned missions. While aircrew and other pilot perceptions do not directly affect a safety officers' ability to conduct their assigned duties, these perceptions may reveal information regarding overall organizational culture that could be valuable to Coast Guard assignment officers and the Office of Safety and Environmental Health. Four questions within the survey instrument intended to measure respondent perception on how other pilots and aircrew viewed their position within the Tri-P (Table 5).

Table 5. *Pilot and Aircrew Perceptions*

1) My position in the Tri-P is viewed by aircrew as an equal to OPS.
2) My position in the Tri-P is viewed by aircrew as an equal to EO.
3) My position in the Tri-P is viewed by other pilots as equal to OPS.
4) My position in the Tri-P is viewed by other pilots as equal to EO.

Respondents overwhelmingly disagreed or strongly disagreed with each of the four statements (Table 5). Likert values ranged from 1.0 (strongly disagree) to 4.0 (strongly agree). All mean likerts were between strongly disagree (1.0) and disagree (2.0).

Table 6. *Pilot and Aircrew Perception Results*

Statement	1	2	3	4
N	38	38	38	38
Mean	1.82	1.68	1.68	1.74

Table 7. *Pilot and Aircrew Perception Likert Frequencies*

Likert Scale	Frequency	Percent
Statement 1		
1	11	28.9
2	23	60.5
3	4	10.5
4	0	0.0
Statement 2		
1	13	34.2
2	24	63.2
3	1	2.6
4	0	0.0
Statement 3		
1	12	31.6
2	26	68.4
3	0	0.0
4	0	0.0
Statement 4		
1	13	34.2
2	22	57.9
3	3	7.9
4	0	0.0

These initial descriptive results indicate that safety officers perceive that their position is not viewed as an equal to the other members of the Tri-P. Not a single respondent strongly agreed (indicated by a likert value of 4) with any of the four pilot and aircrew perception

statements. Not only are safety officers billeted as junior members compared to the rest of the Tri-P, yet they perceive that air station personnel consider them inferior to the rest of the Tri-P.

Research Question 1: Do Coast Guard safety officers perceive resistance or pushback against intervention strategies or ideas from other members of the Tri-P, XO, or CO?

Opin1 ("My opinion is as important to the XO or CO as the opinion of OPS or EO") was designed to test whether safety officers felt their opinion was valuable given their lack of rank and experience. This survey question was the only item to reveal a statistical difference between safety officer rank groups. Lieutenants ($M = 2.22, SD = .808$) generally disagreed while Lieutenant Commanders generally agreed ($M = 2.86, SD = .663$) when questioned about whether the CO and XO value safety officer opinions the same as they do OPS or EO, $t(30) = -2.379, p = .012$.

Three survey items were utilized to test respondent perception surrounding amount of push back or resistance to ideas from other members of the command based on rank imbalance. Three survey items were utilized to answer this research question (Table 8).

Table 8. *Push Back Construct*

Construct Item
1) I experience pushback against my ideas from OPS based on my rank.
2) I experience pushback against my ideas from EO based on my rank.
3) I experience pushback against my ideas from XO or CO based on my rank.

The average variable indicated that safety officers overall, disagreed that they experienced pushback from other members of the Tri-P, XO, or CO based on their rank ($M =$

3.10, $SD = .680$). These survey items were reverse coded, and a mean value of 3.10 indicates disagreement.

An independent t-test was conducted to determine if there was a difference in perception between Lieutenants and Lieutenant Commanders. Levene's test was non-significant $p = .334$ and there was no statistically significant difference between the two groups $p = .154$.

Research Question 2: Do Coast Guard safety officers perceive their rank relative to the rank of the operations or engineering officers affects their ability to do their job?

Five survey items were utilized to test respondent perception surrounding rank imbalance and the affect it has on safety officer job effectiveness. As previously stated in the methodology chapter, two survey items were removed during the creation of an average variable relating to rank imbalance due to the specificity of the subject in the survey item. Five survey items were utilized to answer this research question (Table 9).

Table 9. *Rank Imbalance Construct*

Construct Item
1) I've been unable to fulfill my duties to their greatest extent due to a rank imbalance with another member of the Tri-P.
2) Rank imbalance within the Tri-P makes it difficult to effectively do my job.
3) My rank negatively affects my ability to do my job.
4) If my rank was equal to that of OPS, my job would be easier to do. *
5) If my rank was equal to that of EO, my job would be easier to do. *

*Excluded from rank imbalance average variable

This average variable indicated that safety officers overall, did not feel that their rank negatively affected the ability to do their job ($M = 2.88$, $SD = .681$). In this case, the 3 survey

items were reverse coded, so a mean value of 2.88 indicates slight disagreement with the 3 survey items.

An independent *t*-test was conducted to determine if there was a difference in perception between Lieutenants and Lieutenant Commanders. Levene's Test for Equality of Variances was not significant $p = .444$. There were no statistically significant difference between the two groups ($p = .064$).

Construct items 4 and 5 were removed due to the specificity of the question and were examined separately from the construct (Tables 10 and 11).

Table 10. *Basic Statistics RankImb4 and 5*

	RankImb4	RankImb5
N Valid	36	35
Mean	2.92	2.97

Table 11. *Likert Frequencies RankImb4 and 5*

Likert Scale	Frequency	Percent
RankImb4		
1	3	8.3
2	10	27.8
3	10	27.8
4	13	36.1
RankImb5		
1	3	8.6
2	9	25.7
3	9	25.7
4	14	40.0

These results indicated that safety officers generally agreed with the statements that their jobs would be easier to do if their ranks were equal to that of the other members of the Tri-P.

Research Question 3: Are Coast Guard safety officers hesitant to raise concerns with other members of the command due to their rank?

Three questions within the final survey instrument were asked to specifically test respondent perception regarding their ability to provide recommendations to their CO's and XO's (Table 12).

Table 12. *Hesitation Construct*

Construct Item
1) I am hesitant to raise concerns about OPS or EO to the XO or CO.
2) I have no issues bringing up concerns against senior ranking officers with the XO or CO.
3) I keep concerns/ideas to myself due to rank imbalance between myself and the Command and/or other members of the Tri-P.

A large majority of respondents (78%) disagreed with survey item 1 for the hesitation construct. Only 29 percent of respondents felt strongly on the matter where the remainder either only agreed or disagreed. An overwhelming majority (86%) of respondents agreed or strongly agreed with survey item 2 for the hesitation construct. Most respondents (74%) either disagreed or strongly disagreed with construct item 3. For this construct item, survey items 1 and 3 were reverse coded to keep likert scoring consistent within the construct.

The average variable related to the Hesitation Construct indicated that safety officers overall, do not hesitate to raise concerns with other members of the command structure ($M = 3.08$, $SD = .637$). An independent t -test was conducted to determine if there was a difference in

perception between Lieutenants and Lieutenant Commanders. Levene's Test was not significant ($p = .480$) and there was no statistically significant difference between the two groups ($p = .338$). A Pearson's Correlation analysis revealed that there was no significant correlation between years military experience and the average hesitation variable ($r = .231, p = .218$).

Chapter IV: Discussion

Results from this research validate initial findings that safety officers are billeted junior in rank to both OPS and EO. Out of 35 respondents, all were O-4 or below, while 88 percent of assigned OPS and EO's were ranked at the O-5 level. Given this subordination of safety duties to an inferior rank, expectation was that there was some level of dysfunction in safety related duties due to this rank imbalance as described by Mihai.

Safety officer perception that other pilots and aircrew did not view their position as an equal party to the Tri-P illustrate the common belief regarding Operations and Engineering being the highly sought-after career tracks in Coast Guard aviation. These perceptions strong in favor of the safety officer not being considered an equal, it illustrates a disconnect with Coast Guard Policy when guiding documents such as the safety officer performance qualification standard (PQS) state the contrary (United States Coast Guard, 2016). Lieutenant (O-3) safety officers generally felt that their opinions were not as important to the XO or CO as the opinions of other members of the Tri-P. These perceptions are not aligned with what is intended in Coast Guard Policy.

Given these perceptions, Coast Guard safety officer PQS should be re-worded to reflect that the safety officer should be considered a special advisor to the XO, and not a member of the Tri-P. The XO is in fact, the air station's Chief Safety Officer. Given that the XO's rank is

typically equal to OPS and EO, they would be considered equal parties to the Tri-P and would align with Coast Guard intentions.

A major concern with this proposal stems from the XO's other assigned duties which include disciplinary responsibilities. These responsibilities can detract from a Reporting Culture if the XO fails to keep disciplinary responsibilities entirely separate from safety related responsibilities. For instance, current safety officers in the Coast Guard are highly encouraged to decline any disciplinary investigations that may be assigned to them, regardless of their relation to a safety related event. The intent is to create a welcoming environment for junior personnel to report their mistakes without fear of reprisal. Assignment of the XO as the third member of the Tri-P and as the safety representative could have negative effects on this intent.

Research Question 1: Do Coast Guard safety officers perceive resistance or pushback against intervention strategies or ideas from other members of the Tri-P or their XO or CO?

Statistical evidence was not present to suggest that safety officers experience resistance to their ideas from other members of the Tri-P and command. There was no statistical difference between rank groups of safety officers. The literature suggested that there may have been a dysfunction in safety related duties due to relegating the safety officer position as an inferior rank. This dysfunction, as it relates to resistance to ideas or intervention strategies, was not present on a service wide level.

Following the Coast Guard's annual safety survey, safety officers are tasked with implementing certain intervention strategies to correct potential deficiencies found with their unit safety climate. These strategies involve operations and engineering departments and are usually briefed to all members of the Tri-P and command prior to implementation. Resistance to these ideas or strategies has the potential to negatively affect safety climate at Coast Guard air stations.

Reduced safety climate can lead to increased latent conditions which can result in increased accident rates. It is encouraging that on a large scale, safety officers do not experience pushback or resistance their ideas or strategies.

Interestingly, the survey item designed to test whether safety officer opinion is as important to the XO or CO as the opinion of OPS or EO revealed a statistical difference between Lieutenants and Lieutenant Commanders. This could stem from the fact that air stations are mostly comprised of pilots that rank as Lieutenants. When a pilot promotes to the rank of Lieutenant Commander, they are generally viewed as the "experts" of the air station. This consensus amongst aviators, coupled with the fact that there are usually many more Lieutenants at an air station than Lieutenant Commanders could be the originating point of this statistical difference. This statistical difference indicates a potential need to billet the senior safety officer at air stations as a Lieutenant Commander if the intent of Coast Guard Policy is to maintain equal parties within the Tri-P.

Overall results from Research Question 1 indicate that it is critical that the XO and CO value the opinions of their safety officers on equal footing with OPS and EO regardless of the safety officers' rank.

Research Question 2: Do Coast Guard safety officers perceive that their rank relative to the rank of the operations or engineering officers affects their ability to do their job?

Results from this research question indicated that safety officers did not perceive that their rank affected their ability to do their job. This result aligns with the results from research question 1.

On almost a 2 to 1 scale, safety officers did however indicate that they felt their jobs would be easier to accomplish if their rank were equal to that of OPS or EO. This could indicate

that safety officers feel they would experience less pushback or resistance to their ideas, but the overall result of their efforts would not necessarily change. That is, regardless of their rank, safety officers feel that they can accomplish their assigned duties and responsibilities regardless of the rank of the other members of the Tri-P.

Research Question 3: Are Coast Guard safety officers hesitant to raise concerns with other members of the command due to their rank?

Safety officers generally do not hesitate to raise concerns with other members of the command due to their rank. A Pearson's correlation was conducted to test whether years of military experience, which varies throughout rank groups due to varying career paths, did not reveal any significant correlation. This is indicative of the fact that Coast Guard safety officers go through a selection process prior to their assignment and are considered top performers at their respective units. Top performers in the aviation community are expected to voice concerns regardless of how unpopular they may be with certain members of the command structure.

Overall

The results from this research indicate that there may be value in assigning senior safety officers as Lieutenant Commanders. Assigning Lieutenants, however, did not result in negative self-perceptions except for how safety officers perceived XO and CO to receive their opinions. These results are encouraging in the fact that the Coast Guard's safety officer rank does not affect their self-perceived ability to complete their duties or make recommendations to senior members of their command staff.

Limitations

A large limitation with this research was the total lack of safety officers that had achieved the rank of Commander (O-5). This research has shown that OPS, EO, and XO are almost

always an O-5. Had the Coast Guard assigned at least a few safety officers as O-5s, an ANOVA could have been completed to reveal potential statistical differences. Commanders are considered senior officers within the organization while Lieutenant Commanders are still considered junior officers. Had there been an O-5 safety officer, the results between rank groups, particularly between Commanders and Lieutenants could have been statistically significant. While the results of this research revealed almost no negative impact to perceived job performance, statistical differences between a Commander's responses and Lieutenant's responses could have added value and insight to the research.

The lack of pilot test and redesign of the survey limited the ability to either expand or reduce the survey for cleaner results. Pilot results and follow up discussions with pilot test participants could have revealed survey items that needed to be reworded for clarity. The inability to deliver the survey to a select few participants prior to implementation prevented the research team from determining if respondents truly understood what the question intended to ask or measure.

Intentional limiting of the population to current safety officers is another limitation of this research. Recency concerns of all past safety officers was the main concern in the decision to exclude past safety officers from the population. Experiences and perceptions change throughout a Coast Guard career, and since some of these past safety officers currently serve as OPS, XO, or CO at their current units, it would have been inappropriate to survey them regarding their experiences with their former commands.

Further Research

Analyzing existing annual safety survey data against rank data for unit safety officers could prove valuable for the Coast Guard's safety program. This research has revealed that safety

officers do not perceive resistance to ideas or intervention strategies based on rank imbalance. Comparing unit safety climate results of air stations with Lieutenant Commanders as safety officers vs. air stations with Lieutenants as safety officers could reveal statistically significant differences in average safety climate scores. Safety climate scores relating to safety leadership for example, would be expected to be higher at units where the safety leadership was more experienced and a higher rank.

Further investigation into rank group differences could reveal differences in mishap (accident) rates and severity of mishaps (costs, injuries, etc.) which would likely ensure the billeting of safety officers as Lieutenant Commanders. This analysis involves utilizing the Coast Guard's accident database and would require multiple approvals from various offices within the service.

Similarly, surveying Coast Guard safety officers with a proven power distance survey like what Hofstede used in his initial research findings would reveal if the Tri-P is a group within Coast Guard aviation with a large degree of power distance. This information would benefit future safety officer assignments as Coast Guard assignment officers could attempt to limit rank imbalance at air stations to decrease the degree of power distance.

There is value in exploring these research questions in a qualitative manner. This quantitative tool was untested prior to implementation and did not provide the ability for respondent comments. Comments are an invaluable asset in research and provide the respondent an open-ended forum to share concerns with the research team.

A qualitative study to assess safety officer perceptions would expound on the results of this survey and provide the Office of Safety and Environmental Health with useful information for future redevelopment and deployment of safety strategies. A redesign of these strategies has

the potential to increase overall safety climate results as measured by the annual safety survey and is worthy of exploration.

References

- Clarke, S. (1999). Perceptions of organizational safety: Implications for the development of safety culture. *Journal of Organizational Behavior*, 20(2), 185.
[https://doi.org/10.1002/\(SICI\)1099-1379\(199903\)20:2<185::AID-JOB892>3.0.CO;2-C](https://doi.org/10.1002/(SICI)1099-1379(199903)20:2<185::AID-JOB892>3.0.CO;2-C)
- Department of Defense. (n.d.). *Human Factors Analysis and Classification System 7.0 Rev 1.0*. QuickSeries Publishing.
- Federal Aviation Administration. (2010). *Safety Management Systems for Aviation Service Providers* (Advisory Circular AC 120-92A).
https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%20120-92A.pdf
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1). <https://doi.org/10.9707/2307-0919.1014>
- International Civil Aviation Organization. (2018). *Doc 9859 Safety Management Manual, Fourth Edition*.
- Mihai, E., & Ciuica, O. (2015). The Influence of Organizational Culture on Flight Safety. *Science & Military Journal*, 10(1), 19–24.
- Noort, M. C., Reader, T. W., & Gillespie, A. (2021). Safety voice and safety listening during aviation accidents: Cockpit voice recordings reveal that speaking-up to power is not enough. *Safety Science*, 139, 105260. <https://doi.org/10.1016/j.ssci.2021.105260>
- O'Connor, P., Buttrey, S. E., O'Dea, A., & Kennedy, Q. (2011). An Assessment of Safety Climate in U.S Naval Aviation. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 55(1), 1740–1744. <https://doi.org/10.1177/1071181311551361>
- Reason, J. (1990). *Human Error*. Cambridge University Press.

- Soeters, J. L., & Boer, P. C. (2000). Culture and Flight Safety in Military Aviation. *International Journal of Aviation Psychology*, 10(2), 111–133.
https://doi.org/10.1207/S15327108IJAP1002_1
- United States Coast Guard. (2016). *Flight Safety Officer (FSO) Performance Qualification Standard (PQS)*.
- United States Coast Guard. (2021a). *Air Operations Manual*.
https://media.defense.gov/2021/Mar/30/2002610899/-1/-1/0/CIM_3710_11.PDF
- United States Coast Guard. (2021b). *SAFETY AND ENVIRONMENTAL HEALTH MANUAL, COMDTINST M5100.47D*. https://media.defense.gov/2021/Jul/29/2002815404/-1/-1/0/CIM_5100_47D.PDF
- USCG Office of Safety and Environmental Health (CG-113). (2021). *Intervention Strategies: Aviation Safety Climate (2.1)*.
- Wiegmann, D. A., Hui Zhang, Thaden, T. L. von, Sharma, G., & Gibbons, A. M. (2004). Safety Culture: An Integrative Review. *International Journal of Aviation Psychology*, 14(2), 117–134. https://doi.org/10.1207/s15327108ijap1402_1
- Wiegmann, D., Zhang, H., von Thaden, T., Sharma, G., & Mitchell, A. (2002). *A Synthesis of Safety Culture and Safety Climate Research* (Technical Report ARL-02-3/FAA-02-2).
- Wild, G., Gavin, K., Murry, J., Silva, J., & Baxter, G. (2017). A post-accident analysis of civil remotely-piloted aircraft system accidents and incidents. *Journal of Aerospace Technology & Management*, 9(2), 148–159. <https://doi.org/10.5028/jatm.v9i2.701>

Appendix

Coast Guard Aviation Safety Officer Survey

Start of Block: Informed Consent

Informed Consent

THE UNIVERSITY OF NORTH DAKOTA CONSENT TO PARTICIPATE IN RESEARCH

Project Title: Coast Guard Aviation Safety Officer Survey

Principal Investigator: LCDR James McCormack

Phone/Email Address: James.Mccormack@und.edu

Department: Aviation

Research Advisor: Professor Shayne Daku

Research Advisor Phone/Email Address: (701)-777-4914/Shayne.Daku@und.edu

What should I know about this research?

- Taking part in this research is voluntary. Whether you take part is up to you.
- If you don't take part, it won't be held against you.
- You can take part now and later drop out, and it won't be held against you.
- If you don't understand, ask questions.
- Ask all the questions you want before you decide.

How long will I be in this research? We expect that your taking part in this research will last 15 minutes.

Why is this research being done? The purpose of this research is to determine if rank imbalance amongst the Tri-P affects Coast Guard Safety Officers ability to do their jobs.

What happens to me if I agree to take part in this research? If you decide to take part in this research study, you will take an online survey and respond to the survey items.

Could being in this research hurt me? The most important risks or discomforts that you may expect from taking part in this research include is survey fatigue.

Will being in this research benefit me? The most important benefits that you may expect from taking part in this research include a reduction in rank imbalance for future assignment as a Coast Guard Safety Officer.

How many people will participate in this research? Approximately 75 people will take part in this study for the United States Coast Guard.

What other choices do I have besides taking part in this research? Instead of being in this

research, you may decline to participate.

Will it cost me money to take part in this research? You will not have any costs for being in this research study.

Will I be paid for taking part in this research? You will not be paid for being in this research study.

What happens to information collected for this research? Your private information may be shared with individuals and organizations that conduct or watch over this research, including:

- The University of North Dakota • The United States Coast Guard • The Institutional Review Board (IRB) that reviewed this research

We may publish the results of this research. However, we will keep your name and other identifying information confidential. We protect your information from disclosure to others to the extent required by law. We cannot promise complete secrecy.

Data or specimens collected in this research will not be used or distributed for future research studies, even if identifiers are removed.

What if I agree to be in the research and then change my mind? If you decide to leave the study early, we ask that you simply close the survey.

Who can answer my questions about this research? If you have questions, concerns, or complaints, or think this research has hurt you or made you sick, talk to the research team at the phone number listed above on the first page.

This research is being overseen by an Institutional Review Board (“IRB”). An IRB is a group of people who perform independent review of research studies. You may talk to them at 701.777.4279 or UND.ird@UND.edu if:

- You have questions, concerns, or complaints that are not being answered by the research team.
- You are not getting answers from the research team.
- You cannot reach the research team.
- You want to talk to someone else about the research.
- You have questions about your rights as a research subject.
- You may also visit the UND IRB website for more information about being a research subject: <http://und.edu/research/resources/human-subjects/research-participants.html> By continuing with the survey, you consent to take part in this study. You will not receive a copy of this form.

Coast Guard Aviation Safety Officer Survey

Privacy Notice

Authority: 5 U.S.C. § 301; 10 U.S.C. § 4001; 14 U.S.C. § 504. Commandant; general powers,

and 14 U.S.C. § 505

Purpose: To collect information to assess whether Coast Guard Aviation Safety Officers perceive their rank affects their ability to execute their safety roles and responsibilities, whether these officers are more likely to raise concerns to their Command Cadre than their junior counterparts.

Routine Uses: This information will be used gain insight on whether Coast Guard Safety Officers should be of a higher rank, and may be disclosed externally as a “routine use” pursuant to DHS/USCG-014, Military Pay and Personnel, 76 Federal Register 66933 (October 28, 2011).

Disclosure: Furnishing this information is voluntary.

End of Block: Informed Consent

Start of Block: Demographics

Rank1 What is your rank?

- O-2 (1)
 - O-3 (2)
 - O-4 (3)
 - O-5 (4)
-

OPS1 What is the rank of your Operations Officer?

- O-3 (1)
 - O-4 (2)
 - O-5 (3)
-

EO1 What is the rank of your Engineering Officer?

- O-3 (1)
 - O-4 (2)
 - O-5 (3)
-

Experience1 How many years of service do you have?

Airframe1 What airframe do you currently fly?

- H-65 (1)
 - H-60 (2)
 - C-130 (3)
 - C-144 (4)
 - C-27 (5)
 - Other (6)
-

Position1 What is your Safety Officer Position?

- FSO (1)
- CSO (2)

End of Block: Demographics

Start of Block: Rank Perception

Rank Perception Using the scale below, please indicate your level of agreement with the statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	N/A (5)
My position in the Tri-P is viewed by aircrew as an equal to OPS. (PercAirCrew1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My position in the Tri-P is viewed by aircrew as an equal to EO. (PercAirCrew2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My position in the Tri-P is viewed by other pilots as equal to OPS. (PercPil1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My position in the Tri-P is viewed by other pilots as equal to EO. (PercPil2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My opinion is as important to the XO or CO as the opinion of OPS or EO. (Opin1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If my rank was equal to that of OPS, my job would be easier to do. (RankImb4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If my rank was equal to that of EO, my job would be easier to do. (RankImb5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Rank Perception Using the scale below, please indicate your level of agreement with the statements.

	Strongly Disagree (4)	Disagree (3)	Agree (2)	Strongly Agree (1)	N/A (5)
I've been unable to fulfill my duties to their greatest extent due to a rank imbalance with another member of the Tri-P. (RankImb1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rank imbalance within the Tri-P makes it difficult to effectively do my job. (RankImb2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My rank negatively affects my ability to do my job. (RankImb3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Rank Perception

Start of Block: Block 2



Raising Concerns Using the scale below, please indicate your level of agreement with the statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	N/A (5)
I have no issues bringing up concerns against senior ranking officers with the XO or CO. (Hesit2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OPS listens and is receptive to the concerns of all members. (Raising Concerns_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EO listens and is receptive to the concerns of all members. (Raising Concerns_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
XO listens and is receptive to the concerns of all members. (Raising Concerns_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Raising Concerns Using the scale below, please indicate your level of agreement with the statements.

	Strongly Disagree (4)	Disagree (3)	Agree (2)	Strongly Agree (1)	N/A (5)
I am hesitant to raise concerns about OPS or EO to the XO or CO. (Hesit1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience pushback against my ideas from OPS based on my rank. (PushBack1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience pushback against my ideas from EO based on my rank. (PushBack2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience pushback against my ideas from XO or CO based on my rank. (PushBack3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep concerns/ideas to myself due to rank imbalance between myself and the Command and/or other members of the Tri-P. (Hesit)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 2

