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__U.S. Air Force Intelligence Officer Transformation: For Better or for Worse?__

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U.S. AIR FORCE INTELLIGENCE OFFICER TRANSFORMATION:

FOR BETTER OR FOR WORSE?

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DEDICATION

I dedicate this thesis first and foremost to my family who sacrificed so much to allow me the time to focus on this project. To my wife, Mirielle, thank you for putting up with my procrastination and all the lost weekends; it’s time to get our free time back. After seeing you receive two Masters Degrees while serving on active duty, I am that much more in awe. Thank you for your guidance, wisdom, and honesty throughout this endeavor. My pursuit of a Master’s Degree started more than a decade ago and without your constant motivation I know that I would still be toiling away, finding excuses to put it off again. To my kids, Caesar, Augustus, and Hollin; I would like to let you know that it is definitely time for me to make up for lost time so get the chess board, the video games, and the soccer ball ready. And of course to the family cat, Skips, thank you for being a part-time muse, part-time distraction, and full-time excuse to walk away from the computer.

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Throughout my time as a graduate student in Intelligence Studies, I have constantly benefitted from the relevancy of the coursework and the expansive knowledge brought to the classroom by my professors and fellow classmates. My graduate school experience has been challenging and extremely rewarding at the same time.
ABSTRACT OF THE THESIS

U.S. AIR FORCE INTELLIGENCE OFFICER TRANSFORMATION:
FOR BETTER OR FOR WORSE?

by

Caesar J. Nafrada

American Public University System, 21 December 2014

Charles Town, West Virginia

Professor John Dolan, Thesis Professor

This paper examines the transformation of the role of U.S. Air Force intelligence during Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) in order to determine if its intelligence officers are more or less prepared to face future conventional, near-peer threats. This thesis utilizes a singular case study with embedded units represented by two hypothetical career arcs; one that started at least a year prior to OEF/OIF, and one that started during the height of OEF/OIF. Pattern-matching analysis and a simple matrix are used to compare the two career arcs across several factors: doctrine, tradecraft, training, career progression, and deployment experiences. The findings reveal that it is plausible that the last 13 years of combat operations have had a detrimental impact on the traditional roles and missions of air intelligence professionals in terms of being prepared to face conventional, near-peer threats. The Air Force is currently postured to continue to provide world-class intelligence support to warfighters in an irregular warfare environment, but the service may struggle to rediscover its more traditional roles and missions that would be necessary to face conventional threats.
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CHAPTER ONE

INTRODUCTION

There is no question that the prolonged combat operations of the past 13 years in Iraq and Afghanistan have certainly transformed military intelligence; but to what end and whether or not some transformations were for better or worse is debatable. U.S. Air Force intelligence in particular was not doctrinally prepared to support multi-theater, prolonged counter-insurgency (COIN) and counter-terrorism (CT) operations. Combat operations prior to 9/11 presented more conventional threats around which Air Force strategy and basic doctrine were formed. Air Force modus operandi was based on collection, analysis, and targeting of nation-states with emphasis on air operations that penetrated integrated air defenses, destroyed centers of gravity, supported ground troops and conducted sensitive reconnaissance operations. These roles will always be traditional and at the core of the Air Force’s operational identity. The last 13 years created newer roles; but whether the valuable experiences gained during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) will help or hamper the Air Force in the face of the next generation of emerging threats is an important issue to study.

The problem arises if and when the next major conflict that involves the Air Force does not take place in the same limited air-threat environment seen in Iraq and Afghanistan and involves more traditional adversaries such as China, Iran, North Korea, and Russia. Drastically different challenges than what were faced during OIF and OEF will affect both intelligence, surveillance, and reconnaissance (ISR) operations as well as intelligence mission planning support for air operations. This begs the question of whether or not today’s Air Force intelligence officers will be prepared for this type of adversary. To determine this, this research paper will ask, how have the last 13 years of combat operations affected or altered the traditional
roles and missions of U.S. Air Force intelligence?

This paper examines the transformation of the role of Air Force intelligence over the past 13 years in relation to its role during the threats faced prior to 9/11 as well as possible emerging threats in the next decade. Prolonged combat operations have resulted in an entire generation of Air Force intelligence officers that have either not experienced traditional, pre-9/11 roles or have seen their skills diminish. The paper will explore whether or not the skill-set being emphasized by Air Force intelligence leadership presently meets the challenge of adversaries considered as “near-peer” in terms of threat technology and tactics. The importance of this research lies in determining whether or not the Air Force can keep pace with the next round of emerging threats. The Air Force was sometimes questioned for being stuck in a Cold War mentality for almost a decade after Desert Storm without a traditional adversary to posture itself against. Eventually, the service’s flexibility and inherent ability to innovate allowed it to meet the challenges presented by OEF/OIF with much aplomb, but has the Air Force over-corrected?

This thesis will employ a qualitative analysis of primary and secondary sources comprising of publicly available government documents and scholarly and professional literature that pertains to varying aspects of the research question. The framework of the research will be a single case study with embedded units that explores the Air Force intelligence officer career field and will be tested using a simple matrix analysis of two hypothetical scenarios. The examination and analysis of several evidentiary factors will help determine the scope and scale of substantive changes to Air Force intelligence roles and missions that have occurred since the beginning of OEF/OIF. The results certainly have implications for Air Force leaders as the service pivots away from a decade-plus ofairpower operations in irregular warfare and seeks to refine its identity in the post-OEF/OIF national security environment.
CHAPTER TWO
LITERATURE REVIEW

The question presented is supported by a broad base of available scholarly and professional literature pertaining to the evolution of military intelligence during OEF/OIF and anticipated/future operations. Relevant literature that contributes to this research falls into four broad categories. The first and most voluminous body of scholarship revolves around exploring the rapid and innovative transformation of military intelligence throughout the course of OEF/OIF. Relevant literature within this category covers ISR operations, planning, and training; the concept of non-traditional ISR; unmanned aerial system (UAS) operations; and general military intelligence transformation.

The second category of literature covers the evolution of military intelligence in a post-OEF/OIF operating environment. This category again encompasses ISR operations, planning, and training and IC-wide reforms and their implications on military intelligence. This literature also delves into the state of Air Force intelligence analysis capability going forward. Additionally, it includes intelligence community (IC) reform discussions that are not specific to OEF/OIF, but have implications on the research question.

The third category helps to frame the research question as it encompasses scholarly literature dealing with the post-OEF/OIF threat environment that military intelligence may have to operate within. While some of these sources generalize the future threat environment, others more specifically discuss threat scenarios such as China and cyberspace, as well as the IC’s current ability to meet these challenges.

The last category also helps to provide context to the research question and adds to the body of relevant scholarly literature by addressing the evolution of modern airpower theory and doctrine in which Air Force intelligence operates. This category includes theory from the pre-
9/11 era, as well as strategies looking towards the post-OEF/OIF environment. It also addresses more specific works focused on UASs and targeting concepts, as well as technological advances that may redefine airpower. The review of these four distinct categories will reveal a gap in the literature that this paper aims to address: recent adaptations in military intelligence as they specifically relate to future, near-peer threats in a conventional warfare setting.

**Literature Review**

The very nature of this research topic does not lend itself to being reinforced by traditional scholarly literature seen in other social science or intelligence-related topics, however the sources presented here are still considered to be peer-reviewed and academic in nature. The following review is sourced heavily from Air Force professional military education (PME) literature because it is the most informed source on the issue in question. Non-hard copy sources were extracted from American Public University System’s Online Library, specifically the EBSCO and ProQuest Database suites. Peer-reviewed articles from academic journals, trade publications, and PME theses were discovered using multiple permutations of the following search terms: “Air Force”, “intelligence”, “ISR”, “air intelligence”, “counterterrorism”, “counter insurgency”, “OEF/OIF”, “targeting”, “analysis”, “post-Desert Storm”, “conventional warfare”, “near-peer”, and “post-OEF/OIF.” Publication dates provide for an interesting indicator for the tone of the sources, the motivation of the authors and the general strategic environment in which they were conducting their own research. The following literature categories are not mutually exclusive as several sources overlap between themes depending on the purpose or topic of each individual article.

**Transformation of Military Intelligence in Response to OEF/OIF**

There is no lack of scholarship regarding the incredible scope and scale of the
transformation of the military intelligence function operating in the CT/COIN environment. Rosenbach (2011) and Ellsworth (2007) explore the varied challenges faced by military intelligence professionals supporting COIN and CT operations and how they affect the standard practice of Joint Intelligence Preparation of the Battlespace (JIPB) and the Find, Fix, Finish, Exploit, and Assess (F3EA) process. Prados (2005) explores the potential expansion of turf wars surfacing between the Central Intelligence Agency’s espionage capability and the growth of the Pentagon’s intelligence collection mission in combat zones. Perhaps most notable is Army Lieutenant General (ret) Flynn’s (2010) study on the state of military intelligence and its necessity to further address its shortcomings after almost a decade of irregular warfare, published while he was the Director of Intelligence for the International Security Assistance Force in Afghanistan. His overtures to focus on the more socio-cultural aspects of intelligence analysis in a COIN environment were subsequently challenged by Blanken & Overbaugh (2012) as being incongruent with the nature of traditional military intelligence practices. These works help to set the scene of the joint environment in which air intelligence operated within during OEF/OIF.

More “Air Force-centric” literature is categorically centered on ISR operations, planning, and training practices developed during OEF/OIF. The term “ISR” within this framework is generally understood to include the synchronization and integration of intelligence sensors and assets to include the systems involved in the processing, exploitation, and dissemination in direct support of military operations. It is implied that intelligence in this sense is serving an operational function in and of itself. The Department of Defense (DOD) produced several studies on ISR effectiveness and its future employment. Their specific study on COIN ISR operations offered useful background on DOD and IC-wide issues (Department of Defense, 2011). The modernization of ISR in response to OEF/OIF has been researched by Air Force
intelligence officers and scholars alike. Their work encompasses a wide spectrum of issues ranging from suggested improvements in the planning process to maximize efficiencies; alterations required in formal training to reinforce more relevant practices; and the importance of the human aspect behind ISR operations that turns data into intelligence (Deptula & Francisco, 2010; Haley, 2012; Hinrichs, 2008; Canan, 2010; Morton, 2012; Brown, 2009; Johnson, 2005; and Champness, 2002). ISR is the singular focus of this group of literature, however, it is only one component within the greater realm of air intelligence missions to be analyzed in this research paper.

A substantial off-shoot to the larger ISR discussion is the genre addressing the boom of UAS operations and the implications it had on combat operations. Discussions by Webb, et al. (2010), Best (2009), Coffey & Montgomery (2002), and Wall & Monahan (2011) are not specific to Air Force operations. Nor are they specifically focused on intelligence collection as some expound on the implications of armed-UAS operations in support of CT operations. Much of the discussion involves the efficiency and pragmatism of UASs as opposed to manned-ISR missions and their wide-spread use throughout permissive threat environments.

The RAND Corporation, a global policy think-tank, established an internal division dubbed “Project AIR FORCE” as the service’s federally funded research and development center for research studies. Their independent, in-depth analytical products help form strategic Air Force policy across a range of issues that affect the intelligence career field on many levels. Several Project AIR FORCE deep-dive studies informed this research paper as they probed individual topics addressing the transformation of Air Force intelligence specifically. The wide-spectrum of studies focused specifically on various aspects of ISR operations including the development of tools to aid analysis (Menthe & Sullivan, 2008), exploring benefits of function-
based collection prioritization (Lingel et al, 2008), and use of a strategies-to-tasks framework for planning and executing ISR (Rhodes et al, 2008). These analyses all provided useful data and context to the research question, but differ from this paper as they address singular specific topics as opposed to a cumulative, holistic study. Brauner et al (2008) produced the most relevant Project AIR FORCE study to this research paper as it investigated the development and utilization of Air Force intelligence officers in great detail. Much of the data used in the study provided important context to frame some of the analysis in this paper.

Finally, a further niche of literature stemming from the larger ISR discussion includes those which explore the impact of non-traditional ISR (NTISR) on the battlefield. The discussions explore the growth of NTISR from its early days in Desert Storm to a more codified and integrated use of any and all available visual sensors equipped on combat aircraft normally used for weapons targeting (Hill, 2007; Pratte, 2007; and Johnson & Lobb 2003). The authors call for increased integration of NTISR within the overall intelligence collection architecture in an effort to compress the F3EA process. But like those discussing UASs, they all assume a permissive threat environment within which to operate, which is counter to the scenario that will be presented in this research paper that will be used to test the hypothesis.

**Evolution of Military Intelligence in a Post-OEF/OIF World**

This second thematic group of literature is not as extensive as the previous but still offers important assessments that inform this research paper. This thematic category begins to explore this paper’s research problem but falls short of comprehensively examining the evolution of military intelligence in regards to its capability of dealing with future, conventional threats. Some scholars have explored post-9/11 IC reforms and their possible effects beyond the current focus on CT and COIN (Colby, 2007; Berkowitz, 2008; Agrell, 2012; and Dupont, 2003). The
scope of these authors’ works are beyond addressing “post-OEF/OIF” intelligence practices specifically. However, the discussions involving the IC’s future ability to face a dynamic threat environment beyond Iraq and Afghanistan as its institutions, methods, and roles continue to transform has important implications to this research paper. The Air Force intelligence enterprise will certainly be impacted by transformations taking place among other IC members and throughout the community as a whole in the coming decade.

The majority of literature specific to air intelligence in this thematic category is not surprisingly once again centered on ISR operations, planning, and training. Kimminau (2012), Deptula & Brown (2008), James (2012), and Deptula & Francisco (2010) all recognize the need for Air Force ISR to continually adapt to a wide-range of threat environments. They rightly assert that current ISR collection may not be optimally postured to perform in anti-access or area-denial theaters and need to be able to adjust to future, unknown adversaries while continuing to fight to remain integrated within combat operations. Haley (2012), and Martin (2014) each examine more specific components of Air Force ISR such as “mission-type orders,” and Distributed Common Ground Station (DCGS) operations and explores them in the contexts of a non-permissive threat environment and within joint ISR operations respectively. These components will be further analyzed in this research paper. It is important to note that these works do not explicitly offer an opposing view to the narrative of this research paper by arguing that alterations made to Air Force intelligence have complete applicability to conventional threats. However, the paradigm shifts regarding ISR operations presented in the authors’ works imply that the Air Force is equipped to meet the full spectrum of threats. However, their studies do not specifically address how these changes would reflect upon Air Force intelligence professionals’ abilities to meet warfighter needs in a conventional conflict with a near-peer
Sanchez (2009) offers a different aspect on the future of Air Force ISR as she explores the topic from an intelligence officer and civilian career force management perspective. Her research paper offers many insights about the human aspect of ISR operations that is often overlooked and proved useful in providing important evidence for analysis.

Folker & Brissette (2012) and Luikart (2003) offer valuable insights that impact this research paper as they explore the role of air intelligence outside the scope of OEF/OIF but do so from the lens of intelligence analysis specifically, as opposed to most of the literature which is ISR-centric. The Air Force’s focus on rapidly expanding its collection capability did not match its focus on introducing and reinforcing sound analytic methodologies and tradecraft. This inability to improve the role of analysis throughout the force will not only impact ISR operations, but might also impact the way intelligence professionals conduct indications-and warning missions and support unit-level flying operations. Mills (2003), offers a foundation for this analytical discussion in his paper on rhetorical theory in military intelligence analysis. The role of analysis throughout all aspects of Air Force intelligence missions will be further examined in this paper.

Post-OEF/OIF Threat and Operating Environment

An important aspect to this research paper is addressing literature that helps to frame the question at hand; specifically, scholarship that discusses the potential threats to national security and the operating environment in which Air Force intelligence may be operating within the near future. The Director of National Intelligence, James Clapper (2013), sets the tone with the official IC Threat Assessment presented to Congress. In it, he outlines possible future threat vectors which include global threats like cyber attacks, WMD proliferation and pandemic
outbreaks, as well as regional threats from China, Russia, and Iran (2013). From a scholarly perspective, Hansen (2004) and Friedman (2009) offer similar perspectives on future national security threats by exploring potential flash points in Russia and Iran and regional fissures in Eurasia, the Pacific Rim, and elsewhere in the Islamic regions of the world. These discussions provide a proper backdrop to discuss the impact of OEF/OIF on air intelligence moving forward.

The past decade has seen the world of cyberspace turn into a domain in which intelligence entities have to operate, especially Air Force intelligence. James (2012), Kelly & Almann (2009), and Wilson (2007) examine this type of asymmetric environment in which threats may reside and Air Force ISR components may need to operate within. In terms of cyber, air intelligence may not play as critical a role in the conduct of information operations, but the cyber realm may represent the only domain that Air Force ISR may be able to penetrate in an anti-access and area-denial environment presented by a near-peer threat.

Kimminau (2012), Torelli (2013), and Zhang (2010) point to China as an obvious strategic, near-peer threat that the Air Force intelligence apparatus may have to worry about facing in a post-OEF/OIF world. The authors contend that China presents a significant, non-permissive, threat environment for Air Force combat and ISR assets to operate within and conversely presents a difficult target for Air Force intelligence to exploit through cyber due to a fractured and disparate Chinese ISR structure. These combined factors will challenge the Air Force intelligence apparatus that has been operating under quite different circumstances for the past 13 years. In an annual report to Congress, the DOD outlined specific military and security developments that are of concern to U.S. military planners (2014). This study on the perceived threat that China poses will help provide the framework for the analysis of this paper.

With these possible post-OEF/OIF threats in mind, several authors explore how the
current IC posture may or may not be primed to meet these challenges. The structure of the
greater IC helps to define the strategic threat environment as much as the actual threat itself. Aid
(2011), Davis (2003), Gray (2005), and Campbell (2013) explore the role of strategic-cultural
factors, doctrinal development, tradecraft training, and military transformation in determining
whether or not the IC can convert lessons both from the Cold War and from the OEF/OIF era to
prevent strategic surprise. While not directly related to this research paper, this theme of
literature still contributes to the study of the evolution of Air Force intelligence specifically.

**Evolution of Modern Airpower Theory and Doctrine**

This last category of literature supports this research paper, as any examination of the
transformation of air intelligence must take into account the overall evolution of airpower theory
that will eventually guide how the intelligence enterprise moves forward. Some of the literature
is quite dated, but serves as context of the scholarly mindset regarding airpower and intelligence
both prior to and just after 9/11. As this paper examines traditional Air Force intelligence
missions moving forward, literature that discusses airpower theory in the post-Cold War era
contributes to this research. Chun (2002) and Lambeth (2000) provide accounts of airpower
theory and doctrine that existed prior to the commencement of large-scale air operations in Iraq
and Afghanistan which defined an entire generation of Air Force Airmen. Their discussions help
frame “traditional” roles and missions of Air Force intelligence that centered heavily on JIPB to
include analyzing enemy centers of gravity and adversary military forces during the campaign
planning stage. While both authors were appreciative of the contribution to intelligence during
mission planning, their discussions of the value of air intelligence were quite limited. In
retrospect, their contributions provide insight as to how far Air Force intelligence has evolved in
the last 13 years.
Deliberate, pre-mission targeting was often seen as one of the primary skill-sets coveted by Air Force intelligence prior to 9/11. Glock (1994) and Shibiliski (2006) illustrate how that particular Air Force intelligence mission has evolved since its primacy during the first Gulf War and into OEF/OIF where the force became fore fixated on near-real time intelligence and more ad-hoc support to air strikes. Targeting is obviously a component of traditional roles and missions of air intelligence and its evolution (or lack thereof) in the past 13 years will have to be explored in this paper to determine whether or not Air Force intelligence professionals can sufficiently execute that skill in the near future.

More recent literature from former Air Force Chief of Staff, General (ret) Schwartz (2012), and Hill (2007) provide updated insights on air power theory. It is evident that the role of the Air Force’s intelligence professionals has grown exponentially, not only providing ISR on a massive scale, but helping to carry out other Air Force missions such as global strike, rapid global mobility, and cyber operations. Patterson (2010) takes a joint perspective on airpower and discusses how the key characteristics of modern airpower (precision, persistence, and reach) combined with technological advances and sound tactics, techniques, and procedures (TTPs) have met the challenges of irregular warfare well beyond expectations. The challenge of this research paper will be to continue these discussions vis-à-vis air intelligence projected on a much different threat than what has been faced since 2001.

Any discussion of modern airpower theory must include studies that examine the rapid expansion of UAS operations. Reinhardt, et al. (1999), Nielsen, et al. (2003), and Fitzsimonds & Mahnken (2007) all claim that UAS operations both armed and unarmed will become a permanent fixture in airpower doctrine as it provides a low-cost, versatile, and long-range options for ISR and air strike missions; even if it comes at a detrimental cost to the career
development of the traditional pilot corps of manned airborne systems. Brunstetter & Braun (2011) and Lewis (2012) provide counterpoint analyses by arguing that the use of UASs will eventually be scaled back due to moral and ethical concerns in the conduct of warfare and the eventuality of facing an adversary that operates in a non-permissive air and air defense threat environment that is not conducive to wide-scale, dependency on UASs to prosecute airpower and intelligence missions.

In a similar vein, Krepinevich (1997), Garcia (2001), and Jogerst (2009) explore the potential impact of future technology on airpower theory, through not only UAVs, but also in space operations, directed energy weapons, and advanced network communications architecture. All of these represent mission areas in which the importance/participation of Air Force intelligence professionals will increase, especially when the U.S. faces a near-peer threat.

**Relevant Studies and Literature Gap**

As the preceding literature review illustrates, the majority of available, open-source scholarship related to this research problem contributes to, but does not sufficiently address the specific question presented here. However, a few researchers have attempted to directly answer or address the research problem presented in this paper in a similar fashion and their work provides a foundation of scholarship from which to build on.

George & Ehlers (2008) capture the positive changes being made to initial Air Force intelligence training that not only address the effects of sustained combat operations in an irregular warfare environment, but look towards preparation for a full-spectrum of conflict. Intelligence training is an important aspect that will be analyzed to answer this research problem. Deptula & Brown (2008) examine the alterations to traditional roles of air intelligence from the Cold War and through the height of OEF/OIF, but do not frame those changes against a near-
peer threat or comprehensively project the impact of those sustained combat operations moving forward. Shibiliski (2006) argues along the same line of this paper, asserting that the Air Force needs to do a better job with looking at future threats and long-term enemies, with a focus on reforming intelligence analysis specifically. This paper will build on this general theme beyond analysis and examine the full spectrum of intelligence support to flying operations as well.

Morton (2012) also makes a very similar argument to the research problem in this paper, but with a much more narrow focus as he center’s his research on manned, airborne ISR collection exclusively. While this aspect is part of the Air Force’s traditional roles and missions, it serves as just one component of the analysis. In the same vein, Rozumski (2011) offers insights into the targeting specialization within Air Force intelligence partly in order to capture the effects of COIN/CT operations on this particular competency. Again, targeting is just one of several aspects that will be examined in this study.

Lastly, Lieutenant General (LtGen) Otto, Deputy Air Force Chief of Staff for ISR, produced a white paper after hosting a conference for senior officer and enlisted intelligence leaders regarding the need to revolutionize the Air Force’s intelligence analysis capability (2014). His discussion focused on ways to provide better analytical support across the entirety of Air Force intelligence roles and missions: ISR operations, targeting, and operations integration; moving into the post-OEF/OIF era. LtGen Otto’s white paper is considered more of a professional document that provides actual strategic guidance and direction to the Air Force intelligence enterprise whereas this paper will approach the problem from a scholarly and academic angle by testing hypotheses in order to reach substantive conclusions that may help guide intelligence leaders into the next decade.

The gap that this paper aims to fill and contribute to is “the state of military intelligence
as a result of adaptations during OIF/OEF in the face of a future, near-peer threats in a
conventional warfare setting.” The paper’s focus is further narrowed by specifically examining
the Air Force intelligence enterprise. Generally, the question being asked here is not a new one
and has certainly been considered by some of the most senior Air Force intelligence officers and
strategic thinkers; but where this paper is set apart is in its holistic approach to the problem. The
focus is not solely on analysis, targeting, and/or ISR operations but rather a combination of all of
them as well as the inclusion of the foundational bedrock of “unit-level intelligence” which is the
direct and organic intelligence support mission conducted at a variety of operational squadrons.

**Theoretical Framework**

The research question lends itself to qualitative models in order to focus on Air Force
intelligence under “real world” conditions in all its complexity (Leedy and Ormrod 2010, 135).
The cause-and-effect nature of the question was not of primary importance as it is already
evident that the past 13 years of combat have definitely affected and altered the missions of air
intelligence. To address this particular research problem, it is more vital to describe, interpret,
verify and evaluate those alterations in order to determine a positive or negative net-impact
(Leedy and Ormrod 2010, 136-7). Further, because human behaviors were being interpreted the
subjectivity allowed by qualitative research was critical in observing social patterns as supported
by several researchers (Creswell, 2009; Eisner, 1998; and Wolcott, 1994) who have used similar
theoretical frameworks. This problem relied on the researcher to utilize past experiences to
interpret and analyze data that was critical to understanding the broader implications of sustained
combat operations in an environment never imagined by airpower strategists prior to 9/11. The
theoretical framework and qualitative research design of this study involved the use of a case
study in order to fully examine a particular program in depth for a defined period of time. The
case study will examined a wide range of variables that encompassed influential aspects of Air Force intelligence roles and missions such as doctrine, training, and real-world experience. A detailed explanation of the type of case study methodology that was used and the variables to be examined will covered in depth in the next chapter.

The overall hypothesis to be tested in this paper is: **Reactionary and innovative changes made to doctrine, tradecraft, and training, which consequently impacted career progression and deployment experiences in the last 13 years, will negatively impact Air Force intelligence officers’ capacity to face conventional, near-peer threats in the next few years.** In order to test this hypothesis, this paper specifically pitted two hypothetical, Air Force intelligence officer career-arc scenarios against a potential, conventional, near-peer military adversary in order to determine the relative effects of the past 13 years of combat operations.

**Scenario 1:** An Air Force intelligence officer who completed initial technical intelligence training sometime during 1999-2000, as well as specialized, follow-on training afterward; and deployed in support of Operations NORTHERN WATCH (ONW) and/or SOUTHERN WATCH (OSW) as well as OEF and/or OIF.

**Scenario 2:** An Air Force intelligence officer who completed initial technical intelligence training sometime during 2007-2008, as well as specialized, follow-on training afterward; and deployed several times in support of OEF and/or OIF.

In order to minimize as many outliers as possible, these scenarios assumed that neither officer was a prior-enlisted operations intelligence specialist or that they were cross-trained from another career field, therefore allowing to project a more accurate career progression in terms of rank and level of responsibility. While it is obvious that by 2014 and beyond these two arcs would be at different stages in their respective careers, these officers would still be called upon
an some manner to leverage critical intelligence skills in the face of a looming conflict with a conventional threat, especially in their respective leadership roles as mid-level intelligence officers.

These two scenarios were specifically designed to epitomize the eras that the research problem was investigating; pre-9/11 and post-9/11. Scenario 1 encompasses a career experience that was honed prior to 9/11 and prior to the major combat operations of OEF/OIF that theoretically changed the very nature of air intelligence on many levels. Intelligence training was designed to study post-Cold War, nation-state adversaries such as Iraq, North Korea, and Iran relying on many lessons-learned and methodologies developed from Operation Desert Storm. Operational deployments to Southwest Asia during this period gave intelligence officers valuable experience in conventional targeting and supporting aircrews and ISR missions operating in hostile, non-permissive environments with moderate to high air and air defense threats. Intelligence professionals supported combat operations centered on the enforcement of no-fly zones which included missions such as defensive counter-air, suppression of enemy air defenses (SEAD), and ISR primarily.

Scenario 2, while representing a date range only 7-8 years after Scenario 1 offers a drastically different experience. By this time, intelligence training incrementally started to incorporate new developments in TTPs for ISR operations and targeting methods used during OEF/OIF. Deployment opportunities were more numerous and more diverse, but did not necessarily test an intelligence professional’s ability to support air combat operations and ISR missions conducted in moderate-to-high air and air defense environments or in a force-on-force level of warfare. The concept of intelligence support to airborne mission planning was focused on ground operations in an irregular warfare, COIN/CT environment.
Conclusion

Attempting to discern the positive and negative impacts of the past 13 years of sustained combat operations on Air Force intelligence roles and missions is not necessarily a new research problem and several authors have already completed partial analysis of the problem. The preceding review of scholarly literature reveals that many scholars and Air Force intelligence professionals have explored the implications of OEF/OIF on air intelligence, but in very specific ways. It is interesting to note that works written over ten years ago still predicted a threat environment in which Air Force intelligence would still need to operate in a more traditional manner in order to mitigate conventional military adversaries.

Relevant literature that supports this research problem fell into one of four categories: 1) The Transformation of Military Intelligence in Response to OEF/OIF, 2) The Evolution of Military Intelligence in a Post-OEF/OIF Environment, 3) The Post-OEF/OIF Threat and Operating Environment, and 4) The Evolution of Modern Airpower Theory and Doctrine. The literature gap that this research aims to fill is “the state of military intelligence as a result of adaptations during OIF/OEF in the face of a future, near-peer threats in a conventional warfare setting.” Essentially, this paper strives to cut across all four categories of scholarly literature presented in this review.

For example, much of what has been presented here focuses strictly on recently-developed ISR operations and its effects on the CT/COIN battlespace. This research paper expands on this singular idea by including ISR as merely one component of air intelligence roles and missions to be analyzed. Further, the Air Force intelligence apparatus has already proven itself to be a powerful force-multiplier in prosecuting CT/COIN and will continue to prove itself in future irregular warfare operations, such as the ongoing air strikes against the Islamic State.
This is why it is important to hypothetically test the Air Force intelligence apparatus that has evolved during OEF/OIF against a conventional, near-peer, nation-state threat. Intelligence must continue to “affect the battlespace” in a high threat environment where ISR operations will be drastically hampered and combat air operations will be much more dependent on world-class intelligence support to mitigate those threats. The scholarship presented here captures the full spectrum of alterations and adaptations undertaken by Air Force intelligence in the face of an unprecedented type of conflict. This research paper aims to take the next step in scholarship by analyzing these changes in a different light; a threat that has yet to be encountered and one that represents a wholly different conflict than what was experienced in the last 13 years in Iraq and Afghanistan.

The residual effect of OEF/OIF is the development of intelligence practices and methodologies whose long-term value is unknown, such as effects-based operations, widespread use of tactical UASs, and cross-cueing of ISR assets. To test the hypothesis that Air Force intelligence has detrimentally been affected by the last 13 years of combat operations in regards to facing a future, conventional threat, this paper will employ a research methodology that compares two hypothetical career arcs of Air Force intelligence officers in a singular case study.
CHAPTER THREE

METHODOLOGY

To review, the research problem this paper will explore is: *How have the last 13 years of combat operations affected or altered the traditional roles and missions of U.S. Air Force intelligence?* The overall hypothesis to be tested in this paper is: *Reactionary and innovative changes made to doctrine, tradecraft, and training, which consequently impacted career progression and deployment experiences in the last 13 years, will negatively impact Air Force intelligence officers’ capacity to face conventional, near-peer threats in the next few years.*

To explore the validity of this hypothesis, a case study of two hypothetical Air Force intelligence officer career arcs were closely examined in the context of a conventional force-on-force conflict with a near-peer military adversary.

**Methodology**

In order to test this hypothesis, this paper employed a “Single Case Study with Embedded Units” as defined by Baxter and Jack. This methodology is key because, “the ability to look at sub-units that are situated within a larger case is powerful when you consider that data can be analyzed *within* the subunits separately (within case analysis), *between* the different subunits (between case analysis), or *across* all of the subunits (cross case analysis)” (Baxter and Jack 2008, 550). Yin also provides context for the use of this particular theoretical framework as the two units will be tested under identical conditions as a single experiment (2014, 47).

This paper used an *instrumental case study* of the Air Force intelligence officer profession that served as a background against the research efforts to discover the positive or negative net effects of OEF/OIF. An instrumental case study was required in order to investigate several aspects in depth and in detail but only in order to frame a greater theoretical discussion.
(Berg 2001, 229). A case study of an organization allowed for closer examination of sub-units and specific areas or situations that could uncover “relationships, behaviors, attitudes, motivations, and stressors in organizational settings” (Berg 2001, 233). The sub-units compared in this paper represented two distinctly different eras of a singular group, Air Force intelligence officers; therefore a linear comparison across a variety of variables affecting both cases, but under different circumstances was able to be made.

Variables

The dependent variable is the role and missions of Air Force intelligence. According to Air Force Instruction 14-202 Volume 3 – General Intelligence Rules, the Air Force defines the intelligence mission as thus:

Intelligence personnel participate in the planning and execution of Air Force operations. Through close, continuing interface, intelligence personnel ensure commanders, their staffs, combat crews, weapon system developers and other customers are provided the best available information and materials to enhance readiness, facilitate planning, execute assigned missions and build warfighting capability. Intelligence supports strategic, operational, and tactical operations by providing information and services to a divergent set of customers, ranging from national to unit-level decision makers (2012, 4).

Few, if any, career fields in the Air Force demand this type of breadth and depth of their workforce. The role of Air Force intelligence is also understood to include the exploitation of air, space, and cyberspace to gain knowledge of adversary operations, tactics, training, and networks; in order to deter them or degrade their warfighting capability (Sanchez 2009, 1). This study took a micro-level view as opposed to a macro-level view in order to focus on the effects of change on a specific group of individuals rather than attempt to make a generalization of the entire service’s intelligence mission vis-à-vis the IC. However, no matter what subset of Air Force intelligence is examined, the mission as stated above applies to all intelligence personnel. By focusing on intelligence officers’ roles specifically, this research can be used to focus
attention on an influential subset of Air Force intelligence professionals. It is the officer corps that will take up the leadership mantle and be responsible for setting the tone and vision of the Airmen and organizations they lead, so their influence is vital in the relative performance of the entire Air Force intelligence mission. Even though the hypothesized intelligence officers in Scenario 1 and 2 are separated by 7-8 years in their respective career, they are both in a position to have already been exposed to much of the Air Force’s operational intelligence mission and many more aspects of the career as defined above.

The independent variables are the changes made to Air Force basic doctrine and strategy, Air Force intelligence standards and tradecraft, initial and follow-on intelligence training, early career path progression, and previous deployment experiences. These variables appear rather fluid and abstract but they were still able to be analyzed by comparing the official intelligence policies, directives, regulations, instructions, and lessons-learned that provided guidance to intelligence Airmen during each of the scenarios. In many instances these documents were updated or modified within the encompassing date ranges of the scenarios. They reflect alterations in philosophy and strategy, as well as responses to operational realities. These paradigm shifts were closely analyzed to capture the effects of prolonged low-intensity conflict on the Air Force intelligence enterprise. Analysis of these variables not only indicated to what extent Air Force intelligence has transformed, but also provided insight into which variables drove the majority of the transformation.

The mediating variable is a hypothetical, near-peer, conventional threat vector faced by both career-arcs. This methodology employed China as that hypothetical threat. There is no shortage of international relations scholars, national security experts, and military strategists theorizing China as the primary threat vector facing the U.S. going into the next 20 years. The
highly-touted “Asia Pivot” foreign policy theorem presented by the Obama administration in 2012 demonstrates the preeminence of China in the geo-political psyche of U.S. strategists. A theater-wide conflict involving wide-scale military operations against the People’s Liberation Army (PLA) can be sparked by any number of already-existing flashpoints: a dispute over the Senkaku Islands with Japan, armed confrontation in the South China Sea with the Philippines, or a recalcitrant Taiwan with a rapidly modernizing military. For this study, the cause of conflict with China was not as relevant as the actual threat that the PLA presents. Of greater concern to the Air Force is the rapid transformation of the People’s Liberation Army Air Forces (PLAAF) from a “territorial air defense force to one with both offensive and defensive capabilities” to include precision strike and regional power projection (Zhang 2010, 49). China clearly represents an adversary that will challenge a group of air intelligence professionals that have been training and operating within the constructs of a low-intensity, COIN/CT environment experienced in the last 13 years of sustained combat operations.

Sourcing and Data Collection

This methodology required a blend of both primary and secondary research. Over 50 documents, briefings, research studies, theses, and journal articles were collected for this analysis. Pertinent data was extracted from these sources, many of which are the same official Air Force publications that guide and direct today’s intelligence officers in their duties.

The majority of information analyzed was collected from primary sources as the evidentiary data that is required for analysis did not come from previous research projects for the most part. The direct input from senior Air Force intelligence officers who authored and coordinated official doctrine documents, strategy and policy statements, official Air Force Instructions (AFIs) and regulations, Career Field Education and Training Plans (CFETPs), force-
utilization documents, and lessons-learned is paramount to testing the hypotheses. Use of these official government publications for in-depth study is considered observational field research as they are the actual guiding documents used by Air Force intelligence personnel.

As far as secondary research, scholarly and professional academic works from a variety of Air Force officers provided direct insight into the thought-process and strategy for the way-ahead for air intelligence as they were taken from publications sponsored by the Air Force’s professional military education (PME) institution, Air University. Many of these works were considered biased (from an academic perspective) as they clearly supported philosophies on air intelligence meant to support, justify, and strengthen policy decisions and strategy. Bias was identified by examining the biographies of the authors in order to determine if their work experience, background, and current position would have intentional or unintentional influence in their actual field of work. Often times, bias was much more evident because the authors themselves stated that their intent in these articles was to suggest policy changes, shift doctrinal thinking, and/or create new methodologies and TTPs. This bias is welcome however, since it provides evidence of shifts in strategic thinking regarding the state of the Air Force intelligence apparatus and its role in the future; a key factor to be analyzed in this study.

**Using a Simple Matrix Analysis of Alternative Scenarios**

The paper’s use of two scenarios pitted against each other lent itself to pattern-matching for data analysis. The competing scenarios both had a number of factors (independent variables) that provided support or refuted them therefore the paper used a simple matrix analysis. This method borrowed heavily from Richard Heuer’s “Analysis of Competing Hypotheses” (ACH) model used for intelligence analysis when trying to minimize cognitive bias (2003, 95). This researcher found value in Heuer’s approach to framing potential outcomes of different
hypothetical scenarios, however the model used here is too much of a departure from Heuer’s intended purpose to be considered a true ACH study. This study examines a behavioral social science problem rather than an intelligence analysis problem. For this reason, some significant modifications were made in order to accommodate the study and will be discussed in depth in a forthcoming section. The major aspect of Heuer’s ACH method that was adopted for this study was his use of a simple matrix of different scenarios plotted against a set of significant factors. The factors in this study included: doctrine and strategy; standards and tradecraft; initial and follow-on training; early career progression; and previous deployment experiences (see Appendix 1).

<table>
<thead>
<tr>
<th>Evidentiary Factors</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
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<tbody>
<tr>
<td>E1. Air Force Basic Doctrine and Strategy</td>
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<td>E2. Air Force Intelligence Standards and Tradecraft</td>
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<td>E3. Initial and Follow-on Intelligence Training</td>
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<td>E4. Early Career Progress</td>
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<td>E5. Previous Deployment Experiences</td>
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Table 1: Matrix Analysis Table

**Evidentiary Factors and Associated Sub-Questions**

The following evidentiary factors were analyzed for each scenario as the table above represents. Each factor is accompanied by its own sub-question (see Appendix 2) that links it back to the overall research question for context.

**E1. Air Force Basic Doctrine and Strategy:** This factor encompasses the influence of Air Force Basic Doctrine and subsequent, thematic doctrine documents, as well as official Air Force Strategy outlooks, vision statements, and posture statements that guide general beliefs and principles for the employment of airpower and air intelligence. While broad in scale and scope, doctrine and strategy form a theoretical foundation which ultimately derives the employment of the air intelligence mission. Doctrine is considered authoritative, but it is not directive and is
meant for commanders to tailor as necessary to accomplish their missions. *How does current doctrine and strategy, or changes made to them over time, substantively effect an intelligence officer’s capacity to perform their job?*

**E.2 Air Force Intelligence Standards and Tradecraft:** This is a distillation of doctrine and strategy for practical, operational, and directive use. This is captured in more specific regulations and methodologies in the form of AFIs and policy documents that drive operational standards and conduct of intelligence in peacetime and wartime. Informally, tradecraft is influenced by PME-related scholarship as well as other professional research that seek ways to transform, create, and develop intelligence methodologies. *How do specific Air Force intelligence standards and tradecraft methodologies (and changes made to them over time) effect an intelligence officer’s ability to perform their job?*

**E.3 Initial and Follow-on Intelligence Training:** This factor includes the Intelligence Officer Course that newly-commissioned and cross-trained officers must complete in order to qualify for the Air Force Specialty Code (AFSC) for Intelligence Officer, 14N. It also encompasses follow-on professional development courses such as Intelligence Formal Training Units (IFTUs), advanced skill courses, and intelligence-related professional military education that are available to experienced intelligence officers. Much (but not all) of this training occurs within the first 8-9 years of a career. *How substantial of a role do initial intelligence training and follow-on courses have on preparing intelligence officers for the full spectrum of potential threats they will face in their careers?*

**E.4 Early Career Progression:** This is the cumulative experience of the first 2-3 assignments of an officer’s career after graduating from the Intelligence Officer’s Course. It encompasses approximately the first 6-8 years of an intelligence officer’s career. Typically, the
The emphasis of this first grouping of assignments is to immerse an intelligence officer in tactical and operational, unit-level assignments that link them close to operators. The experience gained in these first few assignments is very influential on the officer’s strategic thinking later on in his career. 

**What is the impact of an intelligence officer’s first 2-3 assignments in terms of laying a foundation of experience with the USAF’s operational mission at the unit-level?**

**E.5 Previous Deployment Experiences:** This factor encompasses operational experience with the use of intelligence methodologies in a real-world, combat environment. The net result of multiple deployments are valuable and influential lessons-learned from exposure to working in intelligence at the unit-level with an operational flying squadron or an air operations center in theater. While the quantity, length, frequency, and scope of deployments has evolved through several different combat operations, intelligence officers have always been assessed for their abilities through the lens of their experience with deployments. To what extent does actual deployment experience with traditional Air Force intelligence missions (ISR operations, targeting, analysis, mission planning, aircrew support, etc.) impact an intelligence officer’s capacity to effectively perform in future conflicts?

**Qualitative Analysis and Scoring**

Evidentiary factors (E1-E7) determined which scenario was theoretically better equipped to deal with China. Each factor was qualitatively analyzed as it related to each scenario using the data collected (Heuer 2003, 100). The analysis of these factors also answered the important sub-questions that helped to provide the main research question with depth and context. Positive (+1), Negative (-1), and Neutral (0) scores were assigned to each factor. A cumulative score reflected a net positive or negative impact for each scenario. This is an important aspect to the analysis as each evidentiary factor did not exist in a vacuum, they influenced each other. The
use of positive and negative score took into account certain factors “cancelling out” other factors.

Once the scores were compiled, each scenario was individually examined in relation to the hypothesis to determine its validity (Heuer 2003, 103). Each scenario was assessed for its ability to deal with a Chinese threat scenario based on all of the evidentiary factors. The scenario with the highest score at the end of the analysis would be assessed as better trained and equipped to carry out the Air Force’s intelligence mission in a major conflict with China. Consequently, if Scenario 1 had a higher cumulative score, then it would be assessed as supporting the hypothesis. If Scenario 2 had a higher cumulative score, then it would be assessed as refuting the hypothesis.

Not only did this analytical method identify the scenario that supported or refuted the hypothesis but it identified evidence, and therefore independent variables, that had little or no diagnostic value in assessing one’s ability to perform their duties and responsibilities (Heuer 2003, 102). The implication for senior Air Force intelligence managers is that they can feel confident that a particular variable, if identified as non-diagnostic, has no discerning effect on the readiness or ability to deal with a variety of types of threats. Because of this phenomenon, tentative findings were examined more closely to determine if evidence could have been misleading or interpreted differently.

**Departure from Heuer’s Classic ACH Model**

As mentioned earlier, several modifications had to be made to Heuer’s ACH model since the framework used in this study was devised in a way that it could not be considered true to Heuer’s classic methodology. First, Heuer aims to pit two or more hypotheses against each other whereas this study compared two scenarios that helped prove or refute a single presented hypothesis. This method closely reflected another analytic technique used by intelligence professionals, “Alternative Futures Analysis.” Much like Alternative Futures, this study
“systematically explores multiple ways a situation can develop when there is high complexity and uncertainty” (U.S. Government 2009, 34). Multiple factors can be weighed and a set of outcomes can be deducted from which to gather conclusions. This study similarly examined multiple outcomes set against a variety of factors but did not employ a spectrum matrix using axes or continua to create quadrants that characterize alternative future worlds (U.S. Government 2009, 36). Instead, conclusions were drawn from an analysis of alternative futures set against a common, hypothetical threat scenario.

Second, Heuer gathers significant evidence and arguments for and against each hypothesis as a means for comparison (2003, 99). In contrast, this study identified several factors whose influence and impact on each scenario’s ability to meet the challenge of a Chinese adversary were determined. Instead of grading them as “consistent”, “inconsistent”, and “neutral” in relation to a hypothesis, each factor was given a positive score, negative score, or a neutral score in terms of its impact on the China scenario provided (Heuer 200, 100).

Lastly, Heuer emphasizes the importance of analyzing the “diagnosticity” of evidence. “Evidence is diagnostic when it influences your judgment on the relative likelihood of the various hypotheses…” (Heuer 2003, 102). Therefore, in instances where evidence is identically scored for both hypotheses, it may have no diagnostic value and indicates that it is not useful in judging either hypothesis and should therefore be disregarded as a factor. In this study, diagnosticity of evidence was still determined but in a different manner. Since the rating scheme of this matrix analysis differed slightly from Heuer’s model, lack of diagnosticity was determined instead by neutral (0) scores rather than identical scores of any value occurring in both scenario. For instance, if “Initial and Follow-on Training” scored a positive score of (+1) for both scenarios, it did not necessarily mean that it was not useful in determining which
scenario would more effectively deal with a Chinese threat scenario. Rather it might imply that this factor had a positive impact for both scenarios in regards of their ability to perform in a conflict with China. On the other hand, a neutral score (0) occurring for either scenario implied no effect one way or another on a scenario’s performance and would therefore not be relatively useful or diagnostic.

**Limitations and Bias**

The preceding methodology was not without its inherent limitations. The most obvious of which was the subjectivity involved in the qualitative analysis. The qualitative study was vulnerable to the influence of this researcher’s perceptions, impressions, and experiences as a former Air Force intelligence officer. However, many researchers agree that studying human-based organizations, relationships, and structures in a strictly objective manner is not viable as an ability to interpret and apply critical thinking is paramount to analyzing social phenomena (Leedy and Ormrod 2010, 135).

A particular limitation of the use of pattern matching was the method’s lack of precision because it involved no quantitative or statistical means for comparison against the benchmark hypothesis (Yin 2014, 140). Analysis with low precision may result in the use of subjective interpretation by the researcher who must determine what the pattern of evidence represents. To mitigate this, the analysis was careful to only claim clear and obvious distinctions between patterns and labeled more subtle patterns as inconclusive, if there were any (Yin 2014, 141). This method required generalizations to be made as it is impossible to account for each individual career arc, deployment experience, or other intangible experiences that may influence an intelligence professional. The findings however can still be extrapolated to a general population in order to help guide Air Force decision-makers and leaders to make necessary
adjustments to training and career development to account for a wider range of conventional threats.

The China Threat Scenario

The framework for the analysis of the two scenarios was an assessment of their theorized, respective performances during a large-scale, force-on-force military conflict with China. According to the latest DNI Worldwide Threat Assessment, “China is pursuing a long-term comprehensive military modernization designed to enable China’s armed forces to achieve success on a 21st century battlefield” (2013). In terms of sheer manpower, China has the largest military in the world with most of their assets concentrated on the east coast postured towards regional powers and contentious territorial waters (See Appendix 3: China Military Posture).

Of particular concern for air intelligence planners is China’s developments in military capabilities and advanced weapons that enable strategic strike while also countering foreign military forces in a regional conflict. In the annual DOD report to Congress, strategists outlined China’s force modernization efforts aimed at dealing with a Taiwan contingency (2014). There are any number of circumstances in which China has declared that they would be obligated to intervene militarily in Taiwan to include a formal declaration of independence, internal unrest, or the presence of foreign military forces on the island (Department of Defense 2014, 53-54).

Any level of response to a military conflict in the Taiwan Straits would encompass a variety of courses of action that each would require the Air Force to engage portions of the PLA missile, air, navy, and ground forces. For instance, Air Force intelligence would have to target PLA missile forces on mainland China that would be bombarding Taiwan’s defenses. Additionally, with a massive PLA amphibious assault underway, air intelligence personnel would have to locate and target ground forces readying for an assault, operating at night and
under the protection of an interwoven net of air defense artillery.

PLA naval forces with an imposing, long-range, organic, anti-air capability would be providing additional cover as forces made their way across the strait of Taiwan (Department of Defense 2014, 56). But, of primary concern are the vast numbers of PLAAF air superiority and ground attack aircraft within unrefueled range of Taiwan, many with advanced weaponry and electronic warfare systems.

According to the DOD, the PLAAF and PLA Navy combined have 330 aircraft (130 fighters) capable of conducting combat operations against Taiwan without refueling; and may have even more if aircraft were forward deployed (2014, 78). Even though the Air Force possess more advanced aircraft and undoubtedly more highly-skilled pilots, the sheer numbers that China can bring to the fight may prove overwhelming, especially in a condensed operating area.

It is up to intelligence professionals to mission plan appropriately and to prepare pilots and aircrews to mitigate and operate within these threat parameters. As the graphics depict below, China has already strategically positioned major elements of its ground, air, naval and missile forces in the Nanjing province to the north and across from Taiwan, as well as in the Guangzhou province to the south of Taiwan.
Figure 1. Chinese Military Posture, Taiwan Straits (Department of Defense 2014, 81-82)

Tactically, in a conflict that drew the U.S. military to defend Taiwan, Air Force intelligence planners specifically would be overwhelmingly concerned with China’s near-peer capabilities, advances in low-observable technology; the PLA Navy’s first aircraft carrier, and the PLA’s formidable integrated air defenses. This potent blend of threats within such a compressed area over the Taiwan Straits presents an operational challenge never seen by the Air Force in combat; dubbed an “anti-access/area-denial” (A2AD) environment.

In 2013, China demonstrated the use of low-observable technology through the employment and testing of a new stealth drone reportedly capable of air-to-air combat (Department of Defense 2014, 66). Further, the PLAAF developed a manned, fifth-generation, stealth fighter called the J-31 which boasts the most advanced avionics and engines ever employed on Chinese fighters (Department of Defense 2014, 67). The J-31, which was meant to mimic the U.S. Air Force’s F-22 and F-35 fifth-generation fighters, made its maiden test flight in 2012 and was unveiled to the public in 2014. Perhaps even more significantly for Air Force intelligence planners is the PLA Navy’s employment of its first aircraft carrier, the LIAONING. This carrier has conducted flight operations in the East China Sea and South China Sea with the J-15 advanced fighter and can project power well beyond other land-based fighter installations (Department of Defense 2014, 68).

The most formidable challenge for Air Force pilots and intelligence planners is China’s multilayered IADS consisting of multiple types of weapons systems; radars and sensors; and networked command, control, communications, computers and intelligence (C4ISR) infrastructure (Department of Defense 2014, 69). Surface-to-air missile (SAM) systems such as the SA-20, CSA-9, and SA-X-21b are technologically well beyond what any Air Force pilot has
ever faced in combat and will challenge any intelligence officer’s ability to mission plan for, primarily due to their extended ranges and ability to defeat counter-measures. Keen knowledge on enemy air defense tactics and threat counter-tactics will be at a premium as will the ability to plan and execute ISR operations in a non-permissive, A2AD environment. As depicted in the graphic below, land-based air defense weapons provide comprehensive coverage over the Taiwan Straits operating area while naval SAMs compliment that coverage with a mobile capability through the employment of navy destroyers.

Figure 2. Chinese Air Defenses over the Taiwan Straits (Department of Defense 2014, 87)

Air Force Intelligence Officer Responsibilities in the China-Taiwan Scenario

This type of comprehensive threat environment was obviously never encountered by
U.S. military forces in the past 13 years of combat operations and would present an unprecedented threat level to aircrews, C4ISR networks, and the intelligence professionals supporting them. Each of these challenges requires precision intelligence collection and mission planning in order to understand the threat and relay counter-tactics to aircrews and operators. With this in mind, in order to stem a Chinese invasion, a typical Air Force intelligence officer assigned or deployed at the unit-level or at an Air Operations Center (AOC) ISR Division (ISRD) would have to fulfill traditional roles and missions outlined in Air Force Instruction 14-202 Volume 3 – *General Intelligence Rules* (2008). These generally include:

- Provide timely and accurate battlefield situational awareness to commanders and planners
- Maintain accurate situational graphics, maps, and displays for mission planning purposes
- Brief enemy fighter tactics and capabilities as well as threat counter-tactics to aircrews
- Debrief returning aircrews and report post-mission summaries accurately and timely enough to pass along critical elements of intelligence
- Conduct accurate mission planning in order to mitigate key elements of the IADS
- Plan, coordinate, and execute ongoing ISR operations in a constantly non-permissive environment for airborne collection assets
- Locate, identify, and target ground and naval forces for interdiction

Additionally, all of these actions in wartime must also be complemented with a sustained, relevant, and rigorous intelligence threat training program for pilots and aircrews during peacetime as well. For the actual in-garrison and combat deployment guidelines, see Appendix 4: “Combat Employment Duties from AFI 14-202, Volume 3 – *General Intelligence Rules*.”

Using official guidance from the Air Force Personnel Center, specifically information provided by the career managers for intelligence officers, the career tracks for each scenario can be extrapolated to predict what types of assignments these hypothetical intelligence officers would be currently holding for the next 2-3 years. The career development scheme for
intelligence officers, informally dubbed the “Career Pyramid” serves as a roadmap for achieving professional goals. Below is an example of an intelligence officer’s current and projected career path and displays previously held positions in green, their current position in yellow, and available or potential positions they may be eligible for in blue as they progress from junior to senior intelligence officer. The positions reflect what type of job the officer should be holding as they progress through the ranks.

Figure 3. Air Force Intelligence Officer “Career Pyramid” (Air Force Personnel Center, 2014)

While there are an infinite number of permutations for any given intelligence officer’s career path, the odds are each scenario’s intelligence officer would be serving in an operational
Air Force assignment at this point in both of their respective career arcs. For the purposes of this study it is assumed that neither officer at this point in their career would currently be assigned to an in-residence PME, a staff officer assignment at the Pentagon or Major Command, a Joint assignment at a Combatant Command, or on Special Duty outside their primary career field. To account for as many variables in these career-arcs, the study assumes a fairly generic rather than highly-specialized or specific career path in order to represent a “cross-section” of intelligence officer careers. According to a RAND study that assessed Air Force intelligence officer career development, “senior captains and junior majors move to leadership positions or ones requiring management skills as squadron-level intelligence flight commanders and operations officers” (Brauner, et al. 2009, 2). The current Air Force 14N Career Pyramid indicates the following projected, current assignment for each Scenario.

Scenario 1: In 2014-16, this officer is a Major/Lieutenant Colonel-select and assigned as either a senior intelligence officer (SIO) at an operational combat Wing or as a Squadron Director of Operations (DO) for an ISR operations unit. Regardless of the assignment, the officer at this point in his/her career is primarily responsible for setting the tone for their subordinate intelligence professionals in their respective organizations. They provide guidance, management, and leadership by organizing, training and equipping intelligence professionals under their charge. SIOs and/or DOs would play a critical role for Air Force intelligence in a large-scale conflict with China by either deploying in critical, operational positions themselves, or managing the deployments of their people and being responsible for the competency of those they lead.

Scenario 2: In 2014-16, this officer is a Captain/Major-select and assigned to an AOC-ISRD as a Chief of either the Unit Support, Targeting, or Collection Management section. At
an ISRD, an intelligence officer at any of those positions would play a critical role in collecting, analyzing, producing and disseminating time-critical intelligence for operational commanders and planners as well as the tactical-level warfighters. This officer could also be assigned to and ISR squadron involved in collection or at a Network Warfare or Intelligence squadron involved in cyber operations. Another possibility is for this officer to be assigned as the Chief of Intelligence for an operational flying squadron where he/she along with an enlisted intelligence specialist would be directly supporting aircrews/operators in prosecuting their combat missions. This is arguably the most tactical application of Air Force intelligence.

With this context in mind, a full analysis of all evidentiary factors was carried out against both alternative career-arc scenarios, with their hypothetical “performance” being played out against a common threat in China. A qualitative, case study analysis of primary and secondary sources was used to distill evidence that resulted in the scoring of both scenarios in order to draw conclusions about the significance of alterations made to Air Force intelligence in the past 13 years.
CHAPTER FOUR

FINDINGS & ANALYSIS

Again, to review, the hypothesis as stated before is: *Reactionary and innovative changes made to doctrine, tradecraft, and training, which consequently impacted career progression and deployment experiences in the last 13 years, will negatively impact Air Force intelligence officers’ capacity to face conventional, near-peer threats in the next few years.* If proven correct, the matrix analysis should generally reflect scoring to appear as such:

<table>
<thead>
<tr>
<th>Evidentiary Factors</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1. Air Force Basic Doctrine and Strategy</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>E2. Air Force Intelligence Standards and Tradecraft</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>E3. Initial and Follow-on Intelligence Training</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>E4. Early Career Progression</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>E5. Previous Deployment Experiences</td>
<td>+1</td>
<td>-1</td>
</tr>
</tbody>
</table>

Cumulative Score – Scenario 1: +5; Scenario 2: -5

Table 2. Predicted Matrix Analysis for the Hypothesis

The following analysis of evidentiary factors for both scenario’s intelligence officers who are faced with a major conflict with China will determine how valid and accurate the predicted matrix analysis, and therefore the overall hypothesis is.

**E1. Air Force Basic Doctrine and Strategy**

**Findings**

The Scenario 1 intelligence officer was exposed to three iterations of Air Force Doctrine Document 1: *Air Force Basic Doctrine* (AFDD-1). According to then Chief of Staff of the Air Force, General Michael Ryan, “These warfighting concepts describe the essence of air and space power and provide the airman’s perspective. As airmen, we must understand these ideas, we must cultivate them and, importantly, we must debate and refine these ideas for the future” (1997). This officer would have been introduced to the 1997 publication during commissioning
training which reflected the Air Force’s post-Desert Storm mission posture (U.S. Air Force 1997, 41-42). Intelligence doctrine was broadly codified in sections that addressed information superiority (collecting, controlling, exploiting, and defending information) as being a core competency of the Air Force’s strategic perspective (U.S. Air Force 1997, 31). Further, a more specific discussion on ISR was presented in the discussion of air and space power functions to more completely capture the role of air-intelligence in the overall scheme of air warfare (U.S. Air Force 1997, 58-59).

The 2003 version of AFDD-1 was published during this officer’s second or third assignment as they were beginning to grasp their duties and responsibilities and lay a solid foundation for their careers, albeit still in a tactical-level setting. AFDD-1 underwent a substantial revision in the 2003 iteration. The Air Force by this time had been sustaining combat operations in Afghanistan, and the invasion of Iraq was well underway. The expansive changes included new discussions on homeland security, information operations, and combat support. The operational functions of the Air Force now reflected the realities of modern combat which were captured in updated discussions on core competencies. Of specific note to intelligence professionals was the consolidated discussion on reconnaissance and surveillance (U.S. Air Force 2003, 55). Interestingly, the section on intelligence noted that, “Specifically, intelligence efforts will focus on: foreign military capabilities; political groups; political, social, and technological developments; or particular geographic regions” (U.S. Air Force 2003, 54). This language still reflects a strategic view of conventional adversaries, and not specifically terrorist groups or large insurgencies as the target for the coming decade.

Unlike the intelligence officer in Scenario 1, the Scenario 2 officer commissioned with the 2003 version of AFDD-1 as the baseline for their doctrinal thinking. This means that the
officer was already working with a somewhat dated reference point in relation to the operational realities of combat that Airmen had been facing for years. Both officers inherited an AFDD-1 that was anywhere between 3-5 years old (based on the commissioning years dictated in the scenario), but due to the dramatic and fast-paced shift in military operations experienced in OEF/OIF, the 2003 AFDD-1 that the officer in Scenario 2 was indoctrinated with must have seemed even more irrelevant. As previously discussed, the discussion on the Air Force’s core competencies in the 2003 AFDD-1 began to address the new realities of airpower, but much of the language regarding intelligence still reflected methodologies based on countering more conventional foes. While this officer had no exposure to a pre-9/11 doctrine, they were indoctrinated with philosophies still primarily centered on countering conventional military adversaries.

The 2011 iteration updated and expanded the 2003 version to reflect changes in the national security environment. Importantly, changes in this version reflect the role of airpower, specifically in irregular warfare, and capture the scope and scale of missions undertaken by the Air Force (which by this time has been engaged in combat operations for almost a decade). New material reflects the expeditionary nature of airpower and the emergence of cyberspace (U.S. Air Force 2011). In light of sustained combat operations and perceived future threats, the Air Force redefined its core functions, of which ISR is included. Unlike the broad and vague language of previous AFDD-1 versions, the discussion on intelligence is process oriented and is now captured holistically as “Global Integrated Intelligence, Surveillance, and Reconnaissance” defined as, “the synchronization and integration of the planning and operation of sensors, assets, and processing, exploitation, dissemination systems across the globe to conduct current and future operations” (U.S. Air Force 2011, 48). Of note, historical anecdotes have been updated
from dated references of pre-9/11 airpower combat operations to current missions in support of OEF/OIF.

It was not until 3-5 years into their career did the intelligence officer in Scenario 2 have access to an overhauled AFDD-1 from which to gain guidance on strategic thinking. The 2011 iteration included the key changes discussed above, but by this time in the officer’s career they most likely had completed multiple operational deployments in support of OEF/OIF where methodologies and TTPs were learned and honed in a real-world environment with the highest of stakes. Doctrine would have had little impact compared to deployment experience and on-the-job training in regards to forming a foundation for facing future threats.

Aside from general doctrine, intelligence officers in both scenarios had more specific doctrinal guidance for ISR operations in the form of AFDD 2-5.2 – ISR Operations (1999), which fell under the doctrinal category of Information Operations. The purpose of the document was to establish “doctrinal guidance for fundamental principles and operational-level Air Force doctrine for intelligence, surveillance, and reconnaissance (ISR) and supports basic Air Force doctrine. It should be used to plan, prioritize, task, coordinate, and execute ISR operations” (U.S. Air Force 1999). However, this document, like other doctrine, was meant to be tailored for individual units’ mission areas and responsibilities and therefore had little tangible bearing to junior intelligence officers. This document was substantially revised in 2007. This more comprehensive approach made the transition from general guidance about ISR application to a more operationally-focused document. Other changes reflected the ongoing operations in Iraq and Afghanistan by linking the methodology of predictive battlespace awareness and JIPB with the ISR process, as well as increased consideration for UAS employment and the availability of more ISR-capable airborne platforms (U.S. Air Force 2007).
These changes resulted in a document largely framed for the current fight, but was comprehensive enough to be applicable for future, conventional military adversaries as well.

The most recent iteration of this doctrine became AFDD Annex 2-0, *Global ISR Ops* in order to correspond Air Force Doctrine numbers and titles with Joint nomenclature, and was published in 2012. The separate ISR Annex in its current form reflects a culmination of the cumulative decade-plus of ISR operations in combat and symbolizes the major shift in the doctrinal tone of ISR from pre-9/11 years. More so than ever, doctrinal ISR guidance reflects current combat operations. It specifically addresses ISR operations in irregular warfare and focuses on global integration of ISR forces; it is also a drastically different document than its first iteration (U.S. Air Force 2012). The scope and scale of doctrinal-level ISR guidance that is made available to an intelligence officer in this document is unquestionable, but the actual relevance it would have on unit-level operations in support of combat aircrews during a large-scale, conventional conflict would most likely be minimal for the reasons previously discussed.

Along with AFDD-1 and AFDD 2-5.2, intelligence officers had other guiding documents at their disposal that helped them understand and appreciate the Air Force’s strategy and philosophy. A key example of this is the *U.S. Air Force Posture Statement – 2004*. This particular document would have been distributed during Scenario 1’s second or third tactical-level assignment and addressed important changes to Air Force strategy and operational employment from before 9/11. This statement reflected on the transition of air and space operations facing a conventional adversary towards new adversaries to be encountered in irregular warfare (Jumper & Roche 2004). The shift in strategic thinking was centered on force development, leveraging new technologies, and operational integration within and outside the Air Force (Jumper & Roche 2004). While this posture statement acknowledged the need to
align strategic thinking in terms of new unconventional threats, it did not call for such a drastic change in thinking that would be irrelevant to future conflicts with conventional militaries.

The Air Force “30 Year Strategy” and accompanying “Vision Statements” published in 2014 by the current Chief of Staff of the Air Force, General Mark Welsh and Secretary of the Air Force, Deborah James offer a very different perspective from the 2004 Air Force posture statement which served as a benchmark document for the intelligence officer in Scenario 1. The 2014 publications are the keystone pieces for strategic thinking for the Scenario 2 intelligence officer, who would now be making the transition from junior officer to a more experienced mid-level officer. The documents offer an all-inclusive look into various aspects of the Air Force, from education and training, structure, and culture, and projects them into strategic vectors for the service for the next 30 years (James & Welsh 2014). The importance of the strategy is in its guidance for moving on from the last decade plus of combat operations in the irregular warfare realm into the future challenges the Air Force faces. While theoretically this approach would be beneficial for an intelligence officer preparing for a near-peer threat, the tangible influence is debatable unless the core pieces of the strategy are distilled into more directive and applicable guidance.

Scenario 1 Analysis and Score

**Rated as a NEUTRAL effect (0).** Most Air Force doctrine published during the timeframe when the officer began his career and underwent training in this scenario was still largely based on the post-Cold War era when the Air Force’s identity was centered on its critical role in Operation Desert Storm. Doctrine reflected a mission identity founded on unleashing overwhelming power and force on under-matched adversaries, in multiple combat theaters if necessary. Doctrine and strategy documents engrained early on in this officer’s
career did not reflect conventional conflicts with near-peer adversaries because generally there were none. Additionally, this officer had to deal with a massive shift in doctrinal thinking that came about as a result of a decade of COIN/CT airpower operations. Having to reconcile with two or more doctrinal paradigms, neither or which directly address the challenges that a near-peer adversary presents, may force an intelligence officer to rely on more operational guidance as they become frustrated about doctrine and strategy’s slow reaction to geo-political realities.

**Scenario 2 Analysis and Score**

**Rated as a NEUTRAL effect (0).** The intelligence officer in Scenario 2 is fairly junior and the impact of doctrine on junior officer’s operational career is relatively low. Since the intelligence officer in this scenario became fully trained during the height of OEF/OIF, the influence of doctrine and strategy was minimal compared to the operational realities of the combat deployments they would soon be participating in. The pressure of ensuring one’s job readiness and ability to provide intelligence support combat operations overrode any desire to understand, appreciate and internalize strategic-level, Air Force doctrine that was introduced during the officer’s commissioning. In this scenario, the phenomenon of doctrine and strategy being generally slow to react to geo-political developments is exacerbated, since Air Force doctrine was already being transformed during the height of OEF/OIF and would most likely be the “baseline” for an intelligence officer’s early career for some time. The methodology and TTPs cultivated over multiple combat deployments early in an officer’s career far outweigh the influence of doctrine and strategy in regards of facing future threats.

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Table 3. Score for E1
E2. Air Force Intelligence Standards and Tradecraft

Findings

The main focus of analysis for this factor are the 14-series AFIs for intelligence. The purpose of AFIs is to outline intelligence operations and provide supervisors at any level to establish standard operating procedures for their units. They often serve as the basis for work center indoctrination and training programs. Adherence to these guidelines is ensured through a rigorous schedule of compliance and readiness inspections and exercises overseen by Air Force Inspectors General at each unit. While they are specific and detailed with tasks and standards, AFIs are intentionally not labeled as “regulations” in order to convey the notion that they are open-ended in order for unit supervisors to supplement their own tailored, mission-specific guidelines.

By the time the intelligence officer from Scenario 1 graduated from the Intelligence Officer’s Course, there were approximately 20 official intelligence AFIs and/or policy documents of which 10 would have been immediately applicable to their initial assignments at the unit-level working with aircrew/operators or within ISR operations (Yates 2000, 5). Of particular note are the AFIs that would provide unit-level guidance for intelligence responsibilities leading up to and during a conflict with a conventional military adversary: AFI 14-103 Threat Recognition and Training Program; AFI 14-105 Unit Intelligence Mission and Responsibilities; and 14-117 Air Force Targeting. These AFIs provided thorough guidance on key peacetime and deployment responsibilities particularly for those assigned to flying units. This included guidelines for: establishing an aircrew intelligence training program, mobility and deployment procedures, mission planning guidelines, aircrew pre-mission briefing and debriefing procedures, intelligence reporting procedures, and evasion and recovery procedures.
These detailed intelligence standards reflected an emphasis on traditional, unit-level intelligence and aircrew support in the event of a major conflict with a conventional military adversary such as China. Early exposure to these TTPs would certainly prepare an intelligence officer to organize, train, and equip intelligence professionals in facing a conflict with China later on in their career.

For the intelligence officer in Scenario 2, Air Force intelligence standards became even more relevant and useful in terms of providing operational guidance. This officer upon completion of initial intelligence technical training now had over 100 AFIs, policy documents, and instructional pamphlets from which to glean knowledge on a wide-spectrum of intelligence duties and responsibilities (Air Force E-Publishing). These updated AFIs would continue to serve this officer well as they move into their second and third operational-level assignments and as the Air Force begins to transition away from irregular warfare combat operations. The dramatic increase in the number of AFIs is mostly due in large part to specific AFIs being created for a variety of unit level missions including special operations, search and rescue, and ISR operations which now accounted for a wider scale of possible unit assignments. There are also weapons system-specific intelligence guidelines for air operations centers, fighters, bombers, and transport units (Air Force E-Publishing).

There are also significant AFIs that were substantially overhauled or consolidated that would be more pertinent to the Scenario 2 intelligence officer during their first unit assignments than what was available to Scenario 1. AFI 14-120 Tactics Analysis and Reporting Program codified and formalized what was historically a misunderstood and underappreciated program that may eventually help the Air Force intelligence community gain the upper hand in a China-Taiwan conflict. “The mission of the US Air Force Tactics Analysis and Reporting Program
(TARP) is to analyze and evaluate the operational tactics, training, and employment of air and air defense forces of potential adversaries” (U.S. Air Force 2006, 1). TARP program findings can aid aircrew, weapons controllers, intelligence personnel and mission planners in constructing threat counter-tactics and procedures to minimize adversary capabilities. AFI 14-202 Intelligence Standardization/Evaluation (Stan/Eval) Program also updates and codifies an important facet of intelligence readiness based on a methodology used for decades to ensure optimal effectiveness of Air Force flying units. AFI 14-202 outlines how the Stan/Eval program is designed to “provide commanders a tool to validate mission readiness and the effectiveness of intelligence personnel, including documentation of individual member qualifications and capabilities specific to their duty position” (U.S. Air Force 2008, 4). Up until the formalization of the Intelligence Stan/Eval program, there was no Air Force-wide standardization instrument in place designed to ensure compliance, proficiency, and competency of intelligence personnel across the enterprise.

These all represent positive changes in Air Force intelligence standards, however other factors brought on as a result of the last 13 years of combat operations in a COIN/CT environment dictate that Scenario 2 actually falls at a disadvantage to Scenario 1 in two aspects. First, standards become tradecraft when put to practice and operational use over time. However, TTPs are generally threat-centric and without a tangible air and air defense threat to face, such as what was characterized during OEF/OIF, certain intelligence skills never become sharpened and honed through experience. While ONW/OSW did not represent a near-peer threat to intelligence officers representative of Scenario 1, combat operations enforcing a no-fly zone still constituted a challenging and denied threat environment. Adhering to codified, unit-level intelligence practices such as aircrew mission-planning, pre-mission briefing, combat
debriefing, and timely reporting of vital air and air-defense threat intelligence were some of the only ways to mitigate threats in this environment. Some downplay these important techniques as Cold War relics and dated TTPs that reflect operations against static and predictable adversaries, in which the emphasis for intelligence support to tactical airpower was on the aircrew pre-mission brief (Deptula & Brown 2008, 8). However, this ignores the need for the exquisite intelligence required for mission planning against 4th and 5th generation fighters and/or an advanced IADS, especially in an A2AD.

The modern view of air intelligence puts faith in the Air Force’s Distributed Common Ground System (DCGS), which is comprised of an array of networked ISR systems that collect, exploit, analyze, and disseminate intelligence data on a global scale in near-real time. DCGS, when applied to combat operations, allowed intelligence personnel to “take raw information, turn it into relevant intelligence, and deliver it to operators within minutes (or seconds, depending on the source) of its collection” (Brown 2009, 53-54). This required modern intelligence professionals such as the intelligence officer representative of Scenario 2 to have keen analytical, operational, and technical knowledge of ISR operations in order to essentially override the importance of traditional aircrew intelligence support by providing threat and target data to cockpits directly. However, this methodology and tradecraft tested primarily in the COIN/CT environment de-emphasizes the scope and scale of threats presented by China. An adversary who places so much doctrinal and operational emphasis on cyber would surely challenge the DCGS construct and create an anti-access environment for C4ISR operations. This coupled with cockpit saturation due to the high-threat combat environment presented in a China-scenario may render the DCGS operational methodology of air intelligence moot. An intelligence officer schooled and experienced in traditional mission planning methods and
aircrew support would be better positioned to prepare their aircrews for a China-Taiwan conflict. More differences in deployment experiences will be fleshed out in specific analysis to follow.

The second reason why the Scenario 2 intelligence officer would be at a disadvantage is that standards and tradecraft can be formulated as a result of the substantial influence of more informal TTPs and operational methodologies. Publications from or for PME students and faculty are meant to inform and guide the future of Air Force doctrine development while encouraging open discussion and debate. These publications can propagate into methodologies and TTPs in the operational world for better or worse. As discussed previously, junior intelligence officers at the tactical level are far removed from the influence of doctrine, but can easily be influenced by senior officer mentors they are in direct contact with. Bias also plays a role in this formation of methodologies as many influential, professional Air Force journal articles are written by senior intelligence officers advocating for their own policies or mid-level officers promoting their past experiences in combat. This type of development of TTPs can be valuable to junior intelligence officers and future leaders, but the fact that these articles are agenda-driven must be recognized and accounted for. PME publications play a role in professional development and in the informing of opinions of mid-level and senior intelligence officers who consequently influence the thinking of junior officers. This effect can carry more inertia than officially published Air Force standards and TTPs in the form of AFIs, and are codified into one’s methodology much quicker than official standards can be written, coordinated, approved and disseminated.

Nowhere is this more evident than in the realm of ISR operations, a mission set within the realm of air-intelligence that exploded in terms of capability and relevancy during OEF/OIF.
ISR has become such a dominant mission set for the Air Force that the term is often used interchangeably with the broader concept of “air intelligence” (intentionally or unintentionally) at the expense of those responsible for other traditional roles such as aircrew intelligence support, targeting, and mission planning.

The influence of new intelligence methodologies can be particularly strong when the methodologies are propagated from the very top intelligence leaders. While Lt Gen Deptula was the Deputy Chief of Staff of ISR for the Air Force, he co-authored several publications whose tenets were eventually folded into formal Air Force ISR doctrine. His assertion that “ISR is operations” is centered on the idea of ISR compressing the find, fix, track, target, engage, and assess process otherwise known as the kill chain (Deptula & Brown 2008, 8-9). Essentially, “An intelligence Airman (officer or enlisted), either at the air operations center or even at a wing operations center, could process and analyze incoming information, recognize a threat to an ongoing mission, and relay that intelligence to the threatened pilot through various C2 nodes” (Deptula & Brown 2008, 11-12). A popular supporting vignette is the airstrike that killed al-Zarqawi in Iraq carried out via an ad-hoc tasking of an F-16, but which was preceded by over 600 hours of ISR collection operations by UASs (Deptula & Brown 2008, 9). The idea of a single ISR platform executing the kill chain from start to finish eventually led to his “hunter’s view” of ISR (Deptula & Francisco 2010). He advocated for ISR assets “actively participating in the destruction or negation of certain lasses of targets” which was made possible due to the widespread proliferation of armed UASs and required a complete overhaul of collection management processes in order to ensure agility (Deptula & Francisco 2010, 14-15). These TTPs born from combat operations in Iraq and Afghanistan, however, would surely be put to the test in terms of applicability in a large-scale conflict with China. The degradation of
tactical ISR assets in an A2AD environment brought on by China’s offensive cyber capability, electronic warfare systems, and extensive IADs jeopardizes, if not neutralizes these ISR concepts that were essentially executed without harassment in Iraq and Afghanistan.

Not all influential PME publications necessarily came from such lofty heights. Officers reflecting on their recent experience on numerous combat deployments advocate for more specific TTPs. Of note are “effects-based ISR operations” and the use of “mission-type orders” for ISR collection management.

In an Air War College paper published in 2005, Lieutenant Colonel Daniel Johnson advocated for ISR to be planned and executed in specific ways to fully support effects-based combat operations. The concept of effects-based operations (EBO) borrows from a methodology widely used in kinetic targeting campaigns which focus on second and third-order effects of a particular strike on an enemy target in regards to the greater scheme of the battlespace, rather than focusing on the destruction of a single target as the objective in and of itself. This methodical degradation and disruption of enemy capability gives friendly forces a distinct tactical advantage over time and is more nuanced and efficient than attrition campaigns. Likewise, ISR EBO methodology is less about finding enemy targets and more about leveraging intelligence to find and then predict which targets to degrade/destroy based on the projected impact on enemy courses of action. In a COIN/CT environment, EBO seeks to influence future enemy actions in the most devastating and disruptive manner possible. This puts emphasis on using ISR to predict the chain-of-events to follow after a certain combat action rather than answering individual intelligence requirements in a vacuum regardless of their overall impact on the battlefield. Johnson asserts that ISR EBO “require on-demand ISR from a variety of sensors and platforms depending on the effects you want to target” (Johnson 2005, 2). He
points out that OIF routinely “had 80-plus US and coalition ISR platforms flying at any particular time over Iraq. Such experiences, coupled with the shortened target-identification and kill-chain timelines, have changed how campaigns and wars will be fought in the future” (Johnson 2005, 3). The methodology, while effective in Iraq may be negatively influential on intelligence officers facing a conventional, near-peer threat in China. EBO by very definition is effects-centric and not threat centric. The A2AD environment in a China conflict would severely degrade the ability to leverage on-demand collection from a vast menu of available assets. Airborne assets will be forced into retrograde orbits away from threats, which will degrade collection capability. ISR planners will have to rely more on methodologies akin to the sensitive reconnaissance operations used by airborne ISR in more conventional settings rather than those crafted for irregular warfare.

In a similar vein, the methodology of mission-task orders (MTO) for ISR planning calls for a re-tooling of collection management principles in response to a dynamic operating environment. Haley offers a counter to pre-planned ISR collection “decks” that focus on sheer quantitative ability to meet requests. ISR MTO, he argues, “provides just-in-time intelligence that follows command intent instead of emphasizing laborious timelines with over-centralized ISR targeting” (Haley 2012, 45). To accomplish this, the MTO methodology requires ISR assets to have the freedom to collect based on broad, categorical themes rather than individual targets. This freedom allows for dynamic collection for where and when it is needed at a moment’s notice rather than following the scheme of maneuver of friendly forces as it progresses day-to-day. Haley attempts to argue that MTO has implications on future, conventional conflicts, as he notes that the current emphasis on MTO methodology is on irregular warfare but may also have applications for major theater warfare. He states,
“Consider, for example, a nonpermissive ISR environment where mobile surface-to-air-missile systems complicate preplanned collection requirements” (Haley 2012, 45). If anything however, this should serve as a cautionary tale against the broad use of MTO methodology, not an argument for it. Air defense threats will complicate ad-hoc missions just as much if not more than pre-planned missions, as assets will lack the relative freedom to respond to requests in a timely manner without a systematic campaign to first address and deal with threats. The TTPs are not easily translatable from irregular warfare to a more conventional setting. Intelligence planners must rely on traditional planning methodology where ISR operations are folded into pre-planned missions aimed at suppression and destruction of enemy air defenses (DEAD) allowing for airspace to become more and more permissive over time. MTO advocates also argue that another benefit of the methodology is the ability for direct contact between the processing, exploitation and dissemination node and the customer “on the ground”. However, an A2AD scenario like China would negate this benefit for several reasons, such as wide-scale communications degradation, and the U.S.’s inability to place a soldier on the ground. Even with forces eventually taking ground, it is an arrogant assumption that those forces would have the time/communications available for regular coordination with the DCGS.

There is at least some evidence of warnings of the relevance of methodologies that have been developed during OEF/OIF, but the stronger influence is always going to be lessons born from recent combat operations. Kimminau, for one, reflects on ISR capabilities as national security strategies pivot toward interests in the Pacific and reminds that, “anti-access / area denial should be a key part of the Air Force’s concerns” (Kimminau 2012, 120). However, this line of thinking in regards to intelligence TTPs seems to be more of the exception than the rule of PME publications.
Scenario 1 Analysis and Score

Rated as a POSITIVE effect (+1). Standards and regulations in the form of AFIIs and TTPs are flexible and agile and can be tailored to meet individual units’ intelligence missions and needs. The officer in this scenario had 20 intelligence-related AFI documents to ensure adequate training and preparation for peacetime and contingency operations. Policies published at the Major Command level were meant to guide intelligence operations and support down to the unit-level and were used as the basis of compliance inspections and operational readiness exercises. Lessons learned from these readiness exercises were consequently molded into TTPs for how to prosecute the intelligence mission on deployments to ONW/OSW depending on what operational unit one was deployed with. Over time, this tradecraft became a standardized way of analyzing adversary air and air defense forces, providing targeting support, and planning ISR operations in a conventional war.

Scenario 2 Analysis and Score

Rated as a NEGATIVE effect (-1). In the years encompassing this scenario, AFIIs and regulations became increasingly agile, flexible, and numerous as OEF/OIF progressed. A concerted effort was made to further streamline some unit-level operational guidance in order to allow local commands to tailor intelligence regulations as required in order to meet mission-specific objectives. Additionally, platform and mission-specific AFIIs were developed in order to provide guidance for the performance of intelligence tasks supporting specific weapons systems or operational missions. Intelligence officers now had over 100 AFIIs at their disposal to formulate tailored, standard operating procedures. This flexibility should allow an intelligence officer to prepare for a very different conflict than OEF/OIF at least in regards to having effective and clear intelligence standards to follow. However, the counterbalance to
these standards are the informal TTPs formulated from deployment experiences and codified in scholarship and professional literature.

These works authored by experienced subject-matter experts provided valuable insights into the challenges faced by Air Force intelligence during OEF/OIF and offered methodologies in response. As a result, many of these TTPs became commonplace during deployments and they set a tone that specifically addressed operating in an irregular environment. Because combat operations were not only ongoing, but sustained for such a long period, these TTPs became more ingrained and more relevant in the air intelligence psyche than official AFIs that offered methodologies useful in more conventional conflicts. The result is a wealth of knowledge accumulated and codified into TTPs that may not prove to be all that applicable in a large-scale conventional conflict with a near-peer adversary military.

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Table 4. Score for E2

**E3. Initial and Follow-on Intelligence Training**

**Findings**

For Air Force intelligence officers, initial training takes place at the 315th Training Squadron, at Goodfellow Air Force Base, Texas. Currently, it is conducted over the course of 141 academic training days in which students are trained on a core curriculum of intelligence fundamentals to include: intelligence collection and production cycle; exploitation, analysis, management and reporting of all intelligence disciplines; collection management, communication, analysis and production, and national intelligence support (Goodfellow Air Force Base). Students are assessed throughout a series of briefings, cumulative tests and
operational exercises. Course content and emphasis has evolved over the past 15 years to reflect operational realities and has been as short as 6 months and as long as 9 months as adjustments to curriculum and staffing had been made. Still, both intelligence officers in Scenario 1 and 2 shared similar experiences that would have prepared future intelligence officers with the basic understanding of how to carry out their duties and responsibilities in the event of a conventional, major theater war with China (See Appendix 5: Comparison of Intelligence Officer Courses).

Specifically, both iterations of the Intelligence Officer Course provided detailed “blocks” of academics on several topics that would be directly applicable to facing China even though officers in the scenarios would have theoretically attended the course anywhere from 6 to 10 years apart. The block on electromagnetic theory, regarded as one of the most difficult of the entire course, laid the foundation for comprehending the underlying theories and technology behind avionic systems and radars for both friendly and adversary weapons systems and how they could be countered using specific tactics. The blocks on Air Forces, IADs, and Naval/Ground Forces provided background on weapons, TTPS, capabilities, and limitations of adversary militaries including Russia, Iran, North Korea, and China. These blocks were extensively detailed and covered specific vehicles, equipment, and personnel as well as put them in context by discussing their strategic use in a time of conflict (17th Training Wing 2014). To provide a framework for this threat information, the course for both iterations included blocks on kinetic targeting/weaponeering and basic instruction on unit-level operations which covered mission planning, pre-mission briefings, combat debriefing, and intelligence reporting. Students were exposed to intelligence TTPs applicable to “all levels of war, from unconventional, low-intensity, tactical engagements to conventional, high-intensity, force-on-
force conflicts” (George & Ehlers 2008, 64).

To put these newly learned skills to the test, students took part in scenario-based operational exercises, the most important one being the capstone exercise, Operation LONESTAR (OLS). OLS combined a class from the intelligence officer course with their enlisted counterparts training to become intelligence operations specialists as well as students from SIGINT and GEOINT courses. Depending on what operational unit each student was designated for assignment upon graduation, they would inherit the roles and responsibilities of intelligence officers assigned to the AOC, a DCGS unit, a Wing Operations Center, or an operational flying squadron where they had to enact the duties expected of them per regulation. The basis of the scenario was a massive air campaign against a large, conventional adversary military. While some students were selected to take part in an irregular warfare, COIN/CT scenario the majority were tested against a backdrop that very much reflected the traditional duties and responsibilities expected of an air intelligence officer deployed to support combat operations against China. Depending on where the intelligence officer was assigned to during OLS, they would be required to provide either aircrew intelligence support, analysis and reporting, targeting, or ISR planning. Instructors intentionally kept the scenario open-ended to allow students to come to the realization of the gravity of both their good and bad decisions (George & Ehlers 2008, 66). The end result was valuable experience, albeit in a controlled environment, that built leadership skills through a simulated air campaign that taught the importance of tailoring intelligence to meet the needs of a variety of customers.

Without a doubt, the intelligence officer in Scenario 2 inherited substantial changes to the Intelligence Officer Course from the time the Scenario 1 officer graduated and was awarded the 14N AFSC. The campaigns in Afghanistan and Iraq saw an unprecedented shift in airpower
theory to which air-intelligence capabilities had to respond; resulting in new systems such as tactical UASs and new methodologies in time-sensitive targeting for example (George & Ehlers 2008, 63). However, other improvements made to the “school house” such as the integration of state-of-the-art modeling and simulation tools, recruitment of a more experienced instructor cadre, and the introduction of more deliberate teaching methodologies were relevant for a full-spectrum of possible warfare scenarios (George & Ehlers 2008, 64). For these reasons, intelligence officer students representative of Scenario 2 may have experienced shorter course in length but most likely graduated from a course with greater depth and relevancy than compared to their counterparts in Scenario 1.

After graduation and being awarded the 14N AFSC, both scenario’s intelligence officers benefited from follow-on training that certified them on intelligence skills supporting specific mission areas. These courses, dubbed Intelligence Formal Training Units (IFTUs) were intense, focused, and designed to deliver mission-ready intelligence officers to operational units armed with additional training tailored to their assignments (U.S. Air Force 2012, 3). Multi-week long IFTUs were available for those supporting special operations, cyber, AOCs, DCGS, space units and most aircraft platforms (F-15, F-16, F-22, A-10, etc.). Regardless of how OEF/OIF shaped and evolved these missions and weapons systems, students were trained and certified on the full spectrum of their respective capabilities in combat operations ranging from COIN to conventional, force-on-force conflicts with near-peer adversaries such as China. IFTUs were designed and modeled after aircrew training in which operators would first receive their pilots’ wings but would still face the challenge of qualifying for their specific combat aircraft before being assigned to an operational unit.

Unit-level training, in the form of the Air Force Intelligence Personnel Training (IPT)
Program remained a hallmark of Air Force intelligence throughout the last 13 years of combat operations. Both Scenario 1 and 2 intelligence officers were enrolled in their respective units’ IPT program upon reporting to their unit assignment. Again, the Air Force intentionally structured IPT to mimic the qualification training of new pilots assigned to their squadrons. New intelligence officers upon arrival to their units would undergo Initial Qualification Training and then Mission Qualification Training where they were afterwards considered “Combat Mission Ready” (U.S. Air Force 2012, 6). Like their aircrew counterparts, intelligence personnel are required to maintain currency in basic skills through Continuation Training. IPT became more formalized and codified from the time when Scenario 1 and Scenario 2 would have respectively become qualified. This ensured that steady and repeated deployments to either ONW/OSW or OEF/OIF were not the sole determinant of intelligence readiness. Regardless of what units they were assigned to, both officers would have been properly prepared to support combat operations in the most challenging of threat environments as a result.

Both scenario’s intelligence officers would have had the opportunity to attend advanced courses offered by the 315\textsuperscript{th} Training Squadron at several points in their career by the time the hypothetical conflict with China began. These advanced courses offer graduate-level intelligence and leadership training and include: Intelligence Master Skills Course for mid-level officers, ISR Operations Course, Targeting-Intelligence Formal Training Unit (T-IFTU), and the Air Force Critical Thinking and Structured Analysis Course (CTSA) (Goodfellow Air Force Base). There are two intelligence skill areas in which Scenario 2 may have even possibly received better training than what was available to Scenario 1: analysis and targeting. In other words, the last 13 years of sustained combat operations may have had a positive impact on these
two areas, at least in terms of formal intelligence training.

For the Scenario 1 intelligence officer, there was no deliberate and dedicated time spent specifically on teaching analysis during the Intelligence Officer Course. In contrast, the course that Scenario 2’s officer graduated from was exposed to over 2 weeks of cumulative academic days dedicated to learning about analytical methodologies and predictive analysis (17th Training Wing 2014). Air Force leaders have recognized that analysis is a core competency that affects all other intelligence roles including collection, targeting, and operations support; and they are addressing a historical disconnect in available training resources beyond initial training to develop the capability (Otto 2014, 8). The Advanced Analysis Course which later became CTSA was available to both scenario’s intelligence officers and consisted of graduate-level education on “problem restatement, red teaming, weighted ranking, computation of conditional probabilities, hypothesis testing, and utility analysis; courses provide a comprehensive set of tools for conducting objective, thoughtful analysis” (Folker 2012, 134).

For Scenario 1 intelligence officers assigned to targeting missions, specialized training was available through the Combat Targeting Course (CTC), a multi-week long academic course specializing in teaching targeting doctrine and TTPs for kinetic operations (Rozumski 2011, 23). This training represented targeting in the sense of the traditional Air Force mission mantra of delivering “bombs-on-target-on-time.” For Scenario 2 intelligence officers, CTC transitioned to a new and broader course called the Targeting-Intelligence Formal Training Unit (T-IFTU). While traditional methodologies of targeting and indoctrination into modern weapons and delivery systems were still taught, T-IFTU included targeting for the COIN/CT environment. OEF/OIF resulted in the evolution of targeting and closely tied the concept to ISR operations as, “A target became associated with a point on the ground to image, a signal to listen to, and an
enemy to destroy. ISR doctrine codified the new understanding of a ‘sensor to shooter’ and hunting and gathering mentality” (Rozumski 2011, 28). While some of these concepts may not be immediately applicable to a conflict involving China, specialized training in targeting was still comprehensive enough to prepare Scenario 2 intelligence officers for a more traditional role.

**Scenario 1 Analysis and Score**

**Rated as a POSITIVE effect (+1).** Initial technical training was designed to create intelligence officers specifically prepared to conduct aircrew intelligence support, combat targeting, and ISR operations for a nation-state threat with a conventional military force. The training may not have fully addressed the challenges of a near-peer threat but still took into account several aspects of A2AD threat environments. Instructors and subject-matter experts during this timeframe primarily drew from their operational experiences in ONW/OSW, and Operation Allied Force (OAF). The challenge for initial training is to make it comprehensive enough in order to lay the foundation of understating of not only air intelligence but the greater role of intelligence in national security. Preparation for initial assignments came in the form of IFTU courses for those assigned to certain fighter, bomber, or special operations squadrons. While initial training provided in-depth study of the full spectrum of adversary air and air defense forces, there was a lack of formal training on analytical methodologies that are considered widespread practices throughout the greater IC. Exercises and simulations were tailored towards supporting flying operations at the unit level and at the AOC level with a traditional, conventional military threat as the scenario.

**Scenario 2 Analysis and Score**

**Rated as a POSITIVE effect (+1).** Over time, the Intelligence Officer Course adapted
its training materials, instruction, and philosophies to incorporate experiences gained from repetitive combat deployments in support of OEF/OIF. While these adaptations risked becoming an over-correction in response to combat operations, the course retained several vital blocks of training that addressed more conventional militaries of adversary nations. Reacting to OEF/OIF deployments was unavoidable as the need for trained officers prepared to deploy in support of COIN/CT operations within their first assignment was a priority. Any possible over-correction away from traditional air intelligence methodologies may have been naturally tempered as coursework and lessons can be bureaucratically slow to change. Some developments in coursework may have a positive impact on intelligence officers in operational assignments such as the inclusion of cyber and increased time addressing the Air Force’s fast-evolving ISR capability. There has been an increased emphasis on research methods and predictive analysis which is a key development for strategic intelligence roles and the honing of tangible skills. More importantly, the core blocks of instruction that are key to understanding the China threat remain: IADs, Air Force, Surface-to-Air Forces, Mission Planning, Targeting, and Electromagnetic Theory.

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<td>E3. Initial and Follow-on Intelligence Training</td>
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Table 5. Score for E3

**E4. Early Career Progression**

**Findings**

The focus of this factor is the first 2-3 assignments of both scenario’s intelligence officers in order to examine the fundamental impact on their careers that those early, developmental experiences could potentially have in the event of being deployed to support...
combat operations against China later in their careers. Again, the conventional, force-on-force conflict with China that serves as the framework for this analysis implies that Air Force intelligence officers with experience and background in unit-level support, AOC operations, targeting, and airborne ISR operations in particular would be prepared to organize, train, and equip Airmen for deployments or take part in operational deployments themselves.

The Air Force believes that intelligence officers should gain both technical expertise and operational experience during their initial assignments. Overtime, an intelligence officer was expected to have breadth and depth in several aspects of intelligence tradecraft in order to compete for promotion or leadership assignments. These included ISR operations to include collection management and experience in multiple disciplines; AOC/unit-level intelligence to include support to ground operations, and airlift/mobility; predictive analysis; and targeting to include electronic warfare and network warfare (Brauner, et al. 2009, 2).

The Air Force has always placed an emphasis on assigning newly-trained intelligence officers at the tactical level to expose them to operational missions right away. Rarely, if ever, would a brand new intelligence officer (not including prior-enlisted intelligence specialists) report directly to staff duty, joint combatant commands, national agencies, or special duty assignments. The first few years of an intelligence officer’s career were concentrated at the unit-level supporting a variety of operational missions (Brauner, et al. 2009, 2). An examination of the actual career path guidelines available to intelligence officers in the last decade-plus reveal that the Air Force Intelligence Force Development teams saw no need to restructure the early stages of an intelligence officer’s career in response to combat operations in Iraq and Afghanistan.

For Scenario 1, the intelligence officer career path was envisioned by Air Force
assignment and functional management teams as similar to pursuing an undergraduate degree where officers progress through their career based on a selected “major” while also being encouraged to include “elective” assignments for broadening purposes (U.S. Air Force 1999).

Below is a graphic depicted in the Air Force’s intelligence force development statement, *The Sentinel* released in 1999. It was meant to provide general expectations and guidance for intelligence officers in terms of progression throughout one’s career. Note that the first and second jobs encompassing the first seven years of one’s career were designed to place officers in “technical specialty” positions in order to hone their tradecraft at the operational level of the Air Force. The third job in years 8-10 still partially suggest opportunities at the operational, unit-level but with more emphasis on leadership.

![Intelligence Officer Career Pyramid, Scenario 1](image)

Figure 4. Intelligence Officer Career Pyramid, Scenario 1 (U.S. Air Force 1999).
Common assignments for the intelligence officer in this scenario include any number of positions at a Wing Operations Support Squadron (OSS) or AOC-ISRD such as targets officer, all-source analyst/briefer, or plans and exercises officer. Other assignments included watch officer or mission operations commander at an Intelligence Squadron (or Distributed Ground Station), or Chief of Intelligence at an operational flying or special operations squadron (U.S. Air Force 1999). Immediate follow-on assignments would reflect more of the same options but with increasing leadership, supervisory, and managerial responsibilities.

Scenario 2 had no discernable shift in the thought-process behind what kind of 2-3 initial assignments an intelligence officer should have, even after it was evident that OEF/OIF were turning into long-term wars. While OEF/OIF was at its height, Air Force leaders still realized the importance of growing young talent around operators and tactical-level missions. Technical tradecraft competencies that were expected to be mastered over the course of this early career progression included: “Analysis/Forecasting of enemy Air, Space, & Cyber capabilities, vulnerabilities & intent; Foreign/Regional Area & Language Expertise; Global ISR Enterprise; Kinetic/Non-Kinetic Targeting; Effects Assessment” (Sanchez 2009, 15).

While certain intelligence organizational structures have shifted over time in response to OEF/OIF, it is evident that Air Force leaders still desired early career progression at the operational level. For the case of the Scenario 2 officer, the number of opportunities to gain experience at the unit-level had slightly increased due to the rapid expansion of ISR, cyber, and UAS squadrons where intelligence officers are needed. The slide below represents the general guidance provided to intelligence officers for the expectations of how their career should be mapped out. Similar to the career pyramid for Scenario 1, this chart puts heavy emphasis on operational, unit-level assignments early on in one’s career. This emphasis provides a solid
foundation for leadership-level assignments at those types of operational units later on in one’s career, after they have completed staff or joint-level work as well as PME.

Figure 5. Intelligence Officer Career Path, Scenario 2 (Sanchez 2009, 8)

This thought process exposed intelligence officers to the proverbial “tip of the spear” where they were readily able to see the direct results of their work. At no other time in their careers would they be working directly alongside their intelligence customers. Intelligence officers assigned to flying units even during OEF/OIF practiced their more traditional intelligence duties and responsibilities in force-on-force training scenarios with their aircrews while back in garrison. Those assigned to AOCs or ISR units were gaining familiarity with the very processes and procedures which would be utilized in a long-term engagement with China.

Career progression in not solely about how an officer moves from assignment to
assignment but how intelligence officers develop professionally while at those jobs. “The CFETP is a comprehensive, core training document that identifies life cycle education and training requirements, training support resources, and minimum core task requirements for individual specialties. It is intended to provide a clear career path for individuals and it makes career field training identifiable, measurable, and budget defensible” (U.S. Air Force 1999).

The CFETP is a two-sided tool; it acts as a guide to continually give intelligence personnel situational awareness over their own careers and it also offers supervisors a clear method to track, manage, and plan career progression requirements for their subordinates.

Both officers in the scenarios were assigned and benefitted from the use and implementation of the 2002 CFETP for 14Ns. Since this version was published prior to the height of OEF/OIF, many of the concepts in place were in the context of preparing intelligence officers for conventional military adversaries. As discussed earlier, intelligence standards, TTPs, and methodologies developed during combat operations allowed officers from both scenarios to continue to professionally develop by complementing the 2002 CFETP with lessons from the field. The 2002 version was fairly broad compared to its counterpart document for enlisted intelligence operations specialists as it was meant to provide general guidelines for development into any number of career paths. It outlined four core competencies which intelligence officers were expected to “gain and maintain knowledge and skills” and included: 1) Targeting, 2) ISR Campaign Planning, 3) Unit/AOC Operations, and 4) Intelligence Preparation of the Battlespace/Predictive Battlespace Analysis (U.S. Air Force 2002, 6).”

More importantly for this particular research question, the 2002 CFETP outlines general guidelines for the expected conduct of intelligence officers in support of combat operations. Section 6.2 states:

These guidelines, while broad, allow individuals and their supervisors the ability to ensure that they are prepared to face the full-spectrum of warfare throughout their careers.

By the time the hypothetical China-Taiwan scenario occurs, the intelligence officers in both scenarios would most likely have progressed or completed their CFETP and would be considered experienced mid-level intelligence officers and leaders. Their focus therefore would be on their responsibility for the professional development of their subordinate officers, NCOs, and airmen. For this reason, they would need to become familiar with the latest version of the Intelligence CFETP published in 2013. The 2013 CFETP requires examination to assess any substantive changes that may have occurred as a result of the decade of combat operations that separated the two versions.

The 2013 Intelligence Officer CFETP is over 30 pages longer than the 2002 version in order to reflect the vastly expanded enterprise of Air Force intelligence and the growth of relevancy and primacy in airpower in the 11 years in between versions. The increase in length can be accounted for in the greater detail in the sections addressing career field progression and proficiency training and the changes made as of a direct result of successes achieved during OEF/OIF in the area of ISR operations specifically. However, it still retains a focus on more
general tenets of air intelligence which include analysis, collection, integration, and targeting (U.S. Air Force 2013, 9). The CFETP is clear in its assertion that the competencies themselves are not meant to represent specific career tracks and does not imply that each are to be mastered by the intelligence officer but instead prefers that one competency is mastered while proficiency is gained in the remaining ones (U.S. Air Force 2013, 9). This philosophy supports the development of an intelligence officer to truly be a “jack of all trades.” More importantly, the CFETP retains its relevancy for intelligence officers responsible for the development and progression of their subordinates in the event of preparing for a China-Taiwan conflict.

An important aspect to analyzing the changes in intelligence officer career progression, in relation to dealing with a Chinese threat in the future, is the development of cyber operations as a major tenet and function of Air Force intelligence. The A2AD environment presented in a China-Taiwan scenario would be a threat-level unprecedented in the history of airpower. Former Air Force Deputy Chief of Staff for ISR, Lt Gen Larry James was aware of this as he stated, “In an anti-access, area-denial environment, cyber may be a critical means to penetrate and persist from an ISR perspective” (James 2012, 6).

Never before has the Air Force been as network-centric as it is now, relying on its C4ISR architecture to prosecute all aspects of air operations. Sensors, weapon systems, and collection assets are intrinsically linked across the battlespace in order to share near-real time information in an effort to compress the F3EA kill-chain. Ensuring the survivability of secure data-links, communications nodes, and network hubs by identifying and protecting vulnerabilities has never been so vital. By the same token, TTPs of offensive cyber operations supported by intelligence personnel allow friendly forces to exploit and attack adversary network infrastructure to degrade and destroy their communications nodes, early warning radar
sensors, and air defense weapons. Targeting methodology has expanded yet again to include aspects of electronic warfare and net warfare (Brauner, et al. 2009, 2).

The 2013 CFETP addresses cyber as a cross-functional capability in which intelligence officers can become a subject-matter-expert. Cyberspace is treated as another domain in which intelligence professionals must tailor their tradecraft to properly support. While computer network exploitation operations designed to extract information on adversary networks seems like an intrinsic intelligence task, intelligence support to computer network defense and attack is just as integral, especially in regards to China. The 2013 CFETP explicitly states that, “Intelligence officers supporting cyberspace operations require unique technical proficiency, to include networking, operating systems, internet protocols, system architectures, and aspects of the electromagnetic spectrum.” (U.S. Air Force 2013, 17). Therefore, any operational experience gained during an intelligence officer’s career progression in cyber operations would be extremely beneficial, not only to themselves, but to the Airmen they lead. Because cyber operations has only relatively become ingrained in the intelligence career field in the past 8-9 years, the Scenario 1 intelligence officer most likely did not have the opportunity to work in a cyber or network warfare squadron in their first 2-3 assignments; but would still benefit from any exposure they had to electronic warfare TTPs. Both scenario’s officers still would have had a chance to be exposed to cyber in later assignments and prior to the China conflict. While the natural expansion of the Air Force’s role into cyberspace, particularly for intelligence, will reap untold benefits in a war with China, this paradigm shift was not a result of sustained combat operations in support of OEF/OIF.

Scenario 1 Analysis and Score

Rated as a POSITIVE effect (+1). The Air Force put a concerted emphasis on placing
brand new intelligence officers at a Wing-level OSS, flying units or the next operational echelon above those, the Air intelligence Squadron (later, AOC-ISRD) which operated at the Numbered Air Force level of Air Force organization. Follow-on assignments may have been less tactical in nature, but still tied intelligence officers into operational flying missions for the most part. Analysis and targeting jobs during this portion of an intelligence officer’s career focused on tactical and operational objectives and in-depth study of adversary military forces, rather than strategic requirements for national-level policymakers. This early work experience laid a solid foundation for understanding and breaking down a Chinese threat later on in one’s career. Early on there is an emphasis on learning tactical aspects of military intelligence such as the specifics of enemy tactics, capabilities, limitations, and weapons systems. More importantly, an intelligence officer learns how to disseminate and communicate this tactical intelligence directly to warfighters. The intelligence officer in this scenario will most likely be in a position to lead Airmen and their organizations in a China conflict and can therefore fallback on their own work experiences as a junior officer to set the tone and provide valuable leadership.

**Scenario 2 Analysis and Score**

**Rated as a POSITIVE effect (+1).** The emphasis remains the same for intelligence officer’s first, second, and third assignments in this scenario. In fact, there is more emphasis on ensuring that officer’s complete two to three unit-level assignments in a row rather than allow them to immediately move on to joint assignments. The only major difference with the earlier scenario is the increase in the number of unit-level intelligence assignments reflected in the growth of ISR-related squadrons, cyber and network warfare squadrons, and UAS squadrons that all required intelligence officer billets. These types of early assignments will still help
intelligence officers prepare for a near-peer threat in the future especially with the newfound experience gained in cyber squadrons for some. Assignments at certain ISR squadrons may be a limiting factor as there will not have been much practical experience gained in planning and executing ISR operations in a non-permissive environment. But having any kind of unit-level experience going into a conflict with China is certainly better than no experience at all.

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<td>E4. Early Career Progression</td>
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Table 6. Score for E4

E5. Previous Deployment Experiences

Findings

The preceding analysis of professional development and career progression lacked explicit discussion on the role of deployment experiences, however, they are widely understood by senior Air Force officers and force development teams as an integral aspect to the overall growth of an intelligence officer (Rozumski 2011, 52). The China-Taiwan scenario serving as the backdrop to this analysis begs for combat-experienced intelligence officers schooled in traditional intelligence TTPs employed against conventional military adversaries; but also values familiarity with the latest intelligence methodologies. A major conflict with China will require Air Force intelligence personnel with the knowledge, skills, and abilities to support air combat operations and conduct ISR in an extremely high-threat environment. It is important to determine if past deployments were in any way similar to what would be required of intelligence personnel during a China-Taiwan scenario. The analysis of divergent deployment experiences require a qualitative comparison of the threat environment presented and the intelligence tradecraft that was applied during ONW/OSW and OEF/OIF respectively.
While deployment opportunities for the most part in support of OAF had come to an end for the Scenario 1 intelligence officer, the tangible experiences from air combat operations in Kosovo were fresh in the minds of the pilots, aircrew, and intelligence personnel of the operational units to which they were eventually assigned. Experiences from OAF were used to formulate TTPs used during continuing ONW/OSW deployments. Not only did intelligence personnel during OAF have to prepare their aircrews for similar air and air defense threats faced while patrolling the no-fly zones in Iraq, such as MiG-29 fighters and SA-3 and SA-6 SAMs, but combat operations during OAF presented challenges in dealing with degraded ISR capability as well. ISR planners were faced with quantitative and qualitative shortfalls in ISR platforms, communications architecture, and trained personnel (Lamb 2002, 9-10). The after-effects led to less-than-optimal intelligence support to variety of missions including “force protection, threat warning, targeting, battle damage assessment, and situational awareness” (Lamb 2002, 9-10). Passing on the lessons of how to prosecute successful combat missions without optimal ISR support not only benefitted those deploying to ONW/OSW as they dealt with air defense threats, but also laid down a foundational understanding of what an A2AD threat environment may look like during a China-Taiwan scenario.

ONW/OSW deployments by no means represented a conflict on par with what Air Force pilots and aircrews would face over the Taiwan Straits, but they did allow intelligence officers to gain tangible experiences with traditional intelligence missions and threats that are hard to replicate in training exercises and simulations back at their home units. Over the course of 10 years, the Air Force accumulated almost 400,000 combat sorties in contested airspace over Iraq enforcing no-fly zones (Jumper & Roche 2004, 12). Aircrews flew aerial-refueling missions, provided airborne command-and-control and threat warning, executed airborne ISR routes and
orbits along the Iraqi border all while fighter aircraft patrolled the airspace and conducted coordinated strike missions on military targets threatening Coalition aircraft (Jumper & Roche 2004, 12). The Iraqi military responded on a daily basis with SAM engagements from strategic, radar-guided systems like the SA-2 and SA-3, as well as mobile-tactical SAMs like the SA-6. These air defense systems were often mitigated through the use of SEAD/DEAD operations that targeted adversary fire-control radars allowing friendly combat and ISR aircraft to fly with a reduced (but not completely eliminated) threat (Murray & Scales 2008, 402). Pilots also faced barrages from high-altitude, anti-aircraft artillery (AAA), unguided rockets, and other SAM systems with heavy modifications made to warheads and boosters meant to create more damage and increase operational ranges. Additionally, pilots contended with dangerous incursions into the no-fly zones by Iraqi Air Force pilots operating MiG-23, MiG-25, and MiG-29 fighter aircraft. Aircrew intelligence support was done under the primary context of threat avoidance or mitigation through proper mission planning, explicit pre-mission briefing of counter-tactics, accurate debriefing of enemy tactics observed, and timely reporting of intelligence that could affect future missions (U.S. Air Force 2009, 24). An intelligence officer’s ability to analyze threats to air missions was at a premium during ONW/OSW. However, according to current Deputy Chief of Staff of the Air Force for ISR, LtGen Otto, the last decade or so of focusing on “irregular warfare priorities in permissive environments has degraded competence for air component missions and denied environments” from the perspective of analytical capability and much needs to be done to (2014, 3).

Afghanistan in 2001 offered an incredibly different air and air defense environment for intelligence personnel to deal with. The 70 MiG-21 aircraft that the Taliban supposedly had in their inventory were decrepit and served nothing more than as targets for precision-guided
munitions. The Taliban had air defense weapons such as the formidable ZSU-23-4 tracked AAA vehicle, but an integrated system to tie them together was non-existent (Grant 2008, 383). After the first week of strike missions, inoperable SA-2 and SA-3 SAMs and remaining medium-high altitude AAA systems were destroyed, leaving small arms fire and low-altitude shoulder-fired SAMs and rocket-propelled grenades as the air defense threat over Afghanistan for the next decade. Experience with intelligence support to SEAD/DEAD operations, or planning ISR around those operations, would be useful for intelligence personnel to have in an A2AD conflict in the Taiwan Straits; but none of this experience was gained during OEF/OIF, outside of the first month or so of sorties.

The build up to the invasion of Iraq offered a brief challenge to intelligence personnel in terms of preparing their aircrews for destroying air and air-defense threats as the closing months of ONW/OSW proved critical to prepping the battlespace for OIF. The collective 12 year campaign of no-fly zone operations systematically degraded early-warning and fire-control radars as well as individual SAM launchers but the months leading to war saw more aggressive patrolling of the no-fly zone leading to over 500 attacks on coalition aircraft and 90 retaliatory attacks in 2002 alone (Grant 2008, 418). However, by the time OIF commenced, Saddam Hussein decided to literally bury his air force in the desert sands and the remaining ground-based air defenses were swept away leaving a permissive air space environment over Iraq for the remainder of the war (author’s comment: the term “permissive air space environment” is primarily used here to describe threats to the U.S. Air Force’s predominately fixed-wing assets, and not meant to diminish the very real threat faced by rotary wing aircraft).

Aside from the difference in threat environment, the types of airpower missions both scenario’s intelligence officers had to support were starkly different. Airpower during post-
major combat operations in OEF/OIF was characterized by close-air support, air mobility, and persistent ISR sorties for intelligence personnel to plan and support (Grant 2008, 434). Air intelligence personnel more and more found themselves supporting non-kinetic targeting operations such as “show of force” missions which were characteristic of the COIN fight. During these missions, dropping ordinance was often replaced by dropping flares while flying low and fast over a target that was meant to be influenced or intimidated (Grant 2008, 436). It is doubtful that skills and experience gained during deployments characterized by these airpower missions plus a minimal threat to aircrew would serve an intelligence officer particularly well during major combat operations against China.

From an ISR operations perspective, during ONW/OSW, when Iraqi aircraft approached the no-fly zone, strategic ISR aircraft were immediately shifted into retrograde orbits that placed their sensors farther away from their collection targets than what was optimal in order to avoid the air threat. As a result, ISR planners gained experience in frequently having to adjust their processes in order to accommodate for this degradation in capability. Learning this dynamic flexibility in collection management and reprioritizing requirements would serve them well in a non-permissive environment. With this experience, the intelligence officer in Scenario 1 would be able to ensure that that their personnel would be able to “apportion, allocate, and task ISR efficiently in full-spectrum operations, especially all-domain A2AD operations” (Kimminau 2012, 113-114). ISR operations in ONW/OSW simply did not operate with the flexibility, sustainability, and persistence that the battlespace offered during OEF/OIF and reflected more of what would be expected in a force-on-force conflict with China.

ONW/OSW also provided emphasis on another vital intelligence-related skillset, visual recognition training. The 1994 shoot-down of a U.S. Army Black Hawk helicopter by two Air
Force F-15’s patrolling the no-fly zone resulted in 26 deaths. While the cause of the accident was a confluence of many factors, some technical, some human error, it could have been prevented had either one of the F-15 pilots been able to correctly identify the helicopter as a Black Hawk and not an Iraqi Mi-24 Hind (Leveson, et al. 2002). This occurrence of fratricide brought an emphasis on proper visual recognition techniques of aircraft for pilots patrolling the no-fly zones years later. Intelligence personnel at flying squadrons provided their pilots with visual cues of several types of aircraft such as paint schemes, discernable markings, shapes, and key visual features at various angles and distances to increase their pilots’ situational awareness (U.S. Air Force 2013, 2). Visual recognition training is one of the more traditional aspects of unit-level intelligence, but if it is a lesson not reinforced in combat its relevance can sink and the program can easily be relegated as an after-thought for unit training programs. The electronic warfare environment in the Taiwan Straits during a conflict with China may degrade many avionics systems and the long-range, air-to-air missiles they guide. There is a possibility that many air engagements would take place in a visual arena in which a pilot must locate, visually identify, track, and engage an enemy fighter without use of radar and in close range. The Scenario 2 intelligence officer who may be assigned to a fighter squadron would lack deployment experience using these techniques as ALL aircraft flying in Iraq and Afghanistan during combat operations were friendly.

A tangible by-product of OEF/OIF is the combat experience Air Force intelligence personnel had with the vast expansion of the ISR mission set and infrastructure in theater. Much of these experiences however may not be applicable to future combat theaters, as discussed earlier. The Scenario 2 intelligence officer would not have exposure to other combat deployments where the threat environment was such that ISR assets were degraded and not able
to operate freely in the airspace over contested ground. Some ISR practices were crafted by innovative Air Force planners seeking ways to operate in the irregular warfare environment. The Air Force exploited the unique battlespace situation in Iraq and Afghanistan by forward-basing ISR exploitation cells closer to ground units which provided “dedicated unit-level processing, exploitation, and dissemination of information” extracted from the full-spectrum of available airborne collection assets (Deptula & Francisco 2010, 14). The China-Taiwan scenario is one in which enemy ground will most likely not be held in a manner that would allow or even require the forward deployment of certain assets. ISR professionals who became accustomed to operating under circumstances which sometimes allowed them to be co-located with their direct customers will still have to ensure that the intelligence they produce will meet commander’s intent and be useful to consumers.

OEF/OIF also saw the dramatic rise in intelligence provided by UASs, and other manned, tactical ISR aircraft. Naturally, additional funding for these types of systems were reflected in Defense Department budgets year after year (Best 2009, 13). However, in a China-Taiwan scenario, it is clear that the inventory of these assets that have been amassed in the past decade would struggle to find operational access in a high air-defense threat environment and where tactical battlespace is congested and unfeasible to operate slow-moving, tactical aircraft. From a requirements perspective, much of these tactical ISR aircraft naturally collected on tactical-level intelligence gaps which would be less relevant in a China-Taiwan scenario. “Two decades of flying over Iraq and Afghanistan have undoubtedly whittled away at the community’s ability to conduct sustained missions in the Pacific theater; the majority of Airmen who will fly these missions were raised in the tactical environment” (Morton 2012, 35). It is clear that intelligence officers who may have served as ISR planners or collection managers
cannot solely rely on previous combat experience from the last decade of operations. They may be prepared to plan and conduct ISR operations in permissive environments that allow a preponderance of airborne ISR collectors along with the processing, exploitation, and dissemination capacity to go with it, but a China-Taiwan scenario simply will not afford this flexibility (Kimminau 2012, 113-114).

It did not take long for other intelligence methodologies to shift during OEF/OIF. The nature of combat changed the way Air Force intelligence approached analysis and targeting in ways that may not be applicable in a conventional setting. Combat operations demanded near-real time intelligence and full motion video to enable time-sensitive targeting that required quick-turn fusion rather than true, deliberate all-source analysis (Shibli 2006). The Scenario 2 intelligence officer became experienced in analysis and targeting methods that revolved around incredibly specific targets such as studying patterns of life of high-value individuals or persistent surveillance of small groups of enemy fighters. Few targets were fixed, therefore deliberate mission planning and detailed pre-mission briefs were often unnecessary as pilots often did not even have coordinates for strikes until they were already in the air and were on-call for emerging targets (Grant 2008, 384).

This is in stark difference to a China scenario that would require locating and deliberately targeting amassed ground and naval forces, or ballistic missile units for pre-coordinated strike packages. More strategic and conventional targeting such as identifying centers of gravity were simply not appreciated in the latter years in Iraq and Afghanistan, where striking at a few key targets of significance failed to facilitate the quick collapse of the Taliban or Al-Qaida in Iraq (Freidman 2008, 363). The targeting environment in support of COIN/CT operations for intelligence officers was such that deployments to OEF/OIF were seen as an
acceptable gap-filler for deficiencies in experience, as the risk of failure was perceived as fairly low (Rozumski 2011, 52-53). Such a sentiment would be unfathomable in a scenario dealing with major combat operations with China where key positions at the unit-level or AOC would demand an experienced targeting officer.

**Scenario 1 Analysis and Score**

**Rated as a POSITIVE effect (+1).** There were many opportunities for intelligence officers to deploy to ONW/OSW several times early on in their careers. While enforcing a no-fly zone in Iraq did not present a near-peer threat such as China, deployments help create “muscle memory” that reinforced important habits for supporting aircrews flying into contested airspace and over denied territory. The Iraqi military as a whole may have been completely outmanned and outgunned, but it still presented a dangerous air and air-defense threat that required constant training in counter-tactics, as well as proper mission planning techniques in order to mitigate specific threats. Valuable, real-world experience in mission planning, conducting pre-mission briefs and debriefs, and writing detailed mission reports about enemy locations, tactics, and actions would provide an experience that was unparalleled to OEF/OIF in terms of threats from enemy air and air defense forces. ONW/OSW deployments would therefore more accurately resemble the type of deployment experience that would occur in a large-scale military conflict with China.

**Scenario 2 Analysis and Score**

**Rated as a NEGATIVE effect (-1).** Deployments to OEF/OIF presented an almost completely permissive environment for air operations after the initial months of both campaigns. There were still possible scenarios that may have required ground evasion in the event of a mishap and preparing for these scenarios relied on intelligence preparation. Combat
operations as a whole were ground-centric in terms of the greatest threats to military forces. There was a heavier emphasis on targeting, but not in the sense of the full capabilities that air power can provide as many airstrikes were close-support related or done on an ad-hoc or “target of opportunity” basis. Emphasis on compressing the kill-chain from finding to attacking came at the expense of gaining experience with deliberate campaign planning which would be needed against a more conventional threat. Additionally, targeting and mission planning did not necessarily require intelligence mission planning to mitigate air and air defense threats to aircrews and aircraft. While mission planning, pre-mission briefs and debriefs, and writing mission reports occurred, they did not involve the scope and scale of threat-centric factors that dominated the deployment experience of their ONW/OSW counterparts. Experience in ISR operations increased exponentially compared to ONW/OSW, but this benefit is tempered due to the fact that the non-permissive threat environment in a China scenario would nullify many of the TTPs that became in vogue for airborne ISR collection during OIF/OEF.

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<th>Evidentiary Factors</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
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</thead>
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<tr>
<td>E5. Previous Deployment Experiences</td>
<td>+1</td>
<td>-1</td>
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Table 7. Score for E5

**Complete Matrix Analysis**

With the analysis of the evidentiary factors complete, the matrix can now be viewed as whole with the cumulative scores for each scenario tabulated:

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<tr>
<th>Evidentiary Factors</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
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<td>E1. Air Force Basic Doctrine and Strategy</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E2. Air Force Intelligence Standards and Tradecraft</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>E3. Initial and Follow-on Intelligence Training</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>E4. Early Career Progression</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>E5. Previous Deployment Experiences</td>
<td>+1</td>
<td>-1</td>
</tr>
</tbody>
</table>

Cumulative Score – Scenario 1: +4; Scenario 2: 0
Before examining the total score for each scenario it is necessary to return to the earlier discussion regarding diagnosticity of evidentiary factors. As stated earlier, a factor would be considered to have lacked diagnostic value if it was scored as Neutral or (0). Only one factor was scored this value, “Air Force Doctrine and Strategy.” This research paper does not assert that doctrine and strategy have no impact at all on whether or not an intelligence officer can conduct their duties and responsibilities in the face of major conflict. What the analysis implies is that had this study focused on senior intelligence officers specifically, doctrine and strategy most likely would have had a much more meaningful impact, as this group is responsible for shaping higher-level organizations and influencing the thinking of many Airmen under their charge. Doctrine and strategy documents are meant to be long-term visions that are applicable to all manner of short-term crises. They are not designed to quickly react to current events or meant to direct immediate and drastic changes like other forms of guidance. Doctrine and strategy are primarily meant to set the tone for evolution and transformation of organizations over time; to capture major paradigm shifts or changes in grand thinking.

As the Air Force and airpower evolved from pre-9/11 all the way through post OEF/OIF, mid-level officers were most likely not influenced one way or the other as a result of shifts in doctrine or strategy. What the analysis shows is that other factors were much more influential. Only when doctrine and strategy eventually become distilled into a more pragmatic form by more senior officers will most mid-level intelligence officers in operational assignments feel compelled to think and act accordingly. With the diagnosticity (or lack thereof) of Air Force doctrine and strategy addressed and accounted for, each scenario can now be holistically analyzed and framed properly before a conclusion about the hypothesis is made.
Cumulative Scenario Analysis

Scenario 1

This officer has had three iterations of Air Force Basic Doctrine and Air Force strategies, visions, and posture statements to ingrain over the course of their career. This officer’s exposure to pre-9/11 doctrine and strategy introduced them to the Air Force’s traditional roles and missions of intelligence in regards to conventional military threats and subsequent changes to the doctrine reflected changes to geo-political realities. However, changes that addressed the prosecution of airpower in the last 13 years of combat operations are not as influential in tangible intelligence training, work experience, or operational deployments. In essence, doctrine addresses the strategic level of warfare and the officer at in this scenario would be ultimately concerned with the operational or theater-level of warfare.

Obviously initial intelligence training that existed prior to and just after 9/11 was not designed around preparing officers for the decade-plus of irregular warfare that would soon follow. Intelligence officers who were trained prior to the start of OEF/OIF still performed admirably while having to rely on pre-deployment training and lessons-learned in order to hone their skills for a COIN/CT environment. However, the foundation of being formally trained in the traditional roles and missions of USAF intelligence has prepared “pre-9/11” officers for the full spectrum of threats.

Like doctrine and strategy, this intelligence officer has had several iterations of intelligence standards and TTPs to adjust to throughout their career, many of which were affected and altered as a direct result of OEF/OIF. However, intelligence instructions and regulations have retained a focus and tone for the most part that is designed to meet a conventional military threat. Additionally, this intelligence officer has been able to put those
conventional TTPs to operational use during ONW/OSW deployments that required more traditional air intelligence support.

Obviously initial intelligence training that existed prior to and just after 9/11 was not designed around preparing officers for the decade-plus of irregular warfare that would soon follow. Intelligence officers who were trained prior to the start of OEF/OIF still performed admirably while having to rely on pre-deployment training in order to hone their skills for a COIN/CT environment. However, the foundation of being formally trained in the traditional roles and missions of Air Force intelligence has prepared “pre-9/11” officers for the full spectrum of threats.

The intelligence officer in this scenario was able to benefit from on-the-job training and experiences at the unit level during military operations against a conventional military as well as in an irregular warfare setting. Even when OEF/OIF began to take a long-term foothold, the career path for the intelligence officer in this scenario still reflected an emphasis on progressing through a series of operational, unit-level assignments through the first 7 or so years of their career. Even assignments to AOCs allowed for intelligence officers to hone their intelligence skills in an operational capacity in direct support of aircrews/operators.

The last 13 years of combat operations have allowed the hypothetical intelligence officer in this scenario to experience a much wider spectrum of deployments. While ONW/OSW presented a conventional military threat that relied on traditional Air Force intelligence roles and missions, deployments in support of OEF/OIF provided exposure to new methodologies in ISR operations, targeting, and analysis. This balance of differing experiences offers the intelligence officer greater breadth which allows them to choose from the most applicable practices to apply to future threats. The officer in this scenario will be in a position to pass
down valuable lessons and instill certain combat-tested methodologies to subordinate Airmen that have applicability to a China-Taiwan scenario.

**Scenario 2**

This officer has had two iterations of Air Force Basic Doctrine and several adjustments in strategy in direct response to sustained CT/COIN operations. While OEF/OIF may have impacted both Air Force Basic Doctrine and its overall strategy moving forward, these changes have had no substantial impact, relative to other factors, on this intelligence officer’s ability to prosecute more traditional Air Force intelligence roles. This officer, being even more junior than the officer in Scenario 1 was much more influenced by tactical-level intelligence methodologies and TTPs rather than basic doctrine and strategy. Even if they did experience dramatic shifts in doctrinal thinking, the impact on their ability to deal with a conventional threat are most likely negligible.

The last 13 years of combat operations have demonstrated a possible negative impact on the intelligence officer in this scenario in terms of the exposure to TTPs and methodologies formed as a direct result of repeated deployments in support of OEF/OIF. Not only does this officer have no operational experience with intelligence standards and tradecraft against a conventional military adversary but the intelligence methodologies specifically formulated for COIN/CT operations in an irregular warfare environment will have a detrimental impact on their ability to perform more traditional roles.

OEF/OIF forced changes to how the Air Force approached intelligence training but for the better. The number of advanced and follow-on intelligence courses made available to junior intelligence officers increased and the scope of courses expanded. One key derivative of prolonged OEF/OIF deployments was the amount of money available to intelligence programs
to expand and fund training initiatives, even if they were not specifically geared towards
telligence support to irregular warfare. At the same time, modifications to initial Air Force
intelligence training continued to prepare officers for conventional challenges.

The first 2-3 assignments in this intelligence officer’s career are just as meaningful as
ever in terms of laying a foundation for experiencing traditional air intelligence at the
operational level. The last 13 years of sustained combat operations have not resulted in any
substantive changes to the Air Force’s plan for an intelligence officer’s career progression in
their first 7-9 years. Regardless of sustained combat operations in a COIN/CT setting, the Air
Force has adapted their tactical operations to be a force-multiplier which allows their
intelligence officers to continue to gain valuable operational experience.

The nature of irregular warfare that epitomized OEF/OIF caused a necessary yet
effective morphing of traditional Air Force roles, which led to airpower having an important
impact on COIN/CT operations. This type of flexibility and innovation is a hallmark of Air
Force culture but may have implications on the intelligence profession in future conventional
conflicts. The experience gained from new intelligence methodologies crafted specifically to
support COIN/CT operations may not necessarily translate well to conventional conflicts. To
exacerbate this concern, the generation of intelligence officers represented in this scenario will
lack the balance and context of valuable experiences in more conventional settings epitomized
by unit-level or AOC deployments during ONW/OSW.

Revisiting the Hypothesis

To review a last time, the hypothesis of this research paper was: *Reactionary and
innovative changes made to doctrine, tradecraft, and training, which consequently impacted
career progression and deployment experiences in the last 13 years, will negatively impact Air*
Force intelligence officers’ capacity to face conventional, near-peer threats in the next few years. As predicted, the Scenario 1 intelligence officer yielded a higher cumulative score that positively reflects their ability to deal with a conventional adversary in a force-on-force conflict. The Scenario 2 intelligence officer had a relatively lower cumulative score but did not score as negatively as predicted in regards to the same threat scenario. According to the results of the matrix analysis therefore, this hypothesis was partially refuted. However, it is still plausible to conclude that the last 13 years of combat operations have had a detrimental impact on the traditional roles and missions of air intelligence professionals in terms of being prepared to face conventional, near-peer threats.

The analysis revealed that changes to Air Force doctrine and strategy most likely had very little to do with one’s theoretical ability to deal with a drastically different type of conflict than OEF/OIF, at least for junior to mid-level intelligence officers. Doctrine by definition is meant to be general nature as it sets the tone for more specific TTPs which are more pragmatic and conducive to policy implementation. Air Force intelligence standards are purposefully written generic enough to allow individual units to tailor them to their specific missions while still remaining applicable to the full spectrum of threats. However, more informal standards that are developed from lessons-learned during combat deployments may only be applicable to the current war and not future threats. In other words, intelligence tradecraft useful in a COIN/CT environment will simply not translate well to an A2AD environment with a near-peer adversary. Therefore, traditional roles and missions may have been detrimentally altered during the last 13 years in Iraq and Afghanistan through the broad implementation of certain TTPs.

Contrary to the hypothesis, intelligence training programs and early career progression philosophies were altered for the better over the past 13 years regardless of the impact of
OEFOIF on the career field. Retaining the foundational experiences of an intelligence officer is key in terms of ensuring their preparation for the full spectrum of possible threat scenarios they may face in their careers.

Not surprisingly, the most detrimental effect on Air Force intelligence roles and missions as a result of OEF/OIF were the experiences gained during continued deployments in support of irregular warfare operations that will most likely not yield many beneficial lessons for a conventional conflict. Training exercises periodically held at home units are meant to sustain, reinforce, and sharpen key intelligence skills but serve as a poor replacement for actual combat indoctrination of those skills. Repeated deployments supporting aircrew or conducting ISR operations with little to no consideration for threats to air operations serve little purpose in shaping intelligence officers for conventional, threat-centric conflicts as the analysis revealed.

To conclude, the last 13 years of have indeed negatively impacted an Air Force intelligence officer’s capacity to face conventional, near-peer threats in the next few years but not exactly in the same scope and scale of what was hypothesized. The results of the analysis are more nuanced than simply suggesting that the “more experienced” officer who has served the longest is better prepared. This analysis placed qualitative value on the kind of experience gained over the early years of one’s career and how it can impact their future.
CHAPTER FIVE

CONCLUSION

This research paper examined the tangible effects of OEF/OIF on the Air Force intelligence apparatus. Specifically, the research problem presented was, “How have the last 13 years of combat operations affected or altered the traditional roles and missions of U.S. Air Force intelligence?” This question is informed by a broad base of available scholarly and professional literature on the evolution of military intelligence during OEF/OIF and the future going forward. The gap that this paper aimed to fill and contribute to is “the state of military intelligence as a result of adaptations during OIF/OEF in the face of a future, near-peer threats in a conventional warfare setting.” To answer the research question, this paper employed a qualitative analysis of the problem by conducting a single case study with embedded sub-units.

The paper hypothesized that, “Reactionary and innovative changes made to doctrine, tradecraft, and training, which consequently impacted career progression and deployment experiences in the last 13 years, will negatively impact Air Force intelligence officers’ capacity to face conventional, near-peer threats in the next few years.” A simple matrix analysis was used to test this hypothesis by framing two theoretical intelligence officer career-arcs. The two career-arcs were meant to represent two distinctive “generations” (separated by 8-10 years) of post-Desert Storm Air Force intelligence; both of which were affected in one way or another by the sustained COIN/CT operations in Iraq and Afghanistan. The experiment was designed to determine which generation of intelligence officer would be better trained and equipped to deal with a major adversary that required a completely different application of airpower than what was experienced in the last 13 years.

One scenario depicted the relative career experiences of an intelligence officer who had
operational time in the Air Force prior to major combat operations commencing just after 9/11. The other scenario captured the relative career experiences of an intelligence officer whose operational time in the Air Force came at a time when the vast majority of combat operations took place in an unconventional, irregular warfare environment. Each scenario was assessed for their general capability to perform traditional Air Force intelligence roles and missions during China-Taiwan conflict based off of their formative experiences with: doctrine and strategy; intelligence standards and tradecraft; initial and follow-on intelligence training; early career progression; and previous deployment experiences.

Air Force intelligence has undoubtedly been altered and affected as a direct result of irregular warfare operations in Iraq and Afghanistan, but to what effect? The qualitative matrix analysis showed that doctrine and strategy had very little tangible impact on a junior to mid-level intelligence officer’s ability to perform in combat. Intelligence-related training as well as an officer’s early career progression through their first two or three assignments proved to be fairly significant and positive influences for both officers’ ability to carry out more traditional Air Force intelligence missions. Where the two eras diverge is in their respective deployment experiences and the tradecraft, methodologies, and TTPs developed and adopted as a result of those experiences.

Sustained operations in support of OEF/OIF had been going on for so long that an entire generation of intelligence officers have never operationally deployed in a capacity that reflected roles and mission required of air intelligence during a conventional, force-on-force conflict. Moreover, repeated deployments to Iraq and Afghanistan provided little time for development and reinforcement of traditional air intelligence skills. Time at home units in between deployments was typically spent in recovery and reconstitution and then preparation for the next
deployment. The implication of this analysis is that the most important factor in addressing how one will prepare for, and ultimately perform their combat mission is their previous experience on combat deployments. It is the challenge of Air Force intelligence leaders to distill the most relevant lessons from those experiences in order to keep the intelligence enterprise prepared to face the potential challenges of conventional, near-peer adversaries.

There are several avenues in which this particular study can be expanded further. This study can be modified by conducting a deeper dive on intelligence officers through the use of interviews and surveys to formulate a more detailed cross-section of the two generations of intelligence officers to be compared. This modification can also include input from senior officers in order to gain their perspective on the very officers that they would be promoting into future leadership positions. The same framework and methodology can also be used to explore the evolution of the current NCO corps of intelligence, specifically the operations intelligence specialist AFSC, 1N0. This core of personnel, traditionally considered the backbone of Air Force intelligence would have had similar experiences as their officer counterparts but with the additional emphasis of being technical experts in their field, advisors to their officers, and mentors to their airmen. By the same token, this study can be replicated on all other enlisted intelligence AFSCs to study the effects on the specific disciplines of GEOINT, SIGINT, ELINT, etc.

The findings and analysis presented in this research paper are geared towards intelligence leaders; those in charge of providing mentorship, inspiration, vision, and guidance for the branches, divisions, flights, and squadrons they lead. It is more likely that their subordinate officers, NCOs, and airmen will be called upon to execute the actual duties and responsibilities that Air Force pilots and aircrews will expect of them in a high-stress,
demanding combat environment. The generation of Airmen “raised” in combat operations and repeated deployments in support of OEF/OIF must not be lulled into complacency thinking that their vast, recent operational experiences will be enough to see them through the next conflict. The influence of the methodologies and tradecraft forged from repeated deployment experiences supporting COIN/CT operations is undoubtedly strong, but leaders must be cognizant of what is universally applicable and what is not. Officers in charge of organizing, training, and equipping intelligence personnel must find ways to find value in past combat experiences, but harness them in a way that achieves balance with more traditional methods.
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Zhang, Xiaoming and Sean McClung. 2010. The Art of Military Discovery: Chinese Air and Space Power Implications for the USAF. *Strategic Studies Quarterly* 4: 36-62.
Appendix 1: Matrix Analysis and Definitions

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</tr>
<tr>
<td>E5. Previous Deployment Experiences</td>
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E1. **Air Force Basic Doctrine and Strategy**: This factor encompasses the influence of Air Force Basic Doctrine and subsequent, thematic doctrine documents, as well as official Air Force Strategy outlooks, vision statements, and posture statements that guide general beliefs and principles for the employment of airpower and air intelligence. While broad in scale and scope, doctrine and strategy form a theoretical foundation which ultimately derives the employment of the air intelligence mission.

E.2 **Air Force Intelligence Standards and Tradecraft**: This is a distillation of doctrine and strategy for practical, operational, and directive use. This is captured in more specific regulations and methodologies in the form of AFIs and policy documents that drive operational standards and conduct of intelligence in peacetime and wartime. Informally, tradecraft is influenced by PME-related scholarship as well as other professional research that seek ways to transform, create, and develop intelligence methodologies.

E.3 **Initial and Follow-on Intelligence Training**: This factor includes the Intelligence Officer Course that newly-commissioned and cross-trained officers must complete in order to qualify for the Air Force Specialty Code for Intelligence Officer, 14N. It also encompasses follow-on professional development courses such as Intelligence Formal Training Units, advanced skill courses, and intelligence-related professional military education that are available to experienced intelligence officers. Much (but not all) of this training occurs within the first 8-9 years of a career.

E.4 **Early Career Progression**: This is the cumulative experience of the first 2-3 assignments of an officer’s career after graduating from the Intelligence Officer’s Course. It approximately encompasses the first 6-8 years of an intelligence officer’s career. Typically, the emphasis of this first grouping of assignments is to immerse an intelligence officer in tactical and operational, unit-level assignments that link them close to operators. The experience gained in these first few assignments is very influential on the officer’s strategic thinking later on in his career.

E.5 **Previous Deployment Experiences**: This factor encompasses operational experience with the use of intelligence methodologies in a real-world, combat environment. The net result of multiple deployments are valuable and influential lessons-learned from exposure to working in intelligence at the unit-level with an operational flying squadron or an air operations center in theater. While the quantity, length, frequency, and scope of deployments has evolved through several different combat operations, intelligence officers have always been assessed for their abilities through the lens of their experience with deployments.
Appendix 2: Research Sub-Questions

E1. Air Force Basic Doctrine and Strategy. How does current doctrine and strategy, or changes made to them over time, substantively effect an intelligence officer’s capacity to perform their job?

E.2 Air Force Intelligence Standards and Tradecraft. How do specific Air Force intelligence standards and tradecraft methodologies (and changes made to them over time) effect an intelligence officer’s ability to perform their job?

E.3 Initial and Follow-on Intelligence Training. How substantial of a role do initial intelligence training and follow-on courses have on preparing intelligence officers for the full spectrum of potential threats they will face in their careers?

E.4 Early Career Progression. What is the impact of an intelligence officer’s first 2-3 assignments in terms of laying a foundation of experience with the Air Force’s operational mission at the unit-level?

E.5 Previous Deployment Experiences. To what extent does actual deployment experience with traditional Air Force intelligence missions (ISR operations, targeting, analysis, mission planning, aircrew support, etc.) impact an intelligence officer’s capacity to effectively perform in future conflicts?
Appendix 3: Chinese Military Posture

Source: Department of Defense (2014)

4.3. AOC ISRD Responsibilities.
4.3.1. Develop focused situation awareness estimates.
4.3.2. When directed by production authority, produce and maintain the appropriate orders of battle for the supported area of responsibility (AOR) in formats utilized by current mission planning systems.
4.3.3. Develop and nominate targets, conduct weaponeering and combat assessment, as required.
4.3.4. Provide for substantive intelligence requirements of subordinate units.
4.3.5. Perform all-source collection management. Identify, validate and prioritize ISR taskings in conjunction with operational objectives, as required.
4.3.6. As applicable, execute a theater threat update code system.

5.1. Unit Intelligence. For purposes of this instruction, an intelligence unit is a level of organization under HHQs (MAJCOM) required to establish an intelligence function. Unit Intelligence encompasses Intelligence Wings, Intelligence Groups, Intelligence Squadrons, and Intelligence support to flying operations to include Intelligence Flights in an Operations Support Squadron/Flight (OSS/OSF), Special Tactics Squadrons (STSs), Air Support Operations Groups (ASOGs), Air Control Squadrons (ACS), Security Forces Groups (SFGs), Contingency Response Groups (CRGs) and flying squadron intelligence sections.
5.1.5. Contingency/Combat Employment. The SIO will:
5.1.5.1. Develop quality control procedures to ensure standardization and accuracy of situation/order of battle (OB) displays. Units will use Department of the MIL STD 2525B, Common Warfighting Symbology for developing OB symbology as applicable to the unit mission.
5.1.5.2. Ensure all organization intelligence functions are equipped with the required products to support briefings, mission planning, staff support and employment operations.
5.1.5.3. Ensure quality control of intelligence products.
5.1.5.4. Ensure intelligence personnel assigned understand their responsibilities concerning the Laws of Armed Combat (LOAC).
5.1.5.5. Validate unit production requirements and forward to appropriate validation authority.
5.1.5.6. Ensure intelligence personnel are capable of extracting data from the appropriate tasking document (ATO, ACO, ITO, etc.) or other tasking that initiates the mission planning process.
5.1.5.7. Ensure intelligence personnel assigned to mission planning are trained and available to participate in the mission planning process. These personnel will participate IAW local directives in developing mission profiles, supplying material and information to execute missions and satisfying tasking orders.
5.1.5.8. Ensure preplanned missions are updated to reflect the latest available information affecting the mission, including force protection updates and are planned to minimize threat and enhance survivability.

5.2. Flying Unit Responsibilities.
5.2.1. OSS/Wing Intelligence Responsibilities to Support Combat Employment:
5.2.1.1. Appropriately research, analyze and disseminate (RAD) all incoming information and intelligence. Analyze for accuracy and impact on the unit mission. Rapidly disseminate significant and critical intelligence to (as applicable) battlestaff, aircrews/operators, mission planning personnel, subordinate and lateral units, and other appropriate agencies/personnel.

5.2.1.2. Maintain current OB displays and establish procedures to ensure standardization of displays in flying squadrons/subordinate unit work areas.

5.2.1.3. Provide updated automated threat files to flying squadrons/subordinate functions in a format utilized by current mission planning systems.

5.2.1.4. Establish quality control procedures for reports. Ensure all appropriate missions/events are reported on and all required fields are complete. Forward all reports to appropriate HHQ agency. Monitor flying schedule and unit tasking to anticipate report requirements.

5.2.1.5. Ensure subordinate units have access to the most current intelligence available and immediately disseminate theater threat update codes (TUCs).

5.2.1.6. Provide intelligence to the squadron during all phases of operations.

5.2.1.7. Provide intelligence to base organizations, base agencies, tenant organizations and transient units as needed.

5.2.1.8. Manage all PRs. Exhaust internal, theater and national automated resources before forwarding questions/requirements to outside agencies.

5.2.1.9. Coordinate squadron intelligence requirements and issues through wing/group SIO, or next higher headquarters SIO if not subordinate to wing/group.

5.2.1.10. Submit inputs to the wing/group SIO for inclusion in the wing/group SII.

5.2.1.11. Ensure continuity books, checklists or other program documentation are developed and maintained for key functions.

5.2.1.12. Submit document requirements to wing/group SIO for consolidation and forwarding through validation chain.

5.2.1.13. Manage intelligence documents, reference materials and reading library in the operational squadron.

5.2.1.14. Monitor flying schedule and intelligence personnel schedules to ensure required intelligence support is available.

5.2.1.15. Transient intelligence personnel and/or aircrews should advise host of current and anticipated intelligence requirements and coordinate for assistance through appropriate channels.
### Appendix 5: Intelligence Officer Course Comparison

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<td>Course Orientation</td>
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<td>Block 2</td>
<td>Introduction to Intelligence</td>
<td>Intelligence Fundamentals</td>
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<td>Block 3</td>
<td>Geospatial Information and Services</td>
<td>Geospatial Information and Services</td>
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<td>Block 4</td>
<td>World Issues and Strategic Perspectives</td>
<td>Research Methods</td>
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<td>Block 5</td>
<td>Electromagnetic Theory</td>
<td>World Issues</td>
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<td>Block 6</td>
<td>Space Operations</td>
<td>Basic Analysis</td>
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<td>Block 7</td>
<td>Intelligence Sources and Methods</td>
<td>Electromagnetic Theory</td>
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<td>Block 8</td>
<td>Collection Management</td>
<td>Air Forces</td>
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<td>Block 9</td>
<td>Intelligence Data Handling Systems</td>
<td>Surface-to-Air Forces</td>
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<td>Block 10</td>
<td>Air Forces</td>
<td>Integrated Air Defense Systems</td>
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<td>Block 11</td>
<td>Integrated Air Defense Systems</td>
<td>Targeting</td>
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<td>Block 12</td>
<td>Naval Forces</td>
<td>Mission Planning</td>
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<td>Block 13</td>
<td>Ground Forces</td>
<td>Joint Forces</td>
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<td>Block 14</td>
<td>Unconventional Forces and Terrorism</td>
<td>Space &amp; Missiles</td>
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<tr>
<td>Block 15</td>
<td>Imagery and All Source Fusion</td>
<td>WMD, Terrorism, Force Protection</td>
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<td>Block 16</td>
<td>Information Operations</td>
<td>Predictive Analysis</td>
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<tr>
<td>Block 17</td>
<td>Operational Exercise</td>
<td>Mini-Exercise</td>
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<td>Block 18</td>
<td>Aerospace Operations Planning</td>
<td>SIGINT/Cyber</td>
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<td>Block 19</td>
<td>Force Employment (Targeting and Weaponeering)</td>
<td>HUMINT</td>
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<td>Block 20</td>
<td>Unit Operations</td>
<td>GEOINT/MASINT</td>
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<td>Block 21</td>
<td>Analytical Preparation for Exercise</td>
<td>ISR</td>
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<tr>
<td>Block 22</td>
<td>Operation LONE STAR</td>
<td>Exercise</td>
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<td>Block 23</td>
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<td>Applied Analysis</td>
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<td>Block 24</td>
<td>Operation LONE STAR</td>
<td>Operation LONE STAR</td>
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<tr>
<td>Block 25</td>
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</table>

**Source:** 17th Training Wing Mission Brief, Intelligence Officer Course
## Appendix 6: Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>14N</td>
<td>Intelligence Officer</td>
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<tr>
<td>A2AD</td>
<td>Anti-Access/Area-Denial</td>
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<tr>
<td>AAA</td>
<td>Anti-Aircraft Artillery</td>
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<tr>
<td>ACH</td>
<td>Analysis of Competing Hypotheses</td>
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<tr>
<td>AFI</td>
<td>Air Force Instruction</td>
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<tr>
<td>AFSC</td>
<td>Air Force Specialty Code</td>
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<tr>
<td>AFTTP</td>
<td>Air Force Tactics, Techniques, and Procedures</td>
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<tr>
<td>AOC</td>
<td>Air Operations Center</td>
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<tr>
<td>C4ISR</td>
<td>Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance</td>
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<tr>
<td>CFETP</td>
<td>Career Field Education and Training Plan</td>
</tr>
<tr>
<td>COIN</td>
<td>Counterinsurgency Operations</td>
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<tr>
<td>CT</td>
<td>Counter-Terrorism</td>
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<tr>
<td>CTC</td>
<td>Combat Targeting Course</td>
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<tr>
<td>CTSA</td>
<td>Critical Thinking and Structured Analysis Course</td>
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<tr>
<td>DCGS</td>
<td>Distributed Common Ground System</td>
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<tr>
<td>DEAD</td>
<td>Destruction of Enemy Air Defenses</td>
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<tr>
<td>DO</td>
<td>Director of Operations</td>
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<tr>
<td>DOD</td>
<td>Department of Defense</td>
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<tr>
<td>EBO</td>
<td>Effects-Based Operations</td>
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<tr>
<td>EW</td>
<td>Electronic Warfare</td>
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<tr>
<td>F3EA</td>
<td>Find, Fix, Finish, Exploit, Assess</td>
</tr>
<tr>
<td>IADS</td>
<td>Integrated Air Defense System</td>
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</table>
IC
IFTU
IFTU
IC  Intelligence Community
IFTU  Intelligence Formal Training Unit
IPT  Intelligence Personnel Training
ISR  Intelligence, Surveillance, and Reconnaissance
ISRD  Intelligence, Surveillance, Reconnaissance Division
JIPB  Joint Intelligence Preparation of the Battlespace
Lt Gen  Lieutenant General (Air Force)
MTO  Mission-Type Order
NTISR  Non-Traditional Intelligence, Surveillance, and Reconnaissance
OAF  Operation ALLIED FORCE
OEF  Operation ENDURING FREEDOM
OIF  Operation IRAQI FREEDOM
ONW  Operation NORTHERN WATCH
OLS  Operation LONE STAR
OSS  Operations Support Squadron
OSW  Operation SOUTHERN WATCH
PME  Professional Military Education
PLA  People’s Liberation Army
PLAAF  People’s Liberation Army Air Force
SAM  Surface-to-Air Missile
SEAD  Suppression of Enemy Air Defenses
SIO  Senior Intelligence Officer
T-IFTU  Targeting-Intelligence Formal Training Unit
TTP  Tactics, Techniques, and Procedures