Phoenix Police Department Intelligence Officers: Roles, Perceptions and Effectiveness

by

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ABSTRACT

Intelligence, consisting of critical products that facilitate law enforcement decision-making, is a crucial component and tool in the criminal justice system. However, the ways in which intelligence is gathered and used has gone largely unevaluated, particularly at the local level of law enforcement. This thesis begins to address the sparsity of literature by investigating the Intelligence Officer function in the Phoenix Police Department. More specifically, this study explores their roles; perceptions on information they are gathering, namely reliability and validity; and their effectiveness in terms of both intelligence and case successes. Different aspects of roles and perceptions are also examined in terms of their ability to predict these outcomes. Data reflect a 22-month sample of officer reports from the Phoenix Police Department Intelligence Officer Program. Descriptive analyses suggest that Intelligence Officers typically work specific cases with varied and different natures of crime. Generally, officers seem to be confident in the information they collect in terms of reliability and validity, and also appear to be relatively successful in achieving both broad intelligence successes and more tangible case successes. However, the relationships between role and perception variables and results vary in terms of both impact and significance for each type of success. Future research is required to better understand these relationships and to continue building a foundation of knowledge on Intelligence Officer effectiveness, so their impact can be optimized.

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INTRODUCTION

Following the September 11 terrorist attacks in 2001, intelligence, consisting of the "critical and substantive products that support law enforcement decision making," has become a significant focus for law enforcement entities across the United States (Ratcliffe, 2007, p. v). The consequent focus on intelligence gathering, analysis, and dissemination has since permeated all aspects of law enforcement and is visible at every level. This is perhaps most evident at the federal level, as demonstrated by significant spending and increases in intelligence-based personnel. For example, $78 billion was invested in intelligence programs in federal year 2012 (Erwin & Belasco, 2013). Such investment is about twice that spent in 2001 (Erwin & Belasco, 2013). This spending enabled a significant rise in the number of intelligence-based personnel. The FBI's training of 133 Intelligence Officers after introducing their Intelligence Officer program in 2005 is a direct consequence of this boost in funding (Mueller, 2011).

However, the focus on intelligence is far from being restricted to federal agencies. Following the September 11 attacks, the International Association of Chiefs of Police (IACP) and the introduction of the National Criminal Intelligence Sharing Plan (NCISP) have both spurred significant efforts toward intelligence-led practices at the local level, especially intelligence-led policing (Carter, 2009). Such efforts have increased the focus on hiring a variety of intelligence personnel including Intelligence Analysts and Intelligence Officers (Carter, 2009).

The increase of Intelligence Officers at the local level is one of the primary inspirations for this study as it represents a fundamental shift in how officers can be assigned. Responsible for utilizing intelligence processes to collect, collate, and act on

information, Intelligence Officers can have more responsibilities than a standard police officer. This is especially true when being an Intelligence Officer is an additional role. The increasing presence of Intelligence Officers in the policing realm has prompted a need to gain a better understanding of their work. Once a greater appreciation of their role is gained, an evaluation of effectiveness and methods of enhancing their function can then be explored. To date, there have been very few, if any, studies that have investigated the specifics of the work done by Intelligence Officers.

The purpose of this study is to begin addressing the gap in research by answering three key questions regarding Intelligence Officers. First, what is the role of an Intelligence Officer? More specifically, what are the types and natures of the activities they deal with, and how do they do so? Second, how do Intelligence Officers perceive potential intelligence? This topic addresses what Intelligence Officers think of the usefulness of the information they are gathering in terms of reliability and validity. Third, are Intelligence Officers effective in making a meaningful contribution to a law enforcement agency? This is assessed in terms of the Intelligence Officers both gathering useful information and closing cases. In addition, this study also explores how success is impacted by: crime categorization, the nature of the crime, method of gathering information and both perceived reliability and validity.

To address these questions, I utilize 22 months of data from the Phoenix Police Department Intelligence Officer program. This consists of Intelligence Officer Reports (IORs) submitted by Phoenix Intelligence Officers. To initiate the investigation into intelligence, prior research will first be addressed. This will be followed by the

methodology used for study, a presentation of the results and discussion of how such information may be used moving forward.

PRIOR RESEARCH

Intelligence Processes and the Intelligence Cycle

In acknowledging intelligence as defined by Ratcliffe (2007, p. v) as consisting of the "critical and substantive products that support law enforcement decision making," one can see that the concept is rather broad. A fundamental first step to better understanding this conceptualization and the application of intelligence is examining the processes by which intelligence personnel attack problems. This is perhaps best demonstrated by what is referred to as the intelligence cycle, a conceptual model consisting of four to six steps, depending on the organization (Larm, 2011). Regardless of the number of steps, these all contain the same basic requirements: planning and direction, collection, evaluation, collation, analysis, dissemination and reevaluation of information (Harris, 1976).

The process begins with a question or problem and intelligence personnel creating a detailed plan of how they are going to address it (Larm, 2011). In the collection phase that follows, personnel utilize a collection plan to gather all the data relevant to their issue (Coambs, 2011). All data is then collated and evaluated in terms of its potential usefulness.

Evaluation of data is guided by a variety of criteria including relevance, reliability, and validity (Peterson, 2011a). Once the data has been organized and assessed, it is then analyzed. "Analysis is the logical thought process applied to the data," which effectively gives it meaning (Harris, 1976, p.27). It can be used to reconstruct crimes or assess threats contributing to the defined problem (Peterson, 2011b). Once analysis has

been conducted, information pertinent to the given problem is disseminated on a right to know and need to know basis, in order to try and address the issue (Fowler, 2011). Information is then revaluated to ascertain what if any further attention the original problem requires.

History of Intelligence

With these core concepts and processes in mind, it is useful to develop an awareness of how the application of intelligence has developed in the United States. Intelligence began as a military tool utilized in the Revolutionary War and over time became employed by a number of federal agencies (Morehouse, 2011). Leading up to World War II, this function was rather fragmented and disjointed, but became more centralized thereafter with the creation of a number of agencies such as the Central Intelligence Agency (CIA) and Bureau of Intelligence and Research (INR) (Morehouse, 2011).

Only in the last 70 years has intelligence begun to be gathered and utilized by civilian law enforcement (Morehouse, 2011). Prior to 1950's, it was scarcely used. In the decade that followed, law enforcement agencies began to stress a need for intelligence units to deal with increases in organized crime (Morehouse, 2011). This led to the creation of the Association of Law Enforcement Intelligence Units (LEIU) in 1956, which encompassed 26 local and state law enforcement agencies (Morehouse, 2011).

Utilization of intelligence by local law enforcement continued to grow and became far more widespread in the 1970's. At this point in intelligence history, analytical training became available throughout the country (Morehouse, 2011). The US Department of Justice called for all agencies to "establish and maintain the capability to

gather and evaluate information" as well as disseminate it in an attempt to address "organized crime and public disorder" (IACP, 2005, p. 5). Thus, the 1970's are recognized by many as when intelligence started to become truly incorporated into law enforcement practices (Johnson, 2010).

Since then, attempts have been made to integrate intelligence into law enforcement, at least to some degree. The most significant change in implementation of intelligence came in response to terrorism within US boundaries in the aftermath of the attacks on September 11, 2001. Following this event, the focus on intelligence, as well as improving communication and coordination between agencies, escalated significantly. This is demonstrated by the development of the earlier mentioned NCISP. Also of great importance was the creation of the Department of Homeland Security in 2002 and the restructuring of the Federal Bureau of Investigation (McGarrell, Freilich & Chermak, 2007).

While the overall impact of these changes has largely lacked evaluation, there are some studies, such as research by Schaible and Sheffield (2012), which have demonstrated benefits. The authors utilized survey data from 61 of the 73 state law enforcement agencies in 2004. Their findings indicated that there has been greater interaction between agencies as well as positive changes in the "organizational functions of intelligence, grants and planning" (Schaible & Sheffield, 2012, p. 761).

One of the key developments that has been a catalyst for sharing has been the introduction of fusion centers. These hubs, which initially began forming in 2003, are centered around proactive sharing of raw information and data between all levels of law enforcement and related agencies, whether they be federal, state or local (Burch, 2008).

According to the Department of Homeland Security (2016), there are currently 78 fusion centers utilizing their relationships and resources to address intelligence gaps and protect the nation from a wide variety of threats.

Traditionally, fusion centers have been focused on counterterrorism efforts and paid little attention to other issues. This perspective, visible in the earliest evaluation that began in 2011, has been changing (Department of Homeland Security, 2012). The most recent evaluation suggests that 76.6% of centers now consider all hazards and 96.1% include all-crimes in their primary mission (Department of Homeland Security, 2016). Still, many have yet to become involved with day-to-day policing. More generally, there is a notable intelligence gap at the local level. This has started to receive more attention after the creation of the Department of Homeland Security, which in turn, has largely revitalized the focus on the intelligence-led policing model (Ratcliffe, 2016).

Intelligence-led Policing

Originating in the UK during the late 1980's, intelligence-led policing became a model that expanded globally to countries such as the United States, New Zealand, Australia and Canada (Ratcliffe, 2008). It began as a focused attempt to combat burglary and motor vehicle theft by preemptively using intelligence (McGarrell et al., 2007). At this point it was merely viewed as a tool for targeting serious repeat offenders (Ratcliffe, 2016).

However, intelligence-led policing is an evolving concept with quite dramatic shifts (Ratcliffe, 2016, p.49). It is now a model that focuses on the utilization of intelligence and analysis to achieve "crime and harm reduction, disruption and prevention through strategic and tactical management, deployment and enforcement" (Ratcliffe,

2016, p.5). Much like fusion centers, it has also evolved to have an "all-crimes, all-hazards, all-harms business approach" (Ratcliffe, 2016, p.67). As a result, it now entails the use of intelligence to make decisions and appropriately allocate resources to address both crime and terror threats (Schaible & Sheffield, 2012).

While this broad understanding of intelligence-led policing is a useful starting point, many have argued that the evidence base for its practice has yet to be fully established (Carter, 2013). More specifically, it has been suggested that there is "somewhat of a paucity of conceptual and empirical research," especially since the transformation of intelligence-led policing spurred by the 9/11 attacks (Carter, 2013, p. 1). Of particular note is the deficit of studies at both the state and local levels of law enforcement (Carter, 2013). Carter (2013, p. 13) highlights that these limitations need to be addressed specifically with a "multi-disciplinary theoretical framework" in order to gain an understanding of the effectiveness of intelligence processes within law enforcement agencies in the US. Without doing so, large deficits will remain in the intelligence literature.

Intelligence Integration at the Local Level

Despite a general scarcity of focused intelligence studies, some relevant ones on intelligence-led policing do exist. For example, Groff et al. (2015) conducted an evaluation which examined foot patrol, problem-oriented policing and offender-focused policing within hotspots. The concept of offender-focused policing is particularly relevant to intelligence-led policing and its framework (Ratcliffe, 2008). This is because it utilizes both crime analysis and criminal intelligence to target repeat offenders

(Ratcliffe, 2007). Offender-focused policing also utilizes both deterrence and incapacitation strategies to combat crime (Groff et al., 2015).

The Groff et al. (2015) study was conducted with the Philadelphia Police Department and utilized 27 hot spots for each type of intervention. Of the hotspots, 7 were used as control areas for each approach. All interventions lasted 12-24 weeks, depending on the individual hot spot. Interestingly, offender-focused policing was the only strategy to have a statistically significant impact on crime. It was shown to reduce all violent crimes by 42% and violent felonies by 50%, when compared to the control areas. The authors recognized that this success was partially due to the unique aspects of the offender-focused patrol. Groff et al. (2015) highlighted factors such as having a dedicated team working on a clear mission and assistance from an Intelligence Analyst. Overall, this crime reduction effect by an intelligence-led strategy was an important addition to the intelligence-led policing literature.

Groff et al. (2015) also identified numerous other advantages of offender-focused patrol. One such example was the diffusion of crime reduction benefits. This meant that crime not only decreased in the targeted hot spots but also in the surrounding areas. It was also noted that offender-focused patrol was "less intrusive for law abiding citizens" as law enforcement was not focused on casting as wide a net of social control (Groff et al., 2015, p. 42). This in turn has the potential to increase the legitimacy of various law enforcement agencies, as they are effective while reducing potential negative intrusions on innocent citizens. The overall effect may be an increase in citizen cooperation and compliance with law enforcement.

McGarrell et al. (2007) took a different approach and focused on how intelligence-led policing could build on ideas present in community and problem-oriented policing models to prevent terrorism. They suggest that both domestic and international terrorism can be reduced if intelligence-led policing and practices are appropriately applied to the given situation. This approach is reiterated in a study by Smith, Damphousse and Roberts (2006), which suggests that terrorist attacks can be prevented by using suitable types of data and intelligence in a punctual manner.

It is important to note, however, that McGarrell et al. (2007) encourage an all crimes approach when utilizing intelligence-led policing. Even if only focusing on reducing terror attacks, findings suggest terrorists tend to commit many other crimes. For example, Freilich, Chermak, and Gamarra (2006) identified over 15 other criminal acts that domestic terrorists routinely partake in. By addressing such crimes, law enforcement will be better able to monitor and/or apprehend potential terrorists.

While addressing terrorism is a critical component of intelligence, it is only one of the many potential benefits that may be reaped by utilizing intelligence-led policing. McGarrell et al. (2007, p. 154) recognized this and conclude their study by stressing how an intelligence framework could help facilitate best practice which could ultimately improve the "effectiveness and efficiency of law enforcement and the safety of communities and nations."

A Bureau of Justice Assistance (BJA) (2012) report further supports this notion with a focus on how a number of agencies have used innovative initiatives to reduce violent crime through the use of intelligence-led policing. This report looked at two sheriffs' departments and eight police departments across eight states: Arizona,

California, Florida, Georgia, Oregon, Texas, Virginia and Wisconsin (BJA, 2012). The report gave a brief assessment of each example, suggesting that all of the methods utilized by the selected organizations were at least somewhat effective. However, the extent of successful application in any of the case studies is difficult to assess due to the lack of any rigorous evaluation of effectiveness.

The BJA (2012) cited these examples to demonstrate how intelligence-led policing can be used in a myriad of ways. One example in Phoenix was the utilization of multi-agency collaboration and intelligence resources, specifically the GangNet database, to address increasing violence caused by a resurgence in gang activity (BJA, 2012). Using such examples the BJA (2012) asserts that such strategies can be used to address both general and unique problems in effectively every type of community.

Intelligence Efforts Abroad

The importance of intelligence has also been demonstrated in a number of studies conducted abroad. While perhaps less directly relevant to issues in the United States, it is still useful to consider these efforts. One such example is work by Sanders, Weston and Schott (2015), which assessed the integration of intelligence-led policing in Canada. This research was conducted using 86 in-depth interviews with crime analysts, police officers and others working with information technology from six different police services. These interviews were then further supplemented by participant observation.

Similar to findings by Schaible and Sheffield (2012) in the US, Sanders et al. (2015) found that Canada has been rapidly adopting intelligence-led measures for law enforcement. Sanders et al. (2015, p. 723) describe the ongoing development of and movement towards intelligence-led policing and how this has “legitimized and reinforced

the use of intelligence technologies." However, while great technological progress has been made, it is also noted that there still needs to be a greater appreciation of intelligence. In particular, there must be a better understanding of "contemporary social control strategies" so intelligence technologies can be better utilized (Innes, Fielding & Cope, 2005, p. 42). Sanders et al. (2015) also recognize the importance of police culture and how it impacts both intelligence processes and overall strategies such as intelligence-led policing.

Another relevant, yet more narrowly focused study conducted abroad was that done by Waters (2006) in England and Wales. Waters (2006) examined the role of intelligence-led policing within the context of curbing juvenile crime with intensive supervision and surveillance programs (ISSP). In particular, Waters (2006) looked at the flow of intelligence between the police and those working on ISSP teams. The police were responsible for monitoring and researching juvenile offenders and sharing the intelligence gathered on them. One element of these efforts was the use of Intelligence Officers, who acted as liaisons for those directly involved in the ISSP. In this capacity, Intelligence Officers were responsible for monitoring and updating the ISSP team on activities of juveniles of interest the latter had identified. Such activities were further supplemented by the Divisional Intelligence Unit. The efforts in this study were measured by surveys of both officers and ISSP personnel.

There were a number of notable conclusions. First and foremost was the reaffirmed belief that "police intelligence and [intelligence-led policing] will form the cornerstone of intervention" (Waters, 2006, p. 254). Despite some inconsistency across the level of intensity of the ISSP schemes, an intelligence-led intervention was

consistently found to be useful in combatting crimes committed by young offenders. Waters (2006, p. 254) concluded that "without close cooperation and intelligence from police … serious young offenders will remain an intractable problem." From this we see how important intelligence-led strategies can be for targeting specific crimes at the local level. Clearly, it is not only the all crimes approach at the national level that can be successful.

Limitations of Prior Research

Overall, significant efforts both in the United States and abroad have been expended in the gathering, dissemination and use of intelligence. Despite these efforts, studies thus far have failed to address the nature of intelligence in law enforcement, especially at the local level. While the few studies that do exist typically reflect potentially positive outcomes for using intelligence, the evaluation literature remains scarce. In order to truly progress with intelligence-led strategies within the law enforcement environment, a greater understanding of intelligence is needed at the most foundational level. This includes, but is not limited to, an understanding of the roles of intelligence personnel, the quality of the information they gather, their effectiveness and elements impacting their success. An understanding of such concepts should facilitate better intelligence-led practices that will enhance the effectiveness in law enforcement agencies, large and small.

METHODOLOGY

Program Background

In order to begin building the foundation of knowledge required to improve intelligence practices in law enforcement, this study analyses the aforementioned IORs

submitted via Phoenix Police Department's Intelligence Officer Program. Initiated as a result of cooperation between Arizona State University and the Phoenix Police Department, the program is designed to integrate intelligence into the patrol function and to ultimately make Phoenix an intelligence-led police department. Starting with only six officers in a pilot program in October 2014, the program expanded to 159 trained Intelligence Officers by the end of 2016. This includes eight permanent Intelligence Officers assigned to the Phoenix Intelligence Center, patrol officers from three of Phoenix Police Department's seven precincts and a number of individuals from specialty details.[1] The plan is for Intelligence Officers to be in all precincts by the end of 2017.

The approach for facilitating intelligence gathering into the patrol function is relatively straightforward. It begins with Sergeants selecting patrol officers who then attend a weeklong Intelligence Officer School. This school covers a variety of topics including relevant legal issues, gangs, cartels, social media investigations, use of law enforcement databases that regular patrol officers do not have access to, human intelligence and other research resources. In addition to the school, Intelligence Officer training also includes ride-alongs with the permanent Intelligence Officers and time with Intelligence Analysts to better understand the expectations of their role.

Intelligence Officers are utilized in a myriad of ways as was demonstrated by the actions of the permanent Intelligence Officers in 2016. Throughout the year, they assisted in 1,283 patrol requests, made 248 investigative assists, identified 865 suspects and made or assisted in 391 arrests. However, while officer involvement in all of these aspects is

[1] Phoenix Police Department completed a rebid process in February 2017 in which many patrol officers were moved to different precincts. Many other special unit officers, including four of the permanent Intelligence Officers, were also sent back to patrol.

important and relevant, this study focuses on the IORs submitted into the Intelligence Officer Reporting System.

Data

The purpose of the Intelligence Officer Reporting System is to create an interactive web of intelligence to enhance the effectiveness of the Phoenix Police Department (Telep & Ready, 2015). In practice, this translates to focusing on the systematic compilation and sharing of data. Ultimately, the aim is to assist the agency in both identifying and addressing crime utilizing an intelligence-led policing model. The finalized model should occur at the organizational level, allowing organizational resources to be invested in the intelligence function. However, the process starts at the patrol level with Intelligence Officers collecting and sharing pertinent information that can be used to create strategies to tackle large crime issues.

Therefore, the reporting system is not designed for officers to record every case they have completed, but rather potential or ongoing cases that they deem as useful for either intelligence processing or storage. IORs benefitting from further processing could be those entailing individual cases which require additional assistance and intelligence analysis to identify suspects. IORs useful for storing would typically consist of those that include information that pertains to ongoing issues. One such example could be IORs containing information on a problematic organized motorcycle gang, which could be developed into intelligence reports for future use. It is worth noting that despite being provided some basic guidelines, officers have significant discretion regarding what IORs they submit.

While IORs can include a wide variety of different cases, the method with which they are processed is relatively standardized. It begins with an Intelligence Officer submitting all of the information regarding a recently initiated or potential case. After submission through an internal database system, each report is posted online under the Intelligence Officer's corresponding patrol precinct, on the dedicated Intelligence Officers' webpage. Each Intelligence Officer has open access to these reports. This allows officers to assist their fellow officers by adding to the information or helping progress cases by identifying or locating people of interest.

The main entity responsible for processing these reports is the Phoenix Intelligence Center based at the Arizona Counter Terrorism Information Center (ACTIC), the primary fusion center for the state. Here, Intelligence Analysts are responsible for reviewing and facilitating progress on every IORs submitted. If nothing further can be done with the IORs and the information is not required for an intelligence report[2], it is given a disposition of having "No Further Information Available." Every IORs, whether it progresses or not, is given a disposition and closed by an Intelligence Analyst. Each report is stored up to a year, after which time it is automatically deleted due to protocols on the sensitive information contained therein.

For the purpose of this study, the Phoenix Police Department Information Technology Bureau set up Excel spreadsheets for each precinct that linked to the internet databases where the reports were stored. This resource holds all of the information from which the sample data was extracted. Following extraction of the data, I manually

[2] Intelligence reports are distinct from IORs and have very specific standards and criteria of what they may contain.

collated, cleaned and saved it. This process was done in accordance with the Arizona State University Internal Review Board agreement in which all personally identifiable information was removed.

All IORs submitted between March 2015 and December 2016 were used for this study. The IORs collected during this 22-month period consist of 911 reports submitted by 115 different officers. It must be noted, however, that various levels of information were missing from a number of these reports so the full sample size was not utilized for all of the analyses. While each of the IORs contain a plethora of information that could be analyzed, this study focuses on the aforementioned areas of Intelligence Officer roles, effectiveness and perceptions. As a largely exploratory study, a large number of variables are examined for each component.

Independent variables consist of three variables used to describe Intelligence Officer roles and two to explore some of their perceptions on the information that they gather. Each of these will initially be examined in their own right to gain a greater appreciation of these concepts. They will then be used to predict success, the dependent variable, in order to make informed assertions regarding Intelligence Officer effectiveness. A detailed breakdown of these variables is as follows.

Independent Variables

Roles. The three variables utilized to describe Intelligence Officer roles are case categorization, the nature of crime, and information gathering methods. The first variable, case categorization, is utilized to demonstrate what types of cases the officers are dealing with. The options for Intelligence Officers to select for this variable largely reflect the four key areas focused on in intelligence-led policing: “crime hot spots, repeat victims,

prolific offenders and criminal groups" (Ratcliffe, 2016, p.5). In addition, a category for specific cases is also provided in the IORs.

For IORs categorization, hot spots include those cases that occur in small defined areas with a high concentration of crime. The repeat victim category is represented in the IORs as "recurring targets" which allows the specification of both human and property targets. Prolific offenders and criminal groups are combined into a category labeled "criminal groups/repeat offenders". The final potential categorization "specific case" is a catch-all category for those that did not fit in any of the aforementioned groupings. By analyzing the overall distribution of the sample's categorizations, one can see the extent to which Phoenix Intelligence Officers play a role in the various key areas associated with intelligence-led policing.

To supplement the broad assessment given by the IORs categorization, the subcategories of hots spots, recurring targets, criminal groups/repeat offenders and specific cases will also be explored. The first sub category, hot spots, looks at the different concentrated crime areas that Intelligence Officers may encounter in their work. These consist of drug activity, violent crime, property crime, and other hot spots. The recurring target sub-category looks at cases which have repeat victims, repeat targets such as a particular structure, or a combination of both. Criminal groups/repeat offenders consist of a wide variety of individual or group components. These include individual repeat offenders, gangs, criminal organizations, cartels or other. The final sub-category, specific crime, is similar to the hot spots categories, including drug activity, violent crime, property crime or other. Accounting for these subcategories serves to potentially enhance the understanding of cases worked by Intelligence Officers.

The second variable pertaining to roles of Intelligence Officers is the nature of the crimes on which they report. For this category, Intelligence Officers were able to select from seven choices when preparing their reports. These included: terrorist threat, drug market activity, person-on-person violence, property crime, public disorder, suspicious activity, or "other." For this variable, the goal is to explore the distribution of these categories to demonstrate the frequency with which Intelligence Officers work these different types of cases. This will provide the greatest overview as it includes all cases regardless of their initial classification.

In addition to examining what Intelligence Officers do, it is fundamental to understand how they do it. One of the more critical aspects is how they are gaining the information for their reports. The method of information gathering is the third and final variable related to Intelligence Officer roles. It can be accomplished in numerous ways including witnessing a crime being committed, having a report made by a citizen, or being requested by a sergeant to attend a scene.

For the purpose of the IORs, Intelligence Officers are provided with seven options with which to designate how they retrieved or received relevant information. The choices are: confidential informants, personal observation, consensual contact/investigative detention (an open conversation in which a person is able to leave at any time/a temporary seizure of a person of interest), surveillance, another police officer, another criminal justice agency, and interview/conversation with citizen. By calculating the frequency with which various methods are used, there is the potential to better understand how Intelligence Officers are gathering information in the field.

Perceptions of Intelligence Officers. The second area of interest, focusing on the perceptions of Intelligence Officers, covers two key variables regarding IORs cases, namely their perceived reliability and validity. These components are essential to the intelligence cycle as they are considered two of the axioms of the data evaluation process (Peterson, 2011a, p. 83-84). Both utilize scales commonly used by organizations such as the Association of Law Enforcement Intelligence Units (LEIU) and the California Department of Justice.

The first component, reliability, consists of an Intelligence Officer's rating of sources that provided information for their IORs. This is based on scale which can assess sources as reliable, usually reliable, unreliable, or unknown. This variable focuses on whether or not a source can be trusted. The second variable, validity, rates the information itself with options consisting of confirmed, probable, doubtful, or cannot be judged. Together, these variables demonstrate Intelligence Officer confidence regarding the information they are gathering, which could arguably indirectly measure the extent to which they see it as valuable and/or useful for the intelligence process.

Dependent Variables

Effectiveness of Intelligence Officers. After using the independent variables to establish what Intelligence Officers do and how they gather information, it is important to begin evaluating their effectiveness. Arguably, the best way to ascertain this is to examine their outcomes over the study period. This is because their actual impact in terms of crime prevention is too difficult to measure due to the widespread nature of their activities. One suitable way effectiveness can be measured is by examining the outcomes of the IORs. As mentioned earlier, all IORs are eventually closed and given a disposition.

From the dispositioning process, one can get a better idea of the number and proportion of IORs that have successful resolutions. To measure specific outcomes, the different dispositions can be broken down and examined. These include success/arrested, success/non-arrest, being forwarded to ACTIC Tips and Leads (reported potential threats to Homeland Security), being forwarded to another unit, or having no further information.

After describing the proportion of IORs that fall into each of these cases, they can then be grouped into categories of being successful or unsuccessful. Two variations of the success variable will be presented. The first variation, referred to as intelligence success, is broad and considers all cases in which information was further utilized to be successful. This includes every category except cases in which no further information was available. These were considered unsuccessful as they became stagnant and could not progress any further.

Conversely, while the second variant, referred to as case success, uses the same measure of lack of success, it only focuses on cases that had a distinctly successful outcome. For this variable, success only constitutes the categories of success/arrested or success/non-arrest. While an arrest is a clear measure of success, non-arrests could also be considered an achievement in a number of circumstances. An example of this would include locating a missing individual. For this variable, the remaining dispositions consisting of IORs that had their information forwarded to another department or ACTIC Tips and Leads are not deemed successful or unsuccessful as it is unknown whether the information provided contributed to a successful case. These cases were dropped for purposes of the case success analyses.

Analytical Approach

The overall approach for this study consists of two steps. The first is descriptively assessing all of the aforementioned independent and dependent variables in terms of the distribution of their responses. This will include using frequency tables to create a basic understanding of what Intelligence Officers do, their methodology, how confident they are in the caliber of the information in their cases, and how often they are successful in resolving them.

The second step focuses on identifying the measures that assist in predicting the likelihood of success. To facilitate this component of the research, the relationship between the aforementioned independent variables of IORs categorization, nature of crime being dealt with, methods of gathering information, and perceptions of both reliability and validity, and the dependent variables of intelligence and case success are examined using cross tabs. Binary logistic regression models are then used to produce odds ratios to further explore each of these relationships.

For the first set of logit models looking at IORs categorization, the earlier mentioned categories of hot spots, recurring targets, repeat offenders/criminal groups and specific crimes, in addition to cases with multiple categorizations, will be assessed to see the extent to which they predict intelligence and case success. For these models, the specific cases category will be omitted from the regression and utilized as the comparison group to see if either multiple categories or more precise individual ones better predict success.

The second set of logit models looking at nature of crime will use six of the seven potential categories that Intelligence Officers can select from to predict both forms of

success. The categories consist of person-on-person violence, suspicious activity, drug market activity, terrorist threat, property crime and public disorder. The other category in which officers could manually enter the nature of crime was excluded to avoid any potential biases from interpretation, especially as multiple natures of crime could be reported. For these models, cases with multiple reported natures of crime are used as the reference group. This should allow for a comparison of different natures of crime to see how they individually predict success compared to using multiple methods.

The third set of logit models looking at the impact of information gathering activities on both types of success utilizes three broad categories to ensure that each had a sufficient sample size for analysis. The three categories are: observation, consisting of personal observation and surveillance; official sources, made up of other police officers and criminal justice agencies; and civilian sources including confidential informants, consensual contacts/investigative detentions and interviews/conversations with citizen. Much like the models for nature of crime, the omitted category for these regressions is the cases which consist of multiple information gathering methodologies. This will allow a comparison to see if any of the individual methodologies predict success in a way that is significantly different from cases with at least one approach.

The final models for comparing reliability and validity to intelligence and case success are both slightly different. Due to the distribution of cases, these models will use cases labeled as either fully reliable or fully valid. For these, only cases that were labeled as reliable or having confirmed validity were coded as 1. This could be problematic for reliability as this groups cases that are usually reliable with those that were unreliable or unknown. Similarly, for validity, cases that were coded as probably valid were grouped

with doubtful or unknown. However, due to the skewed distribution of cases, such an approach may provide insight on how complete confidence in reliability or validity impacts success relative to those which have any doubt.

A set of final models will then be presented that utilize all of the earlier mentioned variables from this section to predict each type of success. These combined models will seek to identify if any potentially significant findings from the individual models remain significant or if any others arise in a complete model.

RESULTS

To examine the work of Intelligence Officers, this study begins with descriptive results for each of the three main components: roles, perceptions and effectiveness. Results are displayed with tables demonstrating the valid percentage of cases for each response.

Roles of Intelligence Officers

Table 1, displaying the categorization of the IORs, demonstrates a few groups represent most of the 800 IORs characterized. The majority are classified as specific cases (65.4%). Combined with the next two largest categories, criminal group/repeat offender (12.9%) and crime hot spots (11.8%), these three categories account for roughly 90% of the IORs. The remaining categories, multiple categorizations (7.3%) and recurring targets (2.8%) making up the remaining 10%. This distribution would suggest that Intelligence Officers spend the majority of their time on specific cases rather than on any particular issue.

What is interesting, however, is that the distribution in crime type seems to vary widely depending on the categorization. For example, in hot spots IORs the most

prevalent type of crime is drug activity (37.3%) while the least common is violent crime (8.5%). This trend is reversed when looking at the same types of crime for specific cases. When looking at individual crime types, violent crime (26.5%) is the most prevalent while drug activity (9.5%) is the least common.

The final criminal group/repeat offender and recurring target subcategories have different classifications and are distributed somewhat differently. For criminal group/repeat offender, the majority of cases included either general repeat offenders (39.7%) or gang members (18.4%) while the minority were from criminal organizations (5.9%) or cartels (3.7%). Recurring targets only made up a very small part of the sample but were more heavily concentrated then any of the other subcategories. For this the focus was undoubtedly repeat targets (76.9%), with repeat victims (10.3%) being the clear minority.

Table 1

Categorization of IORs Cases[3]

Categorization	Category	n	% of Valid Cases
	Crime Hot Spot	94	11.8
	Criminal Group/Repeat Offender	103	12.9
	Recurring Target	22	2.8
	Specific Case	523	65.4
	Multiple Categories	58	7.3
	Total	800	100
Crime Hot Spot			
	Drug Activity	44	37.3
	Property Crime	15	12.7
	Violent Crime	10	8.5
	Other	12	10.2
	Multiple Hot Spot Types	37	31.4
	Total	118	100
Criminal Group/Repeat Offender	Cartel	5	3.7
	Criminal Organization	8	5.9
	Gang	25	18.4
	Repeat Offender	54	39.7
	Other	21	15.4
	Multiple Group Types	23	16.9
	Total	136	100
Recurring Target			
	Repeat Target	30	76.9
	Repeat Victim	4	10.3
	Repeat Target and Victim	5	12.8
	Total	39	100
Specific Case			
	Drug Activity	47	9.5
	Property Crime	95	19.2
	Violent Crime	131	26.5
	Other	181	36.6
	Multiple Case Types	41	8.3
	Total	495	100

[3] Subcategory totals may differ from categorization values due to multiple categories and missing data

While this broad understanding of how the IORs were distributed between categories is useful, it is also helpful to examine the overall breakdown of the nature of crime in IORs, as demonstrated in Table 2. From this, it is evident that Intelligence Officers deal with diverse types of crimes as no one category exceeded 20% of the cases and those with multiple types made up 17.6% of the sample. For individual nature of crimes, the most common were person on person violence (18.6%), "other" crime (18.0%), property crime (17.8%) and suspicious activity (14.7%). Conversely, the remaining three individual categories consisting of drug market activity (9.8%), public disorder (2.0%) and terror (1.5%) made up only 13.3% of the sample.

Table 2

Distribution of Nature of Crime for IORs

Nature of Crime	Category	n	% of Valid Cases
	Drug Market Activity	80	9.8
	Person on Person Violence	152	18.6
	Property Crime	145	17.8
	Public Disorder	16	2.0
	Suspicious Activity	120	14.7
	Terror	12	1.5
	Other	147	18.0
	Multiple Natures of Crime	144	17.6
	Total	816	100

While the discussion of IORs categorization and nature of crime above provide great insight into the focus of Intelligence Officers, to truly appreciate their roles one must also have some idea of how they do their jobs. One of the key components is how they gather their information, which is illustrated in Table 3.

Table 3 shows that in combination with multiple methods (21.2%), three other collection methodologies account for how information was gathered in 90.1% of the cases. The three primary gathering methods were interview/conversations with citizen (26.1%), another police officer (23.7%) and personal observation (19.1%). When the categories are condensed, a similar distribution is seen with civilian sources (34.3%) being the largest contributor followed by official sources (25.3%) and observation (21.1%). This would suggest that the majority of information that Intelligence Officers utilize for the IORs, roughly 59.6%, is obtained through interaction with others rather than through their own observation.

Table 3

Distribution of Information Gathering Methods for IORs

Information Gathering Methods	Category	n	% of Valid Cases
	Another Criminal Justice Agency	10	1.1
	Another Police Officer	208	23.7
	Confidential Informant	16	1.8
	Consensual Contact/Investigative Detention	47	5.4
	Interview/Conversation with Citizen	229	26.1
	Personal Observation	168	19.1
	Surveillance	14	1.6
	Multiple Methods	186	21.2
	Total	878	100
Information Gathering Methods - Condensed	Civilian	301	34.3
	Observation	185	21.1
	Official	222	25.3
	Multiple Methods	170	19.4
	Total	878	100

Overall, descriptive analysis of the role data indicates that Intelligence Officers most often work specific cases, the nature of crimes they deal with are usually related to person on person violence, "other" crime, property crime or suspicious activity, and that most of their information is gathered by interacting with citizens or other law enforcement personnel.

Perceptions of Intelligence Officers

In addition to understanding the roles of the Intelligence Officers, it is also important to know how they perceive the information they are gathering and the cases they are working. In terms of the information itself, Intelligence Officers seem to be relatively confident in the quality of data being collected. This is demonstrated by the results for both reliability and validity, displayed in table 4.

In addressing only cases that were deemed fully reliable or fully valid, 80% of cases were deemed to come from a reliable source while 55.3% were asserted to have fully valid information. Even more impressive is when "usually reliable" and "probably valid" cases are included. The result then reflects 86.6% of sources being classified as at least usually reliable and 92.7% of cases having at least probably valid information. Together these figures would suggest that Intelligence Officers have confidence in the majority of their sources and information. Such findings are not unexpected when considering the discretion Intelligence Officers have in selecting cases to be submitted as IORs.

Table 4

Perceptions on Reliability and Validity of IORs

Reliability	Category	n	% of Valid Cases
	Reliable	695	80.0
	Usually Reliable	57	6.6
	Unreliable	5	0.6
	Unknown	112	12.9
	Total	869	100
Validity			
	Confirmed	446	55.3
	Probable	302	37.4
	Doubtful	4	0.5
	Cannot Be Judged	55	6.8
	Total	807	100
Full Reliability			
	Fully Reliable	695	80.0
	Other	174	20.0
	Total	869	100
Full Validity			
	Fully Valid	446	55.3
	Other	361	44.7
	Total	807	100

Effectiveness of Intelligence Officers

With an appreciation of both Intelligence Officer roles and information quality established, it is imperative to explore the effectiveness of the officers in producing impactful outcomes. A key way to measure effectiveness is to directly look at the dispositions of the IORs themselves. As shown in Table 5, three dispositions account for 90.3% of the data. These are referred to other unit (42.1%), no further information (30.3%) and success/arrested (17.9%). Of these, referred to other unit is an intelligence success, no further information is a non-success, and success/arrested is both an intelligence and case success.

When looking at the cases in terms of whether or not they were successful, results differ for the two types of success. As shown in Table 6, the broader measure, intelligence success, demonstrates a positive result in 69.7% of the cases. This is in contrast to case success which only has a positive result in 39.0% of the cases. Such outcomes would suggest that while cases may not always be distinctly successful in tangible terms, the majority of cases provide useful information and the potential for future case successes.

Table 5

Closing Dispositions of IORs

Category	n	% of Valid Cases
ACTIC Tips & Leads	65	7.4
Intelligence Report Submitted	8	0.9
No Further Information	266	30.3
Referred to Other Unit	370	42.1
Success/Arrested	157	17.9
Success/No Arrest	13	1.5
Total	879	100

Table 6

Classification of Intelligence Officer Success

Intelligence Success	Category	n	% of Valid Cases
	Non-Success	266	30.3
	Success	613	69.7
	Total	879	100.0
Case Success			
	Non-Success	266	61
	Success	170	39
	Total	436	100

Success of Intelligence Officers

As a general description of roles, perceptions of information, and effectiveness have been established, it is important to assess how roles and perceptions may contribute to effectiveness by predicting either intelligence or case successes. More specifically, this section examines the impact of case categorization, nature of crime, information gathering methodologies and both full reliability and full validity on each type of success.

This is accomplished through the creation of cross tabs and logistic regressions to produce odds ratios. One important note, however, is that for the purpose of the cross tabs case successes that are typically nested in intelligence successes were excluded from these. This was done to more accurately depict the breakdown of the data. To appreciate intelligence successes as they are earlier defined, all that has to be done is to add case and intelligence successes together.

Tables 7 and 8 examine the relationship between case categorization and intelligence and case successes. Table 7 demonstrates that for every categorization, at least two thirds of cases could be classified as some form of success. The highest combined success rate was for criminal group/repeat offenders (78.4%) while the lowest was for recurring targets (66.7%). Conversely, cases with a criminal group/repeat offender (22.7%) had the highest percentage of case successes for an individual type of case, while recurring targets had the lowest (4.8%).

To see if the different categorizations were significantly different in predicting success, odds ratios were generated, comparing all categories to specific cases, as this was a catch-all category that did not pertain to any of the more focused categorization types. From these analysis, displayed in Table 8, the only statistically significant result

was that criminal group/repeat offender cases were 1.98 times more likely to be an intelligence success than a specific case. This would suggest that in all other scenarios, specific cases are just as likely to predict intelligence or case success than those with multiple categorizations or any other one type.

Table 7

Crosstab of Categorization and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Crime Hot Spots	24	54	16	94
	25.5%	57.4%	17.0%	100%
Criminal Group/	21	54	22	97
Repeat Offender	21.6%	55.7%	22.7%	100%
Recurring Target	7	13	1	21
	33.3%	61.9%	4.8%	100%
Specific Case	178	226	99	503
	35.4%	44.9%	19.7%	100%
Multiple	13	30	14	57
	22.8%	52.6%	24.6%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 8

Logistic Odds Ratios for Categorization and Success

Category	Intelligence Success	Case Success
Crime Hot Spot	1.597	1.199
	(0.406)	(0.415)
Criminal Group/Repeat Offender	1.982**	1.884
	(0.522)	(0.621)
Recurring Target	1.095	0.257
	(0.517)	(0.276)
Multiple	1.854	1.936
	(0.610)	(0.784)

Note. Standard errors are displayed in brackets. * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
n: Intelligence Success= 772 Case Success=395
Pseudo R^2: Intelligence Success =0.0124 Case Success=0.0160

To test this assertion Tables 9 and 10 were produced to display a crosstab and logistic odds ratios to see if cases with multiple categorizations were significantly different from single categories when predicting success. The result was as earlier demonstrated with no significant difference with having multiple categories for either intelligence or case successes.

Table 9

Crosstab of Count of Categories and Success

Category	Non-Success	Intelligence Success	Case Success	Total
One Category	230	347	138	715
	32.2%	48.5%	19.3%	100%
Multiple Categories	13	30	14	57
	22.8%	52.6%	24.6%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 10

Logistic Odds Ratios for Count of Categories and Success

Category	Intelligence Success	Case Success
Multiple Categories	1.605	1.795
	(0.523)	(0.718)

Note. Standard errors are displayed in brackets. * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
n: Intelligence Success= 772 Case Success=395
Pseudo R^2: Intelligence Success =0.0024 Case Success=0.0040

The second analyses of this section, consisting of Tables 11 through 14, examine the relationship between the nature of crime and intelligence and case successes. Table 11 demonstrates that for every nature of crime, at least half of cases could be classified as some form of success. The highest combined success rate was for terror cases (91.6%) while the lowest was for public disorder (50.1%). In terms of case successes, person on

person violence (29.8%) had the highest percentage of success for an individual type of case, while public disorder had the lowest (6.3%).

To see if different natures of crime were significantly different in predicting success, odds ratios were generated, comparing all different natures of crime to those which had multiple natures of crime. This was to examine if any particular type of nature of crime was a greater predictor of success by itself than cases that included several of these. From the analysis, displayed in Table 12, there were a number of statistically significant results. The most significant was that person on person violence was roughly 2.16 times less likely to result in an intelligence success than multiple natures of crime. While this was highly statistically significant at a level of $p < 0.001$, there was no similar result for case successes.

The other significant findings for this variable were all at a significance level of $p < 0.05$. In regards to nature of crime and intelligence successes, there were two other relevant findings. These were that property crime and disorder were, respectively, 1.60 and 3.12 times less likely to predict intelligence success than multiple natures. Like person on person violence, neither of these findings had similar results for case successes.

There were also two significant results in the logistic regression examining nature of crime and case successes. The findings suggested that suspicious activity and drug market activity were about 2.87 and 3.36 times less likely to be a case success than cases with multiple nature of crime types. Once again, these findings were not consistent for intelligence successes. Overall, these findings suggest that cases with multiple natures of crime are more likely to be categorized as a success.

Table 11

Crosstab of Nature of Crime and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Drug Market Activity	25	47	6	78
	32.1%	60.3%	7.7%	100%
Person on Person	62	44	45	151
Violence	41.1%	29.1%	29.8%	100%
Property Crime	47	56	35	138
	34.1%	40.6%	25.4%	100%
Public Disorder	8	7	1	16
	50.0%	43.8%	6.3%	100%
Suspicious Activity	32	77	9	118
	27.1%	65.3%	7.6%	100%
Terror	1	10	1	12
	8.3%	83.3%	8.3%	100%
Multiple	30	87	24	141
	21.3%	61.7%	17.0%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 12

Logistic Odds Ratios for Nature of Crime and Success

Category	Intelligence Success	Case Success
Drug Market Activity	0.683	0.298*
	(0.191)	(0.146)
Person on Person Violence	0.462***	0.901
	(0.100)	(0.241)
Property Crime	0.624*	0.924
	(0.142)	(0.267)
Public Disorder	0.322*	0.155
	(0.167)	(0.167)
Suspicious Activity	0.866	0.349*
	(0.217)	(0.146)
Terror	3.543	1.241
	(3.734)	(1.769)

Note. Standard errors are displayed in brackets. * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
n: Intelligence Success= 788 Case Success=393
Pseudo R^2: Intelligence Success =0.0209 Case Success=0.0325

To verify this finding, an additional crosstab and logistic regression are provided in Tables 13 and 14 to determine if cases with multiple natures of crime were significantly more likely to predict success. As shown in Table 14, cases with multiple crime types were 1.80 times more likely to predict intelligence success than cases with an individual nature. However, there was no significant difference between individual and multiple natures for case successes.

Table 13

Crosstab of Count of Nature of Crime and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Single Nature	175	241	97	513
	34.1%	47.0%	18.9%	100%
Multiple Natures	30	87	24	141
	21.3%	61.7%	17.0%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 14

Logistic Odds Ratios for Count of Natures of Crime and Success

Category	Intelligence Success	Case Success
Multiple Natures	1.803**	1.335
	(0.401)	(0.395)

Note. Standard errors are displayed in brackets. * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
n: Intelligence Success= 788 Case Success=393
Pseudo R^2: Intelligence Success =0.0078 Case Success=0.0018

The third analyses of this section, consisting of Tables 15 and 16, examine the relationship between the information gathering methodology and intelligence and case successes. Table 15 demonstrates that for every information gathering methodology, at least two thirds could be classified as some form of success. The highest combined success rate was for multiple methodologies (72.8%) while the lowest was for civilian

(67.9%). In terms of case successes official sources (27.4%) have the highest percentage of case successes while civilian (11.8%) have the lowest.

To discern if different information gathering methods were significantly different in predicting success, odds ratios were generated, comparing all different cases with individual methods to those which used multiple. This was done as the comparison would make it possible to see if any particular type of information gathering method was a greater predictor of success by itself than cases that included several of these. From the analysis, displayed in Table 16, there was only one statistically significant result and this was at a significance level of $p < 0.01$. Cases with only civilian sources were 2.59 times less likely than cases with multiple sources to predict case success. This would suggest that all other sources are not significantly different in predicting either type of success.

Table 15

Crosstab of Information Gathering Methodologies and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Civilian	95	166	35	296
	32.1%	56.1%	11.8%	100%
Observation	51	95	28	174
	29.3%	54.6%	16.1%	100%
Official	66	90	59	215
	30.7%	41.9%	27.4%	100%
Multiple	44	76	42	162
	27.2%	46.9%	25.9%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 16

Logistic Odds Ratios for Information Gathering Methodologies and Success

Category	Intelligence Success	Case Success
Civilian	0.789	0.386**
	(0.170)	(0.113)
Observation	0.899	0.575
	(0.218)	(0.184)
Official	0.842	0.937
	(0.194)	(0.263)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 847 Case Success=420
Pseudo R^2: Intelligence Success =0.0013 Case Success=0.0279

To verify this finding, a crosstab was created and a logistic regression was conducted, as shown in Tables 17 and 18. This was done to see if the use of multiple sources for predicting success was significantly different from individual ones. Interestingly, the results in Table 18 suggest that cases using multiple sources are 1.66 times more likely to be case successes than cases utilizing only one type of method. This could suggest a broader impact rather than just the single significant category from the previous regression. As expected based on the prior results, the same trend was not present for intelligence successes.

Table 17

Crosstab of Count of Information Gathering Methodologies and Success

Category	Non-Success	Intelligence Success	Case Success	Total
One Source	212	351	122	685
	30.9%	51.2%	17.8%	100%
Multiple Sources	44	76	42	162
	27.2%	46.9%	25.9%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 18

Logistic Odds Ratios for Multiple Information Gathering Methodologies and Success

Category	Intelligence Success	Case Success
Multiple Sources	1.202	1.659*
	(0.234)	(0.404)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 847 Case Success=420
Pseudo R^2: Intelligence Success =0.0009 Case Success=0.0076

The fourth set of analyses, consisting of Tables 19 through 22, examine the relationship between both full reliability and full validity and intelligence and case successes. The crosstabs in Tables 19 and 20 demonstrate that full reliability and full validity are associated with success. For example, 71.3% of fully reliable cases are successful compared to 63.2% of not fully reliable cases. Similarly, 70.4% of fully valid cases are successful compared to 67.5% of those that are not fully valid.

The differences between these cases are even more pronounced when looking only at case successes. 21.9% of fully reliable cases are case successes compared to only 8.8% of not fully reliable cases. Similarly, 28.2% of fully valid cases are case success compared to only 9.1% of not fully valid cases.

To see if full reliability and validity predict success in a regression model, odds ratios were generated. From the analysis, displayed in Table 21, we see that full reliability is significant in predicting both intelligence and case successes. Cases rated by Intelligence Officers as fully reliable are 1.45 times more likely to predict intelligence success than not fully reliable cases. The magnitude of the odds ratio is greater for case

success. Fully reliable cases are 3.21 times more likely than non-fully reliable cases to be case successes at a significance level of $p < 0.001$.

Table 22 illustrates that unlike for full reliability, cases rated as fully valid only significantly predicted case success. These fully valid cases were 3.39 times more likely to predict case success than cases that were not fully valid. This was also at a significance level of $p < 0.001$. These findings reflect that having a fully reliable source is a strong predictor of both intelligence and case success while validity only strongly predicts case success.

Table 19

Crosstab of Full Reliability and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Fully Reliable	191	329	146	666
	28.7%	49.4%	21.9%	100%
Not Fully Reliable	63	93	15	171
	36.8%	54.4%	8.8%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 20

Crosstab of Full Validity and Success

Category	Non-Success	Intelligence Success	Case Success	Total
Fully Valid	127	181	121	429
	29.6%	42.2%	28.2%	100%
Not Fully Valid	114	205	32	351
	32.5%	58.4%	9.1%	100%

Note. Each cell provides both the n and corresponding row percentage

Table 21

Logistic Odds Ratios for Full Reliability and Success

Category	Intelligence Success	Case Success
Fully Reliable	1.451*	3.210***
	(0.261)	(0.988)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 837 Case Success=415
Pseudo R^2: Intelligence Success =0.0041 Case Success=0.0303

Table 22

Logistic Odds Ratios for Full Validity and Success

Category	Intelligence Success	Case Success
Fully Valid	1.144	3.394***
	(0.178)	(0.804)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 780 Case Success=394
Pseudo R^2: Intelligence Success =0.0009 Case Success=0.0076

The final tables produced demonstrate complete models that incorporate all of the odds ratios discussed thus far. These were estimated to observe what variables arose or remained as significant in predicting success when all independent variables were accounted for. Table 23, which includes all of the individual variables with the exception of the specific crime category, illustrates only two findings from the earlier models remain significant. First, cases solely focused on person on person violence were 2.05 times less likely to be an intelligence success. Second, fully valid cases were 2.45 times more likely to be a case success.

The model displayed in Table 24 estimates the odds ratios for all of the multiple variables, along with full reliability and full validity. No new significant results occurred

in this model; however, it did reiterate the earlier finding that having multiple natures of crime is significant in increasing the likelihood that a case will predict an intelligence success. This was slightly lower than in the model only looking at multiple natures of crime, decreasing from 1.80 to 1.70 times. The finding that fully valid cases better predicted case successes was also once again reiterated with an estimated improvement of 2.65 times.

Table 25 summarizes the results from the full models in Tables 23 and 24, to illustrate which categories remained statistically significant for either type of success when all independent variables were accounted for. This included three key categories: person on person violence, multiple natures of crime and full validity. From these results, it is demonstrated that multiple natures of crime is most consistently related to predicting intelligence success, while full validity is most consistently predictive of case success.

Table 23

Logistic Odds Ratios for All Variables and Success

Category	Intelligence Success	Case Success
Crime Hot Spot	1.581	1.624
	(0.466)	(0.678)
Criminal Group/Repeat Offender	1.597	1.886
	(0.470)	(0.764)
Recurring Target	1.020	0.214
	(0.507)	(0.236)
Multiple Categories	1.610	1.896
	(0.573)	(0.854)
Drug Market Activity	0.616	0.401
	(0.193)	(0.215)
Person on Person Violence	0.487**	0.971
	(0.118)	(0.311)
Property Crime	0.621	1.093
	(0.156)	(0.374)
Public Disorder	0.581	0.283
	(0.346)	(0.321)
Suspicious Activity	1.081	0.522
	(0.336)	(0.258)
Terror	1.735	1.632
	(1.930)	(2.421)
Civilian	0.980	0.544
	(0.254)	(0.198)
Observation	0.736	0.510
	(0.221)	(0.208)
Official	0.892	0.797
	(0.245)	(0.198)
Fully Reliable	1.353	1.224
	(0.350)	(0.509)
Fully Valid	1.027	2.459**
	(0.216)	(0.780)

Note. Standard errors are displayed in brackets. * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
n: Intelligence Success= 632 Case Success=326
Pseudo R^2: Intelligence Success =0.0209 Case Success=0.0325

Table 24

Logistic Odds Ratios for Multiple Variables, Full Reliability, Full Validity and Success

Category	Intelligence Success	Case Success
Multiple Categories	1.382	1.717
	(0.482)	(0.743)
Multiple Natures	1.698*	0.938
	(0.404)	(0.764)
Multiple Sources	1.080	1.532
	(0.245)	(0.446)
Fully Reliable	1.320	1.391
	(0.318)	(0.549)
Fully Valid	0.970	2.654**
	(0.196)	(0.808)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 632 Case Success=326
Pseudo R^2: Intelligence Success =0.0110 Case Success=0.0593

Table 25

Summary of Significant Logistic Odds Ratios for Full Models

Category	Reference Category	Intelligence Success	Case Success
Person on Person	Multiple Natures of	0.487**	0.971
Violence	Crime	(0.118)	(0.311)
Multiple Natures of	Individual Natures	1.698*	0.938
Crime	of Crime	(0.404)	(0.764)
Fully Valid	Not Fully Valid	1.027	2.459**
(Table 23)	(Individual Model)	(0.216)	(0.780)
Fully Valid	Not Fully Valid	0.970	2.654**
(Table 24)	(Multiple Model)	(0.196)	(0.808)

Note. Standard errors are displayed in brackets. * p<0.05 ** p<0.01 *** p<0.001.
n: Intelligence Success= 632 Case Success=326

DISCUSSION

With limited research on the utilization of intelligence in law enforcement and no known studies on Intelligence Officers, this thesis has sought to begin building a foundation of knowledge on the latter. Both descriptive and inferential analyses have been utilized to accomplish this goal.

Lessons from Descriptive Data

From the descriptive analyses, much can be inferred regarding the roles, perceptions and effectiveness of Intelligence Officers. In terms of their roles, the data suggests that most attention is on specific crimes rather than focused issues such as criminal groups/repeat offenders, recurring targets and hot spots. It is unknown, however, whether this is due to the roles of the officers or their existing training. As the Intelligence Officer Program has evolved, there has been a reduced focus on addressing crime issues outside of specific crimes. This has the potential to change as advanced classes currently being planned concentrate on some of these more sophisticated issues. It is very possible that such training could shift the focus on specific crimes to more chronic crime problems.

Over and above the categorization of cases on which Intelligence Officers focus, the descriptive information also provided useful insight into the nature of these cases. Cases focus on a relatively diverse spectrum of crimes including person on person violence, property crimes and cases with multiple different natures. It is unclear what dictates this variety, but this is likely tied to the ways in which Intelligence Officers gather information for cases that are deemed to be potentially intelligence-related. It may

also be a reflection of the fact that Intelligence Officers can be approached by other patrol officers for assistance in many different kinds of cases.

In terms of information gathering methodologies, the descriptive data suggests that Intelligence Officers largely rely on three key sources: another police officer, interview/conversation with a citizen, and personal observation. What is perhaps more interesting is that the majority of Intelligence Officer information generally comes from other official sources or civilians. This may suggest that Intelligence Officers are largely reactive and that many potential intelligence leads occur as a result of their daily interactions with both entities. Such a result is not unexpected considering that in the Phoenix Intelligence Officer Program, most of the trained officers are first and foremost patrol officers. It is therefore positive to see potentially useful information being shared and acted upon by these officers. Furthermore, the Intelligence Officers seem to perceive this information as generally coming from reliable sources and typically being valid.

The descriptive analysis showed that 69.7% of cases are intelligence successes and 39% are tangible case successes, suggesting that Intelligence Officers are making some sort of positive contribution. While there is no known comparison group for the Phoenix Intelligence Officers, nor is it plausible to measure their absence, they are bringing more attention to cases than what they would have previously received. This is due to the fact that officer submissions to the IORs system gain exposure to a network of Intelligence Officers as well as dedicated Intelligence Analysts. Without such attention, it is unlikely that the cases within the sample would have been resolved with as much success as they have.

Variables Impacting Success

With this in mind, it is important to understand what may enhance the likelihood of success so that effectiveness can be maximized. This study has attempted to look at both Intelligence Officer roles and perceptions to see how these may significantly contribute. For the individual logistic regression models, a number of variables were statistically significant, either for intelligence or case success but not both. The exception was cases where the Intelligence Officer deemed the information gathered fully reliable.

However, in the final models which accounted for all of the variables discussed, only three remained statistically significant for predicting success, and each of these only for one type of success. The first of these findings was that cases that focus on person on person violence are less likely to be an intelligence success than cases that have multiple natures of crime. The second and related finding is that cases with multiple natures of crime are more likely to be an intelligence success. While it is somewhat intuitive that a multi-faceted crime should be easier to follow up due to more information likely being available and the possibility of more police units becoming involved, it is unknown why this does not translate to an increased likelihood of case success.

The last major finding that remained significant for the final models was that cases where the information was deemed fully valid by an Intelligence Officer had an increased likelihood of being a case success. Once again, this is rather intuitive as more valid or accurate information should increase the ability to obtain a tangible outcome such as an arrest. However, it is unknown as to why fully valid information would not also be a predictor of greater potential for an intelligence success. Therefore, both significant findings require further study to try and identify the mechanisms through

which multiple natures of crime and full validity increase the likelihood for their respective type of success.

Limitations

While these findings are thought-provoking and merit further investigation, it is advisable that caution be taken in interpreting the results as this study did have some limitations. First and foremost is the issue of nested data. As earlier mentioned, 115 out of the 159 trained Intelligence Officers submitted IORs. What is more concerning, however, is that just 16 officers were responsible for 51% of the sample and 65 officers for 90%. As a result of this, the findings may not be overly representative of the Intelligence Officers as a whole but instead a smaller, perhaps more dedicated subgroup that is driving the program. It will be important to monitor this concentration of participation to see how it affects the program as it continues. Furthermore, future studies will need to utilize multilevel modeling to account for the issue of IORs being nested.

In addition to nesting problems, there were also issues with incomplete, missing or other data that was incorrectly classified. This was largely a result of the collection method which relied on officer data entry. While such methods naturally have the ability to cause issues, these could be potentially reduced. For example, the Intelligence Officer Reporting System would benefit from the utilization of mandatory fields and reduction of "other" options in which officers can manually enter data. This could be beneficial to both the intelligence program and further research efforts as it should result in more complete and accurate data.

A third limitation that requires acknowledgement for this particular study is the definitions of success. While case successes are straightforward and distinct, the idea of

intelligence successes are much less so. The key reason is that intelligence success incorporates many cases in which the outcomes are unknown, such as when cases are forwarded to other departments. This may not inherently be a limitation yet it must be recognized that such a measure does not provide a full picture in terms of outcomes. In addition, the pseudo-variance explained in the models presented were relatively low, suggesting that there are most likely other factors for explaining success that have not been accounted for.

The final potential limitation that necessitates attention is external validity. Phoenix Police Department's Intelligence Officer Program is both unique and progressive with no known viable comparison. To this end caution must be taken in trying to generalize the results to other Intelligence Officers, especially as most tend to have this as a primary job rather than a secondary responsibility. To rectify this potential issue, replications of this study with different programs and in other cities would help ascertain generalizability. Furthermore, despite potential external validity issues the Phoenix Program does offer a great starting point for beginning to focus on how intelligence is and can be used within law enforcement. Additionally, a Bureau of Justice Assistance grant currently funding the expansion of the program will allow for continued data collection and assessment of a myriad of outcomes.

Future Research

Given both the limitations of this study and the dearth of knowledge and literature on intelligence, there is a great need for future research. While some preliminary findings on Intelligence Officer roles, perceptions and effectiveness are offered here, more must be done to expand on the topic. In particular, focusing on what

Intelligence Officers can contribute could have very practical implications for those agencies considering whether to utilize such positions within their organization. Once benefits have been critically established, research could be initiated regarding the crafting of Intelligence Officer roles to either more specific or broad functions. Research should also seek to investigate the disproportionate submission of reports by officers and how the top submitters differ from others as this could significantly enhance officer selection for intelligence programs.

In addition to a greater understanding of their roles, it is imperative that future research identifies how the effectiveness of Intelligence Officers could be improved. While the exploratory research in this foundational study reflected cases with multiple natures of crime better predicted intelligence success and validity better predicted case success, these preliminary findings are likely just beginning to scratch the surface. Future research must identify other significant contributory factors to success and then explore how these might be enhanced.

CONCLUSION

The utilization of intelligence and intelligence personnel in law enforcement is a key modern development that has been largely under-researched by academics. Despite the lack of documented studies, it is crucial to evaluate such concepts to better understand how agencies can be intelligence-led. This is critical when evidence, such as that from this study, demonstrates that intelligence personnel have the ability to significantly enhance departmental success. More must be done to understand the potential of these personnel so that organizations can optimize the way in which Intelligence Officers are utilized for maximum benefit and efficiency.

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APPENDIX A: IORS FORM

1. IO Name

2. Date of Report

3. IORs Number (will be automatically set when form is saved)

4. CAD Incident Number

5. Squad Area

6. Title

7. Category
    - A. Criminal Group / Repeat Offender
        - Repeat Offender (check box)
            - Name, Date of Birth (DOB),
            - Terror Threat?
            - Terrorist Screening Center (TSC) check complete?
                - Level of threat
        - Gang Name
        - Cartel
        - Criminal Organization
        - Other (Specify)
    - B. Recurring Target
        - Repeat Victim
            - Name, DOB
        - Repeat Target
            - Residence
                - Address
            - Commercial establishment
                - Name, Address
            - Physical target
                - Description, address/approximate location
    - C. Crime Hot Spot
        - Hot Spot Type
            - Drug Activity, Violent Crime, Property Crime, Other
    - D. Specific Case
        - Crime Type
            - Drug Activity, Violent Crime, Property Crime, Other
            - Suspect (If Known), Name, DOB
            - Location Address/Intersection

8. At what approximate address or intersection was this intelligence gathered? (Include closest intersection)

9. What was the nature of the activity that you observed or information you gathered?
Terrorist threat, Drug market activity, Person-on-person violence, Property crime, Public disorder, Suspicious Activity, Other

10. Provide a brief narrative of the intelligence gathered

11. How did you gather this piece of intelligence? (Check all that apply)
Confidential Informant, Personal Observation, Consensual Contact / Investigative Detention, Surveillance, Another Police Officer, Another Criminal Justice Agency, Interview / Conversation with Citizen

12. How would you rate the source of this information?
(Reliable/usually reliable/unreliable/unknown)
12a. State reason for rating
12b. Source's Motivation

13. How would you rate the validity of this information?
(Confirmed/probable/doubtful/cannot be judged)
13a. State reason for rating

14. How many people is this situation affecting?
(One person/small group/whole community/unknown)

15. Do you think the focus of your intelligence gathering is for a larger recurring problem that should be a candidate for a team-based response?
Yes/No/Unsure (more investigation needed)

16. To your knowledge, is this IORs report linked to another IORs report?
Yes/No
IORs Number(s) –

17. What actions did you take based on this intelligence? (Check all that apply)

A. Made an arrest
Name DOB

B. Wrote a citation
Name DOB

C. Gave a verbal warning
Name DOB (if known)

D. Wrote a field contact report
FI#

E. Wrote an intelligence report
IRRR#

F. Wrote a departmental/incident report
DR#

G. Submitted tip to ACTIC Tips & Leads System
ACTIC #

H. Interviewed/followed up with a suspect(s) or potential suspect(s)
Name DOB

I. Interviewed/followed up with a victim
Name

J. Interviewed/followed up with a citizen
Name

K. Followed up with another criminal justice agency
Name

L. Other resources used
Internal
External

M. Other (Specify)

18. Did another IORs report make it possible for you to take any of these actions?
Yes/No
IORs Number (s)

19. What are your suggestions on how to proceed with this situation in the long-term?

20. POST COMMENTARY / FEEDBACK HERE. CITE YOUR NAME, SERIAL #, DATE, AND TIME WHEN POSTING.

Reviewed by, Assigned To (serial # & Last Name), Status, Date completed
Disposition
ACTIC Tips & Leads
Intelligence Report Submitted
Linked to other IORs
No Further Information
Referred to Other Unit
Success (Success/No Arrest, Success/Arrested, Arrested)

APPENDIX B: IRB APPROVAL

ASU Knowledge Enterprise Development

APPROVAL:CONTINUATION

Cody Telep
Criminology and Criminal Justice, School of
-
Cody.Telep@asu.edu

Dear Cody Telep:

On 2/6/2017 the ASU IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	An Evaluation of the Phoenix Police Department Intelligence Officer Program: Official Data Collection
Investigator:	Cody Telep
IRB ID:	STUDY00002223
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	

The IRB approved the protocol from 2/6/2017 to 2/6/2018 inclusive. Three weeks before 2/6/2018 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 2/6/2018 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc:

A Bottema
Jason Ortiz