RESILIENCE IN POLICE: OPIOID USE AND THE DOUBLE-EDGED SWORD

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ABSTRACT

Public health officials have declared the widespread use and misuse of prescription opioid medications an epidemic in the United States. The director of the Centers for Disease Control and Prevention (CDC), Dr. Tom Frieden, has stated, "We know of no other medication routinely used for a nonfatal condition that kills patients so frequently" (Frieden & Houry, 2016, p. 1503). The present study was prompted by the concern that there is no empirical data on how law enforcement officers have been affected by the use of opioids. It is the first empirical examination of how the epidemic has impacted police officers' resilience and fitness for duty.

The President's Task Force on 21st Century Policing identified officer health, wellness, and fitness for duty as one of the six pillars to support policing in the 21st century. The Task Force also affirmed the long-standing belief that the same character strengths that impel officers to confront danger may also be barriers to their resilience. Recognizing this "double-edged" sword, this mixed-methods study analyzed medical and prescription claims over a four year period (2011 to 2014) to examine the prevalence of opioid use by officers in a large urban police department.

Using the qualitative, interview-based methodology of Appreciative Inquiry (AI), it examined individual, organizational and systems-level factors explaining officers' help-seeking for use of prescription medications, as well as help-seeking for substance abuse in general. The interviews also revealed what is needed to replace the existing cultural and organizational arrangements—which can lead to isolation, depression, pathology, and stigma—with a culture that has the necessary processes and commitment to promote physical, behavioral and mental resiliency.

The quantitative analyses revealed that law enforcement officers are not immune from the opioid epidemic. Moreover, there is evidence of specific prescription drug use behaviors that indicate sub-groups of officers at heightened risk for developing an opioid use disorder. Approximately 40% of the officers in the sample filled an opioid prescription. Within this group, 27% of the officers filled a prescription for 90 days or longer and 34% filled prescriptions for benzodiazepines. The data also indicates that approximately 1 out of 7 officers in the sample received medical treatment for a mental illness each year.

The qualitative data revealed that officers' help-seeking behaviors for opioid dependence and abuse were shaped by the psychological process of surrendering and acknowledging their vulnerability. Seeking help, therefore, can run contrary to officers' training and character traits. Additionally, the social supports of the police subculture and effective supervisory leadership contributed to officers' recovery and resilience from opioid use disorder. Having access to trustworthy and culturally competent treatment services further enhanced officers' recovery. The research also illuminates broader health care policies and commitments to wellness that can enhance the capacity of police agencies to hire, develop, and maintain resiliency in their officers.

This dissertation extends Bronfenbrenner's theory of resilience to the field of law enforcement. This theory adopts a social ecological perspective, capturing pathways and protective factors at micro, meso and macro levels that bolster officers' personal growth and development. From a policy perspective, the findings support an asset-based approach to wellness, which stresses the need to access and enlist resources across the micro-, meso- and macro-level spheres. Future research in this area should extend

knowledge into the unique cultural context of police work and its implications for the

promotion of wellness and resiliency.

ACKNOWLEDGMENTS

"To get through the hardest journey we need take only one step at a time, but we must keep on stepping." —Chinese proverb

I begin by addressing the men and women who agreed to be interviewed as part of this research endeavor, as well as the organizational participants who opened their doors. I am humbled by your honesty, open-mindedness, and willingness to engage. You explained that you hoped, by sharing your experiences (and data), to help spare others the trauma that prescription opiate abuse can cause, including losing one's job in law enforcement. I have striven to honor your intentions and to represent your experiences as you have told them to me. In a special way, I acknowledge the support and trust extended by John B., who was a key gatekeeper for recruitment of officers who had received treatment for opioid use disorder. To my colleagues and friends at the First Responder's Addiction Treatment program (FRAT), Livengrin Foundation, Inc., I am grateful that you invited me to join your team. To Jim, Andy, Dennis, Mike, Bill, Mike, George, Tom, and Claire: your identification of the need for outreach, education, and training for police and first responders regarding the issue of prescription opioid abuse laid the foundation for conceptualizing this study. You could have accomplished your work without me, but I never could have performed this research without you.

Throughout my life, I have been surrounded by people who have been able to see the best in me. I am indebted to my graduate advisor and Dissertation Committee chair, Dr. Jennifer Wood, for her endless patience, practical wisdom, encouragement, and humor; she kept me going through the toughest of times. I would also like to express my appreciation to Committee members Dr. Elizabeth Groff and Dr. Wayne Welsh for their

generous feedback, which helped me bring this research study to completion. With their guidance, I have learned that it is possible to make the complex understandable and the simple complex.

I would like to thank my good friend, Kathy Belskie, for her technical assistance. Kathy, I believe your help added significantly to the quality of the dissertation, and I am indebted to you for your support. I would also like to express my appreciation to Rebecca Ruttenberg for her tireless support with editing, and to Kerri and Tara for stepping in at a moment's notice.

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Joe, you had me at "hello." I also give you my thanks. We had to "live" my dissertation research. Though our resolve and resilience were tested along the way, you believed in me always.

To my parents, Marie and John; to my children, Tommy, Kelsey, Michaela, and Connor; and to the cast of hundreds that make up my family and friends: thank you for walking the road with me. You fill my life with love and belonging. It is because of you

that my belief in family is so strong, and it is because of you that I know families have

the power and ability to achieve, to heal, and to grow. It is also because of you that I

know anything is possible. This dissertation is for you.

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CHAPTER 1

INTRODUCTION

Police officer Jayne Doe sat on her bed at an inpatient drug and alcohol detoxification facility, pondering her situation. She asked herself, "How did this happen to me?" She recalled the past several years, and her mind became fixed on the death of "Baby Girl Alice"―an abandoned infant whom she had discovered in North Philadelphia five years ago. She realized that she couldn't get the picture of that baby out of her head, and she became aware that she had begun to drink more to turn off the disturbing images and thoughts.

Officer Jayne Doe believed that she might have been okay despite these distressing memories, had it not been for her divorce two years ago, the fight for custody of her three children, and her ex-husband's use of her drinking to claim that she was not fit as a mother. These conflicts added to her depression and her feelings of failure as a woman. Recalling that she had managed at that time to cut back on her drinking, she considered that she just might have prevailed over these troubles, but next came the injury on the job, and the doctor who had apparently rescued her by prescribing pain pills. With this medication she experienced less pain, seemed to sleep better, and felt less tortured by the vision of Baby Girl Alice. Further, she had observed that she was less depressed and less concerned about the opinions of other people. At that point it didn't occur to her that the pain pills could become a problem.

Initially, Jayne took the pills as prescribed and never took more than advised by her doctor. However, with time the pain seemed to be returning at a more severe level. When she reported this to the doctor he told her—with what, in hindsight, seemed to her a rather casual manner—that she could take what he called "breakthrough doses" when

the pain worsened. He suggested that, as a supplement to the basic dose—one pill every six hours—she take as many as three additional pills when needed.

From a later vantage point, she couldn't tell whether the pain had in fact become worse or, rather, her need for the pills had become greater. The one thing that was clear to Jayne was that she regularly felt the need for breakthrough doses. When she realized that she needed to stop, she felt incapable; her need for the pills had become more powerful than her motivation to cease. Jayne became increasingly depressed, to the point where she would look at her service revolver and think, "Is this my way out?"

The hypothetical story of Officer Jayne Doe, a seasoned, well-respected police officer, who was in treatment for addiction and had even contemplated suicide, is one of bravery, courage, hardiness, and resiliency. It also includes depression, heavy drinking, trauma, and isolation. There is increasing evidence that Officer Doe and many other police and first responders have been "hiding in plain sight." Their internal struggles and mental health are overlooked because, outwardly, they are high functioning—that is, until they are not. The leading professional associations for police and fire services, the International Association of Chiefs of Police (IACP) and the National Fire Protection Association (NFPA), along with their federal government counterparts, the Office of Community Oriented Policing Services (COPS) and the Federal Emergency Management Agency (FEMA), have declared that their top priority is to break the silence born of shame and stigma associated with mental and behavioral health issues in the first-responder community. Moreover, the topic of officer wellness and safety is one of the six areas of emphasis, or "pillars," identified by the President's Task Force on 21st Century Policing (COPS, 2015) for promoting effective policing.

Cases such as Officer Doe's occur far too frequently; they exemplify the metaphor of a double-edged sword. The character traits and skills that officers display in carrying out their duties—toughness, hardiness, and steadfastness—may under certain conditions prevent officers, their colleagues, and the police organization from seeking or providing needed services for mental and behavioral health (IACP, 2014; Marin, 2012). The same character strengths that make for highly effective law enforcement officers and other first responders are also barriers to creating a culture of wellness and safety for officers and their organizations when prescription pain medication abuse is involved. Officers may be stigmatized and experience feelings of shame and weakness if they seek help[1]. Whether responding to man-made or natural disasters, criminal or life-and-death events, or routine calls for service, first responders are regularly and repeatedly exposed to risk, trauma, and stressors beyond the range of normal human experience (Everly & Mitchell, 1997; Mitchell & Everly, 1996, 2003; Violanti, 1999, 2014a), which may translate into maladaptive behaviors.

A review of the research reveals an abundance of literature that details disease, disorder, and dysfunction in the mental and behavioral health of first responders compared with the general population (Chae & Boyle, 2013; Gunderson, Grill, Callahan, & Marks, 2014; Horn, 2014; Hurrell et al., 1984; Kirschman, 2006, 2007; Kirschman, Kamena, & Fay, 2014; Lindsay, 2008; Matsakis, 2005; Obst, Davey, & Sheehan, 2001; Paton et al., 2008; Swatt, Gibson, & Piquero, 2007; Violanti, 1999, 2014a; Woody, 2005). Misuse and abuse of alcohol and other drugs; overreliance on pain medication, benzodiazepines, and steroids; posttraumatic stress disorder (PTSD); and suicide are

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[1] The National Institute on Drug Abuse (NIDA) defines prescription drug misuse and abuse as the nonmedical use of a prescription, or use of a medication without a prescription, or use of a medication in a way other than as prescribed (National Institute on Drug Abuse [NIDA], 2014).

maladaptive behaviors associated with stress, workplace injuries, and trauma in public-safety occupations.

Opiates are widely prescribed to those seeking relief from physical pain because they are effective. To simplify a complex neurobiological process, opiate pain relievers act to suppress pain and reduce pain transmission to the brain; they may also cause drowsiness and euphoria or a high. Narcotics such as fentanyl, hydrocodone, morphine, and oxycodone are frequently prescribed following surgical procedures ranging from dental extractions to hip/knee replacements and open-heart surgery. They are also often prescribed for moderate to severe chronic pain, such as back and shoulder pain. Although these powerful narcotics have been embraced for pain management, serious issues have been raised regarding their widespread and long-term use, high dosage levels, and habit-forming properties. These issues are intensified by the consideration that non-habit-forming alternatives do exist (Centers for Disease Control and Prevention, (CDC) 2016).

The present research was prompted by the growing concern about the epidemic of prescription pain medication (i.e., opiate-analgesic[2]) use and the impact of this epidemic on the first-responder community. The current study is the first to examine how opioid use has affected the law enforcement community. U.S. health officials have declared the widespread use and misuse of prescription pain medications, as well as the deaths from unintentional overdose, a public-health emergency. CDC Director Dr. Tom Frieden wrote, "We know of no other medication routinely used for a nonfatal condition that kills patients so frequently" (Frieden & Houry, 2016:1503).

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[2] The terms *opiate* and *opioid* are frequently used interchangeably to refer to products derived naturally, semi-synthetically, or synthetically from the poppy plant. An opioid is a type of narcotic; thus, the term *narcotic* may be used in place of opioid or opiate.

Recent public health data and extant studies report variations in opioid use and related negative health outcomes by individual traits, including: age, gender, and mental illness. National data consistently reports that persons over the age of 45 are more likely to receive an opioid prescription than younger adults and that older adults are more likely to seek emergency room admission and hospital in-patient stays for an opioid analgesic overdose than younger adults (ACPM, 2011; CDC 2016; Owns, Barrett, Weiss, Washington & Kronick, 2014; SAMHSA, 2015). These findings were contested by Kerridge et al.'s (2015) study that concluded individuals 45 years of age and older were less likely to seek treatment for opiate abuse.

Other studies have looked at gender and opioid use and abuse (ASAM, 2016; Back, Payne, Simpson, & Brady, 2010; Back, et al., 2011; CDC 2013; Glerum, K. & Choo, E., 2015; NIDA, 2016; Paulozzi, L.J., Stuckler, G.K., Kreener, P.W., Karis, C.M., 2013; SAMSHA 2014, 2015). The patterns of use tend to depict that men are more likely to fill a prescription for an opiate than women; however, this gap is closing. Yet, women are more likely to misuse or abuse prescription opioids, as measured by the greater rate of women seeking emergency room admission and in-patient hospital care for an opioid prescription overdose. Previous research also indicates that opioid use and abuse patterns among men and women vary by age (Kerridge et al., 2015). Recent data has shown that women, 45 years of age and older, are more likely than men in this age group to be prescribed an opiate for chronic pain, placing women at an increased risk of opioid use disorder.

The co-occurrence of opioid use and mental illness has also been studied (Scherrer et al., 2016). The research indicates that persons with depression and chronic

pain are more likely to be prescribed an opiate than those persons having chronic pain and no depression. Moreover, prescribing patterns for these individuals also differ, which places them at a higher risk for developing an opioid use disorder. Scherrer et al. (2016) found that persons with depression have a longer duration of use of opiate use and take a stronger dosage compared to those without depression. Taken together, Scherrer and colleagues suggest: "The opioid epidemic in the United States reflects underdetected and undertreated mental illness in patients with chronic pain" (p. 54).

Prior studies have also examined the link between opioid analgesic use and behaviors, including concurrent use of a benzodiazepine, duration of opiate use, and having a history of substance abuse. These studies report that the risk of opioid related overdose, misuse, and opioid use disorder is magnified with each of these behaviors. Previous results showed that opioid misuse and overdose generally increased for those also taking a benzodiazepine (Gudin, J.A., Mogali, S., Jones, J.D., & Corner S.D., 2013; Jones, C.M., Paulozzi, L.J., & Mack, K.A., 2014; Jones, J.D., Mogali S., & Comer, S.D., 2012; SAMHSA, 2014), that duration of opioid use - more so than the strength or morphine equivalency of the dosage - increased the risk for developing an opioid use disorder (CDC, 2016; Dowell, D., Haegerich, T.M., Chou, R., 2016; Volkow, N.D., McLellan, A.T., 2016), and that having a history of substance abuse increased the risk for developing an opioid use disorder (Compton and Volkow, 2006; Dart et al.2015; Savage, S.R., Kirsh, K.L., & Passik, S.D., 2008;Volkow, N.D., 2016). It is particularly important to explore individual links between other health-risk behaviors like co-occurring benzodiazepine use, duration of opiate use or substance use because such inquires could

reveal the presence of sub-groups toward which targeted health interventions could be directed.

The purpose of this study is to (a) better understand the prevalence and use of opioid-analgesic prescription pain medications among law enforcement officers, (b) identify successful strategies used to engage police officers in seeking help for addiction to prescription medications, and (c) identify processes and systems to foster a culture of resilience and wellness for officers and law enforcement organizations. The present research is at the forefront of empirical research in the area; no other published research provides substantive and contextual data on how the use of narcotics and benzodiazepines has affected the first-responder and law enforcement community.[3] The following research questions have guided the study:

1. What is the prevalence of opioid analgesics use by police officers in a large urban police department?

2. What individual-, organizational-, and systems-level factors explain the use and misuse of prescription opioid medications among law enforcement personnel?

3. What individual-, organizational-, and systems-level factors explain officers' help-seeking for use of prescription opioid medications, as well as help-seeking for substance abuse in general?

4. What is needed to replace the existing cultural and organizational arrangements—which can lead to isolation, depression, pathology, and stigma—with a culture that has the necessary processes and organizational

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[3] On the basis of the author's literature review and personal communication with representatives from the International Association of Chiefs of Police, the present study would be the first attempt to gather and examine data on this issue.

commitment to promote not only physical safety, but also behavioral and

mental health and resiliency?

Theoretically, the research will contribute to the burgeoning field of study in

resiliency theory. Resiliency, broadly understood as the capacity for human development

under conditions of stress, involves the ability to cope with stress in healthy ways.

Whereas resilience was previously thought to be an innate trait possessed by some people

and not others (e.g., as a feature of the police personality), an emergent field seeks to

move beyond individual psychological explanations to account for the interdependency

of individual with social environmental factors. Thus, the individual's capacity to adapt

is best understood in the context of the "local" social context, which includes access to

resources, ability to navigate to these resources, and—importantly for law enforcement

officers—normative expectations in their departments, in their homes, and in their peer

groups. Broadly stated, the new wave of research seeks to identify the pathways to

resiliency, such as coping-enabling social environments (Ungar 2000, 2013), prosocial

peer support, anticipatory training and education, and timely intervention strategies that

make it possible to bolster individual traits, characteristics, and processes that promote

functional adaptation in the face of adversity (Everly, McCormack, & Strouse, 2012).

In spite of routine stressors, cumulative stress, exposure to critical incidents,

secondary traumatic stress, and internal organizational stress, there is an overarching

responsibility for law enforcement officers and other first responders to remain

physically, psychologically, and socially healthy. In common parlance, this is known as

being resilient. In *The Nebraska Trooper Magazine*, Wineman has written that resiliency

characterizes "a law enforcement officer's ability to: (a) quickly recover, both mentally

and physically, from an overwhelming experience; and (b) translate that experience into positive practice. That is, the individual ultimately grows personally and professionally as a result" (Wineman, n.d).

The definition proffered above (Wineman, n.d.) captures key components associated with Ungar's (2005) conceptualization of resilience, which is informed by a social ecological perspective. The definition of resilience adopted for this study is derived from Ungar (2005). He defines resilience as:

1. The capacity of individuals to navigate their way to resources and maintain well-being;

2. The capacity of individuals' physical and social ecologies to provide those resources; and

3. The capacity of individuals, their families and communities to negotiate in culturally meaningful ways for those resources to be shared. (p.3)

The present study focuses on how the meaning of resilience is contingent upon the social construction and images associated with the law enforcement community. Further, the qualitative methodology of the present research supports examining resilience in the context of the actual lives of police officers, police supervisors, addiction counselors, peer counselors, and healthcare providers. However, a related question that is examined in the study asks, "What if an excess of resilience, such as may be associated with the police personality, is a double-edged sword and is largely ineffective as a long-term coping style when it comes to the highly addictive prescription pain medications?" Theoretically, this approach points to the importance of understanding how resiliency is

constructed through intersections of personal agency with social and institutional

processes. Empirically, the present research considers how changes in pain management

strategies, in the medical community, and in social norms governing the use of opioid

medications may be affecting officers' resiliency.

The research findings have important policy implications that will be useful to

individual police officers and other first responders as well as to their supervisors and to

executives; to health benefits administrators, employee assistance professionals (EAPs),

and the medical community; and to lawmakers who are responsible for passing

legislation to help curtail the epidemic of misuse and abuse of opioid-analgesic

medications. The conclusions drawn here may be revelatory to those who are most

involved with—and who seek to build—health, wellness, and resiliency among first

responders and their organizations.

National data are helpful for contextualizing the opioid epidemic. The CDC, the

Substance Abuse and Mental Health Services Administration (SAMHSA), NIDA, and the

Drug Enforcement Administration (DEA) have declared an epidemic in prescription drug

misuse and overdose from legal and illicit use of opioid analgesics. This crisis is linked

to prevalence, duration, and dosage in the use of these highly addictive and powerful pain

medications, which are commonly prescribed under brand names such as Vicodin,

Dilaudid, OxyContin, and Percocet. Opiate use is on the rise in the general population; in

fact, there has been an overall increase of 60% in opiate prescriptions in the past 10 years.

The Institute of Medicine (IOM) has estimated annual sales of opioids at approximately

$560 billion to $630 billion (CDC, 2013). The 2015 National Drug Survey on Drug use

and Health reported "an estimated 2.7 million adults aged 26 or older were current

misusers of pain relievers, which corresponds to 1.3 percent of adults aged 26 or older"

(NSDUH, 2016:8) . The reasons for increased prescribing patterns and use have been

traced to shifts in federal oversight and legislation, revised healthcare standards for pain

management, and pharmaceutical marketing practices. Kenan, Mack, and Paulozzi (2012)

reported the following increases in the number of prescriptions, in dosage, and in the size

of prescriptions for opioids over the period 2000 to 2010:

> The number of opioid prescriptions per 100 persons increased by 35.2%,
> from 61.9 to 83.7, during the period 2000–2009; 1 in 25 adults in the U.S.
> will be prescribed oxycodone. The distribution of opioids to U.S.
> pharmacies, in milligrams per 100 persons, increased by at least 100% for
> all selected opioids during the period 2000–2010. The average size of an
> oxycodone prescription increased by 69.7% (from 923 morphine
> milligram equivalent [MME] to 1566 MME) during the same period,
> while the average size of a hydrocodone prescription increased by 69.4%
> (from 170 MME to 288 MME)…and fentanyl (20.9%) from 4804 MME to
> 5809 MME). (p. e41)

Opioids are hailed as being highly effective for pain management and safe when

prescribed by, and taken as directed by, a supervising physician. However, there is

growing concern about the rapidity with which individuals develop a tolerance to these

medications. Tolerance, or habituation, results in the need for a more frequent and

increased dosage to achieve the same pain-relieving effect. Without intervention, this

process almost inevitably leads to physical dependency, addiction and, increasingly,

morbidity. At the American Public Health Association (APHA) Annual Meeting (2012),

Commander Christopher Jones of the U.S. Public Health Service reported a greater than

300% increase in deaths from overdoses of opioid analgesics (such as oxycodone,

hydrocodone, and methadone) from 1999 (n = 4,030) to 2010 (n = 16,651).

As reported by Osterwell (2013), Jones stated:

> This change occurred with startling speed. We see many other leading
> causes of death declining or staying relatively stable, but in a short amount
> of time, drug-overdose deaths increased dramatically […] [C]orrelating
> with these fatalities, for every death from an opioid overdose in the United
> States, there are an estimated 15 admissions for abuse treatment, 26
> emergency department visits, 115 people who meet the criteria for abuse,
> and 733 people who take prescription opioids for nonmedical reasons.
> The total healthcare-related costs are estimated to be $435 million
> [annually]. (p. 2)

The Centers for Disease Control (2012, 2013, 2014), National Vital Statistics

System data confirm that pharmaceutical drugs can be very dangerous, and even lethal.

Misuse or abuse of prescription drugs, including opioid analgesics, is responsible for

much of the recent increase in drug-poisoning deaths. Rates of unintentional drug-related

deaths from overdoses in the past decade, which are primarily due to the prescription

drug epidemic, far outpace those from the prior heroin and cocaine epidemics of the

1970s and 1980s. Consider, for example, that deaths from opioid analgesics increased

from 4,030 in 1999 to 15,597 in 2009 and 16,651 in 2010. In 2010, nearly 60% of all

drug-overdose deaths (22,134 out of the total) involved pharmaceutical drugs such as

oxycodone, hydrocodone, and methadone. Since 2007, deaths from opioids have

outnumbered those from cocaine, heroin, and methadone combined.

Yet another picture emerges when we consider how benzodiazepines (sedatives

used to treat anxiety, insomnia, and seizures) have been associated with opioid-analgesic

poisoning deaths. In 2011, benzodiazepines were involved in more than one-third

(5,188) of all opioid-analgesic poisoning deaths, up from 13% (527) in 1999. From 2006

to 2011, the number of opioid-analgesic poisoning deaths that also involved

benzodiazepines increased, on average, 14% each year, while the number of deaths not involving benzodiazepines did not change significantly (CDC/NCHS, 2014).[4]

Deficits in job performance due to substance abuse cannot always be easily detected, and unlike alcohol use, which is often considered part of the first-responder lifestyle, opiate use is more hidden. Within police culture in particular, opiates are associated with hard drugs, such as heroin, and increasingly police are charged with investigation and containment of prescription drug diversion. Consequently, the stigma attached to opiates may contribute to an even greater reluctance on the part of first responders to seek treatment or confront a colleague, and reluctance on the part of treatment providers to accurately label treatment admissions, even though the officer's initial use may have resulted from an injury suffered while on duty. Albuquerque Police Chief Ray Schultz (2012) has described the problem as experienced in the Albuquerque Police Department:

> Prescription drug abuse, particularly OxyContin and Oxycodone cases are especially difficult. I am finding myself dealing with prescription drug cases in my department more and more frequently, and I've found that it's particularly hard to rehabilitate officers in many of these cases. […] We did some research and found that many of these prescription drug problems actually started with an on-the-job injury, which means that the initial prescription came from our own city doctors. […] Addictions can be the result of a wide range of issues […] we have a generation of officers who rely too much on overtime. At the police academy we tell them, "Never live on overtime," but many are quick to adopt a lifestyle that depends on overtime. And if you're injured, overtime opportunities go away, and the cycle begins that can often lead to a dependency. (p. 1)

Theoretically, the relevant literature underlying the present empirical research may be traced to resiliency theory. Previous research has indicated that individual-level and group-level factors are important for understanding the elements that help determine

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[4] Noting the prevalence of benzodiazepines in opioid-related deaths, the researcher has examined use in the law enforcement community as well.

resiliency. These elements include the following: realistic perceptions of risk; the value

of training and the related importance of prevention efforts; the impact of occupational

culture and occupational socialization; and fear of reprisal, stigma, and breach of

confidentiality. Chapter 2 proffers a review of the literature, beginning with a broad

discussion of stress theory (Selye, 1956, 1974) and continuing more specifically with

stress in policing (Toc, 2002); then the chapter moves on to a discussion of positive

psychology (Seligman, 1998), critical incident stress management (Everly, Flannigan, &

Mitchell 1999), and psychological first aid (SAMHSA, 2010). Very importantly, the

research has shifted conceptually from dysfunction and disease towards a focus on

opportunities for enhancing officer health, wellness, and resiliency (COPS 2015; Miller,

2008a; Mitchell, 1983).

The present study follows a mixed-methods research design, which will be

explained in further detail in Chapter 3. In brief: Palinkas et al. (2011, p.46) have

provided an elegant taxonomy of mixed-method designs that directs the researcher to

consider how the qualitative and quantitative components fit together to ensure the

integrity of the research process. On the basis of their review of previous mixed-methods

research, the authors have suggested that there are three key elements that should be

considered. These include structure, function, and process. The idea of *structure* is

based on timing and weighting of the data, where using methods in sequence is

represented by a "$\rightarrow$" symbol, and using methods simultaneously is represented by a "+"

symbol. The weighting of data is represented by the use of capital letters (e.g., QUAL) to

depict the primary research method as being qualitative or quantitative and lowercase

letters to represent the secondary method (e.g., quant). Palinkas et al. have noted five

different *functions*— convergence, complementarity, expansion, development, and sampling—for engaging in a mixed-methods design. These functions are differentiated by whether the two methods (qualitative and quantitative) are being used to answer the same question or to answer related questions. The authors have suggested that *process* refers to the strategies used to combine the qualitative and quantitative data. These are identified as merge, connect, or embed.

The present study may be depicted as "QUAL + quan." The primary aim of the research has been to gain in-depth understanding of how the opioid epidemic has impacted law enforcement officers, by learning from the officers, police supervisors, health providers, and health administrators. The qualitative (QUAL) design and data were supplemented by quantitative (quan) data and analysis of health benefits claims. When connected, the qualitative and quantitative data will shed light on an underexplored area that may be affecting the health and resiliency of police.

With the use of the methodology of Appreciative Inquiry (AI), interviews were conducted with officers who had used opioids while on the job, substance abuse treatment providers specializing in working with first responders, EAPs and peer counselors, and law enforcement supervisors who had confronted narcotic prescription medication use in the workplace. Human subjects approval was granted for this study by Temple University's Institutional Review Board on August 5, 2015 (Protocol #23060). Appreciative Inquiry is recognized as a type of action research (Reason & Bradbury, 2008) that aims, through a process of interviewing, to understand the attitudes, behaviors, and cultural environment that support organizational success. The themes that emerge

from AI interviews are intended to provide a common vision for collaborative action and organizational change (Bradbury, Mirvis, Neilsen, & Pasmore, 2008).

Most prominently in criminal justice research, AI has been used in the field of corrections. Liebling, Price, and Elliott (1999) and Liebling, Elliott, and Arnold (2001) have utilized this method as part of a multiphase research project in a maximum security prison setting; Smart and Mann (2003) used AI to carry out an evaluation of a program called "Girl Scouts Behind Bars." Riede, Farrall, and Shapland (2012) used AI to study probation officers' views of quality probation practices. Osborne (2006) used AI methods to gain in-depth understanding of what criminal intelligence analysts believe are valuable skills for their profession as well as their vision of the profession's requirements for success in the twenty-first century. Although AI has been deemed a highly valuable tool for research in criminal justice, it has been applied only to a limited extent and has not (to the researcher's knowledge) been used in the study of policing. Thus, methodologically, AI will further contribute to the value of the present research study.

With respect to the quantitative methods, the present research provides a summary and analysis of opioid-analgesic use, along with the confounding variable of benzodiazepine use, based on prescription records from 2011 to 2014 for approximately 10,000 active and retired health benefits subscriber members of a large urban police department in the United States. Health benefits records for this four-year period have been provided to the researcher by the nonprofit, self-insured, independent health benefits provider that offers coverage to these officers. The researcher has entered into an agreement with this benefits provider to adhere to federal privacy rules applying to all Protected Health Information, in compliance with the federal Health Insurance Portability

and Accountability Act (HIPAA). The information offers baseline data related to one of the largest police forces in the nation. It will contribute to an understanding of opioid use and its prevalence, as well as opioid use disorder,[5] among police officers. Using bivariate and multivariate analysis, this research examines factors associated with opioid use disorder and characteristics associated with officers' seeking treatment for opioid use disorder. Findings from this analysis will be shared with the benefits provider, which seeks to use them to enhance service excellence.

The review of literature that follows in Chapter 2 includes discussion of previous research on the maladaptive behaviors associated with police work. As the survey demonstrates, to date, research on these behaviors in police has focused almost solely on individual-level and/or micro-level explanations associated with alcohol abuse. The literature review will make clear the role of the present research in filling the critical gaps in understanding how use of prescription pain medications and benzodiazepines affects overall psycho-social health, wellness, and resiliency for police and policing agencies.

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[5] The researcher has adopted the terminology of "substance use disorder" and "opioid use disorder," as advanced in the fifth edition (2013) of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*, to facilitate analysis of prescription and medical claims for the period 2011 to 2014. American health insurance providers, medical and treatment providers, and pharmacies adhere to the DSM classification and coding systems.   The DSM-5 classifies "use disorder" along a continuum ranging from mild to moderate to severe in accordance with the following behavioral characteristics: impaired physical control; impaired social functioning; risky use; and tolerance to and withdrawal from a drug. The terminology of "use disorder" has also been adopted by the federal Substance Abuse and Mental Health Services Administration (SAMHSA). The DSM-5 and SAMHSA do not include addiction as a specific diagnosis or disease. The researcher notes that two of the other leading agencies working in this field, the National Institute on Drug Abuse (NIDA) and the American Society of Addiction Medicine (ASAM), use the term "addiction" to refer to similar behaviors and neurobiological conditions associated with chronic, relapsing, and harmful consequences of compulsive drug seeking and use. They differ, however, in that NIDA and ASAM refer to addiction as a disease.

CHAPTER 2

REVIEW OF THE LITERATURE

The present research originates in the concern that the same character strengths that make for highly effective law enforcement officers and other first responders—persistence, hardiness, courage, and self-sacrifice—are also barriers to creating a culture of wellness and safety for officers and their organizations when prescription pain medication misuse and abuse are involved. The present research is situated in the broader context of one of the most pressing issues confronting the 21st century. The President's Task Force on 21st Century Policing (2015), IACP, FEMA, NFPA, and the U.S. Department of Defense (DoD) have made it a top priority to create a culture of wellness and health for officers and their organizations. Among the elements of such a culture are maintaining physical fitness, providing protective body armor, and preventing suicide. The premise is that these efforts will contribute to developing resilient police officers, who are able to adapt, cope, and grow despite stressful or traumatic work environments. The present research does not aim to uncouple or critically discuss these programmatic efforts. Rather, the dissertation research study, driven by the national public-health epidemic associated with prescription drug misuse and addiction, seeks to understand how widely prescribed and commonly misused drugs such as opioids and benzodiazepines[6] may be subtly undermining more overt wellness-oriented practices.

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[6] Benzodiazepines are prescribed for the treatment of anxiety and panic disorders, and also as muscle relaxants; there are very limited data available on their prevalence and use in combination with opioids in the United States, though data from the National Vital Statistics Survey (CDC, 2014) indicate that unintentional deaths and poisoning from opioids increased significantly in the presence of benzodiazepines. According to Olfson, King, and Schoenbaum (2014), the rate of use in the general population is 5.4% for persons 36 to 50 years of age and 7.4% for persons 51 to 64 years of age.

The theoretical framework for examining the empirical questions in the present research study derives from the conceptual building blocks of stress theory, positive psychology, and resiliency theory. The following section describes how these various theoretical models have subtly shifted the focus of attention from occupational pathology to officer health, wellness, and resiliency.

Stress Theory

"It's not so much what happens that matters; it's how you take it." (Hans Selye, n.d.)

The contemporary movement to support officers' physical, mental, and behavioral health is situated in the biochemical study of how stress impacts the body. In the past 50 years there has emerged a substantive body of research pointing to the negative physiological impact of stress on police and other first responders in comparison with the general population. A central unifying theme in this research derives from its focus on how stress and stressors associated with the occupation and organization of policing lead to disease and pathology.

Viennese-born endocrinologist Hans Selye (1907–1982), who is called by many the "father of stress theory," conducted research through much of the 20th century that greatly influenced the idea that stress is a normal part of life brought on by external changes, which cause nonspecific physiological changes affecting the body and brain.[7] Selye's work developed from and extended the scientific understanding of disease and its impact on the body that was first advanced through the research of physiologist Walter B. Cannon (1871–1945), in particular Cannon's identification of homeostasis in 1926.

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[7] Selye (1976) described General Adaptation Syndrome (GAS) as a triphasic process of stress adaptation with the following stages: alarm reaction, adaptation, and exhaustion. Selye pointed out that humans progress through Stages 1 and 2 repeatedly throughout the course of the day; they may become upset or annoyed with the change, but eventually they adapt and move on. In rare cases, when people experience all three phases at once, they are unable to adapt, the body becomes fatigued and exhausted, and death results.

Homeostasis refers to an organism's ability to self-regulate, i.e., to remain "steady"

despite external influences and exposure to disease. Selye suggested that it is not

sufficient to regard disease and stress merely as conditions that cause injury or harm to an

organ; a more complete view is that, as a result of the body's fight to return to

homeostasis, organic and chemical changes occur in the body, thus leading to a new

baseline "normal."[8] Contemporary research points to the importance of understanding

the impact of recurring and cumulative stress on an individual's physical and mental

health; for example, owing to advances in medical technology and the field of

neurobiology (Levy-Gigi, Richter-Levin, & Kéri, 2014) researchers have learned that

"within the first three years of working as a first responder, the brain changes"

(Substance Abuse Prevention, Education and Outreach for First Responders (2014, p.

22).

In addition to generalized stressors related to interpersonal relationships, money,

and work, researchers have identified more specific stressors related to "the job" of

policing and public safety. These include work-related exposure to critical incidents and

hostile communities and subcultures, as well as organizational stressors that limit

officers' decision-making skills (Janik & Kravitz, 1994; Johnson, Todd, & Subramanian,

2005; Woody, 2005). Research also points to a rigid hierarchy and bureaucracy;

decreased sense of control (Morash, Haarr, & Kwak, 2006; Stinchcomb, 2004; Woody,

2005); and job-related problems such as poor equipment, unfair workload distribution,

favoritism, and discrimination (Kirschman, 2007). The impact of these organizational

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[8] It has been suggested that Selye was chagrined by this use of his work; rather, he desired that his research be used to enhance health and wellness. See, for example, the American Institute of Stress (http://www.stress.org/about/hans-selye-birth-of-stress/) and Selye's own writings in *The Stress of Life*, revised edition (1976) and *Stress Without Distress* (1974).

stressors includes higher rates of heart disease, obesity, domestic troubles, early death,

and suicide compared with the general population (Chae & Boyle, 2013; Davey, Obst, &

Sheehan, 2001; Gunderson et al., 2014; Horn, 2014; Hurrell et al., 1984; Kirschman,

2006; Kirschman, Kamena, & Fay, 2014; Lindsay, 2008; Matsakis, 2005; Paton et al.,

2008; Swatt, Gibson, & Piquero, 2007; Violanti, 1999, 2014; Woody, 2005). So harmful

is the occupation of policing to officers' health and wellness that a recent text edited by

John Violanti (2014) is titled *Dying for the Job*.

From this field of disease and dysfunction research, several areas emerge as being

particularly relevant to the present study. These include the social and occupational

culture of police work and how this relates to substance abuse, use, misuse, and

addiction.

Alcohol Abuse and Police Officer Suicide

The scholarly research on substance abuse by police and other first responders has

been directed almost solely at alcohol use and abuse.[9] Dating back to some of the earliest

research on alcohol use by police (Violanti, Marshall, & Howe, 1983), findings have

remained fairly consistent that alcohol use by police is correlated with stress and distress

related to the structural organization of policing and indirectly related to a process of

depersonalization that accompanies the occupation (Chopko, Palmieri, & Adams, 2013;

Davey, Obst, & Sheehan, 2001; Lindsay & Shelley, 2009; Patterson, Chung, & Swan,

2014; Richmond et al., 2002; Violanti & Aron, 1994). Specifically, while the majority

of police are successful at managing stress and adopting effective coping strategies,

moderate use of alcohol as a coping mechanism is attributed to a general lack of control

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[9] A note of caution: The patterns of the onset of police and other first responders' use of prescription
medications, as well as the interpretations of this use, may differ from those related to alcohol; thus, no
parallel is being suggested in that regard.

over everyday decisions affecting their work and little control over their work environment.

The concept of depersonalization refers to the social psychological processes involved in separating one's own emotions from emotionally charged and unpleasant situations—including but not limited to crisis events—commonly confronted by police and other first responders (Alexander, 2014). Depersonalization is a double-edged sword and an ineffective long-term coping strategy. Although officers who have witnessed or are in the midst of horrifying events are able to continue to perform their duties, the aftereffects—the backswing of the sword's other cutting edge—on officers' psychological and physical well-being may be devastating, even resulting in suicide.

Research indicates that alcohol use is often symptomatic of other mental and behavioral problems, including depression and suicidal tendencies. Houser et al. (2010) have reported that although the occupational fatality rate for law enforcement personnel is more than three to five times greater than the national average, the rate of suicide by law enforcement officers is even higher. The most recent statistics reported by Badge of Life (Levenson, O'Hara, & Clark, 2012)[10] regarding law enforcement officers were that suicides (n = 126) were occurring at the same rate as line-of-duty deaths (n = 129). However, whereas line-of-duty deaths had decreased 22% since 2009, officer suicides had dropped only 12%. The concern has become so urgent that, since 2012, the IACP and the U.S. Department of Justice Office of Community Oriented Policing Services

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[10] Badge of Life is a support group of active and retired police officers and their families, along with health and treatment providers, who have experienced and been impacted by a loved one's suicide. Badge of Life offers support, resources, education, and outreach. The Badge of Life program is grounded in the Emotional Self-Care (ESC) program, which advances officer health and safety through organizational and individual wellness initiatives. To learn more, see http://www.badgeoflife.com/aboutus.php

(COPS), in collaboration with representatives from the public-health and research

communities, have spoken out for the need to change the organizational culture of

policing to support officers' mental health and wellness. Officers are being called upon

to speak up for each other, talk to their peers, and address perceived or actual problem

behaviors in their fellow officers as informal intervention efforts.

Bernard Melekian (2012), director of the COPS office, made the following

statement to members of the Police Executive Research Foundation (PERF):

> I think one of the great paradoxes of our profession is that our officers will
> take a bullet for each other, but they will not look at another officer with a
> substance abuse problem or some other personal issue and say, "I'm going
> to intervene in your life." Somehow we have to change that. […]
> Substance abuse is a disease, and officers need to make a choice to pursue
> wellness, but the department can help the process. […]That [suicides] and
> prescription drug abuse are both significant problems…. (pp. 4–5)

Extrapolating from the research on alcohol consumption and first responders, we

might similarly imagine that police officers and other first responders use

benzodiazepines to cope with job-related organizational and psychological stress. In

addition, we may also discover that opioid-analgesic use and misuse are associated with

the organization of police work, including, but not limited to, on-the-job injuries and

return-to-work policies. Importantly, however, clinicians, treatment professionals, and

data suggest that in the case of opioid use disorder and opiate addiction, the best predictor

of increased risk may be the individual's family or personal history of alcohol use (J.

Curran, personal communication, September 8, 2015; Merikangas, K., Dierker, L., &

Fenton, B., 1998).

The CDC has reported that the prevalence of opioid and benzodiazepine use

varies by age and sex; specifically, women and those over the age of 45 are more likely to

use opioids and benzodiazepines (CDC, 2013). According to ASAM, these groups also have a greater risk of opioid abuse (ASAM, 2016). Other variables that increase the risk of opioid abuse and opioid addiction include the following: receiving dosages at the federal limit, receiving multiple prescriptions during the same period, taking both an opioid and a benzodiazepine at the same time, having prescriptions filled by more than one pharmacy during the same period, and having a past history of mental illness (Senate Judiciary Committee, 2016). Last, variables that may be associated with increased odds of seeking treatment for opioid use disorder include having a past history of substance abuse and having a past history of mental illness (J. Curran, personal communication, June 5, 2015).

Recent public health data and extant studies report variations in opioid use and related negative health outcomes by individual traits, including: age, gender, and mental illness. National data consistently reports that persons over the age of 45 are more likely to receive an opioid prescription than younger adults and that older adults are more likely to seek emergency room admission and hospital in-patient stays for an opioid analgesic overdose than younger adults (ACPM, 2011; CDC 2016; Owns, Barrett, Weiss, Washington & Kronick, 2014; SAMHSA, 2015). These findings were contested by Kerridge et al.'s (2015) study that concluded individuals ≤ 45 years of age were less likely to seek treatment for opiate abuse.

Other studies have looked at gender and opioid use and abuse (ASAM, 2016; Back, Payne, Simpson, & Brady, 2010; Back, et al., 2011; CDC 2013; Glerum, K. & Choo, E., 2015; NIDA, 2016; Paulozzi, L.J., Stuckler, G.K., Kreener, P.W., Karis, C.M., 2013; SAMSHA 2014, 2015). The patterns of use tend to depict that men are more likely

to fill a prescription for an opiate than women; however, this gap is closing. Yet, women are more likely to misuse or abuse prescription opioids, as measured by the greater rate of women seeking emergency room admission and in-patient hospital care for an opioid prescription overdose. Previous research also indicates that opioid use and abuse patterns among men and women vary by age (Kerridge, B.T. et al. 2015). Recent data has shown that older women, ≤ 45 years of age, are more likely than men in this age group to be prescribed an opiate for chronic pain, placing women at an increased risk of opioid use disorder.

The co-occurrence of opioid use and mental illness has also been studied (Scherrer et al., 2016). The research indicates that persons with depression and chronic pain are more likely to be prescribed an opiate than those persons having chronic pain and no depression. Moreover, prescribing patterns for these individuals also differ, which places them at a higher risk for developing an opioid use disorder. Scherrer et al. (2016) found that persons with depression have a longer duration of use of opiate use and take a stronger dosage compared to those without depression. Taken together, Scherrer and colleagues suggest: "The opioid epidemic in the United States reflects underdetected and undertreated mental illness in patients with chronic pain" (p. 54).

Prior studies have also examined the link between opioid analgesic use and behaviors, including concurrent use of a benzodiazepine, duration of opiate use, and having a history of substance abuse. These studies report that the risk of opioid related overdose, misuse, and opioid use disorder is magnified with each of these behaviors. Previous results showed that opioid misuse and overdose generally increased for those also taking a benzodiazepine (Gudin, J.A., Mogali, S., Jones, J.D., & Corner S.D., 2013;

Jones, C.M., Paulozzi, L.J., & Mack, K.A., 2014; Jones, J.D., Mogali S., & Comer, S.D., 2012; SAMHSA, 2014), that duration of opioid use - more so than the strength or morphine equivalency of the dosage - increased the risk for developing an opioid use disorder (CDC, 2016; Dowell, D., Haegerich, T.M., Chou, R., 2016; Volkow, N.D., McLellan, A.T., 2016), and that having a history of substance abuse increased the risk for developing an opioid use disorder (Compton and Volkow, 2006; Dart et al.2015; Savage, S.R., Kirsh, K.L., & Passik, S.D., 2008;Volkow, N.D., 2016). It is particularly important to explore individual links between other health-risk behaviors like co-occurring benzodiazepine use, duration of opiate use or substance use because such inquires could reveal the presence of sub-groups toward which targeted health interventions could be directed.

The preceding discussion reviewed literature and findings associated with alcohol use as a coping measure for police, and an overview of risk factors associated with opioid use disorder and likelihood of receiving treatment for opioid use disorder. The present study examines these relationships empirically. Importantly, however, these explanations are incomplete without considering how stigma and the police subculture impact substance abuse and use.

<center>Occupational Socialization, Stigma, and Subcultural Norms</center>

<center>*"We have met the enemy and he is us."* (Walt Kelly, 1970)</center>

These often-quoted words, made famous by Walt Kelly's comic strip character Pogo, aptly summarize the themes relating to the ways in which occupational socialization and stigma act as barriers to effective prevention and intervention programs for police and other first responders. Although the literature is mixed as to whether or

not police and other first responders are predisposed to particular personality traits (Balch, 1977; Bennett & Greenstein, 1975; Crank, 2015; Manning, 1995; Skolnick, 1977; Twersky-Glasner, 2005), it is reasonable to presume that through the process of pre-employment screening and testing, first responders have in common certain desired traits and abilities[11] related to professional success.

More readily agreed upon is that police and other first responders share common values and norms that are imparted through occupational socialization, defined by Skolnick as the "working personality" of police (Crank, 2015; Reiner, 1986; Skolnick, 1966, 1994). Most highly valued are the principles of integrity and honor in upholding the law, as embedded in the Law Enforcement Oath of Honor. The qualities of perseverance, reasoning, bravery, and toughness likewise contribute to the officer's social capital and trustworthiness among peers, as noted by Woody (2004, p. 39). On the other hand, Reiner's (1986) characterization of the cop culture features a working personality that includes a sense of mistrust, cynicism, and pessimism (1985, pp. 86, 92–93), whereas the expression of emotion or empathy is perceived as a weakness (Miller, 2003).

In a cry for help, Kristi Tausinga (2015), a patrol officer in the Denver Department of Transportation, attempted suicide. Her blog post "I am tough, and I don't need help" offered a personal account of how conflicted she felt about telling anyone of her opiate addiction and requesting assistance:

> I am a cop and cops "don't ask for help". We're tough, not allowed to be weak or show weakness. I don't know why I took all the pills. I guess I was hoping that my husband would find me passed out on the living room floor. I had been telling him I had an opiate addiction, but he did not believe me. I guess I did "too good" of a job hiding it. I figured if he

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[11] For example, the reader is directed to the *Law Enforcement Recruitment Toolkit*, produced by the IACP, with the U.S. Department of Justice, Office of Community Oriented Policing Services, www.theiacp.org/recruitmenttoolkit

found me passed out, he would call an ambulance or rush me to the hospital. THEY would tell me I needed help, which is okay. Then it would take the "weakness" off of my shoulders.[12]

Compounding the fear of being judged as weak by one's peers, officers also fear reprisal by their supervisor when there is a perceived or actual lack of positive organizational support (Tucker, 2012). Speaking to his fellow chiefs of police at the Police Executive Research Forum, San Diego Chief Bill Lansdowne (2012) confirmed what many supervisors know to be true: "Police officers are afraid to come to us when they are in trouble and they want help because they think it will negatively impact their career path and what we, as administrators are going to do with this personal information" (p. 1).

Suspicion and secrecy may have their roots in the occupationally derived "code of silence," which has evolved to insulate and purportedly protect police from community complaints and uninformed external watchdogs (Brodeur, 2010; Crank, 1998; Manning, 1997). The code most frequently refers to the notion that if an officer crosses a legal line in carrying out duties, engages in corruption, or uses excessive force, "we" (police) can take care of "our own"; "we" can and will take care of "our" problems without the assistance of outsiders (Woldoff & Weiss, 2010). Trautman (2000) suggests that the "us and them" code of silence may be an extension of the culture of machismo, which is also a feature of the communities of police and other first responders.

Although the code may insulate officers from external criticism, it unwittingly isolates them from sources of assistance and intervention when needed. For example,

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[12] A number of support groups for veterans and first responders suffering from addiction, posttraumatic stress disorder, and other mental or behavioral disorders have found a place to connect through the Internet. This quote was captured from one such blog site, "Grieving Behind the Badge" (http://grievingbehindthebadgeblog.net/). Future research may seek to capture officers' stories through these online digital media sites.

organizational socialization and subcultural norms of toughness and self-sufficiency may hinder willingness to seek help for oneself or intervene on behalf of a fellow officer who is abusing prescription medications. Relatedly, Callaghan (2012) states that avoidance of confronting a fellow officer is greater in the case of narcotics misuse or addiction than in the case of alcohol use because, whereas alcohol is legal, behaviors associated with the misuse of opioids, narcotics, and benzodiazepines are perceived to be illegal and in violation of the Oath of Honor. In most jurisdictions, the questions of whether or not an officer is taking a legal drug as prescribed, and whether or not that officer should be on active duty (e.g., able to carry a weapon and operate a motor vehicle), fall within the category of "fitness for duty." This area is explored in the qualitative component of the present study. Though it is difficult to generalize, as policies vary by agency, common practices dictate that the officer report the use of all medications to a medical officer or a supervisor, or that he/she may stay home and take a sick day. If the officer reports taking a prescription medication, the medical officer or supervisor determines whether that officer is fit for active duty or should be placed on restricted duty.

Although it may be expected that research on police stress and disease will continue to evolve, most prominently, the research demonstrates that not all officers experience negative physical, mental, and behavioral outcomes from their profession. In fact, data regarding PTSD consistently have indicated that whereas 10% of first responders (including military personnel) experience this devastating disease, 90% do not (Castellano & Nestor, n.d.; McCabe et al., 2014; Miller, 2008b). Additionally, while 30% of police officers and other first responders score high on risk for abuse of alcohol, the majority do not (Lindsay & Shelley, 2009; Violanti, 1999). Thus it is a matter of

interest to identify the individual choices, pathways, and/or interventions that serve as

buffers against mental and behavioral illness. The fields of positive psychology and

resiliency theory[13] fill this theoretical and conceptual gap.

Positive Psychology: Towards Positive Mental Health

"It is time to integrate mental health and well-being into the mainstream officer
safety and wellness continuum." (IACP, 2013, p. viii)

The IACP has collaborated with the COPS office to take on the issue of mental

health in law enforcement, most prominently through their combined efforts to address

police suicide. Pillar 6 of the report from the President's Task Force on 21st Century

Policing (2015) broadly addresses the critical importance of officers' mental health. An

earlier report, "Breaking the Silence" (2013), laid out a "national strategy to address

officer mental wellness and suicide prevention, built on the following four

cornerstones: 1) Culture Change; 2) Early Warning and Prevention Protocols; 3)

Training; and 4) Event Response Protocols" (vii). The substantive research that informed

these recommendations arose from the field of positive psychology and the study of

military and law enforcement psychology.

In a poignant introduction to a special edition of *American Psychologist*, Martin

Seligman (2010), who is recognized as the founder of positive psychology, emphatically

urged his colleagues to move beyond long-standing traditions of the discipline that

emphasized mental illness and disease. He called upon colleagues to imagine and pursue

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[13] Crisis intervention (Flannery & Everly, 2000), Critical Incident Stress Management (Everly & Mitchell, 1999), Critical Incident Stress Debriefing (Mitchell & Everly, 1996), and Psychological First Aid (U.S. Department of Veterans Affairs, 2006; Everly, 2010) are evidence-based practices, grounded in positive psychology and resiliency theory, that are aimed at reducing or minimizing stress responses resulting from exposure to a critical incident.

research that advances prevention strategies and pathways to mental health, rather than focusing on mental illness and pathology:

> [T]he time has arrived for a positive psychology, our message is to remind our field that psychology is not just the study of pathology, weakness, and damage; it is also the study of strength and virtue. Treatment is not just fixing what is broken; it is nurturing what is best. What foregrounds this approach is the issue of prevention […] How can psychologists prevent problems like depression or substance abuse or schizophrenia in young people who are genetically vulnerable or who live in worlds that nurture these problems? (Seligman, 2010, p. 7)

Seligman (2010) argued further that positive health includes three interdependent variables: subjective health or happiness (involving how the individual interprets the impact of external forces in his or her life); biological health (involving most importantly the physiological functions, especially the coronary and pulmonary functions, as well as osteoarthritis and diabetes); and functional health (involving how well the individual fits in the social ecological context, which includes social relationships, and how they align with cultural norms in the context of their occupation). If one thinks back to earlier research presented on stress (namely, research by Selye), it can be noted that positive psychology similarly directs attention to understanding the triad effect of external variables on human wellness; these effects are physical, mental, and social (Littman-Ovadia & Steger, 2010; Peterson, 2006; Reivich & Shatte, 2002). However, whereas Selye's research emphasized physical biochemical variables, positive psychology identifies relevant psychosocial traits that are important to reestablishing homeostasis after a critical or traumatic event (Bartone, 2012).

Fredrickson, Tugade, Waugh, and Larkin (2003) found that individuals who possessed positive emotions such as gratitude, interest, and love prior to the 9/11 terrorist attacks in the United States experienced fewer depressive problems and stresses after the

attacks than did those who lacked positive emotions before 9/11. Moreover, in general, positive pre-crisis emotions are active ingredients for superior post-adversity coping and thriving. These findings support Fredrickson's (2003) theory of "broaden-and-build," which states that "positive emotions broaden an individual's momentary mindset, and by doing so help to build enduring personal resources" (p. 332).

Core principles of positive psychology have been adapted for training programs used by the U.S. Marine Corps and the U.S. Army. For example, post-deployment infantrymen who had completed one such program, "Positive Emotions Resilience Training," were shown to have more quickly increased baseline functionality and recovery from stress than those in the control group, who had not been exposed to the training (Johnson et al., 2014). Also related are the practices of Critical Incident Stress Debriefing (CISD), Critical Incident Stress Management (CISM), and Psychological First Aid (PFA). These practices, which were originally developed to provide time-sensitive psychological intervention services for police and other first responders following a crisis or particularly traumatic event (Bohl, 1991, 1995; Flannery & Everly, 2000; Jenkins, 1996; Mitchell, 1983; Mitchell & Everly, 2001), have expanded over time to include pre-crisis training and post-incident response across many different occupational settings and in all-hazards scenarios (Boscarino, Adams, & Figley, 2005; Jones & Wessely, 2003; Leeman-Conley, 1990). Although programs vary in specifics, Castellano and Nestor (n.d.) have indicated that the following six core common components may be found in programs with such titles: initial contact and psychological stabilization, brief assessment and psychological triage, intervention with appropriate services, triage for psychological

trauma, referral and advocacy to third parties, and putting in place appropriate self-care and ongoing self-assessment measures.

The conceptual building blocks of positive psychology and learned optimism, along with the recognition that a holistic response to stressors (physical, social, and psychological) best contributes to wellness and health, are at the heart of resiliency theory. The social ecology of resilience theory integrates the previously described individual-level explanations found in stress theory and positive psychology, but adds variables from the fields of social learning and cultural adaptation. It aims to identify pathways for healthy growth and adaptability of individuals, organizations, and communities, in spite of external threats, by accounting for the protective factors resulting from embeddedness in a broader social ecological system. The components of resiliency research include prevention, intervention, education, and training.

<div align="center">Resiliency</div>

"That which does not kill us makes us stronger." (Friedrich Nietzsche, n.d.)

Resiliency is commonly understood to mean the ability to "bounce back" following exposure to stress or trauma; implicitly the definition includes an understanding of what is considered normal development and of the conditions surrounding a return to normal following a trauma. Much of the research on resilience has derived from the study of childhood and youth development within crisis environments, such as extreme poverty, abuse, and war. Broadly categorized, past research on resilience has been pursued along two paths: one placing emphasis on the centrality of resilience as a psychological trait and another perspective flowing from the social ecological perspective. The focus of the present research is on the latter. It seeks to contribute to this burgeoning field of study. Influenced by the early writings of Urie

Bronfenbrenner (1979), the social ecological perspective of resilience focuses on the interaction of individuals with their social and physical environments. It calls for greater attention to resilience as a social construct, including how normative expectations of behavior influence what we mean by resilience, and how the social, ecological, and cultural influences of the broader society impact adaptability (Bronfenbrenner 1979, 2005; Rutter, 2006, 2013; Ungar, 2011, 2012, 2013). Theoretically, the social ecological perspective expands beyond psychological trait explanations of resiliency to focus on the ways in which individual-level, process-and-team-level, and systems-and-organizational-level variables and relationships interact so as to affect an individual's ability to make sense of, give meaning to, and experience positive growth despite adverse working conditions. The following section begins with an introduction to ecological explanations of resilience and concludes with a presentation of the social ecological model of resilience that guides the present study.

A robust and influential ecological model of resilience in law enforcement and other high-risk occupations is the "Stress Shield Model of Resilience" developed by Paton et al. (2008). The model seeks to explain how individuals adapt, rebound, and return to normalcy following exposure to risky environments or traumatic events. According to this research, resilience is an outcome of the individual's adaptive capacity and their ability to make sense or give meaning to these events. In addition to this cognitive component, the Stress Shield Model attempts to measure the level of control the individual has over their environment and resources, including social supports. The model relies heavily on structural equation modeling of individual-level psychological measures and psychometric analysis, combined with scales of social support. Paton et al.

demonstrated that variation in officers' resilience is related to the interaction between individual, team, and organizational factors. The officers' past experiences, including previous training and education, along with a positive organizational climate, supervisory support, and trust are important factors contributing to resilience (Paton & Violanti, 2011; Paton, Violanti, Norris & Johnson, 2011). The social-ecological model differs from this framework in that it introduces the role that indirect relations, culture and social structural elements play in developing and sustaining resilient behaviors. Furthermore, resilience is conceptualized as the adaptive capacity for growth – not solely a return to normalcy.

Strategies for effective coping, adapting, and developing resilience in first responders have received increased attention, owing in part to greater understanding and more accurate diagnosis of PTSD following the Vietnam War and the Gulf Wars. Data from the U.S. Defense Medical Surveillance System (DMSS) showed a 544% increase in the reported incidence of PTSD from 2003 to 2013, but notably, a 50% decrease in the number of cases from 2013 to 2014 (Fischer, 2014, p. 2).[14] Comparisons have been made between pathways to resiliency for military service members and for their domestic counterparts among police and other first responders (Bartone, 2012; Miller, 2008b, 2010; Weltman et al., 2014). Their high-risk occupations carry many of the same stressors and mental and behavioral outcomes, such as PTSD, which is defined as follows:

> [A] reaction to a psychologically traumatic event outside the range of normal experience […] [M]manifestations of PTSD included recurrent and intrusive dreams and recollections of the experience, emotional blunting, social withdrawal, exceptional difficulty or reluctance in initiating or maintaining intimate relationships, and sleep disturbances. (Grossman, 2009, p. 285)

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[14] The significant change in the number of reported cases of PTSD lacks explanation at this point.

The American Psychological Association's Task Force on Resilience in Response to Terrorism; the RAND Center for Military Health Policy Research (Meredith et al., 2011); the Resiliency Sciences Institute at the University of Maryland, Baltimore County; the Penn Resiliency Program at the University of Pennsylvania; and most recently the U.S. National Guard, FEMA, and the IACP, have been instrumental in advancing training for the military, police, and emergency responders. Such programs emphasize that resilient behaviors arise from taking care of oneself physically, mentally, and socially. When the focus is on resilient attitudes and behaviors, the emphasis shifts towards a positive orientation for understanding what must be done to enhance officer wellness and health during the course of the normal routine, as well as both in preparation for and in the aftermath of a crisis event. A common theme is that resilient attitudes and behaviors stem from self-efficacy but are facilitated and contextually supported through the resources available in one's social environment.

Self-efficacy means having a positive belief in one's own ability to successfully complete a task (Bandura, 1977). Empirical research has emphasized the importance of preparation, prevention, and training for enhancing self-efficacy (Horn, 2014; Paton et al., 2008). This includes a healthy lifestyle with physical training, exercise, nutritious food, and proper hydration, along with self-reflection, ongoing skill-building, and a purposeful attitude toward one's work (Wyche et al., 2011). In each of these areas, training and education can have a positive impact.

It is anticipated that future research will be further enhanced through the use of medical technology—for example, portable neurophysiological devices that measure heart rate variability (HRV) and electrocardiogram (ECG) recordings—to evaluate police

and other first responders' reaction to stress in the field, in particular with a view to reducing cardiovascular disease (CVD) risk (McCraty & Atkinson, 2012; Ramey et al., 2014). Initial findings from these studies demonstrate valuable ways in which resiliency training can promote officer self-regulation in the field. For example, advances in molecular genetics, hormonal assessment, and neurobiology have spurred multilevel research that has proven insightful for identifying police and military recruits at risk for developing PTSD (Cicchetti, 2010).

Everly, McCormack, and Strouse (2012), principal contributors to the Johns Hopkins Model of Resiliency, carried out interviews of individuals they defined as being highly resilient persons, including Navy SEALs, police SWAT officers, and "children of the greatest generation" (those who grew up during the Great Depression). Their qualitative data analysis supports previous quantitative findings that "the seven core characteristics of human resilience are: *présence d'esprit*: calm, innovative, non-dogmatic thinking; decisive action; tenacity; interpersonal connectedness; honesty; self-control, and optimism and a positive perspective on life" (Everly, McCormack, & Strouse, 2012, p. 139). Of concern, and of particular concern for substance and behavioral health providers that work with police and other first responders, these traits appear to be at odds with the long-standing conception of the "working personality" (Skolnick, 1966, 1994) of police. According to Skolnick (1966, 1994), the dangerous occupational environment of policing combined with their authority to enforce the rules leads to socially isolated, distrustful, highly conservative, and pessimistic police officers. In the present research, these tensions were probed empirically through the AI qualitative study design.

Understanding risk in a given context is a key component of assessing resilience. Studies of resilience have hinted at the role social capital and community-level support play in resilience. Pietrantoni and Prati (2008) noted that the availability of social support, seeking social support, and perceived social support positively impact police and other first responders' quality of life. The authors stated that variations in resilience are due to the combinations of individual characteristics, group dynamics, and organizational characteristics. Meyer's (2013) study was one of the first to link social capital and collective efficacy with resilience research. Her research provides an elegant introduction for grounding the sociological understanding of these two concepts in resilience study. Meyer wrote:

> *Social capital* represents the resources available through individual social ties with others that can be activated to affect individual-like outcomes and outcomes for the entire network. *Collective efficacy* refers to the capacity of a group of people to work together for shared goals. (Meyer, 2013, pp. ii–iii)

In sum, Meyer's research points towards a multidimensional understanding of resiliency that accounts for how officers' social environment enables or limits their capacity to navigate risk, protective factors, protective processes, and social ecologies.

With support from the U.S. DoD, the RAND Corporation (Meredith et al., 2011) conducted a focused literature review of resilience research to identify evidence-informed factors for promoting psychological resilience, and subsequently to identify programs grounded in these factors. The findings confirm that resilient behaviors are not produced solely by individual psychological traits; rather, they are developed in interaction with community and organizational variables. The U.S. National Guard's "Pillars of Wellness" program is illustrative of this principle. The program is designed to promote

wellness and reintegration for members of the National Guard, their families, and their communities at the pre-deployment, active-duty, and post-deployment stages. The pillars include emotional wellness, physical wellness, spiritual wellness, social wellness, and family wellness. Training, education, advocacy, and other resources are available to enhance officer fitness, provide positive organizational support, establish purposeful connections, and build communities of trust and wellness.[15] As a whole, the program identifies explicit and routine strategies for individual learning and the development of organizational processes to shape a culture of wellness and resiliency.

The "First Responder Resiliency" program, an outgrowth of work by Callahan and Marks (2011), was adapted for first responders who had direct or indirect involvement with the 2012 mass shooting in Aurora, Colorado, in which a gunman entered a crowded movie theater, dispersed tear gas, and opened fire, killing 12 people and injuring 70 other persons. Callahan and Marks sought to learn whether a one-day session to develop cognitive, physical, behavioral, and social skills would have an impact on resiliency. A six-week design with pretest and posttest was used to measure resiliency. The findings indicated that individuals could make significant improvement in both pretest and posttest resilience scores, with the effects being sustained at least during the six-week testing interval. These findings suggest that education and training are, indeed, pathways to developing resiliency.

Empirically, the research demonstrates that resiliency is a behavioral outcome resulting both from human agency and from interactions within specific social, environmental, and cultural contexts. This approach has come to be known as the social ecological model of resiliency. The breadth of this research has derived from the study of

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[15] See www.jointservicesupport.org for a description of the program.

children and youth in war and crisis environments; it is a body of research that indicates that social support, prevention, and intervention efforts of family and school significantly impact resiliency in children and development in youth. Moreover, it suggests that children's resiliency is affected by how these micro-level and mid-level factors are negotiated and situated within the macro-level spheres of cultural and political economies.

The present research applies the social ecological model to examine how the opioid epidemic has impacted resiliency in law enforcement. This research examines personal accounts of officers, and it explores personnel and systems whose purpose is to support them. Further, it also seeks to understand how broader sociocultural changes in pain management strategies and access to legally prescribed addictive medications may be impacting resilience in officers and their organizations.

Drawing upon Bronfenbrenner's seminal work, *The Ecology of Human Development* (1979), and his later work, "A bioecology theory of human development" (2005), the present research adapts Bronfenbrenner's ecological conceptual model to examine how opioids have affected police officers' resilience.   The model depicts a conceptual shift away from understanding resilience as an individual trait, and towards conceiving it as a dynamic interaction of the individual within the context of his or her specific social environment. In the present study, the research design primarily focuses on elements of the individual-level and micro-level spheres while generating insights into the meso-level and macro-level spheres.

Figure 1 depicts four intersecting levels/spheres that have been identified as relevant to resilient persons and organizations. The next paragraphs describe the

conceptual components of each level and then briefly discuss how these are manifest in the context of law enforcement personnel and this study. It is important to note that relationships in each of these spheres are bidirectional. Thus, actions and reactions in one sphere may affect how a person is treated or responds to events in another sphere.

The *individual-level sphere* depicts the intrapersonal traits of the individual, including personality, physical capacities, and self-efficacy. Historically, resilience research has focused on these traits as fixed, thus suggesting that some individuals are born more resilient than others. The *micro-level sphere* is the system within which the person has the most direct contact. It typically includes family, peers, school, and work. As suggested by Bronfenbrenner, this is the most influential level of ecological systems theory. The micro-level sphere accounts for the individual's primary group affiliations, which provide face-to-face interaction, intimacy, a shared belief system, mutual support, and a strong sense of commitment. Bronfenbrenner situates collective efficacy in this sphere. He suggests that it accounts for the way in which social networks and group affiliations assert influence on the individual's development and resilience. In the present study, the qualitative interviews are designed to enrich understanding of these micro-level influences on resiliency in policing.

The *meso-level sphere* consists of influences from groups and persons that have indirect impact on the individual and their resilience. Resources and policies that arise from the meso-level frequently drive programmatic efforts that impact the individual and the micro-level associations. For example, in the present study, components of the mesosystem may include the police union, police leadership, and healthcare providers. This is a rich area of exploration for future research.

Last, the *macro-level sphere* (or exosystem) comprises the indirect and distal

social structural environment in which individuals do not have direct involvement as

active participants, although this system still affects them. Moreover, the individual does

not necessarily have decision-making power in the exosystem. Chapter 1 of this paper

touched on how sociocultural shifts in pain management protocols, legislative and

administrative rule-making, and pharmaceutical marketing practices affect resilience.

Future empirical research will aim to understand the impact of these sociocultural factors.
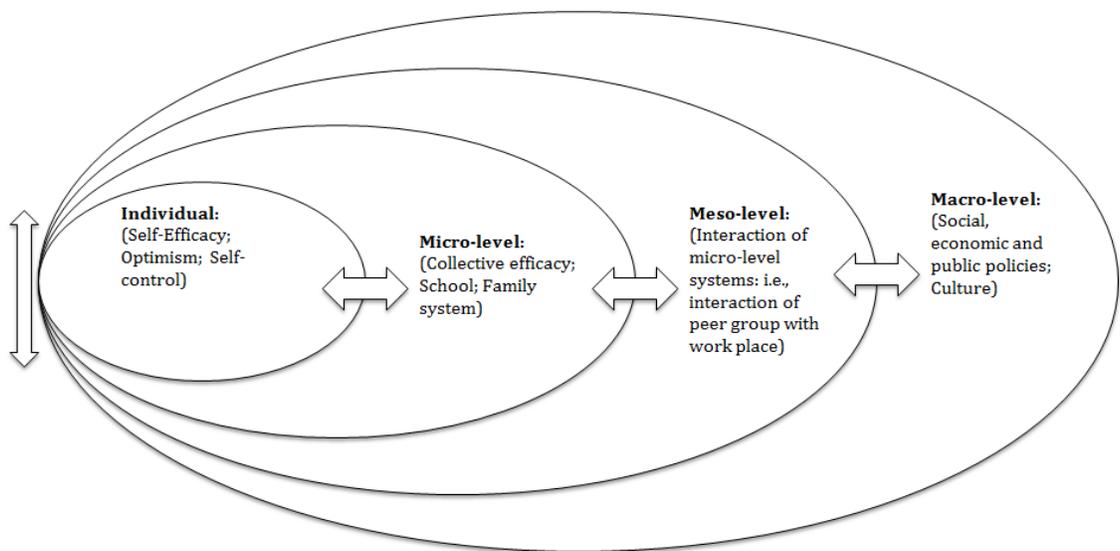
Figure 1. Adaptation of the Bronfenbrenner social-ecological model of resilience.

A social ecological model has the added benefit of helping identify strengths and

risks in each sphere, and across spheres, that influence pathways to resilience. As noted

previously, although a full examination of the model is beyond the scope of the present

paper, the research design offers a valuable opportunity to examine how individual-level

and micro-level characteristics contribute to resilience in policing—especially as these

are related to opioid use disorder. At the individual level, the quantitative data provides a

better understanding of the use of opioid-analgesic and benzodiazepine prescription

medications among law enforcement officers, along with information about the incidence and correlates of receiving treatment for opioid and substance use disorder. The qualitative data provides contextual insight associated with the individual-level and micro-level spheres. This data sheds light on how officers' drug use affects their fitness for duty; stigmatization; mental illness; help-seeking behaviors, including substance abuse treatment; and workplace processes, including salary, opportunities for advancement, drug-testing policies, and the police subculture.

The present research aims to fill the critical gaps in understanding how use of prescription pain medications and benzodiazepines affects overall psycho-social health, wellness, and resiliency for police and policing agencies. As reviewed in the current paper, to date, research on maladaptive behavior in police has focused almost solely on individual and/or micro-level explanations associated with alcohol abuse. The present research uncovers elements relevant to individual-level and primary-group-level factors—both those that serve as protective pathways and those that pose threats to resilience. Importantly, it also provides a pattern for future directions with the use of the social ecological model.

The following chapter introduces the methodology for the present study, including the mixed-methods research design, sampling strategy, data collection strategy, and analytic plan. The quantitative research design is a four-year retrospective study of prescription opioid and benzodiazepine medication use and related substance abuse treatment by officers in a large urban police department. A qualitative research study using the principles of Appreciative Inquiry provides contextual data surrounding officers' use of prescription pain medications and benzodiazepines. Another objective of

the qualitative study has been to uncover the individual-, organizational-, and systems-level factors that explain officers' help-seeking for prescription medication use disorder, as well as help-seeking for substance abuse in general. Together, these complementary data sets help reveal the impact of the opioid epidemic on the law enforcement community and advance the field by highlighting the importance of the culturally and historically embedded context of protective pathways and threats to resilience.

CHAPTER 3

RESEARCH DESIGN, DATA, AND METHODS

Research Questions

The present study represents the first social scientific examination of opioid use by law enforcement personnel. Building upon Bronfenbrenner's theoretical ecological model of resilience (1977), the present study aims to empirically examine the individual and social contextual variables that contribute to police officers' use of opioids and how these impact officers' resilience. Widespread uses of prescription opiate drugs, which are used to manage acute and chronic pain, have been implicated as a significant factor contributing to opiate use disorder, drug overdoses, and overdose deaths. The research questions will be examined through a mixed methods research design, through which the quantitative data explains the prevalence and breadth of opioid use by officers and the qualitative interview data provides meaningful accounts of officers' experiences with opiates. Through the latter, we gain a first- hand understanding of prevention, intervention, and monitoring effects, which may support officers' wellness and fitness for duty. The research questions guiding the present study are the following:

RQ #1: What is the prevalence of use of opioid analgesics by police officers in a large urban police department?

RQ #2: What individual-, organizational-, and systems-level factors explain the use and misuse of prescription medications among law enforcement personnel?

RQ #3: What individual-, organizational-, and systems-level factors explain officers' help seeking for use of prescription medications?

a. What individual-level factors are associated with officers' receiving treatment for opioid use disorder?

Importantly, the research has relevant policy implications; it aligns with the national strategic policy initiatives to understand the effects of stress and trauma on law enforcement personnel, and seeks to identify processes and practices to support law enforcement officers' health and wellness. The final research question states:

RQ #4: What individual, cultural and organizational processes contribute to officers' behavioral health, mental health, and resiliency?

Mixed-Methods Design

In their informative synthesis of reasons why a study might benefit from the adoption of a mixed-methods strategy, Johnson and Onwuegbuzie (2004) stated, "What is most fundamental is the research question – research methods should *follow* [emphasis in original] research questions in a way that offers the best chance to obtain useful answers" (p. 18). Having determined that the research questions are best answered using a mixed-methods design, Johnson and Onwuegbuzie (2004) suggested that it is important to consider the following: (a) whether one wants to operate largely within one dominant paradigm (quantitative [QUAN] or qualitative [QUAL])[16] or not, and (b) whether one wants to conduct the phases concurrently or sequentially (p. 20).

Having considered these two points, in light of the research questions detailed above, the researcher chose to collect the qualitative and quantitative data simultaneously, but to give priority to the qualitative data. For the quantitative

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[16] Johnson and Onwuegbuzie attribute the notations of QUAN and QUAL to J. M. Morse (1991), "Approaches to Qualitative-Quantitative Methodological Triangulation," *Nursing Research, 40*, pp. 120–123. The uppercase spellings of QUAN and QUAL denote high priority or weight in the research design, whereas the lowercase spellings (quan and qual) denote lower priority or weight in the research design.

component of the study, a four-year (2011–2014) retrospective study of opioid

prescriptions filled for active and retired officers from a metropolitan police department

has been conducted. The quantitative research design addresses RQ #1; the analyses

explain the prevalence of opioid use, and explores whether there are relationships

between age and sex (individual-level factors) and patterns of opioid use. The

quantitative analyses also explore whether individual-level risk factors – i.e. concurrent

use of more than one opiate, extended use of an opiate, receiving a benzodiazepine for

depression or anxiety, and having received treatment for a mental illness or substance

abuse – increase an individual's vulnerability to addiction and opioid use disorder, which

is a component of RQ #2. The data and analyses are presented in Chapter 4.

The qualitative methodology also contributes to answering RQ #2; it provides for

officers' personal accounts for why they started using opiates and their reasons for why

they progressed to misuse and abuse of the painkillers. For the qualitative component,

using the principles of AI, the researcher interviewed officers who had been prescribed

opioids, had used opioids while on the job, and/or had sought help or entered treatment

for opioid use disorder. Additionally, interviews have been carried out with persons

holding a supervisory position in a policing organization, treatment providers who assist

police and other first responders, police peer counselors, EAPs working with law

enforcement organizations, and law enforcement health benefits providers. Further, the

qualitative design provides the framework to answer RQ #3 and RQ #4; participants

discuss how the socially constructed meanings associated with stigma, with being weak,

and being an addict, as well as situational factors, processes, and social norms impact

officers' wellness and fitness for duty. A discussion of the qualitative data is presented in

Chapter 5.

To illustrate the mixed methods strategy, as noted in Chapter 1, the researcher has

been guided by the work of Palinkas et al. (2011). Table 1 draws on their work to outline

the rationale underlying structure, function, and process, which guides the mixed methods

research strategy.

Table 1

Structure, Function, and Process in Mixed Methods Design

Element	Category	Definition
Structure	QUAL + quan	This research design is appropriate for exploratory research and hypothesis generation. The qualitative and quantitative data gathering and analysis are carried out simultaneously.
Function	Complementarity	The qualitative design and data combined with the quantitative methods and data provide a more robust design to study the research questions. The qualitative data provides depth of understanding and the quantitative data provides breadth of understanding of the phenomena.
Process	Connect	The mixed-methods design requires a process and strategy to connect the results of the qualitative and quantitative analyses.

Note. Adapted from Palinkas et al., 2011, p. 46.

In sum, one of the underlying reasons for carrying out a mixed methods study is that the

nature of the research question is best studied from a combination of using both

qualitative and quantitative methods. In Chapter 6, the quantitative and qualitative

findings are tied together within the social ecological model of resilience and theoretical and policy implications are discussed.

Quantitative Methods and Data

Sample and Data Collection

Opiate use and opioid use disorder are complex behaviors. The quantitative data provide a lens for examining the relationship between individual-level traits, patterns of opioid use, and opioid use disorder. This part of the research involved a retrospective study of prescription and medical benefits claims filled by the active and retired officers of a particular metropolitan police department in the United States. The prescription claims data set represents prescriptions filled and submitted for payment by the officer or service provider (i.e. pharmacy). It is not possible to glean from quantitative data whether or not an individual ingested the medication, prescription fill data is the foundation of state drug monitoring programs and therefore may be recognized as an acceptable measure to indicate prevalence of use. For confidentiality purposes—as the present research is the first of its kind to examine opioid use and opioid use disorder, and the findings could prove to be concerning for the police department and its members—hereafter, this police department will be referred to as the Metropolitan Police Department (MPD). The data and analysis are meant to paint a basic epidemiological picture of opioid use among this population.

The total number of participants in the health plan of the MPD during the period 2011 to 2014, including active and retired officers and their dependents, was approximately 22,000 annually. The total number of unique officers/members served over the four-year study period was $N = 10,923$, and the average annual number of

officers who were subscribers was 7,127. Through their employment contract, officers

and their families received this coverage without contributing to their medical or

prescription premium. Further, the level of care and coverage was considered excellent

by industry standards. In sum, given the high quality of the insurance coverage, there is a

strong level of confidence that the data set represents legally obtained services and

medications for officers in MPD during the period 2011 to 2014. Nonetheless, there is

always the risk that this data underestimates the incidence of opiate use and the number

of officers who seek treatment for a related addiction disorder, by failing to capture

individuals who pay cash for these services. One of the areas of concern surrounds

illegally obtained opiates, which are more likely to be paid for with cash than with

insurance reimbursement. Similarly, an officer who is trying to hide a mental or

behavioral problem, such as an addiction, may be inclined to self-pay, rather than submit

claims for payment through medical insurance. These limitations of the data and analysis

will be discussed further in the final chapter of the dissertation.

The benefits administration office for the MPD provided de-identified health

claim information for the years 2011 to 2014. The data analyst applied an algorithm that

randomized the subscriber identification number in a consistent manner to both medical

and prescription data sets allowing matching between the two, which created a unique

subscriber identifier (USI) for each subscriber. Additionally, the USI made it possible to

track subscribers over the four-year period to identify duplicate records, and to exclude

family members of policing officers from the data set. In this context, all personal

identifying information, including social security number, name, address, and employee

payroll number, was removed from the data files before they were turned over to the

researcher. The researcher used the relational database software Microsoft® Structured

Query Language (SQL) Server® 2008 to organize and join the data fields.[17] This

software permits the user to aggregate results and to select subsets of data, while

retaining the primary data sets, comments, and actions performed, so as to consistently

verify the fidelity of the joined data sets (Fielding, Lee, & Blank, 2008). For reporting

and analysis, all the data were aggregated; no subscriber's personal information was

reported.[18]

      Table 2 lists the data fields extracted from the medical and prescription claims

records for each officer. In addition to the variables described in the text below, the full

data set includes variables that were used for exploratory analysis and screening to

eliminate duplicate records. In the prescription claims data set, these screening variables

are generic code, date of prescription, days' supply, number of refills, fill #, dosage form,

drug strength, and quantity dispensed. In the medical claims data set, the variables are

type of provider, place of service, name of facility, service provider type, and provider

specialty.

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[17] SQL is recognized by the American National Standards Institute as the standard language for relational database management systems. The researcher has engaged the support of an SQL engineer to join and match the prescription and medical files for each unique police officer over the four-year period. The resulting files were then imported into IBM SPSS Version 20.0 for further analysis.

[18] The researcher acknowledges the confidential nature of materials included in the data; as per an agreement with the organization, she agrees not to use or disclose Protected Health Information as defined by federal law. Consequently, she has signed and executed a HIPAA Privacy Regulation Agreement with this entity. With the approval of the research committee, the signed HIPAA Agreement was redacted from all published and circulated materials to minimize the identification of the organization, which might cause harm to the organization and its members. In consideration of gaining access to the data and the organization's support, the researcher has agreed to share her findings and recommendations with the organization.

Table 2

Data Fields

Prescription claims	Medical claims	Description
Patient ID	Patient ID	USI
Gender	Gender	Coded as 0 = male (M) and 1 = female (F).
Date of birth	Date of birth	Used for screening purposes.
Age	Age	Represented by the age of the officer/subscriber on December 31 of the service year; ranges from 24 through 91 years.
Date of Service	Date of Service	Claims data recorded as month/date/year, analyzed to track prescribing patterns and to screen for duplicate records.
Drug name Product/service ID		Fields representing the drug name assigned by the American Pharmacy Benefits Management (PBM) Company and Express Scripts. Table 3 lists the names and DEA classifications of prescription medications included in the analysis.
Dosage form Quantity dispensed Days' supply Drug strength Number of refills (and fill #)		Fields that were useful in screening for duplicate records and in validating the data joins in SQL 8.0. The fields associated with dosage form and drug strength lacked meaningful interpretation in the present study, as it was not possible to link to specific persons and their individual body types, which influence these factors.
Generic code		Corresponds to brand name of prescription medication.
DEA class		Classification of substances under the Controlled Substances Act in accordance with their relative potential for abuse and their likelihood of causing dependence.[19]

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[19] The DEA Office of Diversion Control classifications include the following: Schedule I CS (no currently accepted medical use in the United States and high potential for abuse); Schedule II CS (high potential for abuse that may lead to severe psychological or physical dependence); Schedule III CS (potential for abuse lower than in Schedules I or II, and abuse may lead to moderate or low physical dependence or high psychological dependence); Schedule IV CS (low potential for abuse relative to substances listed in Schedule III); Schedule V CS (low potential for abuse relative to substances listed in Schedule IV).

Table 2
Continued

Prescription claims	Medical claims	Description
	State	These are screening fields used to confirm diagnosis code and to screen for duplicate records.
	Type of provider	
	Place of service	
	Primary condition	Fields referring to International Classification of Diseases, 9th edition (ICD-9), industry standard code that identifies the condition for which the member was treated during the billed service period. The following codes correspond to treatment for opioid use disorder: 292.0, 292.89, 292.9, 304, 305.5.[20]
	Secondary condition	
	Tertiary condition	
	Major diagnosis category	Industry standard grouping of primary diagnosis codes. Occurrences with the major diagnosis category codes 19 (mental diseases and disorders) and 20 (alcohol/drug use and alcohol/drug-induced organic mental disorders) are examined as a continuous independent variable.
	Name of facility	Fields identifying place of service and professional specialty of the rendering provider. These variables were used to confirm diagnosis code and to screen for duplicate records.
	Service provider type	
	Provider specialty	

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[20] The ICD-9 codes associated with mental illness and substance abuse range from 290.0 through 319.0. These include the following: 291.5, alcoholic psychoses; 292, drug psychoses; 292.0, opioid withdrawal; 292.89, opioid intoxication; 292.9, unspecified opioid-related disorder; 303, alcohol dependence; 304, opioid dependence; 305.5, opioid abuse. "Opioid dependence" includes both dependence on legal opioid analgesics, regardless of whether or not these are being used legally, and dependence on illegal opioids such as heroin.

Variables Used in the Analysis

Constant Variable

    Patient ID refers to the USI assigned by the benefits organization. It permits the

tracking of each subscriber's claim information from year to year and across the medical

and prescription claims databases.

Dependent Variables

    Opioid use is a dichotomous variable coded as $0 =$ No and $1 =$ Yes, which refers

to whether or not an individual filled a prescription for an opioid analgesic. This data is

pulled from the prescription claims files. Table 3 lists the generic and brand name opiate

medications included in the analysis.

    Treatment for opioid use disorder is an ordinal variable coded as $0 =$ no

treatment, $1 =$ Medication Assisted Treatment (MAT), $2 =$ primary diagnosis code of

292.0, 292.89, 292.9, 304, or 305.5. See Footnote 20 for an explanation of these codes.

    At risk for opioid use disorder is an ordinal variable, measured using four ordered

categories: $0 =$ no risk, $1 =$ "having 1 risk factor", $2 =$ "having 2 risk factors", $3 =$

"having 3 risk factors" and $4 =$ "having 4 risk factors". The referent category, $0 =$ no

risk, includes all those officers who were prescribed an opiate but do not have any

additional risk factor associated with maladaptive use disorder. The following measures,

identified by the CDC as increasing the risk of opioid use disorder, were considered in

creating the "risk factor": having multiple opioid prescriptions filled on the same day;

having multiple prescriptions filled within one week of each other; taking an opioid for

90 days or longer; overlapping opioid and benzodiazepine prescription use.

Independent variables

Age is a continuously scaled variable represented by the age of the officer/member on December 31 of the medical insurance coverage year and ranging from 24 through 91 years; the age variable has been grouped into five categories of age ranges. Previous research has indicated that the occupation of policing has a cumulative negative effect on officers' physical and mental health. Thus, it is anticipated that as officers grow older, there is a greater likelihood that officers will fill a prescription for an opioid.

Sex is a dichotomous variable with the categories "male" and "female," for analytical purposes coded as 0 = male and 1 = female.

Benzodiazepine prescription is coded as 0 = No and 1 = Yes. Table 3 lists the generic and brand name benzodiazepine medications included in the analysis.

Treatment for mental illness refers to medical claims with a major diagnosis category code of 19, for mental diseases and disorders. The variable is coded as 0 = No and 1 = Yes.

Treatment for substance abuse refers to medical claims with a major diagnosis category code of 20, for alcohol/drug use and alcohol/drug-induced organic mental disorders. The variable is coded as 0 = No and 1 = Yes.

Table 3

Prescription Opiate Drugs: Types, Generic Names, and Brand Names

Drug type	Generic name	Brand name
MAT for heroin or other opiates (DEA Schedule III CS)		
	Buprenorphine	Buprenex, Butrandermal patch, Stadol, Subutex, Naloxone
	Suboxone	Suboxone
	Methadone	Methadose
Opioid analgesic (DEA Schedule II CS, unless noted)		
	Codeine (90 mg or less = Schedule III)	Codeine
	Hydrocodone	Hydrocodone
	Hydromorphone	Dilaudid, Dilaudid-5, Dilaudid-HP, Hydrostat Ir, Exalgo ER
	Levorphano	Levo-Dromoran
	Meperidine	Demorol
	Morphine	Astramorph PF, Avinza, Duramorph, Kadian, MS Contin, MSIR, Oramorph SR, Rescudose, Roxanol
	Nalbuphine	Nubian
	Oxycodone	OxyContin, Roxicodone, Oxecta
	Oxymorphone	Numorphan
	Pentazocine	Talwin
	Propoxphene	Cotanal-65, Darvon
Benzodiazepine (DEA Schedule IV CS)		
	Tapentado	Nucynta
	Quazepam	Doral
	Diazepam	Valrelease, Diazepam Intensol, Valium, Diastat, Diastat AcuDial, Diastat Pediatric
	Alprazolam	Niravam, Alprazolam Intensol, Xanax
	Estazolam	Prosom
	Flurazepam	Dalmane
	Clobazam	Onfi
	Chlordiazepoxide	Librium, Libritabs
	Clorazepate	Tranxene, Tranxene SD, Tranxene T-Tab
	Oxazepam	Serax
	Lorazepam	Ativan, Lorazepam Intensol
	Triazolam	Halcion
	Midazolam	Versed
	Clonazepam	Klonopin, Klonopin Wafer
	Temazepam	Restoril
	Halazepam	Paxipam

Analytic Plan

The analytic plan for the present study followed the general format associated with exploratory epidemiological research in unexamined areas (Pearce, 2012). Plans include measuring the prevalence of an occurrence, followed by an examination of variable relationships. Prevalence refers to the proportion of the study sample having a specific characteristic of interest, which in the present study is having a prescription filled for an opioid analgesic. Using IBM SPSS (Version 20.0), the combined medical and prescription claims data file will be analyzed and descriptive statistics reported on the prevalence of opiate prescriptions filled for the period 2011 – 2014. The initial examination will also describe frequencies and patterns of opiate use by individual characteristics (age and sex)and behavioral characteristics (polydrug benzodiazepine use, prior treatment for substance use, prior treatment for mental illness, long-term use of prescription opioids, and filling a prescription for more than one opioid during the same time period) of individuals.

Next, a series of bivariate analyses with cross-tabulations will be carried out to examine the association of each of these independent variables on the two outcomes of interest. The resultant analysis provides a contingency table that displays observed frequencies of the association between prescription opioid fills or risk for opioid use disorder and sex, age, treatment for mental illness, treatment for substance abuse, and polydrug benzodiazepine use. Cross-tabulation is a suitable statistical method for this study given the categorical variables and large single population being examined. Further, for each cross-tabulation, a Pearson's chi-squared test will be calculated to

evaluate the significance of the observed findings to determine if the rate of occurrence across the categories was significantly different. A .05 level of significance ($p < .05$) is the criterion that will be used to determine statistical significance of the relationship between the variables. For each statistically significant chi-squared, the Cramer's *V* measure of association will be reported to describe the strength and direction of the relationship between the variables. Cramer's *V* is a chi square based measure of association that may be used to compare the relationship between variables, regardless of the number of rows or columns in the cross-tabulation. The Cramer's *V* measure of association is scaled to have a range of 0 to 1. Cramer's *V* equals 0 when there is no relationship between the two variables. As the Cramer's *V* gets larger, the strength of the relationship between variables may be interpreted to get stronger (Babbie, 1997). The chi-squared test provides a meaningful statistic for exploratory data analysis of the categorical variables and for hypothesis generation. Given the limited availability of explanatory variables in the data, the analyses are not intended to provide inferential hypothesis testing. The following research questions will be explored through cross-tabulation and analyses.

1.   Female officers are more likely to fill a prescription for an opioid than male officers.

2.   Officers who are 45 years of age and older are more likely to fill a prescription for an opioid than their younger counterparts.

3.   Officers who have a history of mental illness are more likely to fill an opioid prescription than those who previously have not received treatment for a mental illness.

4. Officers who have a history of substance abuse are more likely to fill an opioid prescription than those who previously have not received treatment for substance abuse.

5. Officers who have filled a prescription for a benzodiazepine are more likely to fill an opioid prescription than those who have not filled a prescription for a benzodiazepine.

6. Female officers are more likely than male officers to be at an increased level of risk for opioid use disorder due to their prescription opioid use.

7. Officers who are 45 years of age and older are more likely than their younger counterparts to be at an increased level of risk for opioid use disorder due to their prescription opioid use.

8. Officers who have a history of mental illness are more likely than those who do not have a history of mental illness to be at an increased level of risk for opioid use disorder due to their prescription opioid use.

9. Officers who have received treatment for substance abuse are more likely than those who have not received treatment for substance abuse to be at an increased level of risk for opioid use disorder associated with their prescription opioid use.

Qualitative Methods and Data

To illuminate the epidemiological findings in the present study, the qualitative research complements the data with insights into the cultural context of opioid use and its effect on the lived experiences of officers, health service providers, police supervisors, and paraprofessionals who have been impacted. Moreover, the in-depth interviewing

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addresses the final research question, which aims to identify meaningful opportunities

and recommendations to support officer wellness and fitness for duty.

The researcher adopted the methodology of AI to carry out the qualitative

component of the study. In selecting AI, the researcher sought the most appropriate

qualitative approach, which was designed to minimize the risk of harm and stigmatization

for participants and their organizations. The questions used in the interviews were

generated in accordance with the methodology of AI, which includes five principles, as

formulated by Watkins and Mohr (2001, pp. 37–39). The overarching principle of AI is

the *positive principle,* which enables interviewees to speak out about their best

experiences and the organization's "best practices" and core values. Through the process

of *Discovery,* the interviewer aimed to understand the positive core of the organization,

which is the cornerstone for the design of change management. Using the methodology

of AI, the researcher carried out 30 interviews with stakeholders from the fields of law

enforcement, substance abuse treatment, and health insurance administration. Following

are an overview of AI, a discussion of its application in the present study, a description of

the sampling strategy, and a presentation of the coding and analysis strategy.

Theory and Practice of Appreciative Inquiry

The methodology and the philosophy of AI (Bellinger & Elliott, 2011; Browne,

n.d.; Cooperrider, 1986; Cooperrider et al., 1999; Cooperrider & Srivastva, 1984;

Preskill, Coghlan, & Association, 2003; Watkins & Mohr, 2001) align with the

researcher's aim to understand the mechanisms and pathways for individual and

organizational change management that supports mental and behavioral wellness and

resiliency in officers. Rather than focusing on an analysis of deficits and gaps (i.e.,

pathologies and disease related to the job) and then trying to envision remedies for these weaknesses, AI proceeds from the rationale that emphasizing the identification of the core strengths of an organization can impel it to become "its best self." Ludema, Whitney, Mohr, and Griffin (2003) have explained that AI has been distinguished from other change methodologies "by deliberately asking *positive questions* to ignite constructive dialogue and inspired action. . . . Strategic questioning of stakeholders is used to encourage dialogue around strengths, resources, and capabilities to create positive changes" (p. 259). Moreover, the theory and practice of AI is particularly sensitive to the social context and meanings in accordance with which individuals and their organizations presently exist and operate, as well as where they desire to be in the future. In sum, AI is well suited to this dissertation research, for it gives primacy to learning about police officers' use of opioids, recognizing the significance of officers' seeking help for an opioid use disorder, identifying meaningful policies and practices within the police department or behavioral health teams to engage officers in treatment, and understanding how these factors influence officers' resiliency.

Though AI has been used only to a limited extent in criminal justice research (Davies & Gregory, 2010; Fischer, Geiger, & Hughes, 2007; Kemshall, 2010; Liebling, Price, & Elliott, 1999; Osbourne, 2006; Robinson et al., 2013; Smart & Mann, 2003), findings have proven insightful for advancing staff, organizational, and programmatic change. The earliest account of AI use in criminal justice research may be traced to a study by Liebling, Price, and Elliott (1999) of how power impacts prison officer–inmate relationships, which historically had been examined from the perspective of a deficits-based "problem-orientation." Storytelling is a central component of AI; Liebling, Price,

and Elliott (1999) have provided firsthand accounts of how the officers and inmates in a maximum-security prison come to understand how to best advance their interests, considering the power relationships and the difficult circumstances of their environment. The method of AI also asks participants to imagine/dream what the best arrangements or design might look like. Liebling (2004) has suggested that, at first pass, such an exercise may seem Pollyannaish. Her research has found that, to the contrary, staff and inmates are surprisingly realistic—cognizant of budgetary and sociolegal constraints—in imagining how to organize a better maximum-security prison experience for all concerned.

In several other areas, particularly where professional and occupational roles are at a crossroads, the use of AI in criminal justice research has proven highly valuable. For example, Osbourne's study (2006) of law enforcement (and criminal) intelligence analysts offered a timely and meaningful account of what experienced professionals identified as their strengths and vision for contributing to intelligence practices in the 21st century. Extrapolating from these accounts, Osbourne identified desired knowledge, skills, and abilities for advancing professionalism and the training needed for the next generation of intelligence analysts. Robinson et al. (2012) studied how probation officers defined high-quality service and programs. Rather than focusing on deficits or gaps in supervision and programming at a time of shrinking budgets and a reduced workforce, the probation officers, through AI, became focused on the areas of strength in their organization and their desires. The officers also developed ideas for building on those strengths with a view to continuing to offer good services. An additional benefit the authors noted was that morale seemed to be positively impacted by the AI process.

The Principles of Appreciative Inquiry: AI Interview Guide

Appendix B contains the AI interview guide that was followed to carry out interviews with police officers, treatment providers, peer counselors/EAPs, police supervisors, and health benefits administrators. The aim was, through these conversations, to discover and build upon "the best" of present conditions, relationships, processes, and practices for the benefit of individuals and their organization. Specific interview questions are associated with one or more of the core AI principles, which are presented below.

The constructionist principle

> What we believe to be true about an organization will affect the way we act and the way that we approach change in that system. The first task of any organization change process is *discovery*—learning and making sense of what is believed and said about that system. (Watkins & Mohr, 2001, pp. 38–39)

Previous research (Kirschman, 2006; Kirschman et al., 2014), as well as personal communications with police and other first responders, informed the researcher that perceptions about breach of confidentiality, fear that seeking treatment will negatively impact one's career, and shame about feeling weak are important concerns surrounding behavioral and mental health programs in police departments. Therefore, the phrasing of AI questions was directed towards eliciting positive aspects associated with seeking help for behavioral or substance abuse issues. The following interview questions were designed to capture this data:

1.   When your department is at its best, what are the core values that are most constructive for facilitating officer wellness and officer fitness for duty?

2. Describe a time when you were most proud to be an officer (police supervisor, treatment provider, EAP/peer counselor, health benefits provider).

   a. Describe a time when you felt most engaged with your department.

3. As a police officer (police supervisor, treatment provider, EAP/peer counselor, health benefits provider), what components of your department do you believe most contribute to officer wellness?

   a. What components of your department do you believe most contribute to supporting the ideal of "fitness for duty"?

4. What components of your department do you believe most contribute to officers' seeking help for substance abuse?

   a. What components of your department do you believe most contribute to officers' seeking help for prescription pain medication misuse?

The simultaneity principle

> This principle recognizes that inquiry and change are not separate, but are simultaneous.…The seeds of change—the things people think and talk about, discover and learn, and thus inform dialogue and inspire images of the future—are implicit in the very first questions we ask. (Watkins & Mohr, 2001, p. 38)

Interview questions 1 to 4, presented above, aimed to capture the elements of simultaneity. They also attempted to explain officers' help-seeking behavior and to identify recommendations for organizational change. Further, these questions were associated with another AI theme, as expressed in the *poetic principle*.

The poetic principle

According to Watkins and Mohr (2001), the history of the present is an interpretive process involving an organization's past, present, and future. They wrote, "An organization's story is continually being co-authored by the people within the organization as well as by those outside who interact with it" (p. 38). In the present study, the methodology of AI offers the possibility for a holistic understanding of the sociolegal, social psychological, and social ecological influences on behavior, as well as the organizational changes desired for efforts to support officer health. As described in Chapters 1 and 2 of this dissertation, the social context for increased prescription medication use is critically important for understanding the empirical findings related to police officers. Also important are the factors related to the occupational environment, including reliance on overtime pay, socialization that encourages isolation and/or reluctance to share one's problems, and fear of reprisal. While interview questions 1 to 4 may capture similar elements of this principle, questions 5 and 6, which are given below, also meet the objectives of the poetic principle. Importantly, these interview questions aimed to shed light on the broad questions guiding the study: namely, what individual-, organizational-, and systems-level factors explain officers' use and misuse of prescription pain medications, as well as their help-seeking behaviors; and what recommendations can be elicited for creating a culture of behavioral and mental health in their organizations.

5. What do you want your colleagues to understand about you and what you most care about regarding the issue of prescription pain medication use by law enforcement officers?

6.   If you are in recovery from an opioid use disorder related to prescription

medications, what would you like me to know about your journey to get to

where you are now in your recovery? How, if at all, has your department

been involved?

The anticipatory principle

This principle states that our image of the future guides our action, "that the most

important resources we have for generating constructive organizational change or

improvement are our collective imagination and our discourse about the future" (Watkins

& Mohr, 2001, p. 38). Analyzing the results obtained through the AI method of

questioning, the research identifies policies and practices deemed valuable. This may

provide useful information for police executives, health administrators, and treatment

professionals who seek to design and implement health-and-resiliency-oriented programs.

The following question in particular addresses this principle:

7.   Let's imagine that prescription pain medication and opiate use by police

and other first responders has been contained. What's different now?

How have you been most constructive in this change?

The positive principle

This principle leads the researcher to frame each question in the form of

affirmative topics for inquiry and to adopt a strengths-based approach to gathering and

reporting the stories of individual participants.[21] Previous research with AI has indicated

that the positive principle and the related need for positively oriented probing of

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[21] The researcher worked with three experienced AI facilitators to craft and refine the interview questions.
One of these individuals is a law professor, mediator, and licensed attorney who sits on the regional and
state Bar Association Alternative Dispute Resolution Committee. The other two persons, who are also
licensed attorneys and mediators, practice in the greater Philadelphia, PA region.

participants to elicit responses to questions are associated with tertiary effects of

increased morale and empowerment for participants (Watkins & Mohr, 2001).

The Four Ds of Appreciative Inquiry

The five aforementioned principles are embodied in the four Ds of AI: Discovery

(appreciating what is), Dream (envisioning what might be), Design (co-constructing

organizational/cultural change), and Destiny (building sustainable relationships and

processes for ongoing change). The four-phase iterative process is illustrated in Figure 2.

The research study was constructed to focus primarily on eliciting responses related to

the Discover and Dream phases. However, as will be discussed in Chapter 6, the data

yields preliminary findings that are relevant to the Design stage of the AI process.
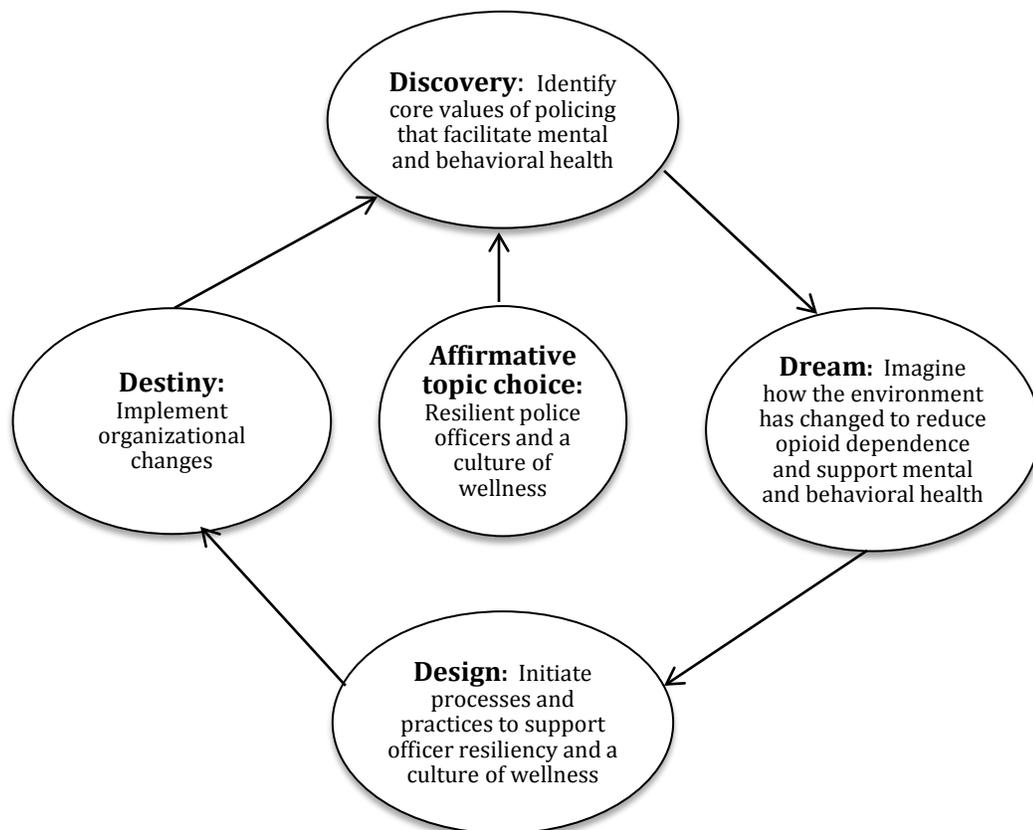

Figure 2. Illustration of the 4D Appreciative Inquiry Model.

Preparation and Recruitment for Appreciative Inquiry Research

The researcher has had prior experience with training in AI and its application as a method for studying and implementing organizational change. She has attended two separate one-day training sessions, which provided instruction in the following: preparing to introduce AI processes into an organization and/or to personnel, creating an environment for effective dialogue and storytelling, planning AI facilitation strategies, crafting strategic AI questions, extracting themes, and presenting data. The researcher has also co-facilitated two AI retreats.

The researcher maintained professional contact with several AI trainers and was able to consult with them on an ongoing basis. In developing the protocol for the dissertation research, the researcher consulted with three of these individuals on the suitability of using AI to meet the purposes of the research project. In all cases, the AI practitioners believed this to be an excellent strategy for gaining information about stigmatized and hidden behavior.

Sampling strategy

Because AI is a tool for carrying out organizational change, it aims, ideally, at inclusion of all stakeholders in the Discovery phase. In a closed system with well-defined organizational actors and roles, such an approach would mean extending an invitation to all members of the organization. In the present study, however, identifying the population of interest and a resultant sampling frame presented special challenges; these will be discussed as a possible limitation in the final chapter of the dissertation. To meet these challenges, a criterion-based purposive sampling strategy was adopted. The

goal of purposive sampling is to select participants with particular predetermined

characteristics of a population that are of interest for the research (Kemper, Stringfiled, &

Teddlie, 2003; Palinkas et al, 2015).

The research followed closely the recommendations proffered by Miles and

Huberman's (1994) sampling criteria as adapted by Curtis et al. (2000), who have

suggested that a sampling strategy ought to consider the following six criteria:

1. The sampling strategy should be relevant to the conceptual framework and the research questions addressed by the research.
2. The sample should be likely to generate rich information on the type of phenomena which need to be studied.
3. The sample should enhance the 'generalizability' of the findings.
4. The sample should produce believable descriptions/explanations.
5. Is the sample strategy ethical?
6. Is the sampling plan feasible? (p. 1003)

Overall, the AI sampling strategy met Criteria 1, 2, 4, 5, and 6: It was relevant to

the conceptual framework and research questions, and the AI responses were likely to

generate rich and believable explanations. The sampling strategy was ethical,

specifically protecting those for whom participation carried the greatest risk—namely,

police officers. Concerning Criterion 3: In this qualitative design, the researcher was

most interested in the validity of the data obtained from the sample—more so than the

generalizability of the findings. Importantly, as noted by Brown, Wood, and Griffith

(2015), a criterion-based sample has the strength of obtaining credible results and

minimizes the chances of discovery failure.

Recruitment strategy

To recruit participants, the researcher used the following strategies: collaboration

with gatekeepers from drug and alcohol treatment centers and with EAPs who were

trusted by the participants; word-of-mouth communications from participants and

gatekeepers; and face-to-face recruitment. As a research advisor to the First Responders

Addiction Treatment (FRAT) program at Livengrin Foundation Inc., the researcher

connected with substance abuse providers, EAPs, and nearly 3,000 police officers and

law enforcement supervisors enrolled in the "Substance Abuse Education, Prevention,

and Outreach for First Responders" training program.[22] Trust, which was established

through these informal and formal relationships, proved instrumental in recruiting

participants and encouraging them to divulge sensitive information.

The researcher spoke by telephone, or engaged face-to-face, with treatment

providers, peer counselors and EAPs, and health benefits administrators to obtain their

consent to be interviewed and to request that they refer potential participants from the law

enforcement community. The researcher followed the recommendations of these

gatekeepers as to how she should approach this subgroup. The gatekeepers proved

critical for making the initial contact and to gain approval for the researcher to follow up

with these respondents. Interviews were carried out by telephone, by Skype, or face-to-

face with recruits from the law enforcement community who had spoken publicly about

their direct experience with opioid prescription medications. On the basis of their

expertise and/or their meeting a criterion, the researcher recruited 30 participants,

selected from each of the following five groups: active or retired officers who had been

identified in the public domain for their use of prescription pain medications ($n = 10$),

police supervisors who in their supervisory role had engaged with officers and their

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[22] The "Substance Abuse Education, Prevention, and Outreach for First Responders" training program is a
project funded by a grant from the Pennsylvania Commission on Crime and Delinquency, Substance Abuse
Education and Demand Reduction Fund (SAEDRF), Sub-grant Number 2012-SE-0325050. The researcher
first became involved with this training program in May 2014. No undue influence has been exercised over
the data owing to the researcher's position with the grant, and the risk of bias has been minimized. This
position afforded the researcher a firsthand view of "sense-making" by those most directly impacted by the
public health epidemic in prescription medication, along with networking to recruit organizational and
individual participants for the dissertation research project.

opioid use ($n = 5$), EAPs or peer counselors ($n = 5$), treatment providers ($n = 5$), and

health benefits providers ($n = 5$). The sample included participants from six states, ten

policing organizations, four treatment facilities, and three health insurance providers.

Table 4 presents the sample characteristics and the interview methods. The length of

time for each interview, regardless of modality, averaged approximately 60 minutes

though two of the interviews extended over two hours in length.

Table 4

Sample Characteristics and Interview Methods

Participants ($n = 30$)			Interview method	
	Male	Female	Face-to-face	Facetime/Skype or telephone
Police ($n = 10$)	8	2	4	6
Police supervisors ($n = 5$)	4	1	4	1
EAPs/peer counselors/ paraprofessionals ($n = 5$)	4	1	3	2
Health benefits providers ($n = 5$)	4	1	3	2
Treatment providers ($n = 5$)	3	2	1	4

Note. The sample included police, police supervisors, and EAPs/peer counselors/paraprofessionals from multiple policing organizations in six different states from the Mid-Atlantic, Southeast, Great Lakes, and West Coast regions of the United States. The treatment providers worked in facilities in Pennsylvania, New Jersey, and/or Florida. The health benefits providers were from the Mid-Atlantic region.

The AI protocol includes a list of semi-structured questions. With the consent of interviewees,[23] responses were recorded on a digital recorder for subsequent transcription. All interviewees consented to be recorded. All taped and personal notes were transcribed immediately following each AI interview.

Providing a venue for dialogue between the respondent and the interviewer is important for maintaining fidelity to the AI protocol, as AI is founded on storytelling and conversation. The interviewer sought, ideally, to conduct all interviews face-to-face. However, owing to conditions such as the interviewees' proximity or availability, 50% of the interviews were conducted with the use of technology, including Skype, Facetime, and telephone.

Characteristics of Interviewees

Years of Service and Experience

The number of years of experience ranged from 3 to over 40 years of service, with 90% of the interviewees having over 30 years' experience in their field. Of the three individuals having 5 years' experience or less, two worked with insurance benefits and the other as a clinician. The law enforcement interviewees averaged 13 years of service at the time of their severance from their law enforcement organizations. Four of these officers left service as a patrol officer, two at the rank of sergeant, three as detective sergeants, and one as a deputy sheriff. Supervisor interviewees held positions including sergeant, captain, lieutenant, deputy inspector, and inspector. The average length of service for law enforcement supervisors was 29 years. The three paraprofessional peer counselors held the ranks of sergeant and captain, and the two EAPs that participated in

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[23] Participants were asked to sign a "Consent to Audiotape" form, which was approved by the Temple University Institutional Review Board. The consent form is attached as Appendix C.

the study were also retired law enforcement officers, with an average of 27 years of service. Of the five treatment providers that participated in the study, all had clinical experience working in nonprofit and for-profit settings that provide specialized treatment for police and first responders. One of these individuals also held an EAP credential, served as president of a regional EAP chapter, and served on the federal task force to draft the Drug-Free Workplace Act (1988); his most recent experience included serving as chief executive officer of multiple drug and alcohol treatment facilities.

For the most part, the sex of interviewees aligned with representation nationwide in their respective workforces. Overall, 77% of the interviewees were male and 23% were female. Of the law enforcement officers and supervisors who were interviewed, 80% were male and 20% were female, whereas in 2013, 88% of all law enforcement officers were male and 12% were female (UCR, 2013 Table 84). The percentages of peer counselors/paraprofessionals (80% male, 20% female) were closely associated with the law enforcement workforce distribution. Of the clinicians and treatment providers interviewed, 60% were male and 40% were female. Of the interviewees from the health benefits field, 80% were male and 20% were female. It is interesting to note that 3 of the 5 respondents in the last category were retired law enforcement officers.

Locale and Department Size

Interviewees were drawn from across the U.S.: the Mid-Atlantic, Southeast, West Coast, and Great Lakes regions of the country. The law enforcement interviewees and paraprofessional interviewees came from 11 different policing organizations, located in both metropolitan and suburban areas. The organizations included 4 departments with fewer than 50 sworn officers, 2 with 100 to 500 sworn officers, 2 with 1,500 to 2,500

sworn officers, 3 with 4,000 to 6,000 sworn officers, and 2 departments with over 6,000 sworn officers.

Coding

In the course of the study, the researcher adopted a combination of deductive and inductive strategies that closely paralleled Saldaña's (2009) discussion of First Cycle coding. At this early stage, according to Saldaña, coding is an iterative process linking data to ideas. In the present study, First Cycle coding involved a reading of each interview without any coding, followed by a second reading in which line, sentence, and paragraph segments were examined and assigned descriptive codes. Additionally, the First Cycle coding scheme included an *a priori* list of 23 codes and 38 subcodes derived from the conceptual framework, the literature review, research questions, AI principles, and personal communications with police and other first responders. It was also expanded to include inductive codes that emerged through the reading of the interview data. The list of *a priori* and inductive codes appears in Table 5. Each column in Table 5 is labeled with a heading to identify common characteristics of the codes listed in the column. There is no association intended across rows in Table 5.

This robust First Cycle code list makes it possible to set up a code hierarchy system to link code groups to each of the AI principles, along with subcategories to account for similar items within the group. Following the initial sorting and structuring of the data segments, the researcher used ATLAS.ti Code Manager and Code Co-occurrence Table analysis to identify orphan codes and high frequency segments, as well as to evaluate for coding saturation. Key to first-level analysis is the process of determining the meaning of the data. An "orphan code" refers to data or chunks of data

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Table 5

First Cycle Codes

Interviewee characteristics & attributes	Codes related to AI principles	Additional a priori codes	Level 1 inductive codes
#HBA	*CONSTRUCTIONISM (CON)*	*AVOIDANCE (AV)*	RxBUS (pharmaceutical business practices)
#LEO	*Con:core value*	*AV:addict*	RxPOL (politics of opiate prescriptions)
#Paraprofessional	*Con:opiate_help*	*AV:fear*	OFFTR (officer training)
#Supervisor	*Con:sa_help*	*AV:confidentiality*	PHADD (personal history of addiction)
#Trt Provider	*Con:most engaged*	*AV:services*	FHADD (family history of addiction)
@self	*Con:most proud*	*AV:leo personality*	COMSAF (community safety)
@family member	*Con:ffd (fit for duty)*	*AV:progression*	ORG (paramilitary)
@coworker	*Con:wellness*	*AV:stigma*	OT (overtime)
@third person	*SIMULTANEITY (SIM)*	*AV:tolerance*	IOD (injury on duty)
@less than5yrs exp	*SIM:ffd (fitforduty)*	*HELP SEEKING (HS)*	PREEXIST (pre-existing condition)
@6to10yrs exp	*SIM:wellness*	*HS:collective efficacy*	SUPLDR (supervisory leadership)
@11to15yrs exp	*SIM:core values*	*HS:selfefficacy*	SPECTRT (specialized treatment)
@16to25yrs exp	*SIM:opiate_help*	*HS:services*	Trust
@over25yrs exp	*SIM:sa_help*	*HS:confidentiality*	Shame
	SIM:most engaged	*HS:job*	
	SIM:most proud	*HS:family*	
	POETIC	*POLICE PERSONALITY (PP)*	
	Poetic:recovery journey (recjny)	*PP:drinking culture*	
	Poetic:caring	*PP:fraternity*	
	ANTICIPATORY CHANGE (AC)	*PP:loyalty*	
	AC:different	*PP:depersonalization*	
	AC:per_involv	*PP:resilient*	
		WORKENVIRON (ENV)	
		Env:ptsd	
		Env:riskmgt	
		Env:stress	
		Env:trauma	

Note. A priori codes are represented by *italics*. Woolf (2007) has suggested using symbols to distinguish special groups of codes. Codes beginning with "#" indicate the different categories of interviewees. Codes beginning with "@" may indicate different attributes of the interviewees, or may indicate whether their comments resulted from direct or indirect experiences. Attributes were especially important for analytic purposes. Higher-level codes are represented by ALL CAPS. Lower-level subgroup codes are represented by the higher-level prefix followed by a colon.

in the interviews that have been assigned a specific label or code, but do not readily "fit" with broader organizing categories or themes related to the present study (Eversman, 2009; Friese, 2014, Miles, Huberman & Saldana, 2014). During first-level analysis of the interviews, this data was separated from the higher frequency codes, but later the orphan codes and their textual sections were reexamined to see whether they pointed to future areas for exploration. An important objective in qualitative research is saturation; coding saturation means that further comparison of the text and the code list will yield no new ideas, categories or themes. The ATLAS.ti Code Co-occurring Table provided an analytical and visual tool to confirm first-level coding saturation (Friese, 2014).

The next step involved a rereading of each interview for the purpose of identifying subtleties in the data and to focus on emerging concepts and patterns in the data; in sum, to advance from descriptive labeling of key words, phrases, and interview segments to linking with concepts and ideas. Saldaña (2009) has referred to this inductive process as Second Cycle coding, the aim of which is to revise and recode so as to provide a more meaningful, succinct, and clear analysis of the data and to generate categories and themes. The category and thematic codes were reviewed and sorted, and from these a set of theoretically grounded concepts emerged that gives meaning to what was learned about opiate use by law enforcement officers and protective factors that support officers' recovery from opioid use disorder. These findings were then related to the dimensions of the social ecological model of resiliency outlined in Chapter 2.

Opiate analgesics have proven to be very helpful for chronic pain management, yet, the potential for misuse and abuse have threatened the health and safety of many

persons. Opioids have a strong potential for causing physical dependency and abuse, along with having a sedative effect and impaired judgment. The negative consequences associated with their use led the American College of Occupational and Environmental Medicine (ACOEM) to recommend against the use of opioids in safety-sensitive occupations (Hegmann et al., 2014). Although police and law enforcement organizations do not legally fall under the category of safety-sensitive occupations, their role and responsibilities in the community suggest that it is important to understand how officers are using opiates, and the associated risks of using opioids. The quantitative data, gleaned from private insurance claims information, sheds light on the prevalence of use in a metropolitan police department, along with individual-level factors that are associated with greater risks of abuse. The qualitative research complements these findings with in-depth accounts from officers and other stakeholders who have shared their experience with opiate use and how it has shaped or been shaped by their police organization. The interviews generated insight into behaviors, practices, and policies that support officers' seeking treatment for opiate abuse. The quantitative and qualitative data and analyses will be reported in separate chapters (Chapter 4 and Chapter 5, respectively), while in Chapter 6 of the dissertation, these findings are tied together within the social-ecological model of resilience.

CHAPTER 4

QUANTITATIVE RESULTS

The epidemic of opiate in the United States, which includes prescription opiate medications and heroin, is a complex problem that is best studied using a mixed-methods research design. The advantage of combining quantitative and qualitative research lies in gaining a broad understanding of the prevalence of this epidemic and the individual-level factors associated with misuse and addiction, along with more detailed explanations of opioid use in the occupational context of police work. The purpose of the quantitative analysis presented in this chapter is to paint a broad epidemiological picture of law enforcement officers' use of prescription opioid pain medications use (see RQ #1) and to identify trends and patterns in this epidemic (see RQ # 2) among officers through an examination of privately billed healthcare and prescription claims data. Throughout this section, "opioid use", refers to opioid prescriptions filled by officers in Metropolitan Police Department (MPD) and submitted to the prescription insurance provider for reimbursement.

The chapter begins with a description of demographic characteristics of the MPD sample. Next, summary statistics for the opioid analgesic and benzodiazepine prescriptions filled claims data and for the medical claims data associated with billable charges for mental health and substance abuse treatment are presented. The chapter concludes with cross-tab analyses of individual and behavioral predictor variables that have been identified in previous studies as being associated with opioid use and opioid use disorder.

Descriptive Statistics: Prevalence of Opioid Prescriptions Filled

The total number of participants covered in the health plan of the MPD, including active and retired officers and their dependents, was approximately 22,000 annually; of these, the total number of active and retired officers served over the four-year study period was $N = 10,924$, and the average annual number of subscribers was 7,128. Table 6 shows demographic characteristics (age and sex) of officers who were enrolled in the prescription and medical health benefits program over the years 2011 to 2014. The average age of officers in the MPD sample is 48.6 years (**SD** = 10.65). On average, males constituted 76% of the sample and female officers constituted 24% of the sample. Overall, the percentage of officers who filled a prescription for an opioid remained fairly stable over the four-year period, ranging from a low of 24% to a high of 28%. Over the four-year study period, on average, 9% of the MPD officers filled a prescription for a benzodiazepine. Polydrug use of benzodiazepines and opiates has been identified as a highly dangerous combination that greatly increases the risk of overdose, opioid use disorder, and even death (Ogbu, Lotfipour & Chakravarthy, 2015). Polydrug use will be further examined through bivariate analysis.

Two additional health indicators, having a history of treatment for substance abuse and having a history of treatment for mental health, were identified in the data. Over the four-year study period, less than 1% of all officers in the MPD received substance abuse treatment through their health insurance coverage, whereas on average, approximately 1 out of 7 (1,019) officers received treatment for mental illness through their health insurance. Examination of comorbid psychopathology in individuals with opioid use disorder reveals differences associated with a personal history of mental

illness. The relationship between opioid prescription use and having received treatment for mental illness will be further examined through bivariate analysis.

Table 7 presents data associated with the "Opioid Group", which represents the unique officers who filled at least one opioid prescription over the four-year study period. In Table 7, "Opioid Group", represents those officers who filled at least one prescription for an opioid. Over the four-year study period, approximately 40% (4,399) of the MPD sample (10,923) filled a prescription for an opioid. To situate the MPD data within a national context, the MPD is located in a state where according to the CDC (2014), the rate of painkiller prescriptions filled in 2012 was 82.2 to 95 per 100 persons. This state falls into the 3rd quartile nationally, which means that the rate of painkiller prescriptions filled was higher than in 75% of other states (CDC, 2014). [24] What is not clear is how many of the individuals represented in this rate are receiving multiple prescriptions.

Table 7 further describes subgroups of the "Opioid Group" that will be explored in the cross-tabulation analysis. Of the officers in the "Opioid Group", 72% are male and 28% are female. Officers between the ages 38 – 48 years (35%) and 49 – 60 years (32%) make up the largest age categories (67%) in the "Opioid Group". Last, Table 7 reports on two risk factors associated with prescription opiate use that will be explored, 27% of those in the "Opioid Group" have filled a prescription opioid for 90 days or more and 34% of the "Opioid Group" members have also filled a prescription for a benzodiazepine.

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[24] The researcher was not able to obtain comparable national data specific to the four-year study period, 2011-2014.

Table 6

Characteristics of Metropolitan Police Department Sample & Select Medical and Prescription Claim Indicators (2011-2014)

	2011	2012	2013	2014	Avg. over 4 years
	n = 7272	*n = 7,183*	*n = 7,050*	*n = 7,002*	*n = 7,127*
Age as of December 31					
18-26 years	<1% (12)	<1% (44)	<1% (42)	<1% (87)	<1%(44)
27-37 years	15% (1097)	16% (1146)	17% (1219)	19% (1321)	17% (1196)
38-48 years	33% (2397)	33% (2403)	33% (2361)	33% (2323)	33% (2371)
49-60 years	33% (2414)	33% (2388)	33% (2330)	33% (2297)	33% (2358)
61 years & older	19% (1352)	17% (1230)	16% (1098)	14% (974)	16% (1164)
average age	49.6 yrs. (**SD**=11.02)	49.1 yrs. (**SD**=10.90)	48.4 yrs. (**SD**=10.93)	47.4 yrs. (**SD**=10.95)	48.6 yrs. (**SD**=10.65)
					Avg. over 4 years
Sex					
Male	75% (5480)	76% (5429)	76% (5332)	76% (5322)	76% (5391)
Female	25% (1792)	24% (1754)	24% (1718)	24% (1680)	24% (1736)
Number of officers (of total annual officers) who filled an opioid prescription	28% (2039)	27% (1910)	25% (1787)	24% (1656)	26% (1848)
Number of officers (of total annual officers) who filled a benzodiazepine prescription	9% (649)	9% (612)	8% (598)	8% (571)	9% (608)
Number of officers (of total annual) who received medication assisted treatment for substance abuse (MAT)	<1% (49)	<1% (58)	<1% (48)	<1% (45)	< 1% (50)
Number of officers (of total annual officers) who received medical treatment for mental health	14% (1010)	15% (1040)	14% (1007)	15% (1017)	14% (1019)

Table 7

Characteristics of the Opioid Group

Total number of unique officers covered by the MPD benefit plan over the four-year study period	N = 10923
Opioid Group: total number of unique officers who filled an opioid prescription over the four-year study period	40% (4399)
Opioid Group	
Age Categories	
< 27 years	< 1% (28)
27 - 37 years	19% (819)
38 - 48 years	35% (1539)
49 - 60 years	32% (1394)
> 60 years	14% (619)
Sex	
Male	72% (3177)
Female	28% (1222)
Number of unique officers who filled an opioid prescription for 90 days or more	27% (1188)
Number of unique officers who filled an opioid prescription and a benzodiazepine prescription	34.2% (834)

The four-year average for medication-assisted treatment (MAT), including Suboxone®

and Vivtrol®, is less than 1% of the Opioid Group. The known side effects of these

MATs include: blurred vision, irritability, insomnia, lack of coordination, and feeling

lightheaded or drunk. The U.S. Department of Transportation (2011) prohibits use of

MAT in safety sensitive positions and the American College of Occupational and

Environmental Medicine (2014) recommends that no one in a safety-sensitive position

take these substances while operating a motor vehicle, or heavy machinery, performing

related tasks, and performing tasks that require higher cognitive functioning.

The preceding data and results describe general patterns related to opioid use that were examined in the medical and prescription insurance claims data. To more meaningfully address RQ #2, the next section seeks to understand whether or not there was a significant relationship between the predictor variables (sex, age, treatment for mental illness, benzodiazepine prescription filled, treatment for substance use) and each of the dependent variables (Opioid Group and risk of opioid use disorder). A series of bivariate cross-tab analyses with the Pearson chi-square χ^2 statistic were carried out.

Bivariate Analysis

Dependent Variable: Opioid Group

The variable "opioid prescriptions filled" was recoded as a dichotomous variable to identify whether or not the individual had filled at least one opioid prescription over the four-year study period. During the study period, 4,399 unique persons filled an opioid prescription, representing the "Opioid Group". This variable was tested by gender, age category, and whether or not the individual had submitted a claim for mental health treatment, substance use treatment, or having filled a prescription for a benzodiazepine during the four-year study period, using cross-tab analysis with Pearson chi-square (χ^2) and measures of association.

Officers' sex

The result of the chi-square χ^2 test indicated that there were overall significant differences in the cross tab analysis that examined officers' sex and the likelihood of being in the "Opioid Group". The results of the cross tab analysis are provided in Table 8. The result of the Pearson chi-square test indicates there is a correlation between sex of the officer and whether the individual is part of the "Opioid Group", χ^2 (72, $N = 10923$) =

111.67, $p < .002$. Based on further examination of the measures of association, Cramer's

$V = .159$, $p < .002$, the analysis shows a weak positive correlation between whether the

individual is a female, compared to male, and being a part of the "Opioid Group".

Table 8

Association between Opioid Group and Sex

	Sex Category					
	Male		Female		Total	
Opioid Group	%	*n*	*%*	*n*	%	*n*
No	59.1%	(4596)	61.2 %	(1928)	59.7%	(6524)
Yes	40.8%	(3177)	38.8%	(1222)	40.2%	(4399)
Total	100%	(7773)	100%	(3150)	100%	(10923)

Age

The results of the bivariate analysis reported in Table 9 indicates that officers'

age was not associated with whether or not the officer had filled a prescription for an

opioid, Pearson chi-square χ^2 (288, $N = 10923$) = 223.97, $p > .998$. The observed

frequencies show some consistency with national trends that report high rates of

prescription opioid use by younger persons. As this correlation was not statistically

significant, no further statistical examination was carried out. However, given the small

number of individuals ($n = 44$) under 27 years of age in the sample, interpretation of this

finding must be approached with caution.

Table 9

Association between Opioid Group and Age

Age Category

Opioid Group	≤ 27 years	27-37 years	38-48 years	49-60 years	>60 years	Total
	%	%	%	%	%	%
	n	*n*	*n*	*n*	*n*	*n*
No	36.3%	57.4%	60.3%	61.1%	58.3%	59.7%
	(16)	(1105)	(2345)	(2193)	(866)	(6524)
Yes	63.6%	42.6%	39.6%	38.9%	41.7%	40.2%
	(28)	(819)	(1539)	(1394)	(619)	(4399)
Total	100%	100%	100%	100%	100%	100%
	(44)	(1924)	(3884)	(3587)	(1484)	(10923)

Treatment for mental illness

The variable "Treatment for mental illness" was recoded as a dichotomous variable that represents whether or not an individual had submitted a medical claim to the insurance provider for a mental health visit. Table 10 reports on the bivariate analysis that examined the association between being a part of the "Opioid Group" and whether or not an officer has received mental health treatment. Approximately 24.6% of those officers in the "Opioid Group" had also received treatment for a mental illness. The Pearson chi-square statistic indicates that those receiving treatment for mental illness (24.6%) were less likely than those not receiving treatment for mental illness (49.6%) to be in the opioid group, χ^2 (72, $N = 10923) = 416.72$, $p < .001$. Further, an examination of the measure of association (Cramer's $V = .308$, and $p < .001$) suggests a moderately strong positive correlation between these variables.

Table 10

Association between Opioid Group and Treatment for Mental Illness

Treatment for Mental Illness

Opioid Group	No		Yes		Total	
	%	*n*	%	*n*	%	*n*
No	50.4%	(3453)	75.4%	(3071)	59.7%	(6524)
Yes	49.6%	(3399)	24.6%	(1000)	40.2%	(4399)
Total	100%	(6852)	100%	(4071)	100%	(10923)

Treatment for substance use

Medical claims data associated with treatment for substance use was recoded as a dichotomous variable that represents whether or not a medical claim for substance abuse treatment was submitted to the insurance agency for reimbursement. Table 11 reports the results of the bivariate analysis that examined the association between being part of the "Opioid Group" and whether or not an officer had received substance abuse treatment. Table 11 illustrates that those receiving treatment for substance abuse (30.8%) were less likely than those not receiving treatment for substance abuse (40.4%) to be in the opioid group, χ^2 (72, $N = 10923) = 748.15, p < .001$. Further examination of the measure of association (Cramer's $V = .412$ and $p < .001$) suggests this is a moderately strong relationship between these variables.

Table 11

Association between Opioid Group and Treatment for Substance Abuse

Treatment for Substance Abuse

	No		Yes		Total	
Opioid Group	%	*n*	%	*n*	%	*n*
No	59.5%	(6387)	69.1%	(137)	59.7%	(6524)
Yes	40.4%	(4338)	30.8%	(61)	40.2%	(4399)
Total	100%	(10725)	100%	(198)	100%	(10923)

Association between Opioid Group and Benzodiazepine Prescriptions Filled

The prescriptions claim data set includes information associated with prescriptions filled for benzodiazepines. This field was recoded as a dichotomous variable to represent whether or not an officer had filled a prescription for a benzodiazepine. Table 12 reports the results of bivariate analysis that examined the association between being part of the "Opioid Group" and whether or not an officer had filled a prescription for a benzodiazepine. The Pearson chi-square statistic indicates that those who had filled a prescription for a benzodiazepine were less likely (34%) to be in the opioid group than those who did not fill a benzodiazepine prescription (42%), Pearson chi-square χ^2 (72, N = 10923) = 683.31, $p < .001$. Further examination of the measures of association (Cramer's V = .394 and $p < .001$) indicate that this is a moderately strong association between the variables.

Table 12

Association between Opioid Group and Benzodiazepine Prescriptions Filled

Benzodiazepine Prescriptions Filled

	No	Yes	Total
Opioid Filled	% *n*	*%* n	% *n*
No	58% (4922)	65.6% (1602)	59.7% (6524)
Yes	42% (3565)	34.2% (834)	40.3% (4399)
Total	100% (8487)	100% (2436)	100% (10923)

Dependent Variable: At-Risk for Opioid Use Disorder

The current study also sought to understand patterns or behaviors associated with prescription opioid use by the "Opioid Group" that may increase officers' risk for opioid use disorder. Risk factors, including extended use of an opioid, taking multiple opioids during the same time period, and polydrug use with benzodiazepines have been identified in previous studies as contributing to opioid use disorder. A scale to measure level of risk was created to represent increasing levels of risk based upon the following factors: (1) filling an opioid prescription for 90 days or more, (2) filling a prescription for more than one opioid on the same date, (3) filling a second prescription for an opioid during the same 7- day time period, and (4) filling a prescription for a benzodiazepine over the same time period that the individual also filled an opioid prescription. The resulting categorical variable has four risk levels, ranging from one to four. Risk level 1 represents those individuals in the "Opioid Group" having one risk factor, risk level 2 represents those in the "Opioid Group" having two risk factors, risk level three represents those in

the "Opioid Group" having three risk factors, and risk level four represents those in the

"Opioid Group" with four risk factors.

As reported in Table 8 – Table 12, approximately 40% ($n = 4,399$) unique officers

of the MPD sample (N = 10,923) filled at least one opioid prescription over the four-year

study period. They have been referred to in this chapter as the "Opioid Group". Of those

officers in the "Opioid Group", 35% (1,544) have at least one of the risk factors

associated with opioid use disorder and opioid prescription use. A series of cross-

tabulations and chi-square (χ^2) were carried out to examine the relationship between

"Levels of Risk for Opioid Use Disorder" and the independent variables (sex, age, mental

illness, and substance abuse). The results are presented in Table 13 – Table 16. Overall,

the cross-tabulations indicate that 23% of those in the study group are represented in Risk

Level 1, 37% of the group is categorized in Risk Level 2, 25% of the group is in Risk

Level 3, and the remaining 15%, in Risk Level 4, are at a high risk for developing an

opioid use disorder as a result of their prescription opioid use.

Officers' sex

A Pearson chi-square test of independence was performed to examine the

relationship between level of risk for opioid use disorder and sex. The results are

presented in Table 13; this relationship is not statistically significant, χ^2 (4, $n = 1,544$) =

3.881, $p < .422$. As the relationship is not statistically significant, further examination of

the measurements of association was not warranted. The finding is somewhat unexpected

though quite interesting, and perhaps an area for future research. National data suggests

increased risky prescription opioid use by females compared to males. One possible

explanation for the current findings is that male and female officers may be more alike in their ability to manage risky behavior than males and females in the general population.

Table 13

Association between Levels of Risk for Opioid Use Disorder and Sex

Sex Category

Risk Level	Male		Female		Total	
	%	*n*	%	*n*	%	*n*
1	22.7%	(244)	22.6%	(106)	22.6%	(350)
2	38%	(407)	35%	(164)	37%	(571)
3	22.5%	(272)	25.1%	(118)	25.2%	(390)
4	14.1%	(152)	17.2%	(81)	15%	(233)
Total	100%	(1075)	100%	(469)	100%	(1544)

Age category

Table 14 reports the results of the bivariate analysis that tested the correlation between age and risk associated with opioid use disorder. A chi-square test of independence was performed to examine this relationship. The percentage of officers that were at increased risk-levels did not differ by age of the officer, χ^2 (16, 1544) = 16.45, $p <$ .422. This is somewhat surprising as national data suggests that older individuals (aged 60 years and older) compared to younger age groups are more likely to use prescription opioids in a risky way. As this relationship was not statistically significant, no further tests were carried out.

Table 14

Association between Levels of Risk for Opioid Use Disorder and Age Category

Age Category

Risk Level	< 27 years	27-37 years	38-48 years	49-60 years	>60 years	Total
	%	%	%	%	%	%
	n	*n*	*n*	*n*	*n*	*n*
1	28.6%	24.7%	22%	23%	21.3%	22.7%
	(2)	(58)	(121)	(115)	(54)	(350)
2	42.9%	39.1%	34.6%	37.3%	39.4%	37%
	(3)	(92)	(189)	(187)	(100)	(571)
3	14.3%	24.7%	27.6%	23.3%	24.8%	25.2%
	(1)	(58)	(151)	(117)	(63)	(390)
4	14.3%	11.4%	15.7%	16.4%	14.6%	15%
	(1)	(27)	(86)	(82)	(37)	(233)
Total	100%	100%	100%	100%	100%	100%
	(7)	(235)	(547)	(501)	(254)	(1544)

Treatment for mental illness

Table 15 reports the results of the bivariate analysis that tested the association between having received treatment for a mental illness and risk of opioid use disorder for those in the "Opioid Group". A Pearson chi-square test of independence was performed to examine this relationship, χ^2 (4, 1544) = 1.258, $p < .869$. The results indicate that there is no difference in the level of risk for opioid use disorder when it comes to having had treatment for a mental illness. This result differs from national data, which indicates that persons with a history of mental illness tend to be at a higher risk for opioid use disorder

due to their risky prescription opioid use. As this relationship was not statistically significant, no further tests of association were carried out.

Table 15

Association between Levels of Risk for Opioid Use Disorder and Treatment for Mental Illness

	No		Yes		Total	
Risk Level	%	*n*	%	*n*	%	*n*
1	22%	(219)	24%	(131)	22.7%	(350)
2	37.8%	(377)	34.5%	(194)	37%	(571)
3	25%	(250)	25.6%	(140)	25.2%	(390)
4	15.1%	(151)	15%	(82)	15%	(233)
Total	100%	(997)	100%	(547)	100%	(1544)

Treatment for substance abuse

Table 16 reports the results of the bivariate analysis that tested the association between having received treatment for substance abuse and an increased risk-level associated with opioid use disorder. A Pearson chi-square test of independence was performed to examine the significance of this relationship. The results indicate that there is no difference in the level of risk for opioid use disorder when it comes to having had treatment for substance abuse, $\chi^2 (4, 1544) = .925, p < .921$. Though the observed frequencies of at-risk groups may prove meaningful for prevention and outreach efforts, as this relationship was not statistically significant, no further tests of association were carried out.

Table 16

Association between Levels of Risk for Opioid Use Disorder and Treatment for Substance Abuse

	Treatment for Substance Abuse					
	No		Yes		Total	
Risk Level	%	n	%	n	%	n
1	22.7%	(344)	19.3%	(6)	22.6%	(350)
2	37%	(559)	38.7%	(12)	37%	(571)
3	25%	(381)	29%	(9)	25.2%	(390)
4	15.1%	(229)	13%	(4)	15%	(233)
Total	100%	(1513)	100%	(31)	100%	(1544)

Summary

The negative health consequences associated with opioid painkiller abuse are well documented in the literature. An emergent body of literature seeks to understand how opioid use and abuse are impacting specific subpopulations across the U.S. The present study contributes to this burgeoning field of research. The quantitative research design aimed to understand the prevalence of prescription opioid use by law enforcement officers (RQ#1), by examining the prevalence of prescription opioid medications filled under the MPD officers' prescription benefit plan for the years 2011 - 2014. Further, the prescription and medical claims data was examined to identify patterns associated with officers' demographic characteristics and officers' behavioral characteristics (RQ #2). The results of the analyses are summarized below.

Table 6 reported frequency statistics to describe the characteristics of officers covered under the MPD medical and prescriptions benefit plans. Over the four-year

study period, 10,923 unique officers received health benefits, with an average of 7,127 officers each year. The average age of officers covered under these health plans, over the four-year period, was 48 years of age. It is relevant to note that, upon retirement, officers may continue to elect coverage through these medical and prescription benefit plans. Over the four-year study period, 76% of the officers' receiving health benefits were male and 24% were female. The breakdown by sex is consistent with representation of males and females on the MPD police force. Over the four-year period, 40% (4,399) of the MPD sample (10,923) filled at least one opioid prescription; this group was referred to in the previous section as the "Opioid Group".

Additional data reported in Table 6 includes "risk" factors that have been identified in previous studies as being linked to opioid use or increased risk associated with opioid use disorder for those who are taking a prescription opioid. On average, over the four-year period, 9% of MPD officers, who subscribed to the health benefit plan, filled at least one prescription for a benzodiazepine and on average, over the four-year study period, 14% of the sample received treatment for mental illness. On average, over the four-year study period, less than 1% of the MPD sample submitted an insurance claim for medication assisted treatment.

Looking more closely at characteristics of the "Opioid Group" (see Table 7), the group is comprised mostly of male officers (72%) compared to female officers (28%) between the ages of 38 – 48 years (35%) and 49 – 60 years (32%). By far, the most alarming initial results concerned the percentage of officers' in the "Opioid Group" that were long-time users of prescription opiates and the percentage of polydrug opiate and benzodiazepine users in the MPD. Both of these factors have been linked to an increased

risk for opioid use disorder. Of those officers in the "Opioid Group", 27% (1188) used

an opioid for 90 days or more and 34% of those in the "Opioid Group" may be

considered polydrug users (834), who filled a prescription for an opioid and a

benzodiazepine over the same period of time. This is notable because the established

research has found that duration of opiate use and polydrug use are linked to negative

health outcomes.

Scherrer et.al (2016) found that use of prescription opiates for more than thirty

days has been linked to negative mental health including an increased risk of developing

depression. The CDC (2015) and Sullivan & Howe (2013) report that using an opioid

analgesic for 90 days or more significantly increases the risk for developing an opioid use

disorder. In addition, researchers have found that in combination with an opiate

analgesic, withdraw and/or overdose from a benzodiazepine can be deadly (Gudin,

Mogali, Jones, & Corner, 2013; Jones, Paulozzi, & Mack, 2014; Jones, Mogali, &

Comer, 2012; SAMHSA, 2014).

Moreover, these findings tie into previous studies that link police work with

stress, depression, and suicide (Hackett, & Violanti, 2003; IACP, 2014; McCafferty,

McCafferty, & McCafferty, 1992) and suggest the need to explore how officers' use

prescription medications as a coping strategy. Recall that benzodiazepines are

medications that are commonly used to treat anxiety and depression. It is of interest to

consider benzodiazepine use as an overall health indicator of officer fitness for duty.

Table 8 – Table 12 present the results of the bivariate analysis with cross-tabs that

examined the correlation between the "Opioid Group" and the independent variables

(sex, age, mental illness, substance abuse, and benzodiazepine use). The Pearson chi-

square test indicated that being a male officer (Table 8) was weakly associated with being a member of the opioid group; whereas, having a history of treatment for mental illness (Table 10), a history of treatment for substance abuse (Table 11), or having filled a benzodiazepine prescription (Table 12) were negatively associated with being a member of the opioid group. Though these findings were not statistically significant, further exploration of specific persons within these groups may prove meaningful to health care providers and EAPs as they seek to develop prevention, intervention, and monitoring programs aimed at officers' health and wellness.

The quantitative research also sought to examine factors that may be associated with increased risk for opioid abuse or opioid use disorder. Independent variables (sex, age, treatment for mental illness, treatment for substance abuse) were tested on a categorical scale comprised of four risk levels. Recall that the risk levels are associated with filling multiple opioid prescription medications at the same time, filling multiple opioid prescriptions within one week of each other, polydrug use with a benzodiazepine, and filling an opioid for 90 days or more. The results of bivariate cross-tabs were presented in Table 13 – Table 16. The total number of unique individuals represented in the "Opioid Group" was 4,399 persons; the analyses revealed that approximately 35% (1,544) of these persons are at an increased risk for opioid use disorder. Within this group, 40% of the officers were involved with three or more risk factors that placed them at a high risk for opioid use disorder (Table 13 – Table 16). The analyses did not identify significant associations between these variables.

To complement and expand upon these findings, the present study integrates qualitative interview data that explores officers' use and experience with opiate narcotics,

and the socio-ecological mechanisms that contribute to officers' use, abuse, and help-seeking behaviors. The AI interviews were carried out simultaneous to the quantitative data collection and analysis. The interview questions were not directly influenced by the quantitative findings, rather created to probe and explain the meanings participants associated with their experiences. Additionally, the qualitative research is directed to answer RQ #4, related to what participants believe is necessary to create a culture of health and wellness for officers and their organizations.

CHAPTER 5

A HUMAN WITH A BADGE: DIMENSIONS OF ADDICTION AND RESILIENCY

IN POLICING

The impetus for this study came from working with and providing outreach and
prevention for many law enforcement personnel who experience the devastating effects
opioid painkillers have on individuals, families, and communities. To the police officer,
the opioid epidemic is more than statistics, trends, and at-risk groups; it is about people
and how they have been destroyed by these drugs. Apart from the effects on the
community as a whole, when one of their own is affected, it is personal. Understanding
how law enforcement personnel are able to rebound and recover from opioid use disorder
offers insight into resilience and the related health and wellness pathways that is
informed by the experiences of those being served. The research questions guiding this
phase of the study are:

1. What individual, organizational, and systems-level factors explain the use and
   misuse of prescription medications among law enforcement personnel?

2. What individual, organizational, and systems-level factors explain officers'
   help-seeking for prescription opioid medications?

3. According to the AI interviewees, what cultural and organizational changes
   are needed to create an environment that promotes officers' fitness for duty
   and resiliency?

Through the qualitative data, we gain contextual understanding of the phenomena
of resilience, which results from the dynamic interplay between officers' personal
character traits and their environments. AI interviews were carried out with thirty

persons who have direct knowledge and hands-on experience working with law enforcement officers who have abused prescription opioids. Chapter 3 provides a full description of the sample characteristics, and the sampling and recruitment strategies. As a point of reference, the reader may recall that the interviewees include ten officers who have self-identified as having abused prescription opioids, five police supervisors, five paraprofessionals (peer counselors and EAPs), five treatment/clinical providers, and five insurance/health benefits providers to law enforcement agencies.

The chapter begins by introducing the experiences of officers who have used opiates. The next sections identify components and processes in the micro-level and meso-level spheres that support officers' help-seeking for opiate misuse. Building upon this strengths-based approach to understanding resilience, the final section of the chapter pulls together recommendations that participants have identified for advancing officers' fitness for duty.

The study employs Bronfenbrenner's (1979) social ecological perspective (see Figure 1) to frame the research; this study focuses on the individual officer (Individual-level) and the interactions among her or his immediate primary occupational group (Micro-level) and environment (Meso-level and Macro-level) to ground our understanding of resilience. Recall, the definition of resilience adopted for this study is derived from Ungar (2005). He defines resilience as:

1. The capacity of individuals to navigate their way to resources and maintain well-being;

2. The capacity of individuals' physical and social ecologies to provide those resources; and

3. The capacity of individuals, their families and communities to

    negotiate in culturally meaningful ways for those resources to be

    shared. (p.3)

Using an iterative inductive and deductive coding process, previously described in

Chapter 3, the 30 AI interviews carried out in this study revealed numerous factors that

represented pathways to resilience in response to opioid use disorder to the participants. It

is important to note that these factors do not exist individually; rather, as noted in the

above figure, they coexist and overlap as nested spheres of influence. The data confirms

that the importance of these positive relations and the care that emerges out of the close

relationships in the micro-level are nested within and interdependent upon organizational

factors at the meso-level, specifically supervisory leadership, the paramilitary police

organizational structure, a legacy of health insurance benefits and access to a cadre of

culturally competent substance abuse providers. Further, having identified some

meaningful connections that are closely intertwined with officers' occupational

experiences, the data further supports a key feature of the social ecological model by

recognizing how these practices and processes are nested within broader structural

features of American society from the fields of medicine, healthcare, regulation, and

economics. The remainder of the chapter discusses themes and sub-themes associated

with the four levels: individual level, micro-level, meso-level, and macro-level.

The Individual-level: We are the Same, But Different

More than a badge

This theme illuminates the importance of understanding how officers' individual

resilient traits are threatened by opioid use, and further, how resilient characteristics

associated with the police personality may impede officers from asking for or receiving social support for opioid use disorder. Law enforcement officers are widely recognized for their mental and physical toughness (Askin, 2015), but the data confirms that individual character traits associated with the police personality, including: mental toughness, physical strength, courage, and confidence in one's own ability – are no defense against the addictive properties of opiate painkillers. Opioid addiction does not discriminate; there is no "one type" of person who can become susceptible to opiate abuse, it can occur throughout all occupations. "Officers are just like anyone else", said a peer counselor (PARA: 2). He went on to state:

> Officers do not wake up one day and say, hey, I think that I will smoke crack, use OxyContin, or buy heroin. One of the reasons is the fact that there are many individuals who abuse opiates without even realizing it. Everyone, regardless of who you are – you are vulnerable to the physical dependence, increased tolerance, and addictive behaviors that accompany use of opiate medications. (PARA: 2)

Law enforcement personnel are not immune to the disease of addiction. Overall, the common factor expressed in the officers' narratives was a desire to focus attention on how 'like' they are to the general population, while de-emphasizing their role or any special status as a law enforcement officer. "I'm just a person with a badge, I am a human being", exclaimed one recovering officer (LEO: 10). Comments such as this were surprising because law enforcement personnel more commonly identify as different from the general population (Herbert, 1998). The officer went on to say:

> I want people to think about why or what makes people different just because they put a (police) uniform on. The public thinks we should be better than everyone else and that is not true, we are still people. (LEO:10)

As with most individuals suffering from opioid use disorder, the officers interviewed for this study indicated that their initial opiate use began legitimately, with a

prescription that was supplied by a medical practitioner for a legitimate medical purpose.

One officer shared, "The first time that I used an opiate was after a root canal; my dentist

gave me Percocet, which I took every 4 hours." He went on to explain:

> I don't know if I was really in pain, I sort of got used to taking the pills
> and for the next year, I was using every day up to the day before I entered
> the Police Academy. (LEO: 2)

Another officer explained how he became addicted to opiates following knee surgery; he

recounted the following:

> Following surgery, the orthopedic surgeon kept throwing Vicodin at me
> and within three visits I was up to OxyContin.   I wasn't getting any relief.
> Then I was sent to a pain management specialist, who placed me on 200
> Percocet a month and increased the strength of the dosage. I didn't know
> that I was an addict. (LEO: 6)

In addition to these more generalizable explanations for opiate abuse, officers also

identified aspects of their work environment, including: stress, the excitement of

being on the street, cliqueiness, and reliance on overtime pay as reasons for why

they used opiate prescriptions. Descriptions of how these impacted officers'

opioid use are provided in the following sections.

A slippery slope: From prescription to addiction

Prescription opioid analgesic dependency is likened to a double-edged sword.

With use, over time, an individual's pain-level does not necessarily decrease; rather, the

individual builds a tolerance for the opiate, which then requires increased dosage to get

the same level of pain relief. Officers described this as a "slippery slope" that leads from

misuse of their prescription painkillers to illegal behavior. For example, several of the

officers explained that they needed to supplement their prescriptions with the unused and

leftover pills that they took from family, friends, and co-workers. This behavior is illegal;

federal and state laws prohibit sharing controlled substances. A few others said that they

eventually went to multiple doctors to obtain multiple prescriptions, an illicit practice

known as doctor shopping. Overall, 9 out of 10 officers stated that, eventually, they

resorted to purchasing or stealing pills from street-level drug dealers. The combination of

obtaining pills from all of these sources led one officer to say that he was taking 1,000

OxyContin pills a month (LEO: 9). The common theme underlying the officers'

experiences was the rapid progression of their physical dependence and illegal behavior,

often within a year.

A participant proffered a chilling account of how, following 8 months of being

out of work following open-heart surgery, he returned to work – taking his opiates as

prescribed.

> I had a heart attack in 2005, followed by triple bypass surgery. As part of
> my post-operative regimen, I was placed on opiate pain medication. This
> was a very isolating time in my life. I returned to work in 2006; I was still
> using the pain meds, and in fact, had to ask my doctor for something
> stronger, I wasn't getting the relief I needed to work a full shift. He did,
> along with a second opiate prescription for OxyContin. He called this a
> breakthrough dosage that I could take as needed, for when the pain was
> really bad. The next year is a fog; I was in constant pain and constantly on
> meds. I was using my own prescriptions, and buying on the street. The
> street dealers knew that I was a cop; I could buy from them at wholesale
> cost. (LEO: 4)

Aside from the opportunity to purchase drugs on the street, several officers had

access to the department's evidence locker. Consider for example, the following two

accounts that were shared by two different officers, both whom had similar career paths

working in drug interdiction and enforcement. They also had in common an undetected

medical condition that led to their abuse and access to the unit's evidence locker, from

which they stole prescription opiate pills and heroin. A former detective sergeant

explained that the progression of his opiate use, following surgery for plantar fasciitis,

was compounded by an underlying and untreated hereditary medical condition. Following surgery, he began to experience intense and unexplainable pain. Within a year, this decorated and well-respected individual – formerly assigned to an elite multi-jurisdictional narcotics unit, became addicted to pain medications.

> Following surgery, they put me on pain medications. Somewhere around 6 months, there was a switch. I became addicted. I started to run out before the refill was ready. I started doing things that police officers shouldn't do. I started buying drugs on the street and I stole them out of the evidence room. (LEO: 5)

The other officer explained that he began using opioids for the treatment of a crippling stomach disorder. Within a few months, he began stealing heroin from the evidence locker to manage his pain.

> The pain was so great and the medication that had been prescribed just wasn't working; I ran out of pills before it was time to refill. I needed something more. I had access to the evidence locker; I stole heroin. (LEO: 7)

Painkillers to Heroin

The progression to heroin use was a subtheme that emerged in the data, though participants direct and indirect experiences varied greatly. With the exception of four clinicians (TREAT: 2-5), only one of the 10 law enforcement officers interviewed identified using heroin (LEO: 7) and one of the five paraprofessionals (PARA: 2) stated that he has worked with an officer that progressed from opiate painkiller use to heroin. For those having knowledge of officers' heroin use, clinicians stated that they have encountered officers who explained that they switched to illegal street drugs because heroin is significantly less expensive and more easily available in the U.S. compared to opioid analgesics such as OxyContin.

One of the treatment providers, a clinical social worker, shared the following:

> I see first responders start out with medical use of opiates because they have physical or medical issues. Then the officer needs to take more and addiction takes over. The user will become physically addicted. As the addiction progresses, OxyContin becomes more expensive and fairly difficult to find. What happens is that the officers progressed to heroin because it is more effective in terms of the euphoric response and it is more available and less expensive. (TREAT: 3)

Given the high incidence of heroin use by law enforcement officers noted by treatment providers interviewed for this study, compared to the infrequency that other interviewees (members of the law enforcement community, peer counselors, EAPs, and health benefit providers) reported, this group may be a hidden population that should be examined in future studies.

Yes I Can, no I Can't: "Hitting Bottom"

The term, "hitting bottom" means to reach the lowest point; with regards to addiction, what it means to "hit bottom" is a personal matter and varies by the individual. For the officers interviewed in this study, one component of hitting bottom was when they realized that their behavior as a police officer had changed, and that they were no longer "one of the good guys" (LEO: 5). Though they may have been able to control and hide their opiate abuse and illicit behavior for a period of time, having a family member, supervisor, or colleague confront them about their behavior was the beginning for when they acknowledged their inability and powerlessness to stop using opiate painkillers. From a resilience perspective, this is a critical time; it is a period when individual-level traits fall short for protecting the at-risk person from negative environmental conditions (i.e., addiction).

Nine of the ten officers interviewed were either fired or voluntarily quit the police force as a result of their opioid addiction. Five of these officers were indicted criminally and pled guilty to numerous drug offenses. One officer was involuntarily committed to a psychiatric hospital, which resulted in her dismissal from the police force because she is no longer able to carry a firearm. Three of the officers voluntarily resigned from their positions after their drug use became public. The experiences of several officers and the consequences of "hitting bottom" are described in the following section. From these narratives, the data points to the limitations of individual traits for explaining resilience. Of the ten officers interviewed, the only officer who is currently on active duty explained that he continues to use opiate medication to manage his chronic pain despite acknowledging this may be dangerous on several fronts. One, he believes that he will abuse these pills; therefore, he asks his wife to hold the medication and dispense sparingly. Second, managing the timing of his medication along with his work schedule is very difficult. Though he tries not to build a buffer around when he take his pills so that he is not "drugged" while on duty, as he remarked, "you just never know when you will be called in unexpectedly, or when your shift is going to run late" (LEO: 2).

One of the two female officers interviewed for the study recounted how opiate use combined with workplace stress and lack of social connectivity with fellow officers, contributed to her resigning from the police force. The interviewee stated that she was prescribed a 7-day supply of Percocet for acute back pain. Unfortunately, the pain did not subside; her physician provided her with a controlled release OxyContin, supplemented with a short acting opiate – Percocet. She was on both of these medications for almost a year. Around that time, despite the fact that she had been sober

for almost two years, she started to drink alcohol again. She stopped attending 12-Step

Meetings and began "calling out drunk" from work. Next, she had a minor fender bender

in the patrol car; shortly thereafter she retired from the police force and is now divorced.

According to this officer, once she started using pills, her life never got back to normal at

home or at work; she was not able to do her job like she had in the past and she became

isolated from family, friends, and co-workers. She states:

> Once I started taking the pills, I became very vulnerable to all of the things
> that I drank over – the stressors of the job, the problems at home, the
> discrimination that I felt as a woman and the cliqueiness in the
> department. Though I have had bouts of sober living, I can't seem to let
> go of both the pills and the booze. I have been in and out of 4 treatment
> facilities. (LEO: 1)

Interviewees also explained that many officers take opiate medications so that

they can work, despite being in pain. Several stated that most officers try to avoid going

on disability or restricted duty; "you become a cop because you want to be on the street,

you want the action of being on the street", said a retired sergeant and paraprofessional

(PARA: 4). While another interviewee commented:

> Two important reasons why officers will risk using opiates: police officers
> want to work, we love our job, and second, our families depend on the
> overtime. You don't get overtime if you are on desk duty. (SUPER: 4)

It is undeniable that opiate use has the potential to negatively impact an

individual's physical and psychological resilience. For a law enforcement officer

who is abusing opiates, social support mechanisms and related services associated

with the micro-level and meso-level social ecological spheres were identified as

being important factors associated with help-seeking and resilience. In some

instances, these were identified as inhibiting officers from seeking treatment, but

largely the social networks and supervisory leadership of the micro-level and

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meso-levels facilitated recovery and resilience. An examination of these dynamic

processes and interactions are presented in the following section.

<center>The Micro-level: Helping the Helpers</center>

<center>*The Stigma of Addiction: Words Matter, Actions Matter More*</center>

The stigma of addiction exists universally; it has been identified as a critical

reason for why individuals fail to seek or receive treatment for substance abuse (Barry,

McGinty, Pescosolido, & Goldman, 2014). Perceived negative attitudes towards officers

with drug addiction and officers' own feelings of shame tended to augment negative

consequences of stigma. One officer commented:

> I have been in treatment for drugs and alcohol 3 times; this shocks most
> people, they think that because we are cops, we should get well 'right out
> of the gate'. But that's not the case for addicts, and I am an addict. In
> fact, most recovering addicts talk about being in 7 or more treatment
> facilities. (LEO: 10)

Another officer explained how she feels judged and looked down upon by addicts at the

Narcotics Anonymous (NA) and Opiates Anonymous (OPA) meetings that she attends.

> The public looks down upon us, and to make it worse, even the addicts in
> the meetings think we are worse than them. That's just not true. I see
> police in the rooms of AA, NA, and OPA, and I know that they are still
> people. But that's not how we are judged by everyone else. (LEO: 1)

Three key areas of shame and stigma were noted: being shamed by their peers,

discrimination by members of the recovery community, and self-loathing for violating

"the Oath". The following quote sums these factors very nicely.

> Police officers feel like they are alone and can't ask for help because then
> they won't let me be a cop. There is the stigma and fear, whether real or
> not – it is the perception in law enforcement. We are not allowed to have
> problems. We are the helpers: We come on the scene and handle all of
> the problems. From our peers, they don't want to work with someone who
> has a problem. And, on top of that, the department doesn't wasn't us to

have problems, they want us to handle it. The public doesn't want law enforcement officers to have substance abuse or mental health problems.

Therefore, you think that you can't ask for help. Everyone sees you passing out, slurring your words or acting off. Somehow you think it is ok to do these things, but you are afraid to ask for help. That's misguided fear. (LEO: 5).

We all Fall Down: Social Support and Networks at the Micro level

Despite these obstacles, a critical theme that emerged in the analysis of interviews is that there are ways to intervene and attenuate officers' downward spiral. In fact, among the most common and most illustrated themes to emerge in the data analysis surrounds the social supports and networks that emerge through the micro-level. The following statements exemplify the hope and supports valued in this area. "When I can touch a person and let them know that they can recover, that recovery is possible, that's a great win", said a peer counselor (PARA: 3). He further stated, "And, I am most proud if I can help someone to keep their job, because being a cop is who we are" (PARA: 3). Policing inherently is comprised of a mindset of watching out for each other, likened to a fraternal or familial bond. The interview data points to multiple social supports that build upon existing elements of the police subculture, training and organizational development, and employee benefits that can serve as protective factors, despite the negative consequences of addiction and stigma. These facilitate officers' resilience by providing appropriate resources and referrals, for the purpose of building and strengthening the innate traits of the officer. They are instrumental to understanding resiliency.

The "Thin Blue Line"

Interviewees emphasized that the emblematic fraternal bonds of "the Thin Blue Line" remain especially strong between those officers who are in recovery for substance

abuse. They professed a passionate personal commitment to assisting other officers in

need, most specifically, through their willingness to recount their personal experience

with opiates. One of the cross-cutting themes that surfaced in the data analysis

surrounded ways in which the micro-level networks build upon elements of the police

subculture to demonstrate empathy. "My message is pretty simple", said one of the

interviewees. "I will tell anyone who is in trouble that I know where you have been, I

know where you are now, and I can help", he said (LEO: 6). Their aim has been to give a

face to opiate painkiller addiction, and to increase awareness of the resources available to

officers that may feel they are in need of assistance or treatment. While 90% of the

officers interviewed for this study are no longer working in the field of law enforcement,

more than half of these individuals are either working full or part-time in the field of drug

and alcohol treatment. Their goal is to specialize in treatment for police and first

responders. Consider the following that describes how one individual uses his new career

to assist other officers. He states:

> My journey has been an incredible one and my purpose now is much
> different than 5 years ago. I work for a specialized treatment program for
> police and first responders, now. Once when I was giving a presentation
> and telling my story and what happened, someone in the audience asked
> me if anything might have been done to stop or prevent me from getting as
> bad as I did. I thought about that a lot, and I believe had there been a peer
> counselor for me to talk to, that might have helped. I am open about my
> experience; I don't want others to have to go through what I went through.
> (LEO: 5)

Paraprofessionals, including active and retired peer counselors, explained the

importance of attending closed 12-Step recovery meetings for police and first responders.

> I worked through our local police union to establish "Bottles and Badges",
> said an interviewee. We needed a place where cops and first responders
> could feel supported. Weekly attendance has been great, we get guys and
> gals who are still on the force and who have since retired. It is great that
> guys with long term sobriety attend, it helps them to stay sober and they
> can help the newcomer. (PARA: 3).

A retired sergeant and retired peer counselor stated that he regularly attends recovery

meetings for police and first responders at a local treatment center. His purpose for

attending these meetings is to bring hope to these officers.

> By sharing my recovery story, I want to let them know that no matter what
> their behavior, including illegal conduct that brought them into treatment,
> things can get better. I want them to know that addiction is a disease, not
> a moral failing. (PARA: 1).

Multiple recovering officers explained that empathy was frequently veiled under the

"ribbing" and teasing that are part of the fraternal subculture, without exploiting a fellow

officers' vulnerability (LEO: 1,2,4,5,7,8,10).

Credibility and trustworthiness

The police subculture is typically described as being skeptical of outsiders;

officers view the world with an "Us vs. Them" mentality (PARA: 1). Trusting or

allowing an outsider into the police culture is frequently met with resistance. Peer

counselors, along with other recovering officers have the unique position of being

intimately in tune with the police culture. All thirty of the interviewees emphasized that

these groups of individuals were frequently the most successful for engaging an officer in

help-seeking behaviors because they are able to empathize with the officer. Their success

was also linked to having a demonstrated credible work history; only if someone was deemed credible, could they be trusted.

As noted by one supervisor, "Cops are "thinking" personality types; they are good listeners and evaluate your credibility – which is most often established through your work history" (SUPER: 5). He continued, "In some cases, credibility was established through shared work experiences, but in many cases, credibility was established through a referral from a trusted source" (SUPER: 5). One of the paraprofessionals described it in the following way:

> Trustworthiness gained through reputation is important in order for the officers to pay attention because a cop can smell bullshit when they hear you; they are constantly evaluating you. A cop will say, "I checked you out, you are ok." (PARA: 5)

The prominence of this thread within and between the data indicated that credibility and trustworthiness were especially meaningful to facilitating pathways for strengthening officers' resilience. Further, the theme was identified as a critical factor for bridging into the meso-level. The data indicates that credibility and trustworthiness parlay into what treatment providers and clinicians call cultural competence.

Where Should I Turn? EAPs and the Warm Hand-off

Recall that the social ecological model of resilience is represented by concentric nested spheres that include the individual surrounded by increasingly distant social environmental influences. A key connector to linking the micro-level to meso-level of support was identified as the EAP (Employee Assistance Professional). It was suggested that EAPs have the benefit of contextualizing the officer's behavior and how it is impacting their job performance. Frequently, knowing that you are in jeopardy of losing your job, has been identified as a key driver for getting an officer to look at their

substance use (PARA: 2). More so than confrontation, the aim is to offer support by

connecting the officer with resources in the community or in the organization. "We hold

the officer's hand until they get to the professional help", explained an interviewee

(PARA: 3); this is known as a warm hand-off referral. The EAP, who has had an initial

direct contact with the officer and has established a level of trust and rapport, directly

introduces the officer to an appropriate resource. Options may include: referral to a peer

counselor, an introduction to a member of the recovery community, accompanying an

officer to a 12-Step recovery meeting, or making arrangements for the officer to be

evaluated at a treatment facility. Being able to identify with how trauma affects the law

enforcement officer's life was identified by the EAPs and peer counselors as "incredibly

important" for understanding how and why officers can become addicted to opiates

(PARA: 1). The EAPs interviewed for this study expanded upon the importance of

understanding how the routinization of stress and trauma strengthens officers'

psychological defenses to perform their job on a daily basis, but it results in detachment

and depersonalization, which ultimately threaten officers' willingness to accept help and

weakens resilient behaviors:

> Law enforcement officers have a really tough job and they deal with
> events on a regular basis and the trauma of the job and the routineness of
> trauma is incredible. Officers tend to remove things, daily things, that
> when they share it, normal living people shake their heads and say, "How
> do you do that?" But officers shake their heads because it is normal; they
> do it every day. When you first approach an officer with an addiction, you
> need to understand their defenses – they don't think that they can have a
> problem. (PARA: 5)

The warm hand-off from an EAP may be to a treatment facility. The success of

this process and the essential interactions represented another thread in the data that was

described by multiple interviewees who recounted multiple occasions and experiences

where these actions took place. All of the treatment providers and health benefit

providers interviewed for this study mentioned that officers' success in treatment was

most often linked to initial referral and ongoing relations with an EAP. The essence of

this thread is found in the following quote provided by a former clinical counselor at the

Station House Drug and Alcohol Treatment facility, who said:

> The most success that we saw in treatment came through a trusted EAP or
> representative from the Police Benevolent Association. I saw that when
> we had a referral for these men and women, their length of stay increased
> and they had greater engagement with their treatment. Police officers
> craved continuing care and empathy, because there was a fear of a
> tarnished reputation. Having a trusted referral source, which remained in
> contact with the officer, was really important. (TREAT: 1)

Meso-level Accountable Care: Responsible Concern

The critical differentiation between opioid use and abuse by law enforcement

personnel and the general population may be attributed to the role of the police officer as

a provider of public safety, which for most sworn officers also entails the legal authority

to carry a firearm and to use deadly force. Despite this power, there is a legacy of

organizational neglect surrounding the psychological and behavioral components

associated with officer fitness for duty. Remarked one officer, "most guys and women on

our job take care of their bodies but it is hard to get people to focus on the mental

behavioral aspect of it" (LEO: 8). Very recently, however, this appears to be changing

with an increased awareness at the institutional and national levels that living a healthy

lifestyle is critical to officers' well-being and resilience. These themes surfaced in

conjunction with the present study of opioid use disorder, its threat to police resilience,

and strategies in the social environment that can serve to bolster officers' resilience.

Intersecting and building upon the close micro-level social supports and social networks,

are influences and pathways contributing to officers' resilience that are found in the meso-level. Individuals, groups, and services were demonstrated to have a significant impact on officers' willingness and ability to recover from opioid use disorder. Sources of support included: police supervisors, clinical and treatment providers, and health insurance providers. These components of the meso-level are discussed in the following section.

We are Not Friends, but I Care: Supervisory Leadership

Supervisory leadership was recognized as a theme that emerged on many occasions in the analysis. All ten of the officers (LEO: 1-10) commented that competent leaders are instrumental for creating a culture that supports officers' fitness for duty, along with engaging officers in need of help-seeking to access these services. Recall that competency is associated with credibility and trustworthiness. In the present context, this included having the expertise and ability to apply the organization's policies and procedures, combined with a consciousness of their subordinates. A retired detective sergeant, former president of the sergeant's union and now paraprofessional sums this theme nicely. He commented:

> There has to be checks and balances. It is about deterrence and discipline. In the end, we are a paramilitary organization. It is important that the supervisors know their officers and that discipline is fair and consistent. (SUPER: 1)

Central to these endeavors has been to debunk the image of opiate addict as "the other" or

a stranger. A detective sergeant, who lobbied to have mandatory opioid use training for

his organization of 4,200 sworn officers, shared the following:

> I want officers and everyone to know that this is an epidemic and it is
> happening all around you. If you think that it can't happen to you, you are
> wrong. We have to let our fellow officers know up front what they are
> getting into when they use prescription pain medicine. (SUPER: 1)

Prevention: Education and Training

Interviewees, regardless of their position or role, addressed the importance of

integrating education and training on opiate prescription addiction, behavioral health, and

fitness for duty as an essential way that supervisors can impact officers' resilience. One

of the sergeants interviewed for this study remarked:

> I think that the most important thing that we can do is education. To stop
> it before it turns into a problem, stop it now. Education and training,
> beginning in the police academy and carrying over throughout the
> officer's career are critical. As leaders of our organizations and
> subordinates, one of the most important things that we can do is to
> advocate and give our support for these programs.
>
> Police officers are getting addicted to prescription drug medication and
> they have no knowledge of what they are getting themselves in to. They
> are taking what the doctor is giving them, but then they found out that the
> medical doctors do not have enough training in prescription medication.
> (SUPER: 2)

One such program, the "Substance Abuse Education, Prevention, Training and Outreach

Program", created by peer counselors, EAPs, and other members of the First Responders

Addiction Treatment (FRAT) program, Livengrin Foundation, Inc. received approval

from the Pennsylvania Municipal Police Officers' Training Commission (MPOTEC), as

an elective course for continued law enforcement education recertification. From 2014 –

2017, approximately 8,000 law enforcement officers in the Commonwealth of

Pennsylvania have received this training. During training, officers are led to examine the

psychopharmacological impact of opiate medications, their own patterns of use and to

consider how these narcotics are being used by family members and known associates.

But, in the words of a supervisor, "these programs become unimportant and ineffective,

without quality leadership and supervision to support them" (SUPER: 2). He went on to

say:

> We have to let officers know ahead of time that if they cross the line and
> feel that they cannot stop using or are using too much, that it is okay to get
> help. Physical addiction is often unavoidable and, therefore, officers need
> to gain a greater understanding of the nature of the disease of addiction.
> (SUPER: 2)

Leadership awareness

A good supervisor was described as a leader who is able to recognize their

subordinate's normal behavior so that they can identify their abnormal behavior (SUPER:

2). This trait was identified as leadership awareness, which interviewees described as

being in regular contact with one's direct reports, and in some instances micro-managing

some of the small details of how a unit functions – such as being attuned to and knowing

what may be happening in an officer's home life. The following narrative, which was

shared by a detective sergeant who is responsible for an elite narcotics unit, is illustrative

of this theme. It represents the elements of leadership awareness that were identified by

the multiple interviewees.

> It's tough, how I manage a drug unit; I sometimes say it is like
> kindergarten. Feelings get hurt, there are personality conflicts, and the
> animosity can tear us apart. So, if I hear about it, I will bring the parties
> in. We will hash it out, sometimes screaming, but in the end, I let
> everyone know how I feel and I make a decision.

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The officer doesn't have to like the decisions that I make but once I explain things, he usually says, ok. In a drug unit, if you have any type of animosity, then the Unit can implode.

It is important for me to be approachable, and in touch with the personal and professional lives of my direct reports. I want to be the one that you can come to if you have a problem. Yes, I am the supervisor and I have to answer for the behavior of everybody, but I operate by being part of the team. Though geographically dispersed, I want all the supervisors to check in each day at 10 a.m. I tell them to have a great day, and then you end up talking, you talk about normal things. I hold monthly supervisor meetings and quarterly meetings for the entire group so that everyone knows whom they are calling. I provide lunch, this gets people talking more and we are a bit more relaxed. (SUPER: 2)

The five supervisors interviewed for this study explained that, if an officer asked for help before he or she was caught doing anything illegal, they were most inclined to show empathy and offer support to help the officer keep his or her job. The following account, based on the experience of a supervisory investigator in Internal Affairs, explains how he approached an officer with a problem.

I was charged with interviewing an officer who was coming to work smelling of alcohol, and it was obvious to everyone that he was having problems with that, along with possibly other things. Before we started the interview, I said to him long story short, I suggest that you get some help and we can help you. We can have this discussion off the record and talk about the bigger issue because sooner or later you are going to be in more trouble again. He agreed; we called our EAP and he went into treatment that day. Being able to do that was odd for someone in my position, but I saw an opportunity and took it. (SUPER: 4)

However, supervisors commented that they would not tolerate ongoing inappropriate behavior:

I am well aware of the amount of stress that police work can thrust upon an officer, which could lead to drug or alcohol abuse. I would want them to understand that I would assist them in any way possible to overcome such addictions and to help them to retain their employment.

Yet, if an officer did not seek help or relapsed after receiving help, which could have ultimately placed a fellow officer and the public at risk, I would not hesitate to take whatever action was necessary to remove that individual from employment. (SUPER: 5)

In sum, the data suggests that law enforcement supervisors have an important role to play with regards to bolstering officers' resilience. This is accomplished through their support of education and training, and their ability to lead through command and control – with a 'human touch'.

There is a Wrench for Every Nut: Culturally Competent Treatment

All of the interviewees expressed a belief that specialized individual substance abuse treatment is necessary for the subpopulation of addicted law enforcement personnel. "No one enters treatment feeling good, you are at a low point in your life," said one clinician, adding "for a police officer, the shame and stigma are magnified" (TREAT: 4). Overall, treatment providers echoed the feeling that treatment as usual is not appropriate for this group; it really calls for special treatment for a special population (TREAT: 1,2,3,4,5). Another clinician expressed his experience this way:

In treatment you often hear the phrase, "there is a wrench for every nut", which means that what works for motivating and engaging one person does not necessarily work for another person. For the law enforcement and first responder addict, specialized treatment is critical. (TREAT: 1)

The cultural competency of psychologists, substance abuse counselors, and health benefits providers was identified as a key factor in the meso-level that contributed to officers' treatment for opioid use disorder and officers' resilience. In this context, cultural competency refers to having an appreciation and understanding of the environment of police work and the police culture. Culturally competent treatment providers understand how the police culture and the Oath shape officers' attitudinal and coping skills. Further,

they recognize the vulnerability for officers of exposing a potential career ending disease. "More than anything, I would say that trust and comfort between the officer and the counselor are really important", said a treatment provider. He went on to explain:

> It is hard for these men and women to ask for and to accept help. You have to take a non-judgmental stance and understand that they feel very defective, like they failed. They need to feel respected and you need to respect their culture because policing is a respect driven culture in general. We must have respect for their unique job and the standards to which police and first responders are held as compared to civilians. (TREAT: 3)

Similar observations were made by other clinical providers as well (TREAT: 1-2, 4-5). "It's a bit like peeling the layers of an onion", a counselor said. She goes on to describe the importance of understanding the shame in the officer's mind for their addiction and for having failed in their profession (TREAT: 1).

While undergoing treatment, the tendency to feel alone, isolated, and stigmatized was a common fear expressed by the officers (LEO: 1-4; 5,7-10). These negative feelings were minimized through specialized treatment programs. Officers described how the confidential environment of specialized treatment programs included opportunities to maintain a connection to the brotherhood and to their department through regular contacts with peer counselors and their EAPs. Moreover, in group sessions, officers were able to "talk shop", which further helped them to save face and maintain their police identify. An example of a specialized treatment program is FRAT at Livengrin Foundation, Inc. Its components were described as follows:

> FRAT was based on the same program as the peer program in the Philadelphia Police Department. We focused on integrating peer counseling with professional services. Officers can come in by themselves or be referred. However, they are not placed in the general population. When they come through Admissions, FRAT will receive a call. The best part of the treatment program is patient education, 12-Step study, group meetings, and focus group meetings. We use the strengths of

the police and first responder profession, in particular their training and
education to connect with other first responders. (PARA: 1)

Many, if not most, law enforcement agencies provide commercial health
insurance for their officers – the opportunity to access specialized treatment
programs is made possible through this health insurance benefit. For reasons
previously mentioned, such as stigma, getting officers to take advantage of these
benefits can be a challenge. A strategy that has brought some success builds upon
the critical feature of trust, a feature that has proven beneficial in other areas as
well.

Navigating the Health Care Maze: We are Not a Faceless Entity

As an occupational group, police and law enforcement officers are generally
provided health insurance that covers physical, mental, and behavioral health. According
to interviewees, whether or not officers take advantage of these benefits depends largely
on the ease of access to services (HBA: 1,2,4-5; LEO: 2,7,9; PARA: 2,4; TREAT: 1,2,4-
5) and their trust in the insurance providers' reputation for maintaining confidentiality of
the officers' medical condition and utilization of services (LEO: 1,3-6, 10; PARA: 1–5;
TREAT: 1,3-5). While health insurers and benefits providers are separate entities from
the police department, several of the health benefit administrators expressed concern that
some officers perceive that their private health information might be shared with the
police leadership (HBA: 1,3). To address these concerns, one of the leading health
benefits administrators stated that his organization intentionally focuses on building trust
with officers through service excellence and offering a "personal touch". He states:

We are not a faceless entity, so that when an officer needs assistance, they
know where to turn. We have built a reputation with our members that we
will always act in their best interest. We have initiated our own internal

prescription-monitoring program to identify at-risk usage patterns for opioids and pain medications and we have contracted with a regional behavioral health network and drug and alcohol treatment facility to offer specialized treatment for our members. (HBA: 2)

The Macro-level: Social Structural Influences

Interviewees addressed how social structural issues associated with the business and politics of pain management and pharmaceutical sales have contributed to opioid use by law enforcement officers. Across the board, they attributed misuse and abuse of opiate analgesics to excessively lax prescribing practices by the medical community, in particular overprescribing by primary physicians and dentists. Moreover, they emphasized the need for increased governmental oversight of direct marketing practices by large pharmaceutical companies to physicians – in fact, one treatment provider described the drug manufactures as being more vile and dangerous than the drug cartels (TREAT: 1). He went on to explain:

> Across our country the use of opiates has increased so significantly that it is an epidemic. One of the things that is lacking is a criterion for prescribing opiates, so the manufacturers and marketers tell the doctors to prescribe large dosages. If you go to the dentist, there is a chance that you will get 50 Percocet if you get a tooth pulled. This is ridiculous. We are lacking criteria or guidelines or limits on how many opioids that a doctor can prescribe. Heroin suppliers are the drug cartels; we enforce and prosecute these criminals. With opiates and pills it is the doctors, we have to go after the medical profession just like we go after the illegal drug cartels. (TREAT: 1)

Across the U.S., these features are widely recognized as contributing to the opioid epidemic.

Summary: An Occupational-Resilience Framework

When asked to imagine a future where police officers and their departments would not be afflicted with opioid addiction, one of the treatment providers giddily

explained, "I never really thought of this before, but I believe the starting place will be different". She went on to say, "Rather than focusing on what is the most appropriate response or treatment, we will concern ourselves with asking what needs to be done to support officer wellness" (TREAT: 1). This statement points to how the nested levels of the social environment, moving outward from the individual-level, to increasingly distant spheres of social supports and mechanisms impact officers' ability to manage opioid use and/or receive help if their use and behavior progresses to addiction.

Interviewees identified two common pathways to initial opiate use: to control chronic pain and to control acute pain. Over time, frequently six months or less, individuals developed a tolerance and physical dependence that necessitated increased dosage of the opioids to control the pain. Interviewees recounted experiences where they surrendered to this need for more and stronger opiates, as any addict might, by resorting to illegal behaviors. Recall, interviewees said that they took prescriptions from family members and friends, they turned to street dealers, or they stole opiates from the department's evidence locker. In these ways, they had increased opportunity and access to abuse opioids, compared to the general population.

The AI interviews highlighted three pertinent factors associated with interviewees' resiliency experiences. These were: surrender, opportunity, and access. The recovery process appeared to hinge on "hitting bottom" and asking for help. This is referred to in the help-seeking literature as surrendering. For those who identified as recovering from opioid addiction, there existed both informal and formal pathways (e.g., peer counselors, EAPs, supervisors, and health advocates) that operated in conjunction with clinical treatment professionals to bolster the individual's recovery. Of interest,

these mechanisms served as protective buffers and facilitators for officers as they negotiated their help-seeking behaviors and recovery, in the context of their role as a law enforcement officer.

The rationale for the mixed-methods design employed in this study was appropriate for the field of resilience research, specifically to contextualize officers' experiences with opioid painkillers. Palinkas et al. (2011) emphasize that it is important to consider structure, function, and process in selecting a mixed methods design. Recall that in Chapter 3, the researcher identified QUAL + quan as the structure for the present study, which represents that the qualitative and quantitative data were collected simultaneously, but that primacy was given to the qualitative data. The primary purpose of this structure was exploration and examination of a related set of research questions. In the next chapter, the researcher seeks to address the issue of process, specifically, to connect the quantitative and qualitative data in ways that will elaborate upon the research questions and discuss implications for empirical and conceptual concerns.

CHAPTER 6

DISCUSSION AND IMPLICATIONS

This study offers unique insight into the use of opiate painkillers by police officers. The aim for this chapter includes the integration of the quantitative and qualitative findings to answer different but related research questions, a discussion of these findings in relation to a conceptual model of resilience, and an exploration of how these findings might contribute to policies and practices aligned with a culture of officer fitness for duty. The mixed-methods research design, which involved the simultaneous gathering and analysis of separate quantitative and qualitative data with the use of appropriate analytic techniques, provided a more holistic picture than would have been achieved with either method or data set on its own. As West (2011) has explained, "the rich vibrancy of the qualitative data is needed to tell the story that the more static quantitative data presented" (p. 117). For this chapter the researcher sought to contextualize and interpret the mixed-methods results in a culturally meaningful way for law enforcement organizations and to examine these findings in relation to the social ecological model of resilience. Through this process, characteristics of each nested sphere of the social ecological model were identified, and three mechanisms that facilitated officers' help-seeking, recovery, and resilience were discovered. These are: surrender, opportunity and access.

Opioid pain medications are not intrinsically harmful; however, there is irrefutable evidence that the risk of misuse and addiction is great. When police officers are impaired by substance use—including the use of prescription pain medications— officers' resilience, public safety, and the resilience of the organization may be

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threatened. The study of resilience inevitably addresses the issue of risk. The present

study finds that, for explaining why officers filled or did not fill a prescription for an

opioid analgesic, the demographic characteristics of the officers were less significant than

of their experiences. Participants in this study identified pain control as the reason why

they began to take prescription opioids. From that point in the discussions, two pathways

were identified as contributing to opioid abuse: exposure to opioids during an acute pain

episode and chronic pain management. The interviewees further described pathways that

led them to seek help for opioid abuse. By means of these narratives, it was learned that

officers' help-seeking for, and recovery from, opioid abuse were best accounted for by

the positive social supports and feedback mechanisms made available through the social

network of the police subculture and policing organization.

The chapter begins by merging the quantitative and qualitative findings to build

an understanding, gleaned from those who have been affected, of the factors that

contribute to onset and continuation of opioid use, even to the point of maladaptive

addictive behavior. In each of the following sections, the results and findings presented

are based on averages over the four-year study period (2011–2014).

Discussion

Research Questions #1 and #2: Opioid Use by Police Officers

The prevalence of prescription opioid use by officers is considered in light of the

prescriptions-filled data for the study period 2011 to 2014 and self-reported interview

responses. Table 7 indicates that approximately 40% of the MPD sample filled at least

one opioid prescription over the four-year study period. The opioid-using group of

officers (also known in this paper as the "Opioid Group") was further examined to

identify subgroups of officers who might be at an increased risk for opioid abuse. Duration of opioid use, polydrug use of benzodiazepines with opioids, and filling multiple opioid prescriptions during the same period increased the risk of opioid abuse. A risk scale was created to explore subgroup variation in the Opioid Group. Within the Opioid Group, beyond filling a prescription for an opioid, 65% of the officers had no additional risk factor, whereas, 60% of the remaining officers may be considered low risk with one or two additional risk factors and 40% in the higher risk categories (Table 13 – Table 16). These findings suggest that whereas prevention and training efforts may be appropriate to educate the majority of officers, who are at a low risk, focused monitoring and intervention efforts may be more appropriate for those who are at the highest risk for abuse or overdose.

Variation by Subgroup: Sex

The results from the quantitative analysis support past research and national trends that identify a relationship between sex and prescription opioid use. Results from the current study indicated that the sex of the officer was associated with being a member of the "Opioid Group" prescription (Table 8). However, the results do not support national public-health data and related research indicating that women's patterns of prescription opioid use places them at a greater risk for opioid use disorder than their male counterparts. With the use of the "risk for opioid use disorder" scale, no significant association between sex of the officer and risk for opioid use disorder was observed in the prescription claims data (Table 13). In sum, contrary to reports of national trends, the analyses of prescription claims data did not point to an increased risk of opioid use disorder for female officers in the Opioid Group compared to male officers.

It is relevant to note that the qualitative interview data also did not identify differences by sex of the officer in the prevalence of opioid prescriptions filled. In fact, it was not uncommon to hear an interviewee say that "opiates do not discriminate." Given the dissimilarity in findings between what was observed in the law enforcement sample and what was observed in the general population, future research may seek to identify common personality traits and experiences of male and female police officers that contribute to the impression that they are somehow different from men and women in the general population.

Variation by Subgroup: Age

As noted in Table 7, within the Opioid Group, officers 38 to 60 years of age were most likely to fill a prescription, and the next most likely were younger officers (27–37 years of age). Of those who filled a prescription for an opioid, 14% were 60 years of age or older. Though the MPD does not have a mandatory retirement age, according to a personal communication with a senior leader of the department, most officers retire by 60 years of age. However, the oldest member of the force during the study period was 72 years of age. Because retired officers are eligible for health benefits under the MPD insurance plan, it is to be expected that the majority of participants in the 60-years-and-older age group may be retired officers. As reported, the results of the quantitative analysis of prescription claims data did not find a significant relationship between age of the officer and opioid use (see Table 9) or risk for opioid use disorder (see Table 14). Previous studies have indicated an increase in opioid prescriptions filled for older Americans (60 years of age and older) due to an increased risk of injury, surgery, and chronic health conditions that accompany the aging process. Given the mixed findings

compared with what was found in the general population, future qualitative research may be aimed at understanding active and retired older officers' experiences with prescription opioids, as this may reveal more about the cumulative effects of the policing occupation on an individual's health. Last, this may be an area where there is "missing information" in the current study; more specifically, the data set does not account for retired or older officers who do not elect coverage through the MPD insurance plan.

Pathways to Progression of Opioid Use

Interviewees identified two pathways leading to initial opiate use; these include managing chronic pain and managing acute pain. Though initially medications were taken as prescribed, over time, tolerance and physical dependence required increased dosage of opiates at shorter intervals to achieve the same level of pain management. This condition is known as opioid habituation.

The characteristics of opioid habituation place the individual at greater risk for opioid use disorder and addiction. Opioid habituation frequently leads to misuse and abuse. Misuse includes using the medication for a purpose other than prescribed, using the medication more frequently than prescribed, or using someone else's medication. Recall that eight of the 10 opioid abuse officers described how access and opportunity to use family members' "leftover" prescriptions, combined with obtaining prescriptions from multiple doctors, contributed to their misuse and abuse. As individuals use opioids repeatedly, their tolerance increases and they may not be able to maintain the legitimate source for their drugs. The qualitative results of the current study, gleaned from officers' accounts, along with those provided by peer counselors, EAPs, and clinicians, coincide with survey results from SAMHSA, National Survey on Drug Use and Health (NSDUH).

The 2015 NSDUH examined prescription drug use and misuse for people aged 12 or older in the United States. The NSDUH uses the label "pain relievers" to categorize prescription opioid analgesics. According to the survey results, 35% of Americans used pain relievers in 2015, and 4.7% of Americans misused pain relievers in the same year. Among those who misused a prescription pain reliever, the most commonly reported reason (62.6%) was to relieve physical pain. Among those who misused a prescription pain reliever, 53.7% said their source was a friend or relative, and about one third misused a prescription from one doctor. Further, about 1 in 20 people who misused pain relievers turned to the black market as a source (Hughes et al., 2016).

Pathways to Misuse and Abuse: Access and Opportunity

To date, a few studies have looked at how the opioid epidemic has impacted occupational subgroups. These include the following: Cottler et al.'s (2011) study of NFL professional football players; Merlo, Cummings, and Cottler's (2012) study of pharmacists; and Merlo, Singhakant, Cummings, and Cottler's (2013) study of opiate abuse by physicians. Similar to results in the present study, the results in these studies emphasized how the occupational environment and culture provided increased access and opportunity both to self-medicate and to obtain more frequent refills than what may have been prescribed by a physician. Professional football players are frequently given opiates for pain by team doctors; those who started to use opiates while actively playing were more likely than those who did not to continue using opiates into retirement and to develop an opioid use disorder (Cottler et al., 2011). Merlo, Cummings, and Cottler's (2012) and Merlo, Singhakant, Cummings, and Cottler's (2013) study of health professionals revealed factors in the occupational subculture and the workplace that

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contributed to opioid abuse, including increased access to opiates and a "don't ask, don't tell" culture that unofficially condones medication diversion. In the present study, eight of the 10 officers who were interviewed described how easily they were able to purchase or seize black-market opiates from street dealers, and two officers also stated that they stole OxyContin, Percocet, and even heroin from their department's evidence locker.

Pathway to Heroin

Prescription opiates and heroin are in the same group of opioids. A subtheme that emerged in the data is that individuals may switch to illegal street drugs because heroin is significantly less expensive than legal drugs such as OxyContin. A recent study by Cicero, Ellis and Harney (2015) warned that although prescription opioid use and prescription opiate abuse have been decreasing, this shift has not necessarily led to a decrease in opioid overdose, which may be explained by a shift to heroin use or combined heroin and opioid use. The authors reported an overall 6% decrease in prescription opioid abuse from 2008 to 2014, with an annual 10% increase for combined heroin and prescription opioid abuse and 14% increase for heroin abuse. The researchers also reported that the most significant difference from the overall national pattern occurred in the region where MPD is located. In fact, while this region saw a decrease of 13% in prescription opioid abuse from 2008 to 2014, there was an increase of 20% for combined heroin and prescription opioid abuse and a 43% increase in heroin abuse only.

In the present study, there was lack of convergence in the interview data with regard to whether or not police will drift to heroin use. Although most of the clinical treatment providers stated that they had treated law enforcement officers who had progressed from prescription opioids to heroin, only one of the 10 officers identified as

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having used heroin, and only one paraprofessional stated that he had worked with a police officer who shifted from opioid medications into heroin. More common was the sentiment that this was an area into which police do not drift. The lack of consistency in these results suggests that there may be a unique hidden subpopulation of heroin-using law enforcement officers who do not avail themselves of the peer support or EAP recovery networks but are in need of specialized intervention efforts.

Vulnerability and Risk: Treatment for Mental Illness

As described in Chapter 4, over the four-year study period, those officers who had received treatment for mental illness (25%) were less to fill a prescription opioid than those officers who had not received treatment for a mental illness (50%) (Table 10), though there was no observed significant relationship between increased risk for opioid use disorder and treatment for mental illness (Table 15). Of the 30 interviewees in the qualitative study, only two persons specifically mentioned a relationship between officers' prescription opioid use and mental illness. One of the 10 officers divulged that, along with his chronic back pain, he suffers from PTSD. The combination, he said, causes confusion about what he actually needs medication for. The other interviewee,[25] a police supervisor, said that what initially brings an officer in trouble to his attention is related to opioid abuse; as the officer begins to describe his situation, the supervisor frequently learns that PTSD is an underlying contributing factor.

Exploring the relationship between opioid use and treatment for mental illness in further detail will be important for law enforcement organizations for several reasons. First, as noted in a previous discussion, polydrug use of prescription opioids and

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[25] It is relevant to note that the interviewee (SUPER: 2) is also a certified EAP and has served as a peer counselor for his police department. His interview responses for this study were considered in light of his position as a sergeant in the department.

benzodiazepines, along with long-term use, may be a fatal combination. Observation of the layering of these risks with having a history of treatment for mental illness suggests that there is a subpopulation that may need specialized support, monitoring, or interventions to ensure wellness in the officer, the organization, and the community.

Second, on two fronts, it is important to consider the interconnectedness between law enforcement agencies and veterans; the U.S. Veterans Administration has reported that the number of veterans with opioid use disorder spiked 55% from 2010 to 2015, with the most recent figure representing approximately 13% of the veterans currently taking opioids (2015). In addition, according to a recent RAND Corporation report (2015), approximately 20% of returning Iraq and Afghanistan veterans has PTSD and/or depression. The military-service-to-law-enforcement employment pipeline has a long history in the United States; however, pre-employment psychological screening tests may disqualify veterans who have received treatment for PTSD or any other mental illness. A related issue surrounds officers' fitness for duty upon reactivation into their policing role following active military deployment. Several IACP reports (2009, 2011) have sought to provide guidance for police chiefs and administrators on these issues. Despite the efforts of the IACP, there remains a gap, as these reports have not considered the relation between prescription opioid use, opioid use disorder, and veterans' mental health. A thorough examination of these is beyond the scope of the present study, but represents an area rich for further investigation.

Vulnerability and Risk: Treatment for Substance Abuse

Table 11 in Chapter 4 of the dissertation indicates that approximately 31% of those in the "Opioid Group" had also submitted a medical claim for substance abuse

treatment. Interestingly, the analyses revealed that officers who did not have treatment for substance abuse (40%) were more likely to have filled a prescription for an opioid than those who did receive treatment for a substance abuse (31%). The quantitative data analysis, the interview results and national data suggest that the relationship between an individual's opioid use and history of substance abuse is complex. For example, recall that one of the officers interviewed for the study said that she believes her opioid abuse contributed to her relapse into alcoholic drinking (LEO: 1). To date, even though she has controlled her opioid abuse, she continues to struggle with abstaining from alcoholic drinking and living a sober life. Current opioid prescribing guidelines (SAMHSA, 2017) and previous research studies (Passik, 2004; Pohl and Smith, 2012; Savage, Kirsh, & Passik, 2008) have recommended that physicians take a cautious approach to prescribing opioids for patients with a history of substance abuse, because the attendant physical and psychological dependencies can exacerbate the associated disorders.

Vulnerability and Risk: Concurrent Benzodiazepine Use

The prescription claims data provided the unique opportunity to examine commonly prescribed medications for depression, anxiety, and stress that, when used in combination with opiates, can be deadly. The cross-tabulation analysis (see Table 12) indicates that 34% of those who filled a prescription for a benzodiazepine also filled a prescription for an opioid, while those who did not fill a benzodiazepine prescription were more likely to fill an opioid prescription (42%). Given the increased risk for negative health outcomes associated with polydrug use, monitoring of the benzodiazepine/opioid group may warrant increased monitoring and direct interventions.

Empirical data suggests that polydrug use of benzodiazepines and opioids is associated with comorbidity in health outcomes, including increased risk of overdose, increased risk of opioid use disorder, and increased chances that an individual will seek treatment for opioid use disorder (Busto, 1996; Jones, 2012; Gudin, 2013). Further, in combination with an opiate analgesic, withdrawal and/or overdose from a benzodiazepine can be deadly (SAMHSA, 2014). The physical effects of these prescription medications include drowsiness, reduced motor control, feelings of euphoria, and agitation. The side effects raise a grave concern for public safety if these medications are used by officers who are on active duty. Understanding the increased risks associated with this subgroup may contribute to building more effective programs for prevention, intervention, and health monitoring. Moreover, the fact that on average, 9% of MPD officers filled a prescription for a benzodiazepine (Table 6), a medication commonly prescribed for depression, anxiety, and stress, is a relevant health indicator that speaks to the underlying fitness for duty of the policing community. Further exploration and understanding of this health risk will prove beneficial.

Vulnerability and Risk: Duration of Use

Duration of opioid analgesic use, more so than the dosage amount, has been identified as a correlate of opioid use disorder and addiction (CDC, 2016; Scherrer et al., 2013). As reported in Table 7, 27% of the officers who filled an opioid prescription may be considered long-term opiate users, which places these individuals at a greater risk for abuse, overdose, and opioid use disorder. In addition to increasing the risk of opioid abuse, long-term opiate use may lead to an increased risk of developing depression. For example, Scherrer et al. (2013) studied the medical records of 50,000 veterans with no

prior history of depression or opiate use. They found that individuals using opiate medications for 90 to 180 days or more had a 25% increase in risk of depression, compared with those who used opiates for a shorter period. For those using opiates for 180 days or more, the risk of developing depression increased 53%, compared with those who used opiates for a shorter period.

This data is supported by the interviewees' experiences, as reported by them for the current study. All of the 10 officers interviewed for the study described how, after several months of extended opiate use, they increasingly isolated themselves and became depressed, with one officer sharing how she had contemplated suicide. Understanding the relationship between long-term opioid use and mental disease may prove very meaningful as researchers and police organizations struggle to reduce the incidence of officer suicide (IACP, 2014).

Vulnerability and Risk: Officers' Income

Several of the interviewees described how their reliance on opiates evolved from an attempt to manage the demands of shift work, along with reluctance to stay on restricted desk duty following an injury or surgical procedure, because of their need for overtime pay, which is earned by working the streets. These research findings would seem to ring true across the nation. For example, as noted in Chapter 1, a recent IACP gathering of police chiefs and other policing leaders considered how these same concerns, rooted in officers' income and salary needs, were contributing to an increase in prescription opioid use by officers.

By providing greater awareness of officers' opiate use and abuse while on duty, the current findings may prove beneficial for police chiefs and other administrators who

seek to improve officers' health and fitness for duty. The previous discussions have focused on officers' use, misuse, and abuse of opioids. Analyses of the medical and prescription claims data in combination with the interviewees' responses have identified opportunity and access, which are components of the social environment, as key factors underlying officers' use and progression to misuse of these medications.

RQ: #3: Help-seeking Pathways: A Social Ecological Conceptual Model of Resilience

Empirically, the factors associated with officers' help-seeking for opioid use disorder emerged through analyses of the qualitative AI interviews. Analysis revealed three pathway themes—surrender, opportunity, and access—that connected prescription opioid–abusing officers to social supports and substance abuse professionals who aided in their recovery process. A conceptual model is depicted in Figure 3. The social ecological theory of resilience provides a conceptual framework for examining the interconnectedness of individuals with their social environment. It gives meaning to the experiences of officers who described how, on the basis of their law-abiding beliefs and professional outlook, they could never have imagined engaging in the harmful and sometimes illegal behavior that accompanied opioid addiction.

Figure 3 is intended to contextualize and situate officers' help-seeking behaviors, which move them beyond the isolation and feelings of hopelessness that accompany opioid addiction, and direct them towards recovery. Further, the figure highlights the genesis and importance of an assets-based approach to creating a culture of wellness in policing which seeks to identify and leverage existing strengths of the individual and

their community to support wellness efforts.
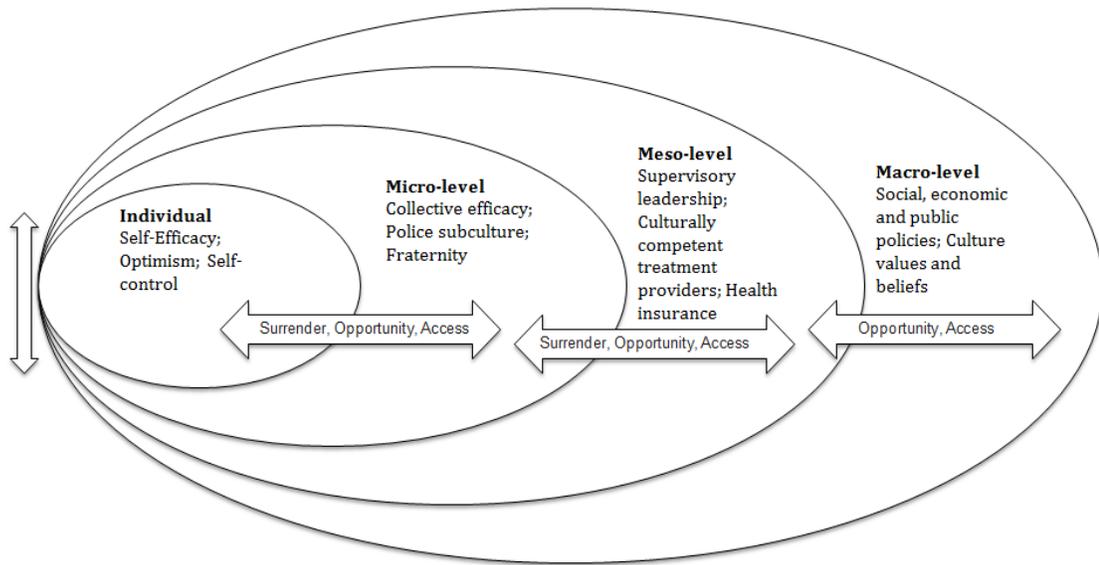
Figure 3. Enhanced adaptation of Bronfenbrenner model based on study findings.

The nested spheres depicted in the model correspond to the social ecological

levels identified in the Bronfenbrenner model (see Figure 1); the contextual variables

included within each sphere represent the assets and resources linked to existing strengths

of the social ecology of police work. The three arrows that cut through the nested spheres

represent the critical mechanisms—surrender, opportunity, and access—that facilitate the

contribution of the assets and resources from each level to officers' help-seeking

behaviors. The two-way arrows represent the fluid negotiated interplay between

individuals and their environment.

In the relevant literature, the process of giving up is referred to as "surrendering."

All of the 10 officers who were interviewed for this study shared the belief that their

surrender occurred as the result of external circumstances. According to their accounts,

two were arrested, one was involuntarily committed to a psychiatric hospital, one was

confronted by a spouse, two others were approached by a trusted fellow officer, and the

remaining four officers were approached by a peer counselor or EAP. The external

circumstances provided the opportunity to access the social supports and resources of the

micro-sphere. Despite individual feelings of vulnerability and shame, micro-level

supports, which are grounded in known and trusted components of the police subculture,

act as protective systems for the officer. On the other hand, it should be recalled that an

interviewee from a smaller suburban department expressed disappointment that he did

not have access or opportunity, which he believes, had they been available, may have

been able to help him before he "did things a police officer shouldn't do" (LEO: 5).

In the help-seeking literature, surrender is associated with "hitting bottom"

(Colier, 2016; Hidas, 1981; Moze, 2009; Satel, Becker, & Dan, 1993; Tiebout, 1949,

1950). Colier's description captured the concept quite richly; as she stated,

> Surrender arrives when we know that we cannot think or see our way
> through where we are…We don't give up to the situation, but rather, we
> give up to the notion that we *should* be able to or even *can* manage the
> situation, that we know anything that can help…As much as we are
> conditioned to never give up-in the case of surrender, giving up the
> mistaken belief that we are in charge offers a profound relief. (Colier,
> 2016)

A study by Satel, Becker, and Dan (1993) of Vietnam veterans with PTSD

illustrated the obstacles to surrender for soldiers, and similarly for law enforcement

officers, whose training and experience have ingrained the importance of standing one's

ground and fighting. Even so, their findings suggest, similarly to the present study, that

resilient officers are able to develop a set of beliefs and attitudes that permit them to

retain a positive self-identity, while successfully surrendering to their powerlessness. A

finding that their research and the present study have in common is that specialized

treatment programs and recovery support groups for police and first responders play an

important role to support an officer, especially at the early stages of "surrender". Whereas psychological surrender at the individual level reflects officers' surrender to their powerlessness over opiate use, therapeutic surrender at the meso-level references the process of surrendering that occurs in conjunction with treatment or clinical intervention (Curran, personal communication, 2016). In the present study, the mechanisms of opportunity and access worked in very similar ways, which included contacts with people, programs, and resources to aid officers. These will be expanded upon in the sections below. Although the exact nature of experiences within each category and level differed for individuals, the high degree of similarity across the overarching themes enabled the development of this model. Recall that the social ecological nested spheres and their general characteristics were previously discussed in Chapter 1. The following section reintroduces the social ecological model with specific characteristics that relate to law enforcement officers' pathways to help-seeking for opioid use.

Individual Level: Physical and Psychological Dispositions

The interview data provided in-depth examples of how long-term opioid use compromised officers' physical and psychological health, undermining their strength, mental toughness, and confidence. These findings demonstrate the importance of understanding that individual traits are not static; rather, individuals' prosocial and protective attributes were weakened by opioid dependency and abuse. As noted in the model, the bridge to recovery and resilience was dependent upon officers' psychological surrender as well as access and opportunities that linked them to the micro-level social supports.

Micro-level: Social Support

The micro-level sphere includes important relationships, social supports, and positive dynamics that facilitate trust and collective efficacy. The research findings indicated that shared work experiences and knowledge of the police occupational environment provided the social context in which knowledge about the risks of opioid use "while on the job" could be shared, and officers' needs met. In the present study, the findings demonstrate that peer counselors, other recovering officers, and EAPS were most instrumental in providing these social supports. They acted as protectors, facilitating officers' continued psychological surrender, while aiding the officers in retaining their self-identity. Having access to these social supports and having opportunities to engage with these services were crucial for officers' recovery. Further, when needed, the helpful colleagues were most successful in building bridges so that officers could receive treatment, making referrals to culturally competent clinicians and treatment facilities.

Meso-level: Networks of Support

Within the current research, the meso-level refers to protective relationships external to the officer and his or her primary group relations. These may include organizational and employment resources (such as health benefits), the police organizational climate, supervisor–subordinate relationships, and relationships with informed and trusted health care providers. The present study affirms the importance of having health insurance benefits, which provided access and opportunities for officers to receive treatment. Further, the findings confirm previous research on resilience in high-

risk occupations, which has reported that effective leadership and positive supervisor–

subordinate relationships contribute to resilience (Patton et al., 2008).

Macro-level: Social Structural Influences

The social ecological model of resilience is used to better understand risk and the

potential strategies for prevention. This model considers the interplay between

individual, social relations, community, and societal factors. It makes possible an

understanding of the range of factors that put officers at risk for opiate use or protect

them from experiencing addiction. Including the macro-level sphere in the model

differentiates the social ecological perspective of resilience from ecological models such

as the Stress Shield Model of Resilience (Patton et al., 2008). In the present study,

following the framework of the social ecological model, it is necessary to consider the

ways in which broader social, economic, and cultural practices influence resilience.

Though not specifically examined in this study, this research has provided insight and has

referenced literature that explains how shifts in pain management strategies, regulatory

oversight, and business practices contributed to the present opioid epidemic. Extant

research has pointed to geographic variation, at the regional, state, and national levels, in

rates of opioid prescriptions filled (CDC, 2015; Cicero, Surrat, Inciardi, & Munoz, 2007;

Curtis et al, 2006; Paulozzi, Jones, Mack, & Rudd, 2011; McDonald, Carlson, & Izrael,

2012; NIDA, 2014; SAMHSA, 2016). In contrast, research by McDonald, Carlson, and

Izrael (2012) emphasized that community-level variations, driven by the local medical

subculture, proximity to medical and surgical centers, state monitoring and regulatory

practices, and specific marketing practices of pharmaceutical companies in these locales,

provide more meaningful measures for geographic comparison. Future research should

consider geographic comparisons in ways that keep in mind the importance of contextualizing officers' experience while controlling for these community-level variables.

In sum, a social ecological framework is more robust: Whereas an ecological explanation of resilience emphasizes the interconnectedness of individual traits with immediate social supports and processes, it inadequately addresses how these may be influenced by social structural values, beliefs, resources, and opportunities. Moreover, such an approach is limited in its ability to account for development and changes in resilience over time that may be associated with these broader social forces.

RQ #4: Policy and Practice: Creating a Culture of Wellness and Resilience

Prevention, Education, and Training

As has been noted, a unique feature of this study is that it represents the first inquiry into the prevalence of opioid use by law enforcement officers; it includes an examination of subgroups of opioid-using officers and a discussion of opioid-using officers who may be at increased risk for developing problematic use. The information gleaned from this study has been shared incrementally with senior police leadership, union officials, police health benefits providers, and substance abuse treatment providers. At various levels, the findings have proven beneficial for supporting increased education, training, and outreach regarding how prescription opioid use and opioid dependency impact fitness for duty. The beneficial results include an additional unit of training for police recruits at several training academies, integration into an online continuing education training program for sworn law enforcement officers, and enhanced information sharing and support for polydrug users.

Asset-based Approach to Health and Wellness

The importance of this study, however, extends beyond these immediate positive efforts. The study highlights the complexities of the factors related to officers' wellness, safety, and resilience. The recommendations of the President's Task Force on 21st Century Policing (2015) have suggested movement towards a holistic approach to officers' health and wellness. The current research findings provide a useful lens through which to explore how strengths and assets within each nested sphere of officers' social environment may contribute to advancing healthy outcomes. For example, interviewees emphasized the need to identify strengths—at the individual, community, family, and organization levels—and to build upon these to focus on wellness. This approach is contrary to long-standing practices that give primary attention to remedying disease and health deficits. Further, emerging research has found that an asset-based approach is more likely to sustain individual, cultural, and organizational changes to support wellness and resilience over time (Batty, 2014; Hopkins, 2015; Kendall & Willis, 2012; Maclurcan, 2014; Morgan & Ziglio, 2007; Zimmerman, 2013). In sum, on the basis of the AI findings in particular, the current research suggests opportunities to build upon the existing components of 21st century policing to facilitate more sustainable initiatives for a range of health-promotion strategies. The following section provides a few illustrations of the way in which an asset-based approach to health might contribute to building a culture of officer resilience and fitness for duty.

At the individual level, the focus would be on identifying the personal history and trait factors that increase the likelihood of officers' engaging in healthy behaviors. In many departments, initial screening and hiring procedures evaluate applicants' social,

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behavioral, and physical characteristics. These procedures may be expanded or intentionally constructed to assess candidates' attitudes, beliefs, and behaviors that indicate willingness to learn, confidence in one's ability, and openness to vulnerability; they may be coupled with ongoing training and education throughout the officer's career. Together, these factors have been identified as ultimately enhancing fitness for duty.

The micro-level examines close relationships that may increase the likelihood of engaging in healthy behaviors. A person's close social circle—consisting of peers, partners, and family members—influences behavior and contributes to the person's range of experience. Strategies at this level may include mentoring and peer programs designed to build or support healthy lifestyles and relationships. As has been learned from the present study, owing to financial and manpower constraints, this area may pose the greatest challenge for small law enforcement departments. Nevertheless, solutions that build upon existing multijurisdictional investigative units may provide a creative foundation for pooling resources across agencies that have established rapport.

The meso-level includes the workplaces, neighborhoods, and other settings in which social relationships occur and seeks to identify the characteristics of these settings that are associated with wellness. Strategies at this level are typically designed to impact the social environment—for example, by reducing social isolation, and by improving health opportunities, processes, and policies within workplace, family, and healthcare settings. The interview data supports the importance of officers' having the opportunity to engage with and have access to culturally competent treatment providers. According to the interviewees, in addition to knowing "where and to whom to go," these actions were possible because they had healthcare coverage. As healthcare costs continue to rise

and cost-containment through managed care is given priority, having specialized care may be an important consideration. Given the safety-sensitive nature of police work, policies at this level must also take into account the need for public safety.

An asset-based strategy has the potential to empower officers and policing organizations to partner with physicians and state medical/licensing boards. Interviewees explained that physicians routinely omit to discuss with police officers how opioid use may affect fitness for duty, and that physicians do not suggest non-addictive alternatives to narcotic pain medications. Currently, the responsibility rests solely on the patient to ask questions regarding side effects of medication use. Findings from the present research suggest that if the attending physician is enlisted to inform and educate the patient, as well as to assess the impact of medication on the patient's ability to carry out his or her job, health outcomes may be improved. Such obligations on physicians are currently in place through the Department of Transportation's classification of safety-sensitive occupations, such as commercial truck drivers, pilots, and those working for the railroad. Yet there are no comparable national guidelines for first-responder occupations. The type of partnership mentioned above facilitates a common view of what is important—pain management and public safety.

Finally, the macro-level considers the broad societal factors that help create a climate in which officers' wellness and fitness for duty are encouraged or inhibited. These factors include social and cultural norms that support physical, mental, and behavioral health. Recent legislation that supports health insurance parity for physical, mental, and behavioral health is one such example. In sum, an asset-based approach to a culture of wellness and resilience for police and policing organizations emphasizes

policies and practices that build upon officers' strengths. Further, it takes into account

the strengths of social and fraternal networks, the community, and assets and resources in

the social environment.

Importantly, linking policy and practice to theory brings coherence to the

advancement of wellness initiatives for individuals and their organizations. As

referenced earlier in the dissertation, the U.S. Department of Homeland Security held a

two-day conference that brought together experts from throughout the country to address

the issue of how to build a resilient homeland security workforce (2014). Many excellent

recommendations were made about how to address resilience at the individual, unit, and

organizational levels. However, they lacked a theoretical thread for creating coherent and

sustainable plans of action. Findings from the present study could offer a theoretical

framework and methodology to empower individuals, their communities, and

organizations to build and implement these strategies. The next section discusses

implications for theory and methodology, and then concludes the dissertation with a

discussion of the study's limitations.

Theoretical Implications

The empirical research in this study, which explores the use of opioids and

benzodiazepines by police officers, illustrates how theories of resilience, strategies for

change in organizational culture, and wellness policies are complementary and closely

intertwined. The results of this study provide empirical depth to social ecological

theories of resilience. Previous research including Bronfenbrenner (1979, 2005), Rutter

(2006, 2012), and Ungar (2009, 2011, 2012), has focused on children's pathways to

resilience. In contrast, this study provides novel evidence on the adaptive capacity of

adults in high risk occupations and adverse conditions to employ culturally meaningful services and assets that are provided through their social environments. As demonstrated through this research study, the conditions that promote positive development in law enforcement include pathways, assets and resources that emerge through their occupation and workplace. Specifically, following the social ecological model of resilience, one learns that the interplay between individual traits, primary groups, networked group affiliations, and macro-level cultural and social shifts may impact police officers' resilience and the efforts of their departments to hire, develop, and maintain resilient organizations.

The classical approach to understanding development and resilience was highly influenced by the writings of Albert Bandura (1977), specifically regarding the concept of self-efficacy. Bandura and others emphasized the individual and innate characteristics observed in some children, in comparison with others, that enable them to adapt positively, despite negative social conditions. The present research, however, advances empirical understanding of the dynamic relational and process influences on individuals' cognitive and physical adaptation—despite risky or threatening conditions. Previous studies of resilience in policing have focused on officers' traits (Miller, 2008a) or have adopted an ecological approach to resilience (Kaminsky, et al., 2007; Paton, Violanti, Johnston, Burke, Clarke & Keenan, 2008). For example, the quantitative structural modeling study carried out by Kaminsky et al. (2007) indicated that protective factors, such as training, an attitude of optimism, self-efficacy, group cohesion, and collective efficacy, contribute to resiliency in high-risk, high-stress occupational groups such as elite Navy SEAL teams and specialized police SWAT units. Similarly, the Stress Shield

model of police resiliency (Paton, Violanti, Johnston, Burke, Clarke & Keenan, 2008) emphasizes how the interaction of individual, group, and organizational factors contributes to officers' resilience.

The present research supports these findings, but has the added strength of qualitative data, which offers the rich contextual personal narratives of officers. Police personnel, treatment providers, and health benefits administrators offer their personal accounts of how individual traits, training, the police culture, and the organization of policing have influenced officers' opioid and benzodiazepine use and/or their related fitness for duty. Building on this novel approach, future research should expand the study to examine officers who have not yet been 'outed' in the public domain and to further explore assets in the meso-level.

The empirical and conceptual findings of the present study may be enhanced using larger samples of interviewees from each of the nested spheres identified in the Bronfenbrenner social ecological model along with the addition of other groups. First, in line with the present study at the individual level, we may imagine that those 35% of officers, who are at a high risk for an opioid use disorder based upon their prescription use, remain hidden to the social supports of the micro-level. It is unknown whether the strengths of existing social supports are sufficient to motivate these individuals towards positively oriented behavioral change before they "hit bottom".

Second, future research must take into account family members, an area that was not examined in the present study. For example, one Employee Assistance Professional explained that long before problem behaviors are brought to the job, the family has been dealing with it, knows it, and has been praying for some intervention. He said, "When I

called the family to say I am the EAP and their loved one was in my office looking for help, the family's response was "thank you, finally"!

Further, the results of this study revealed that participants in the meso-level perceived that they can have a positive influence on officers' wellness and resilience. For this reason, future research using larger samples of police supervisors will be useful in teasing apart potential sources of educational, training, and leadership strategies to impact their subordinates' resilience and, moreover, contribute to building resilient policing organizations. In addition, future research that examines officers' wellness and resilience in specific policing organizations should also take into account whether a police union or police benevolent association is available in the micro-level or meso-level to assess protective factors that might contribute to officers' wellness.

Further, building upon this examination of normative capabilities and resources at the individual and group levels, the present research may give rise to the next and necessary stages of research on resilience, including an examination of how values and beliefs are imported indirectly from group participation in the mesosystem.

Another stage of research, which is perhaps the least examined and least understood area, relates to how sociocultural shifts at the macro-level impact resilience over time. For example, the present research points to how macro-level shifts in society (e.g., shifts in policies and practices regarding pain management, pharmaceutical marketing strategies, or governmental oversight) combine with the impact of micro-level and meso-level conditions (e.g., the police culture, the stigma and shame associated with addiction, or the environment of police work) to undercut the individual and organizational protective factors that contribute to resilience. Thus, although previous

data indicate that the majority of first responders are resilient and do not suffer long-term negative effects from exposure to crisis events or injury, it is nevertheless important to understand how therapeutic interventions, such as the use of highly addictive anti-anxiety, anti-depression, and pain medications, which are often prescribed as a consequence of police work, affect the officer's ability to regain emotional, psychological, and physical control following a crisis. Research by Stumbo, Yarborough, McCarty, Weisner, & Green (2017) confirms that even with new prescribing guidelines for physicians and enhanced patient education, routine monitoring of mental health will be important "as emotional distress can encourage some to misuse opioids while depression and fear of pain can prevent others from actively engaging in treatment" (Stumbo et al., 2017, p. 53). Overall, by adopting the theoretical framework of the social ecological approach to understanding resiliency, the present study enables recognition of how the experiences of individuals, groups, and networks are affected by broader social structural policies.

<center>Methodological Implications</center>

The mixed methods study design and adoption of AI makes meaningful contributions to criminal justice research. One of the earliest decisions in planning the present research was to pursue a mixed-methods study design.   The researcher was guided by the rationale for using mixed methods research provided by Creswell, Klassen, Plano Clark & Clegg Smith (2011) and Palinkas et al. (2011). The structure of the design involved the simultaneous collection and analysis of quantitative and qualitative data for the primary purpose of exploration. In the present study, the research questions underscored the importance of gaining access to and understanding patterns, trends, and

behaviors in a way that neither a qualitative nor quantitative design alone could provide. The qualitative data provided access and understanding of hidden, and often stigmatized, behavior in a way that could not have been gleaned using quantitative data and analysis only. Similarly, the quantitative data and analysis uncovered the previously unexamined use of opiate prescription medications and polydrug use of opiates and benzodiazepines by law enforcement officers.

Referred to as an embedded design (Creswell, Klassen, Plano Clark & Clegg Smith, 2011), each method functioned to answer a related series of questions; the quantitative data and findings were integrated within the primary qualitative design to develop a more complete understanding of the extent of the problem. It is relevant to note that a sequential structure, with quantitative data collection and analysis occurring first, with these findings contributing to building the interview questions could have been adopted for the study. Balanced against access and opportunity to recruit AI participants and the time sensitive nature of the health administrator's interest to learn more about the issue of opiate use and abuse by their members influenced the researcher's decision to adopt the simultaneous design.

As noted, AI in criminal justice research is limited, with few previous studies undertaking this methodology. The present study contributes to understanding the strengths and limitations of this methodology for empirical inquiry. In this study, adoption of the positive framework of AI helped to ensure that the research did not further stigmatize participants, and in this way, it also contributed to successfully recruiting interviewees. Further, the AI methodology provides a meaningful framework for criminal justice researchers to advance organizational change strategies in policing.

In the present study, the AI interviews strengthened the overall research findings as the interview data contributed to explaining officers' adaptive capacity beyond opiate addiction. Moreover, the AI technique that asks participants to "*Imagine*" a future beyond the present problem, helped to uncover the values, assets, and resources of the police culture that may contribute to officers' resilience and that may assist to build resilient law enforcement organizations. In contrast to the identification of gaps and deficits, the data from the AI interviews point to commonly held ideals and values to effectuate the change needed to create a culture of health and wellness for police and throughout the first-responder community.

The principles of AI value an organization's existing culture; solutions are grounded in what has worked well for the organization and its members in the past. Whether the successful programs involve physical fitness, suicide prevention, deconfliction training, or the use of body armor—to give a few examples—the past and present practices aimed at advancing a culture of health and wellness for police and law enforcement officers and their organizations have a deeply rooted commitment to loyalty, fraternity, integrity, and honor. Through the AI process, the researcher has learned that these same core values can be invoked to address workplace policies and officers' response to the use of opioids and benzodiazepines, rather than perpetuating a culture of silence, shame, and stigma.

The final two stages of AI involve designing and delivering an organizational change strategy. Building upon what was learned in the present study, the following intervention strategies and mechanisms may prove to be valuable – as part of the "designing" stage - for enhancing officers' physical, emotional, social, and behavioral

health, which have all been identified as contributors to the widespread use of opioid prescriptions. The model program would include wrap around services that begin with education and training in the police academy and extend throughout officers' careers.

The law enforcement officer's career begins with several months or longer, depending upon the jurisdiction, of academy training. Though the majority of the training academy curriculum includes mandated procedural, operational, and legal content, this substantive content should be infused with helping the officer to construct their own personal habits of mind and practice to support lifelong wellness. This training should also include building relationships and identifying resources, procedures and services that the officer or their family member may need throughout their career. As mentioned by many of the interviewees in the present study, when the officer is in the academy, that is the time when he or she is the most physically fit. The AI approach would seek to build upon the ideal of physical fitness to effectuate desirable positive behavioral changes as well. In sum, by motivating the police trainees at this critical point in their professional development it is possible to imagine building behaviors that not only support physical fitness, but also behaviors that support emotional or behavioral wellness.

Using the educational environment is an ideal venue for presenting the physiological and psychological components of substance use, but these may be insufficient without an anchor in the police subculture. The power and success for engaging officers in resilience was linked to credibility and trustworthiness that emerged through either direct or indirect contact with others. Consequently, it would also be beneficial to set aside formal and informal time for police cadets to engage with key

stakeholders in the micro-level, such as officers in recovery, peer counselors, EAPs, medical specialists, and the family members of living or deceased officers who may have been touched by problems associated with substance abuse or opiate addiction. The academy is an opportune time for the health benefits provider to first engage with police cadets, who may be especially motivated to learn about employment benefits. As mentioned by one of the interviewees, it is important that the health benefits' team is "not a faceless entity". Last, this is also a critical time to explain the department's drug-free workplace policies with special attention directed towards prescription medication use.

Continued annual training on substantive legal and procedural changes, along with continued firearm qualification, is required for most law enforcement officers. For many departments, smaller police departments in particular, having an officer at a training means there is one fewer officer on the street. A growing movement that is supported by the IACP and the State Chiefs of Police Association is to provide online asynchronous training that the officer may complete while they have down time on patrol. Departments may take advantage of e-learning opportunities for officers to acquire information and knowledge in substantive areas. Ideally this would allow time for an onsite EAP or health specialist to provide ongoing face-to-face wellness coaching and training.

Many health providers, including the benefit organizations that contributed to the present study, have implemented multi-pronged wellness programs that support and monitor individuals with a chronic disease such as asthma, diabetes, or heart disease. In order for the members to take advantage of these services, the benefit provider must have processes and procedures that insure the confidentiality of members' health records.

Whether real or perceived, officers may be reluctant to take advantage of health services if they believe this information will be shared with the department and used against them in the workplace – this may be particularly true as it concerns opioids or help-seeking for opioid use. Yet, components such as outreach, education, ongoing support, and lifestyle coaching associated with these existing programs should be adapted to engage with individuals immediately upon having an opioid prescription filled. For example, upon filing an opioid prescription claim, a "wellness navigator" telephones the officer to inquire how they are doing. This conversation may open the door to identifying alternative pain management strategies and resources available through the Union or the benefit agency to support the officer. Depending on what was learned during this initial telephone call, especially if it seems that the officer may be using the opioid for seven days or longer, a follow-up call may be appropriate. The emphasis of this outreach should be to educate the officer on risks associated with continued opioid use, and polysubstance use if they know that the officer is also using a benzodiazepine, and to inquire if the officer has a follow up with their physician and whether the officer would like to have the "wellness navigator" support him or her to the physician appointment.

Outreach and progressive engagement with the officer who continues to be prescribed an opioid should be balanced against the individual's right to privacy. A complementary strategy that has been adopted by several drug and alcohol treatment facilities is to create an online portal for all subscribers and members to be enrolled in. This online community would provide targeted educational information related to substance use, information that is particularly germane to wellness initiatives that support the law enforcement community and may also be supported by an online chat forum to

connect with a professional. The added strength of this approach is that a subscriber can gain information and support while remaining anonymous. It also brings together individuals who may be able to share their common experiences and solutions.

The family system is a key component for supporting officers' wellness and resilience. As previously mentioned, often times the family is aware of problem behavior before it escalates and comes to the attention of others in the workplace. Establishing an online health forum may be a valuable way for concerned family members to obtain needed information that may bolster the officer's health and also provide the family with resources that they may need during difficult times.

Among the core values and strengths of the law enforcement occupation is a desire to be on the street and to "do police work". Most policing organizations require the officer to voluntarily notify their supervisor or the medical officer if they are using an opioid prescription. In most cases, this would restrict the officer from being on active duty. When the officer is off the medication, they are expected to receive medical clearance to return to active duty. Having access to a medical specialist who not only understands about opioid medications but also the police persona – that wants to be on the street – would be a valuable asset for advancing officers' wellness and resilience. The research literature and interviewees in the present study made it clear that having access to culturally competent treatment providers is an important component for recovery from addiction, yet little attention has been directed at the need for a culturally competent medical specialist to clear officers for return to duty following an injury, surgery, or when the individual desists from taking an opiate.

Lastly, participants in the current study identified the critical role that police supervisors can play in advocating for organizational resources and placing their support behind wellness initiatives. Specialized training on wellness and resilience should be incorporated into supervisors' professional development. Through their leadership, rank and file officers may benefit as well.

Limitations

Time

The social ecological theory of resilience recognizes the inter-relationship of the individual, social supports, processes, and systems over time. The study time frame for the dissertation research limited contact with interviewees to a bounded period of time. The study findings indicate that the key drivers associated with opiate use, opiate use disorder and help-seeking are associated with individuals' surrender and their opportunity to access contextual protective supports in their social environment. These are fluid and changing; consequently, future research may seek to understand how officers' resilience is linked to their ability to negotiate and navigate these over time.

Appreciative Inquiry 4D Cycle

Other limitations were also identified. In the proposed research study, the use of AI was confined to the first two of the four phases of the 4D cycle. This was the appropriate choice, given that the purpose for using AI was not necessarily to implement change within one organization, but rather to elicit possibilities for organizational change in police and other first-responder agencies broadly. Granting that the present research and findings from AI inquiry provided rich contextual information from sensitive, often hidden populations, future AI research might aim to carry out the full 4D cycle within

one policing or other first-responder organization. Nonetheless, the fact that AI was carried out across multiple agencies and organizations increases the value of these findings as a baseline for future research.

Sampling Technique

The purposive criterion-based sampling technique was selected because the key research questions pertain to a hidden subpopulation of police officers who have misused, abused, or become addicted to narcotics. A crucial aspect of such behaviors - that they may be illegal or impair the judgment of the officer - further compounds the stigma, shame, and potential for recrimination in the workplace for police officers, who have taken an oath to uphold the law. Criterion-based sampling tends to provide a high-yield, low-risk way to connect with and engage participants who possess characteristics necessary for uncovering information relevant to the research.

The researcher considered an alternative approach, respondent-driven sampling (RDS), which has been used in select previous studies to reach hidden populations such as high-risk HIV users (Heckathorn, 2002; Magnania, Sabin, Saidela, & Heckathorn, 2005). RDS aims to approximate probabilistic sampling techniques. However, the research questions guiding this study do not, at this early stage in this new line of inquiry, call for a probabilistic sample. Once the various attributes of this partially hidden population are better understood, RDS or other probabilistic sampling approaches would be suitable. A final note of caution surrounds officers' retrospective self-reporting of opioid dependence. Responses may be influenced by the social desirability to report pathways related to pain control compared to recreational or non-medical opioid use.

Conclusion

This study represents the first empirical examination to explore how the prescription opioid epidemic in the United States has impacted police officers' fitness for duty, and more broadly, officers' resilience. A mixed-methods research design, underpinned by the theoretical framework of the social ecology of resilience, provided unique insight surrounding the reasons associated with officers' initial use, their progression to opioid abuse, and the factors or experiences in the officers' lives that were important to their seeking help for their addictive behaviors. The quantitative findings indicated that there was a relationship between opioid prescription use and officers who had received treatment for mental illness, had received treatment for substance abuse, or who had filled a prescription for a benzodiazepine. These findings are already being used by two of the health benefits administrators to provide targeted prevention, monitoring and intervention efforts for officers who are at an increased risk for prescription opioid abuse. Overall, the results lend support for ongoing mental health education and training for officers' over the course of their career, supported by peer counselors and culturally competent EAPs and treatment providers.

The President's Task Force on 21st Century Policing (2015) identified officer health, wellness, and fitness for duty as one of the six pillars to support policing in the 21st century. The qualitative methodology of AI proved to be an effective strategy for recruiting participants and obtaining meaningful information pertinent to individuals' behaviors and their perceptions of their organization and organizational leadership. For example, analysis of interview data revealed that officers' help-seeking for opioid addiction and officers' resilience were intertwined with the psychological process of

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surrendering, a vulnerability mindset that runs contrary to officers' training and character traits. Associated with the process of surrendering, an important finding of the present study concerns ways in which the social supports of the police subculture and effective supervisory leadership contributed to officers' recovery and resilience from opioid use disorder. An asset-based model of wellness has the potential to advance the agenda of the Task Force by leveraging existing assets of law enforcement organizations to advance officers resilience.

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APPENDIX A: TEMPLE UNIVERSITY IRB PROTOCOL APPROVAL

Certification of Approval for a Project Involving Human Subjects

Date: 05-Aug-2015

Protocol Number: 23060

PI: WOOD, JENNIFER

Review Type: EXEMPT

Approved On: 05-Aug-2015

Approved From:

Approved To:

Committee: A1 - MEDICAL INTERVENTION

School/College: LIBERAL ARTS (1800)

Department: GRADUATE-FELL STIPEND (24810)

Sponsor: NO EXTERNAL SPONSOR

Project Title: Resiliency in police: A double-edged sword

The IRB approved the protocol 23060.

If the study was approved under expedited or full board review, the approval period can be found above. Otherwise, the study was deemed exempt and does not have an IRB approval period.

APPENDIX B: AI INTERVIEW QUESTIONS

(The following questions have been reviewed as part of Temple University Institutional Board approval for Exempt Protocol # 23060

The questions will be adapt dependent upon the interviewee and their role.

Introductory questions:

Can you briefly describe your background? (How long have you been working in this position, organization, or field?)

Can you tell me about your job? What are your tasks and responsibilities?

1. When you are at your best [*in your position as ___*], what are the core values that facilitate officer wellness and officer fit for duty?

2. Describe a time when you were most proud to be a *[identify position]* for law enforcement or when you most felt engaged with serving law enforcement members?

3. What components of the *[respondent's professional category]* do you believe most contribute to officer wellness?
   a. What components of your *[profession or program]* do you believe most contribute to officer fit for duty?
   b. What components of your *[profession or program]* contribute to treatment and recovery from substance abuse?
   c. What components of your *[profession or program]* contribute to safe use of prescription pain medication use by law enforcement officers?

4. What components of the police department do you believe most contribute to officers seeking help for substance abuse?
   a. What components of the police department do you believe most contribute to officers seeking help for prescription pain medication misuse?

5. What do you want your colleagues to understand about who you are and what you most care about around the issue of prescription pain medication use by law enforcement officers in the police department?

6. Let's imagine that prescription pain medication and opiate use by law enforcement officers has been contained. What's different now? (What is different in *your profession or the services that you provide?]* In your role as *[respondent category]*, how have you been most constructive in this change?

7. If you are in recovery from a substance abuse disorder related to prescription medications, what would you like me to know about your journey to get to where you are now in your recovery?

APPENDIX C: CONSENT TO AUDIOTAPE

This study involves research. The purpose of the research is to examine how opioid prescription pain medications have affected law enforcement officers' health, wellness, and help-seeking behaviors for related maladaptive behaviors. The present study was prompted by concern that there is no empirical and contextual data on how high-risk, safety-sensitive occupational groups, such as law enforcement officers and organizations, have been affected by changes in the larger social structure pertaining to increased availability and use of opioids for pain management. U.S. health officials, the Office of Community Oriented Policing Services, the Federal Emergency Management Agency, and the U.S. Department of Defense have declared the widespread use/misuse of, and addiction to, these medications a public-health emergency, and have expressed concern that they must come to terms with how the epidemic is impacting the first responder workforce. To date, there has been no prior research examining its impact on law enforcement officers' health and wellness.

This study is being carried out by a mixed methods research design, which includes a qualitative component of interviewing and quantitative data analysis of opioid and benzodiazepine use, and help-seeking behaviors by officers in a large urban police department. Your personal account along with the personal accounts of officers, police supervisors, peer counselors, treatment providers, employee assistance professionals, and health benefits administrators, are extremely important to identifying policies and practices that may be used by first responders, their families, and their organizations to create a culture of mental, physical, and behavioral wellness and resiliency. To this end, I seek your assistance to participate in a one-hour appreciate inquiry interview. An appreciative interview is probably a bit different from what you are used to. I am going to ask you questions about times when you have seen things working at their *best*. Many times interviews such as this ask questions about things that are not working well so that we can fix them. In this case, I am trying to find out about things at their best so that we can find out what works and do more of the things that work.

The quantitative data will be collected and analyzed independent of your participation as an interviewee.

By signing the "Consent to Audiotape" form, you are not waiving any of the legal rights that you otherwise would have as a participant in a research study.

Your signature documents your permission to be audiotaped as part of this research.

_____	_____
Signature of subject	Date

_____
Printed name of subject

_____	_____
Signature of person obtaining consent	Date

_____
Printed name of person obtaining consent

Confidentiality: Efforts will be made to limit the disclosure of your personal information, including research study records, to people who have a need to review this information. However, the study team cannot promise complete secrecy. For example, although the study team has put in safeguards to protect your information, there is always a potential risk of loss of confidentiality. There are several organizations that may inspect and copy your information to make sure that the study team is following the rules and regulations regarding research and the protection of human subjects. These organizations include the IRB, Temple University, its affiliates and agents, Temple University Health System, Inc., its affiliates and agents, the study sponsor and its agents, and the Office for Human Research Protections.

In addition to Temple University faculty members serving on the doctoral dissertation, findings from this research may be reported in scholarly presentations or research articles. Further, de-identified quotes and findings in aggregate form may be reported to participants and organizations as part of the researcher's efforts to influence policing organizations, policy and practice.

Printed transcripts and other data files will be stored in a locked filing cabinet or encrypted computer folder for five years. No personal identifiers will be contained on the transcript documents. I will keep a key/code book for the personal identifiers associated with each interview in a location that is separate from the de-identified interview transcripts.