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STIGMA AND PERCEPTIONS OF OPIOID USERS AMONG
CRIMINAL JUSTICE PROFESSIONALS AND STUDENTS

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Philosophy

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Indiana University of Pennsylvania

August 2019

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Published research on social stigma has focused on public perceptions of those suffering from mental illness, physical disabilities, and users of “soft” drugs. Historically, social stigma has been measured using scales that assessed the public’s perceptions of stigmatized persons relating to beliefs of dangerousness, blameworthiness, fatalism, and/or a desire for social distance. To date, research has not adequately assessed social stigma toward users of hard drugs. Further, little research has examined the impact of stigma on beliefs and actions. This dissertation seeks to fill the gaps in the literature by exploring perceptions of social stigma toward opioid and heroin users held by law enforcement personnel and students. By adapting constructs and valid measurements from prior research, the study utilized survey methodology to sample law enforcement officers, and students, in the Northeastern United States to inquire about their beliefs toward opioid and heroin users, and to assess how stigma impacts perceptions of help that should be provided to persons who overdose on heroin and opioids.

Results suggest that while stigma toward opioid and heroin users is high in both samples, in the aggregate, students and officers believed that most officers should provide a full range of services to overdose victims. Departmental policy related to Narcan administration was responsible for the largest increase in R-squared values in Hierarchical Multiple Regression (HMR) models predicting beliefs about help. Social stigma had no significant impact on officers’ beliefs related to how other officers should respond to opioid and heroin overdoses. However,

social stigma did impact officers' likelihood of responding to overdoses in a variety of ways. Further, findings indicate that social distance may be the most important dimension of social stigma. Policy implications related to these findings are discussed.

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CHAPTER I

INTRODUCTION

Abuse of opioid pain pills and heroin is a problem plaguing American society and its criminal justice system (Centers for Disease Control and Prevention, 2017; Skolnick, 2018). Data from the National Institute on Drug Abuse (NIDA) (2018c) suggest that there are currently more than 4.2 million Americans addicted to some form of opioids, and another 950,000 are active users of heroin. Moreover, according to the Center for Disease Control and Prevention (2017), deaths from prescription pain pills have reached epidemic proportions. Between 2016 and 2017, death rates rose more than 16 percent (NIDA, 2018b). In 2017, overdose deaths from heroin and opioids were linked to the deaths of more than 49,000 Americans (Center for Disease Control and Prevention, 2018). That statistic represents more than deaths from all other illegal drugs combined (Center for Disease Control and Prevention, 2018). In fact, there are now more Americans killed by opioids and heroin every year than there are by guns or in car crashes (Center for Disease Control and Prevention, 2017).

Overdose deaths and medical complications are not the only consequences of the opioid epidemic. According to the Federal Bureau of Investigation's annual publication, *Crime in The United States*, of the nearly 10.7 million arrests made in 2017, the largest number of arrests was for drug abuse violations (FBI, 2018). Nearly one third (32.3 percent) of all of those drug arrests involved either heroin or prescription opioids. Moreover, 52 percent of incarcerated persons report having had a dependency on heroin or opioids at some point in their lives (Mumola & Karberg, 2006, p. 2), and nearly 20 percent of inmates report being regular users of heroin and opioids (Bureau of Justice Statistics, 2017). These data suggest that the criminal justice system deals frequently with opioid and heroin users.

Recent advances in medical technology and criminal justice policy have resulted in evidence-based strategies that are proven to reduce overdoses and deaths. One such strategy is having police officers and other first responders carry naloxone, commonly sold under the brand name Narcan. Naloxone is an opioid antagonist that reverses the effects of opioids (National Institute of Drug Abuse, 2018a). Pilot research has found naloxone administered by police officers reduces overdoses and death rates (Davis, Ruiz, Glynn, Picariello, & Walley, 2014; Rees, Sabia, Argys, & Dhaval, 2017).

Another evidence-based strategy is the use of Medication-Assisted Treatment (MAT) modalities. Medication-Assisted Treatments involve combining cognitive behavioral therapies with opioid replacement medications, such as methadone, buprenorphine, and naltrexone (Miller, Griffin, & Gardner, 2017). This type of treatment is a form of harm reduction that allows offenders, under the supervision of a physician, to replace their drug of choice with synthetic opioid agonists, antagonists, or blockers. The treatments can be used as a temporary agent to help offenders wean themselves from drugs by reducing cravings, or they can serve as a long-term opioid replacement alternative. Research suggests that these types of interventions are cost effective alternatives to incarceration that reduce recidivism, and lower relapse and death rates for opioid offenders (Bhati, Roman, & Chalfin, 2008; Miller et al., 2017; Minozzi, 2011; Mitchell, Gryczynski, Kelly, O'Grady, Jaffe, Olsen, & Schwartz, 2014). The use of MAT varies by jurisdiction. Some criminal justice agencies permit offenders to use MAT and actively work in collaboration with private agencies to provide drug treatment to offenders, while other agencies preclude the administration of these drugs or refrain from assisting offenders in finding treatment providers (Pennsylvania Department of Corrections, 2018). Stigma is one factor that may impact the availability of services and the quality of treatment.

Stigma

Stigma is one potential barrier to recovery faced by drug users in general, and heroin/opioid users in particular. The word *stigma* originated from an ancient Greek term referring to a mark placed on the forehead of unruly slaves (Lloyd, 2013). This mark was intended to alert the general public that the marked slave was different from others, and that he/she was even lower in social status than other slaves. The modern conceptualization of stigma is rooted in the social sciences and linked to Erving Goffman's (1963) seminal work *Stigma: Notes on Management of a Spoiled*. While Goffman provided various definitions of different types of stigma, his attention was directed toward what he referred to as social stigma, or what is known today as public stigma. Today, stigma typically refers to social ostracism or marginalization of a group of individuals who share a common characteristic, such as a disability or criminal status (Cook, Purdie-Vaughns, Meyer, & Busch, 2014; Lloyd, 2013; Pescosolido & Martin, 2015; Room, 2005). Researchers have found that stigma affects the way individuals interact with each other (Barry et al., 2014; Blascovich, Mendes, Hunter, & Lickel, 2000; Cook, Purdie-Vaughns, Meyer, & Busch, 2014; Lloyd, 2013; Pescosolido & Martin, 2015), and it impacts the availability and quality of services provided to groups so labeled or perceived (Ding et al., 2005; Link & Phelan, 2006).

Types of Stigma

Generally, three main types of stigma, or ten unique variants of stigma, are documented in the scholarly literature: self-stigma, perceived public stigma, and public or social stigma (Barry et al., 2014; Brown, Kramer, Lewno, Dumas, Sacchetti, & Powell, 2015; Fortney, Mukherjee, Curran, Fortney, Han, & Booth, 2004; Kelly & Westerhoff, 2010; Livingston, Milne, Fang, & Amari, 2012; Lloyd, 2013; Pescosolido & Martin, 2015). Public stigma—or what

Goffman (1963) referred to as social stigma—refers to the actual condemnation of a particular group of persons by the general public (Pescosolido & Martin, 2015; Kelly & Westerhoff, 2010). It reflects the public's true thoughts, feelings, and emotions toward a group of marginalized persons, as well as discriminatory actions made by the general public toward that marginalized group. Similarly, but distinctly different, perceived public stigma is one's perceptions of what others think about certain individuals (Fortney et al., 2004; Kelly & Westerhoff, 2010; Pescosolido & Martin, 2015). Public stigma is the actual attitudes, beliefs, and actions held by the general public. By contrast, perceived public stigma is less concrete in that it reflects how one perceives others' opinions about a certain marginalized group. One conceptualization reveals a tangible phenomenon, and the other reflects a perception of that phenomenon.

The last type of stigma is experienced stigma (Fortney et al., 2004; Kelly & Westerhoff, 2010; Livingston et al., 2012; Pescosolido & Martin, 2015). Experienced stigma refers to negative thoughts, feelings, and emotions one experiences as a member of a stigmatized group, or from being affiliated with a stigmatized person (Kelly & Westerhoff, 2010; Pescosolido & Martin, 2015). Experienced stigma is at the foundation of labeling theory in criminology. Essentially, individuals in stigmatized groups feel a particular way as a result of being ostracized. These individuals are viewed as social outcasts. Once they accept or identify with their role as an outcast they experience some form of emotional reaction. Researchers have attempted to examine how these feelings impact behaviors. In the labeling tradition, this usually involves assessing one's level of acceptance with his/her criminal identity, and then comparing that to his/her actual criminal behaviors (Akers, Sellers, & Jennings, 2016; Cullen, Agnew, & Wilcox, 2014; Lilly, Cullen, & Ball, 2011).

Dimensions of Social Stigma

Social stigma toward mental health disorders has been extensively studied, but comparatively little attention has been directed toward assessing public perceptions of drug users (Brown, 2011; Corrigan, Morris, Michaels, Rafacz, & Rüsch, 2012; Eisenberg, D., Gollust, S. E., & Golberstein, 2008; Link et al., 1999; Martin, Pescosolido, & Tuch, 2000; Pescosolido & Martin, 2015; Phelan, Link, Stueve, & Pescosolido, 2000). Nonetheless, in reviewing the published literature on social stigma and drug users, four interconnected themes emerge: dangerousness, blame, social distance, and fatalism (Adlaf, Hamilton, Wu, & Noh, 2009; Albrecht, Walker, & Levy, 1982; Barry et al., 2014; Brown, 2011; Chan, Stooove, Stingernyuang, & Reidpath 2008; Corrigan, Kuwabara, & O'Shaughnessy, 2009; Corrigan & Watson, 2007; Link et al., 1999; Palamar, Kiang, & Halkitis, 2011). A summary of these four themes as they relate to both public health and substance use disorders follows.

Dangerousness refers to the belief that persons with a condition are somehow a threat to themselves or the safety of society. The concept of dangerousness within the realm of social stigma traces its roots to the work of Link and colleagues in 1987. In that study, researchers found a positive relationship between stigma and perceived dangerousness of mentally ill persons. That is, researchers found members of the general public view those with mental illnesses as threatening—they were afraid of them. Moreover, they found a significant interaction between social distance, perceived dangerousness, and social stigma. Those who perceived mentally ill persons as dangerous were more likely to stigmatize them, and wanted to separate themselves in social situations from those who were perceived to be mentally ill. While these findings have been replicated in the area of mental health research (Link et al, 1999; Martin, Pescosolido, & Tuch, 2000; Phelan, Link, Stueve, & Pescosolido, 2000), there has been less

application of this concept to substance users, despite the fact that 84 percent of the general public believes that most people think drug users are dangerous (Ahern, Stuber, & Galea, 2007, p. 191). The author knows of only two prior studies (see Brown, 2011 and Janulis, Ferrari, & Fowler, 2013) that attempted to exclusively look at the relationship between social stigma and perceived dangerousness of substance users. However, in Brown's (2011) work ($n = 565$) the researcher's perceived dangerousness scale lacked adequate internal consistency, and thus results for that component were not reported. Thus, only one known study has explored this concept exclusively in relation to substance use.

Blame is the belief that persons with a condition or attribute are somehow responsible for the onset of their condition or for exacerbating it. Blame is another concept documented in stigma literature that focuses on public health and drug use (Pescosolido & Martin, 2015). Researchers have found that healthcare professionals in emergency rooms prefer not to treat mentally ill persons who self-harm because they blame them for exacerbating their own conditions (Ding, Landon, Wilson, Wong, Shapiro, & Cleary, 2005; McCreaddie, Lyons, Watt, Ewing, Croft, Smith, & Tocher, 2010; Peckerover & Childaw, 2007; Ross, & Goldner, 2009). There is also literature on HIV drug users. In a survey of US doctors, Ding et al. (2005) found that 9 percent of doctors surveyed would rather not treat HIV- infected intravenous drug users because they viewed their efforts as futile and a waste of time. Ding and colleagues (2005) also found that HIV-positive drug users cared for by doctors with negative attitudes toward drug users received less antiviral therapy than those cared for by more sympathetic doctors. Further, in their systematic review of 17 studies that assessed social stigma regarding alcohol use, Schomerus and associates (2011) found that the general public typically holds alcohol dependent persons more responsible for their condition than individuals with all other types of mental and physical

disorders. Schomerus et al. (2011) found that blame toward alcohol dependent persons was so intense that those sampled approved of structural discrimination, such as withholding social services or funds for treatment. Conversely, in a recent meta-analysis of biogenetic explanations for mental health disorders, Kvaale et al. (2013) found that those who supported medical explanations for mental disorders were less likely to blame individuals for their drug addiction. This finding provides support for the contention that knowledge about the physically addictive nature of substances may help reduce or affect some forms stigma.

A third concept that has emerged in scholarly articles assessing social stigma is social distance. Essentially, social distance refers to one's desire to place tangible distance between him/herself and stigmatized persons. As stated above, Link and colleagues first developed this dimension in 1987, along with their work on dangerousness. Link et al. (1987) found that those (n=51) who held negative attitudes toward mentally ill persons were more likely to attempt to avoid social interactions with persons who were perceived to have a mental illness(s). More recently, Kvaale and colleagues (2013) found that while those who supported medical explanations for drug addiction were less likely to blame individuals for their drug addiction, the same individuals also were more likely to report distancing themselves socially from drug users. So while they did not place responsibility on the addicted person, individuals who supported medical model ideologies did not want to associate with individuals addicted to illegal drugs. Similarly, Schomerus and colleagues (2011) found the general public desired more distance from alcohol dependent persons than for individuals with other any other condition. Moreover, Barry and colleagues (2014) concluded that only 22 percent of Americans are willing to work closely on a job with someone addicted to drugs (p.1272).

The last of the four main themes in the published literature on social stigma is the concept of fatalism. Common in the desistance literature (see Brezina, 2000; Halsey, Armstrong, & Wright, 2016; McNeill, 2006), fatalism refers to elements of hopelessness and determinism. Briefly, some people are destined to suffer a certain fate regardless of any assistance that they are given. While this term has been studied in the self-stigma literature (see Easter, 2012; Olmstead, Guy, O'Malley, & Bentler, 1991; Sarang, Rhodes, Sheon, & Page, 2010) less attention has been devoted to assessing the general public's perceptions of fatalism regarding substance users. However, in a recent nationally representative sample ($n=709$), Barry and colleagues (2014) found that 30 percent of Americans felt that full recovery from drug addiction or mental illness was impossible, and 59 percent thought current treatment options were ineffective (p.1271). Interestingly though, Barry et al. (2014) found differences to exist in levels of stigma across political party affiliation. On average, those who identified as Democrats were found to report more positive attitudes toward treatment and recovery.

In brief, the published research suggests that substance users are perceived as being more dangerous than those with mental illnesses (Adlaf et al., 2009; Barry et al., 2014; Corrigan et al., 1999; Link et al., 1999), and samples of the general public report taking steps to socially distance themselves from those who are known substance users (Albrecht et al., 1982; Barry et al., 2014). These data indicate that those with drug problems are considered to be more responsible for their condition than those with other types of medical conditions (Brown, 2011). The public perceives that there is some element of control in drug use. As a result, those with Substance Use Disorders (SUDs) are seen as lacking moral character (Blendon & Young, 1998; Baumohl, Speiglmann, Swartz, & Stahl, 2003; Kelly & Westerhoff, 2010) and control (Adlaf et al., 2009). The general public tends to blame those with SUDs for contributing to their own problems

(Schomerus, Lucht, Holzinger, Matschinger H, Carta MG, Angermeyer, 2011). Consequently, individuals are less sympathetic to their plight. They see treatment options as ineffective, and many feel that those addicted to substances can never get clean (Barry et al., 2014).

Stigma and Drug Use

Studies have shown dimensions of stigma among the general public and medical practitioners to be highest for drug users (Barry, McGinty, Pescosolido, & Goldman, 2014; Room, Rehm, Trotter, Paglia, & Üstün, 2001), and this stigma appears to have increased in recent years (Corrigan, Kuwabara, & O'Shaughnessy, 2009). Researchers from *John Hopkins Bloomberg School of Public Health* found that Americans placed greater stigma on drug addiction than on all other types of mental illness, including schizophrenia (Barry et al., 2014). The work of Barry et al. (2014) supports findings from the previous literature (Brown, 2011; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Corrigan, Lurie, Goldman, Slopen, Medasani, & Phelan, 2005; Corrigan, Kuwabara, & O'Shaughnessy, 2009; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Phelan & Basow, 2007). In fact, research conducted by the *World Health Organization* concluded that of all mental health and physical conditions assessed, drug use was ranked as the most stigmatizing condition, and alcoholism was ranked as 4th (Room et al., 2001).

While largely understudied in the criminological context, stigma appears to be a significant problem affecting the recovery of offenders addicted to drugs. In a qualitative study of 121 community correctional officers, Mitchell and associates (2016) found that while officers, in general, perceived MAT as an evidence based strategy for combating drug use, they viewed it as a treatment of last resort and reported struggling with referring offenders to MAT facilities due to fear of the addictive nature of some medications. Haug and colleagues (2016) found

police officers report similar feelings toward the use of Narcan. Through a content analysis of postings on Twitter ($N = 467$) by first responders and healthcare workers, Haug and colleagues (2016) found that the number one theme reported related to the use of Narcan was burnout. That is, many practitioners reported cynical attitudes toward the use of Narcan. They concluded that many first responders and healthcare workers felt that the widespread use of Narcan encouraged drug use and that administering it was a waste of their time (Haug et al., 2016). However, they found police officers to hold less stigmatizing attitudes than doctors, nurses, and other first responders.

Differences in levels of stigma have been reported across the population. Specific differences in overall stigma levels have been associated with gender, political party affiliation, location, exposure, and age. For instance, using a sample of 565 college students, Brown (2011) found women to report higher levels of stigma toward substance users than men. Compared to women, men were found to be more comfortable spending time around substance users. Similarly, Fortney and colleagues (2004) found women to be less likely to agree that alcoholism is a disease and more inclined to contribute it to stress, and not medical reasons. These findings are unique in that they are inconsistent with previous literature in mental health which found women to be more accepting of persons with mental illness than men (Bathje & Pryor, 2011; Jorm & Griffiths, 2008; Schnittker, 2000a; Hinkelman & Granello, 2003; Penn & Link, 2002).

Another factor that appears to influence stigma is political party affiliation. Barry and colleagues (2014) found political party to be one of the strongest predictors of stigma. Compared to Republicans, Democrats were found to be less supportive of structural stigmatizing policies and to offer more support for equal treatment of drug users. They found that Republicans were

more likely to oppose equivalent insurance benefits for drug users as well as treatment, public housing, and job support.

Differences in stigma levels also have been associated with geographic location, age, and exposure and knowledge, or what has been termed familiarity (Corrigan et al., 2002). Research has found that public stigma associated with behavioral problems is higher among those living in rural communities than those living in urban areas (Hingson, Mangione, Meyers, & Scotch, 1982; Rost, Smith, & Taylor, 1993). These findings are particularly interesting given the reality that no significant differences have been found in terms of rates of drug use between communities (Fortney et al., 2004). Using a sample of Canadian adolescents, Adolf and colleagues (2009) found that those who were older and those who had more exposure to drug using peers reported lower overall stigma levels. However, they found differences to exist between types of drug use. For instance, those who used cannabis and had friends who used cannabis placed greater stigma on users of hard drugs than those who used soft drugs. Similarly, Lloyd (2013) found attitudes toward drug users improved after educational interventions. These findings may suggest that a lack of knowledge about drug addiction, as well as exposure to drug users could influence stigma levels.

Limitations Identified in the Research

In the existing research, most studies have focused predominately on measuring social stigma toward soft drugs and mental illnesses, and usually only employ one dimension of social stigma (Pescosolido & Martin, 2015). Comparatively little research has assessed social stigma toward harder drugs, and almost none has examined perceptions of heroin/opioid users. Moreover, there has been little effort to assess the attitudes of first responders, who work with drug using populations, and whose job requires providing assistance to drug users. Further, and

perhaps the most pressing limitation to the existing research is that no prior research has examined the impact of stigma on actions. That is, while prior research has shown dimensions of social stigma to be high toward certain conditions, there has been little effort to test how this stigma affects treatment of stigmatized populations. Specifically, there has been no effort to see if negative attitudes toward drug users impact the way in which people believe that they should be treated. This dissertation was designed to fill these gaps in the literature by exploring the concept of social stigma and opioid use as it relates to criminal justice practitioners and students, and to see how this concept impacts perceptions of assistance provided to opioid/heroin users.

Current Study

This research addressed the limitations outlined above by sampling populations of first responders and students whose work involves treating opioid/heroin users. To do this, a two-stage research process was employed. Specifically, in the first stage a sample of law enforcement officers from departments located in the Northeastern United States was obtained. In the second stage, a sample of students enrolled in Criminology, EMT/Paramedic, and nursing courses at one university in the Northeastern United States was obtained. The researcher administered a survey to both samples that was designed to assess participants' attitudes toward opioid/heroin and to measure dimensions of social stigma. The research was designed to examine their unique attitudes toward individuals who use opioid and heroin,, and to assess how these attitudes impact beliefs about help that should be provided to persons who overdose on heroin and opioids.

This work also expands prior research on social stigma by incorporating all four dimensions of social stigma (e.g., dangerousness, social distance, blame, and fatalism). To date, prior research had only studied stigma by focusing on one or two dimensions (i.e., social distance) at a time (Pescosolido & Martin, 2015). Further, the survey instrument was designed to

test for respondents' differences in stigma levels and perceptions of help, while controlling for prior exposure to drug users, knowledge of addiction and treatment, and demographic characteristics—location, age, gender, education, and political party affiliation. Thus, the models in this project provide more explanatory power than those found in prior research, and better help to answer the *So What?* question by showing the impact of social stigma on beliefs and potential actions.

Research Questions

In addition to filling gaps in social stigma research, the goal of the current study was to produce results that can be associated with real-world policy implications. Specifically, this study aimed to answer four research questions:

- (1) What are law enforcement officers' attitudes toward help provided to opioid users?
- (2) What are the predictors of law enforcement officers' attitudes toward help provided to opioid users?
- (3) What are students' attitudes toward help provided to opioid users?
- (4) What are the predictors of students' attitudes toward help provided to opioid users?

To help answer these research questions, various measures validated in prior research were included with original items in the survey instrument. The results from all four questions are useful in directing future research and policy.

Theoretical Foundation

The key concept of this study, social stigma, closely resembles labeling theory in Criminology. While most theories of crime focus on the offender, labeling theorists argue that

research needs to be redirected toward those who react to or label criminals (Akers, Sellers, & Jennings, 2016). With its origins in symbolic interaction theory, labeling theory suggests that an individual's behavior is a reaction to his/her own self-image, which is shaped through social interactions.

There are three underlying assumptions guiding labeling theories (Cullen, Agnew, & Wilcox, 2014). First, labeling theorists are interested in understanding why some behaviors are criminalized while others are not. They view the concept of deviance as a social structure created by dominant institutions to keep less powerful groups on the bottom rungs of the social stratification ladder. They see laws as arbitrarily created and enforced. Second, labeling theorists argue that the term criminal is not so much a reflection of one's behaviors, but rather a reflection of how society reacts to those behaviors. Third, a criminal label becomes one's "master status" or the dominant feature of a person's social identity that impacts interactions with others and influences future actions (Becker, 1963). Research supports this third contention: Non-legal factors may matter more than legal matters in many criminal justice outcomes including, arrest, charging, and prosecution (Burch, 2015; Feldmeyer, Warren, Siennick, & Neptune, 2015; O'Neal, Tellis, & Spohn, 2015).

Essentially, early labeling theorists argued that once a criminal is labeled, he/she loses ties with conventional society, is isolated from conventional society, and is denied opportunities such as employment. As a result, the label forces the labeled person into a life of deviance. In relation to stigma, Cullen, Agnew, and Wilcox (2014) suggest that labeling theory assumes that, "the criminal justice system stigmatize[s] offenders and ultimately traps them in a criminal career" (p. 256). Paternoster and Iovanni (1989) refer to this as the secondary deviance hypothesis, which argues that criminality is merely the product of one being stigmatized as a

criminal. Research findings lend support to this position that a formal criminal record increases crime (Chiricos et al., 2007; Palamara et al., 1986).

Modern labeling theorists have argued that informal labels impact crime as much as formal labels (Link et al., 1989; Matseuda, 1992). For instance, Ross Matseuda (1992) used data from the National Youth Survey ($n = 1,725$) to show that children's "reflected appraisals" – or how they thought their parents perceived them—mediated the effects of their own self-image, parent appraisals, and prior delinquency in causing delinquency. Subsequent research has also found reflected appraisals to affect self-appraisals, and to influence crime and substance use (Bartusch & Matsueda, 1996; De Coster, & Lutz, 2018; Richard, Trevino, Baker, & Valdez, 2010). In short, the theory shows how dimensions of informal and formal labels, or stigmas, can adversely affect life outcomes for those who are labeled. Therefore, labeling theory was the theory directing this dissertation research.

Significance of the Study

The current study contributes to the existing literature in several ways. First, regarding research implications, this is the first study to assess social stigma among a sample of law enforcement officers. This study shows that stigma toward heroin and opioid users may be higher among law enforcement officers than among students. More importantly, it confirms findings from prior research that suggest that social stigma could impact social interactions (Blascovich et al., 2000; Lloyd, 2013; Pescosolido & Martin, 2015), and the availability and quality of services received (Ding et al., 2005; Link & Phelan, 2006). Therefore, it is possible that stigma among practitioners could hinder relationships between criminal justice practitioners and users and that it could ultimately be a barrier to users receiving life-saving treatment. Thus, this research provides support for future research to assess the impact of social stigma on beliefs

and actions. Further, this study shows that there are four different and unique domains to social stigma (i.e., dangerousness, blame, social distance, and fatalism). Thus, prior measures of social stigma that fail to include all measures are incomplete. In creating this survey, the researcher has helped advance the literature on social stigma by designing and testing a comprehensive survey instrument capable of capturing all domains of social stigma.

Regarding policy implications, this research shows the need for drug addiction training courses at the university level. More than 40 percent of the student sample had never taken a class on substance use addiction, and only a little more than 60 percent believed that drug abuse is a disease. Students showed a lack of knowledge of Narcan and MAT, which hindered some of the initial analyses of this project. Moreover, it was found that the university in which this research study took place only offered one substance use course per year, across the three different majors. This is concerning given that this is a sample of persons whose future work will likely involve providing services to persons who suffer from substance use addiction. As such, they should have an understanding of the process of addiction and various treatment options.

Most notably, this study shows the importance of stigma and profiling in shaping beliefs related to help. Drug use transcends social class, race, gender, and employment status. While the opioid epidemic appears to be disproportionally impacting white suburbia (Hansen, 2017), when examining drug use in the aggregate, there is no one specific demographic that defines a *typical drug user*. Participants who believed that certain demographic characteristics predicted drug use, were less favorable toward treating persons who overdose on heroin and opioids. Further, those who held higher levels of social stigma, as measured through *Social Distance*, reported less positive sentiment toward help provided to opioid and heroin users. Together these findings shed light on the importance of anti-stigma campaigns, such as contact programs and mass media

campaigns, directed at law enforcement officers and students (Corrigan, Morris, Michaels, Rafacz, & Rüsç, 2012; Sampogna, Bakolis, Evans-Lacko, Robinson, Thornicroft, & Henderson, 2017).

Further, variables related to departmental policy on Narcan impacted officers' attitudes about help provided to overdose victims more so than stigma. The overall model fit was improved more by the inclusion of departmental policy variables than by stigma variables. Therefore, these data indicate a need for more law enforcement departments to enact formal policies on the use and administration of Narcan, as doing so could improve the quality of services provided to overdose victims. These implications are discussed more thoroughly in Chapter 5.

CHAPTER II

LITERATURE REVIEW

The Opioid Epidemic

Use and abuse of prescription drugs and heroin are a problem in the United States. According to data published from the National Survey on Drug Use and Health (2016) there were 948,000 Americans who reported using heroin in 2016, and two-thirds met the Diagnostic and Statistical Manual of Mental Disorders (4th edition) criteria for chemical dependency (National Institute on Drug Abuse, 2018c). That same survey found that roughly 4.2 million Americans were addicted to some form of opioid pain pill (NSDUH, 2016). The number of persons unlawfully using heroin and prescription pain pills has been rising since 2007 (NIDA, 2018b). In fact, the one hundred and seventy thousand Americans admitting to using heroin for the first time in 2016 were double the reported number reported a decade earlier (NIDA, 2018c). Young adults, those between the ages of 18-25, have been responsible for the greatest increases in heroin use, while in 2016, teenagers (e.g., those aged 12-17) reported the lowest levels of heroin use since 1991 (NIDA, 2018c).

Between 2016 and 2017, overdose deaths from heroin and opioids rose by more than 16 percent from 42, 249 to 49,068 (NIDA, 2018b). Opioids were responsible for about 70 percent of all drug related fatalities, and fentanyl alone was responsible for more than 40 percent of all drug related fatalities in the United States (National Institute on Drug Abuse, 2018b). In fact, as noted in Chapter 1, opioids and heroin resulted in the deaths of more Americans than fatalities from firearms and car crashes (Center for Disease Control and Prevention, 2017). In response to these data, the Center for Disease Control and Prevention (2017) declared opioid and heroin related deaths a national epidemic.

The Criminal Justice System has been forced to respond to this epidemic. According to the FBI's *Crime in the United States* (2018), the majority of all drug arrests made in 2016 were for drug abuse violations. About one-third of all of those drug arrests involved either heroin or prescription opioids. Data from American prisons also reflect this reality. As discussed in Chapter 1, more than 50 percent of incarcerated offenders have admitted to having a dependency to heroin and/or opioids at some point in their life (Mumola & Karberg, 2006, p.2). Further, 1 in 5 inmates have reported being regular users of heroin and opioids in the months immediately preceding incarceration (Bureau of Justice Statistics, 2017). The data suggest that criminal justice system professionals frequently interact with heroin and opioid users.

In response to this epidemic, law enforcement agencies, courts, prisons, and community correctional agencies have incorporated evidence-based technologies and policies for dealing with drug offenders. On the front end, one such strategy has been to require police officers and other first responders to carry the opioid reversal drug, naloxone, more commonly known as Narcan. As an opioid antagonist, naloxone reverses the effects of opioids and prevents respiratory failure (National Institute of Drug Abuse, 2018). Another strategy is the use of deflection strategies, in which officers deflect drug users to community treatment instead of arresting them (Hadley, 2019). On the back-end, correctional agencies have started incorporating Medication-Assisted Treatment (MAT) modalities, such as buprenorphine, methadone, and naltrexone, for opioid dependent offenders. MAT is a form of harm reduction in which users are given synthetic opioids under the supervision of a licensed physician. The adoption of MAT is intended to prevent adverse consequences associated with illicit drug use, such as overdoses, deaths, and crime. In addition to describing Naloxone, Deflection and MAT, the next section focuses on discussing the empirical results of these evidence-based strategies.

Naloxone

Naloxone, also known by the brand names Narcan and EVZIO, is a medication that quickly reduces the effect of opioid overdose (NIDA, 2018a). As an opioid antagonist, naloxone attaches to the opioid receptors in the body and can reverse or block the effects of other opioids (NIDA, 2018a). Someone suffering respiratory failure from an opioid overdose can quickly be revived with naloxone. The United States *Food and Drug Administration* has approved three formulations of naloxone—injectable, auto injectable, and prepackaged nasal spray. Most commonly, it is administered via prepackaged nasal spray. Naloxone can be administered by anyone, and is now available over-the-counter in most states (NIDA, 2018a). There are some side effects to Naloxone that are mostly associated with withdrawal symptoms, such as headaches, sweating, nausea, vomiting, and tremors.

In many regions, law enforcement personnel and other first responders have begun carrying naloxone with their other equipment to address the high incidence of opioid overdoses they have been encountering. Research on police officers' use of Naloxone has been limited and inconclusive. Research suggests that Naloxone saves lives (Davis, Ruiz, Glynn, Picariello, & Walley, 2014; Rees, Sabia, Argys, & Dhaval, 2017), and that police officers exhibit mixed feelings about using it (Banta-Green, Beletsky, Schoeppe, Coffin, & Kuszler, 2013; Haug, N., Bielenberg, J., Linder, S., & Lembke, A. 2016; Ray, O'Donnell, & Karhe, 2015).

Deflection

Another front-end strategy is *deflection* (Hadley, 2019). Deflection refers to policies in which law enforcement departments' *deflect* drug users to community healthcare providers rather than arresting them. Under such policies, opioid and heroin users can approach an officer and ask him/her to help them get clean. The officer then facilitates a *warm handoff* with local drug

treatment facilities. Other *deflection* policies mandate that officers refer drug users to treatment instead of arresting them. While there are currently only about 750 police departments nationwide who have implemented such a policy, *deflection* is an innovative response to the opioid epidemic (Hadley, 2019).

Medication-Assisted Treatment

According to the Substance Abuse and Mental Health Service Administration (2014), Medication-Assisted Treatment (MAT) refers to the, “use of medications in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders” (p.1). While talk therapies (i.e., cognitive behavioral therapy) are an important aspect of MAT, the emphasis of many MAT treatment providers is on the prescribed medication. For opioid addiction, there are three types of medication used: methadone, buprenorphine, and naltrexone (Miller et al., 2017). In addition to describing these substances, this section provides an analysis of literature that has examined outcomes surrounding the use of these medications in terms of relapse and crime.

Methadone

Methadone is a synthetic opioid with empirical evidence documenting its effectiveness in terms of reducing cravings and withdrawal symptoms, as well as criminal behaviors (Ball & Ross, 1991; Kelly et al., 2013; Miller et al., 2017; Mitchell et al., 2014; Schwartz, Jaffe, O'Grady, Kinlock, Gordon, Kelly, & Ahmed, 2013). Methadone clinics first emerged in the United States in the 1960s under the guise of research facilities (Miller et al., 2017). However, it was not until the passage of the Controlled Substance Act of 1974, that doctors could legally prescribe methadone for treatment in the United States (Miller et al., 2017, p.72).

Methadone is a full opioid agonist, meaning that it binds to the opioid receptor in the brain and stimulates it in a manner similar to that of heroin or morphine (Substance Abuse and Mental Health Services, 2014). As a full agonist, the amount or intensity of the stimulation is directly proportional to the dose. In essence, methadone stimulates the body of an addict in the same manner as illegal drugs. It keeps the addicted person's body in a state of homeostasis and prevents withdrawal symptoms. It is important to note that the goal of methadone treatment is not abstinence, but rather maintenance, as methadone itself is a type of opioid. Using methadone as treatment under the watchful eye of a healthcare professional, in theory, enables drug addicted persons to become functioning members of society while avoiding the adverse consequences of illegal drug use, such as arrest, unemployment, overdose, and death.

The most widely used form of opioid replacement medication in the world, methadone is typically administered daily, in liquid form, in an outpatient setting known as an Opioid Treatment Program (OTP) (Substance Abuse and Mental Health Service Administration, 2014). Persons enrolled in OTPs are usually required to receive some form of counseling, such as cognitive behavioral therapy. Further, all clients at OTPs meet regularly with a physician to monitor their health, assess relapse potential, and prevent overdose and death. As individuals progress through treatment, they can be afforded the opportunity to receive take-home doses, where they are given a week's supply of methadone at one time. Thus, they only have to visit the OTP a few times per month, rather than every day.

Methadone can be used as a temporary medicine to help wean offenders from opioids or as a long-term medication. There is no limit to how long a person can be on methadone. However, side effects from long-term use of methadone include: nausea, constipation, heavy sweating, difficulty sleeping, and decreased libido. Moreover, methadone can interact with other

medications resulting in respiratory failure. For this reason, there are restrictions on the types of medications that one can use while taking prescribed methadone. Consequently, patients may have to choose between medications. Ultimately, this can result in some individuals failing or opting out of methadone treatment facilities.

Effectiveness of methadone. Methadone has been found to be effective at reducing relapse rates. In a systematic review of 11 studies with a combined sample size of more than 2,000 methadone patients, Mattick, Breen, Kimber, and Davoli (2009) found that methadone treatment was more effective than other treatment modalities for retaining patients in treatment and suppressing heroin use. More recently, Miller et al., (2017) concluded that the dominant research suggests methadone is the most effective treatment option for treating withdrawal symptoms from heroin. However, Miller et al. (2017) contend that relapse rates of those who stopped taking methadone hovered around 90 percent (p.72), suggesting that methadone is a substance more effective for long-term treatment rather than short-term relapse.

Methadone has also been found to be associated with a reduction in criminal behaviors. In a longitudinal evaluation of methadone clinics located in New York City, Baltimore, and Philadelphia, Ball and Ross (1991) found methadone treatment to be associated with a reduction in heroin use and criminal behaviors. In that multisite program evaluation, the researchers used interviews to collect data from 617 intravenous drug users over a three-year period. However, in their brief process evaluation of the programs—which consisted of a few qualitative interviews of program directors and staff—the researchers concluded that many methadone clinics were not operating as intended, and that efforts need to be made to improve consistency and quality of care received across clinics.

More recently, Schwartz and colleagues (2013) used a quasi-experimental design of 319 methadone patients to conduct an impact evaluation of a methadone treatment program in Maryland. In that study, Schwartz et al. (2013) utilized a process of individual matching to comprise a control group from those placed on the waiting list at the methadone treatment facility. Their main outcome variables of interest were number of arrests and crime severity. They found that those in methadone treatment had statistically significantly greater reductions in the number of arrests at 6 month, 12month, and 24 month follow up assessments compared to offenders on the waiting list control group. In a reanalysis of that study, researchers found that 12 month retention rates were higher and drug use rates were lower for those under correctional supervision than those not under some form of supervision (Kelly, O’Grady, Jaffe, Gandhi, & Schwartz, 2013). This finding suggests that there may be some characteristics of supervision that enhance the utility of methadone as a viable treatment option for drug offenders.

In examining all 17 “opiate” and “heroin” treatment modalities on Crimesolutions.gov, Miller and colleagues (2017) concluded that methadone usage in the context of the criminal justice system is either “effective” or “promising.” Specifically, Miller et al., (2017) argue that Methadone Maintenance Treatment (MMT) and Prison Methadone Maintenance Treatment (PMMT) programs are the most promising forms of methadone treatment in terms of their ability to prevent opioid withdrawal symptoms, retain patients, and prevent recidivism. In terms of cost savings, Bhati, Roman, and Chalfin (2008) posited that if it were possible to expand methadone clinics in a manner to treat all opioid addicted offenders, we would see a reduction in more than 3.3 million non-drug crimes annually and a return of 38 dollars for every 1 dollar spent on treatment as a result of reductions in crime, increased public health, and employment gains by addicted persons (p.52). In their study, Bhati et al. (2008) used a sample of more than 10,000

adults participating in 96 different treatment facilities across the United States to generate cost efficiency estimates.

Evidence suggests that methadone is an effective treatment for reducing withdrawal from opioids and heroin; and subsequently, effective at reducing relapses. Additionally, methadone seems to help lower recidivism rates among offenders (Miller et al., 2017; Schwartz et al., 2013). Evidence also suggests that methadone is a cost-effective alternative to incarceration for opioid and heroin users (Bhati et al., 2008).

Naltrexone

Naltrexone is an opioid antagonist (Substance Abuse and Mental Health Service Administration, 2014). It binds to the opioid receptors in the brain like an agonist (i.e., methadone), but instead of stimulating them, it blocks other opioids from stimulating them. A patient who is prescribed naltrexone is supposed to be incapable of feeling the euphoric effects produced by opioids. Theoretically, someone on naltrexone should be dissuaded to use opioids because they cannot get *high* from them.

Naltrexone is commonly administered in extended release injectable form, but it can also be administered orally via capsule. While Naltrexone was originally approved for treating alcohol addiction in 2006, the FDA approved Naltrexone for opioid treatment in 2010 (American Association for the Treatment of Opioid Dependence, 2017; Substance Abuse and Mental Health Services, 2014). It is typically administered in an outpatient setting on a monthly or bimonthly basis. More recently, probation offices have started to administer Naltrexone in-house to the offenders they supervise.

One of the benefits of Naltrexone compared to other forms of opioid replacement medications is that it requires far fewer dosing episodes (e.g., 6 to 12 times per year compared to

everyday). Also, Naltrexone has less potential for abuse than methadone and buprenorphine (Substance Abuse and Mental Health Services, 2014). Conversely, patients who want to enroll in Naltrexone treatment are required to go through a period of withdrawal from opioids, usually 7 to 10 days. This is because Naltrexone interacts with opioid agonists causing severe symptoms (i.e., vomiting and nausea) to occur if taken simultaneously. This delay between cessation and treatment may hinder some persons from enrolling in Naltrexone treatment. Moreover, because the medication prevents individuals from feeling the effects of drugs, those who relapse while on Naltrexone may be more inclined to consume more opioids than they typically would “to chase the high.” Thus, they may be at greater risk of overdosing.

Effectiveness of naltrexone. Research that has examined Naltrexone for treating opioid addiction is limited and has produced mixed findings. In one of the earliest impact evaluations of naltrexone treatment, Cornish and colleagues (1997) used a sample of 51 federal probationers in Philadelphia to test the utility of naltrexone in reducing opioid use. In that study, the researchers randomly assigned, at a 2 to 1 ratio, probationers into a treatment group ($N = 34$) that received naltrexone, and a control group ($N = 17$) that did not receive naltrexone treatment (p.531). They found those receiving naltrexone had 22 percent fewer positive urinalyses for opioids compared to the control group (p. 532). However, there was no statistically significant group mean differences in terms of positive urinalysis for other drugs between the experimental and control group, suggesting while Naltrexone may be effective for reducing opioid use, those taking it may switch to using other drugs.

In 2016, researchers at the *Treatment Research Institute* (2017) conducted an outcome evaluation of MAT treatment use among probationers in Ohio. The researchers used a quasi-experimental design with an aggregate group matched to compare nearly 400 drug court

participants on naltrexone to an equivalent control group comprised of drug court participants not on MAT. Participants were matched for their number of prior treatment attempts, number of prior felonies, age of onset of drug use, age of onset of criminality, and key demographics (e.g., age, race, and gender). The researchers found that those enrolled in naltrexone treatment while in drug court reported less drug use, lower rates of recidivism, and greater retention in drug court over a 6- month time frame.

In a meta-analysis of 13 program evaluations of naltrexone treatment ($N = 1158$), Minozzi and colleagues (2006) concluded that Naltrexone was no more effective than a placebo or non-MAT treatment modalities (i.e., Cognitive Behavioral Therapy) for reducing heroin use and offending. One problem with research on the effectiveness of Naltrexone treatment is that retention rates for program evaluations are relatively low, with some studies concluding with less than half of their original sample (Krupitsky, Zvartau, Masalov, Tsoy, Burakov, Egorova, & Verbitskaya, 2006; Nunes, Rothenberg, Sullivan, Carpenter, & Kleber, 2006; Tucker, Ritter, Maher, & Jackson, 2006). In fact, even Cornish et al.'s (1997) work concluded with only 52 percent of the original experimental group. Another concern is that the researchers in the cited works above failed to conduct follow-up interviews or to collect data from those who dropped out of programs, so there is no information on the success or failures of drop outs.

Overall, the available research suggests that Naltrexone may not be as effective, in terms of stopping drug use and preventing crime, as other forms of MAT such as methadone and buprenorphine. This tentative conclusion is drawn from relatively few studies, with small sample sizes and weak methodology. Thus, there appears to be a need for more research in this area.

Buprenorphine

Buprenorphine has been approved for treating opioid dependency in the United States since 2002 (Substance Abuse and Mental Health Services, 2014). As a partial agonist, buprenorphine binds to the opioid receptors in the brain like methadone and naltrexone. However, instead of causing a blockage or fully stimulating the receptors, buprenorphine produces a limited reaction, while simultaneously displacing the full effects of other opioids from stimulating those receptors. Unlike methadone, taking more buprenorphine will not create a larger effect. It has a 16-milligram ceiling effect which means that maximum stimulation occurs by taking 16 milligrams, and taking more than 16 milligrams will not produce greater intoxication. Thus, it may be better suited for preventing a substance abuser from feeling the euphoric effects of opioids than methadone.

Buprenorphine can be administered as a mono product (e.g., solo) or in combination with other substances. Commonly, it is synthesized with the antagonist naloxone in an attempt to prevent misuse of the medication (Substance Abuse and Mental Health Services, 2014). A user who attempts to inject a combination of buprenorphine and naloxone (described below) will likely experience instant withdrawal symptoms, such as nausea and vomiting. While Buprenorphine is capable of reducing cravings and withdrawal symptoms similar to methadone, buprenorphine has fewer side effects than methadone, less abuse potential because of its 16-milligram ceiling effect, and it is available via prescription at local pharmacies. Thus, buprenorphine users can avoid the stigma associated with going to a methadone clinic and have their medication more accessible to them. However, buprenorphine on average is much more expensive than methadone (Substance Abuse and Mental Health Services, 2014).

The Drug Enforcement Administration (2017) has developed standards that physicians must meet in order to be licensed to provide buprenorphine treatment. In order for physicians to prescribe buprenorphine, they must attend an 8-hour class on addiction treatment, and apply for a license through the Drug Enforcement Administration. In their initial year of treatment, federal regulations limit doctors to only treating 30 patients (National Alliance of Advocates of Buprenorphine Treatment, 2017). After this probationary year, doctors can expand and treat up to 100 patients. These limitations make it difficult for some opioid addicted persons to enroll in treatment facilities, particularly those living in rural regions where only a few licensed doctors practice.

Effectiveness of buprenorphine. Researchers have found Buprenorphine to be effective for reducing withdrawal symptoms, incidences of relapse, and lowering recidivism rates (Krook, Brørs, Dahlberg, Grouff, Magnus, Røysamb., & Waal, 2002; Veilleux, Colvin, Anderson, York, & Heinz, 2010). In their meta-analysis of impact evaluations of MAT treatment, Mattick, Kimber, Breen, and Davoli (2009) found buprenorphine to be more effective than the placebo at reducing opioid use and improving treatment retention. Those given buprenorphine reported fewer positive urine screens and more days in treatment than those given the placebo. However, when buprenorphine was compared to methadone, the researchers found methadone to be associated with superior treatment retention.

Like research on Naltrexone, studies pertaining to the correctional population's use of buprenorphine are rare. Only one study known to the author, Magura, Lee, Hershberger, Joseph, Marsch, Shropshire, and Rosenblum (2009), assessed the use of buprenorphine on persons incarcerated in the United States; and they found prisoners to report more favorable attitudes toward buprenorphine treatment than toward methadone treatment. Further, they found prisoners

enrolled in buprenorphine treatment to be 34 percent more likely to report for treatment in the community following release than those not enrolled in buprenorphine treatment (p.222).

Moreover, the author knows of only two studies that have attempted impact assessments of probationers and parolees enrolled in buprenorphine treatment (Cropsey, Lane, Hale, Jackson, Clark, Ingersoll, & Stitzer, 2011; Mitchell et al., 2014). In a double blind random experiment, Cropsey and colleagues (2011) monitored the progress of 27 female offenders, who were given buprenorphine in a residential drug abuse treatment center. They randomly assigned 27 women on correctional supervision to buprenorphine (n= 15) or the placebo (n=12). While there was no statistically significant group mean differences at the three-month follow up, at the end of treatment those given buprenorphine reported fewer weekly opioid-positive urine tests compared to those in a control group. In the second study, Mitchell et al. (2014) examined relapse rates among buprenorphine patients in an outpatient clinic in Maryland. Using a sample of 300 African Americans enrolled in two treatment facilities in Maryland, they found all participants enrolled in MAT exhibited significant declines in substance use and criminal behaviors at 3 month and 6 month follow ups compared to baseline measures. Interestingly, they also found that probationers and parolees showed significant declines in substance use rates and reported fewer illegal activities than those not on probation.

Overall, the findings suggest that buprenorphine treatment is effective at reducing drug use and criminal behaviors, and that buprenorphine may be an effective treatment option for persons addicted to opioids.

Stigma

While MAT and Narcan seem to be promising responses to the “epidemic,” not everyone favors the ubiquitous use of such policies (Ray, O’Donnell, & Karhe, 2015). This may be due to

the stigma surrounding the population receiving such services. The public is hesitant to spend money on offenders, and dislikes policies that seem “soft on crime” (Benekos & Merlo, 2006). One of the biggest reasons why the general public does not want to fund the treatment of offenders is because of the stigma surrounding drug use. Researchers have found dimensions of stigma among the general public and healthcare professionals to be highest for drug users (Barry, McGinty, Pescosolido, & Goldman, 2014; Crisp et al., 2005; Ormston et al., 2010; Room, Rehm, Trotter, Paglia, & Üstün, 2001), and this stigma appears to have increased in recent years (Corrigan, Kuwabara, & O'Shaughnessy, 2009). In fact, research has shown that stigma is higher for drug use than for all other types of mental health disorders (Barry et al., 2014; Broen, 2011; Room et al., 2004; Singleton, 2010), and that this stigma can result in support for discriminatory practices (Barry et al., 2014) and reduced quality of health care for drug users (Ding et al., 2005). Despite these findings, stigma as a concept has not been studied extensively in the context of harder drugs. The next section focuses on more thoroughly defining the term stigma.

Defining Stigma

Stigma refers to a mark on a body, character flaw, or status identifiers that subjects a person to devaluation (Link & Phelan, 2001; Pescosolido & Martin, 2015). Stigmatization is the social process, formal or informal, through which that mark, condition, or status negatively affects the lives of those who are touched by it (Link & Phelan, 2001; Fiske, 2011; Pescosolido & Martin, 2015). The term stigma has been referenced in recent years. In fact, Thomas Insel, the Director of the *National Institute of Mental Health*, has suggested that the word stigma be avoided in scholarly work because it is a victim word, and instead should be replaced with words like prejudice and discrimination (Scheller, 2014). While stigma, often times, leads to prejudicial attitudes and discriminatory practices, the terms are not interchangeable. In fact, they refer to

distinctly different social phenomena. Prejudice is the endorsement of beliefs and attitudes that are or are not based on logical reason or experience (Pescosolido & Martin, 2015; Stangor, & Crandall, 2013). Prejudice is thought-oriented. Discrimination refers to a process of enacting preadjudicatory behaviors (Moreau, 2010; Pescosolido & Martin, 2015). Discrimination is action oriented. Stigma is a much more encompassing term. It is both thought and action oriented in that it reflects people's attitudes toward others, perceptions about believers' attitudes, and the actions of persons and institutions (Britt, Greene-Shortridge, Brink, Nguyen, Rath, Cox, Hoge, Castro, 2008; Franz, Carter, Leiner, Bergner, Thompson, & Compton, 2010; Pescosolido & Martin, 2015; Stuber & Kronebusch, 2004).

There are two arguments for the creation of stigmas. One perspective is that its pervasiveness among social species is a survival technique (Neuberg, Smith, Asher, 2000; Smith, 2012). Stigma has been traditionally attached to aberrant behavior—those that are taboo because they hinder a group's ability to function smoothly (Smith, 2012). Thus, from this perspective, behaviors such as incest, homosexuality, and drug use have been stigmatized previously because they were perceived as threats to the advancement of society. Incest can result in deformities in offspring (Astuti, R., & Bloch, 2015; Nichols, 2017). Homosexuality does not positively correlate with reproduction (Preston, 1986). Drug use hinders the function of fine motor skills and is associated with antisocial behavior (Compton, Conway, Stinson, Colliver, & Grant, 2005; Schmidt, Pennington, Cardoos, Durazzo, & Meyerhoff, 2017). According to this perspective, if everyone engaged in such behaviors, society's advancement would halt or at least slow down. There is agreement at the societal level that certain behaviors are bad (Smith, 2012). This perspective is consistent with the consensus model in criminology that perceives law and order to be reflective of a social consensus on behaviors that are detrimental to society (Akers, Sellers, &

Jennings, 2016; Denno, 1985; Lilly, Collin, & Ball, 2011). It is emblematic of the consensus model by assuming that there is some form of agreement regarding which types of behaviors should be stigmatized.

Conversely, other arguments on the formation of stigma parallel those raised by conflict criminologists (Akers, et al., 2016; Denno, 1985; Lilly, et al, 2011). Conflict criminologists argue that the creation and enforcement of laws reflect the interests of dominant social institutions (Akers, Sellers, & Jennings, 2016; Denno, 1985; Lilly, Collin, & Ball, 2011). Those in power decide the types of behaviors that will be criminalized, and which types of laws will be enforced. They design laws in a way to preserve their own power at the expense of keeping others down. This perspective would be aligned with the Reiman and Leighton thesis and (2013) book, *The Rich Get Richer and the Poor Get Prison*. Consistent with the consensus perspective of stigma formation, this model recognizes that for stigma to exist, it must be disseminated to community members through a process of socialization. The conflict perspective differs from the consensus perspective in that its proponents have argued that stigma is attached to behaviors arbitrarily by those who have the power through mechanisms of formal and informal social control (Link & Phelan, 2001; Pescosolido & Martin, 2015; Smith, 2012). Thus, stigma reflects the intersection of the process of “cultural differentiation, identity formation, and social inequality” which permeate a culture (Pescosolido & Martin, 2015, p. 93).

Regardless of which perspective is correct, both assume that through socialization the public is taught to affix stigmas on certain behaviors, such as drug use. These labels or “stigma signatures” (Fiske, 2011) can reflect both changeable and fixed conditions. A changeable condition would be poverty, because one can move in and out of poverty over the course of his/her life. Drug use is also a changeable condition. An unchangeable condition would be

epilepsy or some other physical disability that cannot be cured. Labels attached to these “stigma signatures” are conferred by agents of social control with officially sanctioned terms (Pescosolido & Martin, 2015). Thus, stigma signatures or labels become almost like Becker’s reference to a (1963) “master status” which defines a person’s position in contemporary society.

Research on stigma has been applied to a wide arrange of topics in in the public health realm including multiple births (Ellison & Hall, 2003), obesity (Farrell, 2011; Granberg, 2011) tuberculosis (Juniarti & Evans, 2011), dementia and Alzheimer diseases (Vernooij-Dassen et al., 2005), Parkinson’s disease (Tickle-Degnen, Zebrowitz, & Ma 2011), Celiac disease (Olsson et al., 2009), Human Papilloma Virus (HPV) (Waller, Marlow, & Wardle., 2007), Human Immunodeficiency Virus (HIV) (Ding, Landon, Wilson, Wong, Shapiro, & Cleary, 2005 Whetten et al., 2008; Vanable, Carey, Blair, & Littlewood, 2006; Yebei, Fortenberry, & Ayuku, 2008), schizophrenia (Angermeyer, Schulze, & Dietrich, 2003; Burns, 2009; Lee, Lee, Chiu., & Kleinman, 2005), depression (Barney, Griffiths, Jorm, & Christensen, 2006; Roeloffs, C., Sherbourne, Unützer, Fink, Tang, & Wells, 2003; Sirey et al., 2001) and phobias (Davidson, 2005). While research on stigma is extensive for some conditions in the realm of public and mental health, less attention has been devoted to assessing stigma toward drug users.

Furthermore, the studies tended to focus on minor forms of substance use, such as smoking (Bayer & Stuber, 2006; Greaves, Oliffe, Ponick, Kelly, & Bottorff., 2010; Pachankis, 2007).

Comparatively, much less research has assessed stigma and heroin and opioid users. However, the available research in this area suggests that stigmas toward drug users are more prevalent (Barry et al., 2014; Pescosolido, Martin, Long, Medina, Phelan, & Link, 2010; Room et al., 2001; Siltan, Flannelly, Milstein, & Vaaler, 2011). Overall, this research shows that stigma can

take many shapes and forms. The next section focuses on describing the 10 most common variants of stigma that have been documented in the scholarly literature.

Types of Stigma

There have been a variety of terms in the sociological literature referring to different forms of stigma, although most have focused on mental health issues (Pescosolido & Martin, 2015). This “individual branding” of terms has resulted in many concepts, themes, and measuring constructs. Pescosolido and Martin (2015) reviewed the published literature and concluded that the intersectionality across terms suggests that there are 10 main types or variants of stigma (p.93). First, they identified perceived stigma that also has been called perceived public stigma (Britt, et al., 2008; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Fortney et al., 2004; Peterson & Paves, 2014; Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, & Meyers, 2001). Perceived stigma refers to one’s perceptions of what others’ (e.g., the general public’s) attitudes are toward certain types of marginalized individuals and behaviors. Importantly, this type of stigma does not reflect the questioned person’s own attitudes, but rather his/her perception of others’ attitudes. Thus, it does not assume that questioned persons agree with the perceived attitudes of the larger community.

Perceived stigma has been measured both by asking potential stigmatizers (Britt et al., 2008; Peterson & Paves, 2014) and asking the stigmatized themselves (Hoge et al., 2004; Fortney et al., 2004; Sirey et al., 2001). For example, Peterson and Paves (2014) surveyed a sample of nearly 400 undergraduate students about their beliefs on how they perceived mental health disorders. Overall, their research suggested that roughly 43% of their sample felt that the general public holds negative views toward people with mental illness (p. 6). Conversely, Sirey and colleagues (2001) surveyed the stigmatized. They asked 92 outpatients newly admitted to a

mental health clinic for depression about their perceptions of the general public's attitudes pertaining to discrimination and devaluation of individuals with mental illnesses. While they found younger patients to perceive more stigma than older patients, perceived stigma predicted treatment discontinuation only among older patients.

Interestingly, in an early test of perceived public stigma, Rost, Smith, & Taylor (1993) found regional variations in stigma levels. Particularly, they found that those living in rural communities believed that the general public would report higher levels of stigma toward a mentally ill person if individuals became aware of that person's condition. While the author carefully reviewed the literature and did not find any follow-up work to assess these findings in regard to perceived stigma, research by Martin et al. (2000) replicated this finding in the area of social stigma (see below). Martin et al. (2000) found that as size of the population increased, stigma to drug dependent persons decreased.

The second variant of stigma is categorized as anticipated stigma (Franz, et al., 2010; Lee, Lee, Chiu, Kleinman, 2005; Pescosolido & Martin, 2015; Quinn & Chaudoir, 2009; Vogel et al., 2006). Anticipated stigma refers to expected adverse societal reactions that a marginalized person will experience explicitly as a result of his/her stigmatized condition. Although perceived public stigma deals with perceptions of attitudes held by society in general, among both stigmatizing persons and stigmatized persons (i.e., those affixing the stigma), anticipated stigma is concerned more with assessing experiences of the stigmatized and the subsequent expected social reactions (i.e., discrimination/prejudice) that he/she experiences as a result of his/her marginalized condition(s). It is the stigmatized individual's or group's expectation that others will de-value, be prejudiced, or somehow discriminate against them (Pescosolido & Martin,

2015). In fact, anticipated stigma has been shown to hinder mental health treatment initiation (Franz et al., 2010).

Anticipated stigma has been assessed both quantitatively (Lee et al., 2005; Quinn & Chaudoir, 2009; Vogel, Wade, & Hackler, 2007) and qualitatively (Franz et al., 2010; Yebei, Fortenberry, & Ayuku, 2008) through perceptions of stigmatized persons and those close to them (i.e., family members). For instance, after interviewing 12 family members of African Americans involved in a first-episode psychosis, Franz and colleagues (2010) found that most respondents perceived the general public to hold stigmatizing attitudes toward those entering treatment, and that fear of facilitating this stigma was associated with a raised threshold for treatment initiation. Ultimately, it resulted in delays in their family member(s) entering treatment. These findings have been confirmed with quantitative methods (Lee et al., 2005; Pederson & Paves, 2014; Quinn & Chaudoir, 2009).

Similarly, after surveying more than 300 persons diagnosed with schizophrenia in China, Lee and colleagues (2005) found that more than half of the respondents felt that they would be laid off from work, believed that their partner would break up with them, and felt that friends would distance themselves. The respondents anticipated that people would consider them violent if their condition was ever revealed. Consequently, about 55 percent of the sample reported making an effort to conceal their diagnosis from coworkers and schoolmates (p. 155). These findings have remained robust when applied to persons with HIV/AIDS living in Kenya (Yebei et al., 2008), and when applied to persons living with mental health issues in the United States (Pederson & Paves, 2014; Quinn & Chaudoir, 2009; Vogel et al., 2007). In their research, Peterson and Paves (2014) found that nearly one-third of their respondents agreed that their peers

would treat them differently if they had a mental health condition and that “it would be too embarrassing” (p. 4).

The third variant of stigma is endorsed stigma (Pescosolido & Martin, 2015). Endorsed stigma is concerned with measuring one’s level of agreement with existing stereotypes (Pescosolido & Martin, 2015; Pescosolido, Medina, Martin, & Long, 2013). It concerns whether persons concur with existing stereotypes. Similar to anticipated stigma, the focus can be on both the stigmatizer and/or the stigmatized. Like other tests of variants of stigma, the norm for assessing endorsed stigma involves vignette scenarios. In arguably one of the largest international studies of endorsed stigma to date, Pescosolido and colleagues (2013) presented vignette scenarios describing a schizophrenic person and a depressed person to participants from 16 different countries. After reading each vignette, respondents were presented with a 43-item questionnaire designed to assess their levels of endorsed stigma, essentially, how much they agreed with commonly held stereotypes. Specifically, they were asked to report their level of agreement/disagreement that the hypothetical person was dangerous, unpredictable, difficult to interact with, likely to be violent, unable to be trusted or to care for children, and that their condition was caused by a lack of character or a moral flaw. Their results showed that even when controlling for respondents’ country, nearly two-thirds of respondents agreed that those with schizophrenia were unpredictable, likely to harm themselves, should not be permitted to teach children, expressed animosity toward having them as in-laws, and did not want them watching their children (p. 856).

The fourth, fifth, and sixth variants of stigma—received stigma, enacted stigma, and structural stigma—are similar concepts. Received stigma focuses exclusively on the stigmatized, and asks them to report their unique experiences with prejudices and discrimination resulting

from their marginalization (Pescosolido & Martin, 2015). Conversely, enacted stigma focuses almost exclusively on those who are engaged in stigmatizing, although it can also incorporate the stigmatized, by assessing the actions of those who are not stigmatized toward those who have acquired the stigmatized label (Boyle, 2018). The two terms are rarely separated in the literature and are often tested using the same constructs. For example, Lee and Colleagues (2005) studied persons diagnosed with schizophrenia in China. They found that more than 40 percent of their sample had either not been offered a job or laid off, received negative comments from their employer, and saw a noticeable change in friends and coworkers after they had revealed their medical condition (p.154). In this example, the experience of persons with schizophrenia is received stigma. It differs from anticipated stigma and perceived stigma in that it reflects actual experiences, not hypothetical or potential ones.

Conversely, those who treated the persons diagnosed with schizophrenia differently based on knowledge of their condition are reflective of enacted stigma because they are initiating the stigma on the stigmatized. In a more recent test of enacted and experienced stigma, Boyle (2018) surveyed more than 500 Americans with stuttering problems. To assess enacted and received stigma, respondents were asked to report whether or not they have experienced 15 common forms of enacted stigma documented in the prior literature (St. Louis, 2015) including “people have been unkind to me,” “people have avoided looking at me,” and “people made fun of or picked on me” (p.55). Results showed that more than 75% of those with stuttering problems had received at least one form of enacted stigma in the prior year (p. 57).

Similarly, structural stigma refers to the actions—policies and procedures—of private corporations and government entities toward stigmatized persons that restrict opportunities for such persons or have some unintended consequence that adversely hinders their opportunities

(Corrigan et al., 2004). Structural stigma is the same concept as structural discrimination in that it refers to dominant institutions prohibiting, via policy or practice, the stigmatized from fully participating in conventional society. While primary tests of societal level discrimination are scarce, research in this area has focused on describing policies and practices that have prevented stigmatized persons from fully integrating into conventional society (Burn, 2009). For instance, research in this area has shown how stigma of welfare recipients reduced TANF and Medicaid enrollment and healthcare services received in the United States (Stuber & Kronebusch, 2004), how the stigma of mentally ill persons resulted in formal legislation restricting individual liberties regarding firearms and parental rights (Corrigan et al., 2005), how the American media have wrongfully and willfully displayed mentally ill persons as dangerous (Klin, & Lemish, 2008), and how the intersectionality of stigmas has resulted in increases in the price of healthcare services for Chinese immigrants, and thus interfered with their financial well-being by hindering their ability to pay for health services and save (Yang et al., 2014).

The eighth variant of stigma is courtesy stigma. First introduced by Goffman (1963), courtesy stigma refers to stigma by association (Ostman & Kjellin, 2002). While individuals experiencing courtesy stigma do not have the official mark, condition, or attribute of the stigmatized, they have some close social relationship to those that do. Because of this relationship, they too are devalued for their perceived role in either causing the stigmatizing condition or for their perceived inability to help the stigmatized (Pescosolido & Martin, 2015). The emphasis in courtesy stigma is not on the actual stigmatizing act, nor is it on who is applying the stigmatizing label, but rather focus is solely directed toward one's relationship to the stigmatized. As such, courtesy stigma can include other forms of stigma, such as received stigma, anticipated stigma, perceived stigma, and provider-based stigma geared toward

associates of stigmatized persons. Courtesy stigma occurs in individuals who have frequent contact with the stigmatized, such as close family members and relatives (Angermeyer, Schulze, & Dietrich, 2003; Corrigan & Miller, 2004; Greenburg, Kim, Greenley, 1997; Koro-Ljungberg & Busssing, 2009; Mikami, Chong, Saporito, & Na, 2014; Phelan, Bromet, & Link., 1998), those who have moderate contact with stigmatized persons, such as caregivers of the mentally ill (Struening, Perlick, Link, Hellman, Herman, & Sirey, 2010), and persons who have only minor contact with the stigmatized, such as coworkers (Pontikes, Negro, & Rao, 2010). For example, in their qualitative study of 122 relatives of persons diagnosed with schizophrenia in Germany, Angermeyer and colleagues (2003) found relatives experienced elevated levels of structural discrimination, such as having to self-disclose more than they should to healthcare providers, not being offered or informed about certain services, and having to pay tremendous amounts of money for services.

There has been less application of the concept of courtesy stigma toward drug use. However, the limited research on the topic has supported the findings outlined above (Burk & Sher, 1990; Corrigan & Shapiro, 2006; & Lubman, 2017; Mehta & Farina, 1988). For instance, both Mehta and Farina (1988) and Burk and Sher (1990) found students with alcoholic parents to experience more negative social consequences than other groups of students. More recently, using a vignette research design with a national sample of 968 persons, Corrigan and colleagues (2006) found family members of alleged drug dependent persons to experience high levels of courtesy stigma. Specifically, participants were more likely to blame families of drug dependent persons for the onset and offset of such disorders, and were more likely to desire to socially shun family members of drug dependent persons than family members of persons with other forms of mental illness. Further, in a phenomenological study of 31 families of substance using persons in

Australia, McCann and Lubman (2017) found that not only did family members report experiencing courtesy stigma, but also that they admitted to taking efforts to minimize such marginalization, such as minimizing contact with others, engaging in secrecy, and selectively disclosing information about their situation to others. These findings seem to suggest that much like drug users, the family members of drug users are also more stigmatized than family members of persons with other stigmatizing conditions, such as mental illness. More research is needed in this area though.

The ninth variant of stigma is provider-based stigma. Provider-based stigma refers to stigma held by individuals and/or institutions that have some role in helping to assist the stigmatized (Pescosolido & Martin, 2015). Goffman's (1961) earlier research on provider-based stigma found that healthcare workers hold stereotypical views, use stigmatizing words and phrases, and in some cases, prefer not to treat stigmatizing persons (Ding Landon, Wilson, Wong, Shapiro, & Cleary, 2005; Miller, Sheppard, Colenda, & Magen, 2001; Peckerover & Chidlaw, 2007; Ross, & Goldner, 2009; Srtorous, 2007). Regarding substance use, more scholarly attention has been devoted to provider-based stigma than some other variants of stigma (Ding et al., 2005; Miller et al., 2001; Peckerover & Chidlaw, 2007; Ross, & Goldner, 2009; McCreddie, Lyons, Watt, Ewing, Croft, Smith, & Tocher, 2010). While provider-based stigma toward drug users has been tested quantitatively through surveys (see Ding et al., 2005 and Silins, Conigrave, Rakvin, Dobbins, & Curry, 2007), most tests of provider-based stigma have been qualitative (see Peckover & Chidlaw, 2007; McCreddie et al., 2010; Merrill, Rhodes, Deyo, Marlatt, & Bradley, 2002; Henderson, Stacey, & Dohan., 2008; Neale, Tompkins, & Sheard, 2008; Weiss, McCoy, Kluger, & Finkelstein, 2004).

For instance, after interviewing nurses in the UK, Peckerover and Chidlaw (2007) found high levels of prejudice and stigmatizing attitudes to exist among their participants. In addition to perceiving prescription drug users (PDUs) as dangerous, nurses reported animosity toward the self-inflicting nature of PDU persons and dissatisfaction when working with such clients. Similarly, after interviewing 11 nurses in the UK, McCreddie and colleagues (2010) showed that nurses perceive PDU persons as blameworthy by associating PDU persons with non-compliance, ungratefulness, and early discharge. Thus, McCreddie et al. (2010) suggested that nurses feel that PDU persons are consciously making a choice to self-harm.

Similar sentiments have been found among healthcare professionals in the U.S. (Ding et al., 2005). In a survey of US doctors, Ding and colleagues (2005) found that 9 percent of doctors surveyed would rather not treat HIV infected injecting drug users because they viewed their efforts as futile and a waste of time. Ding et al. (2005) found that doctors seemed to express resentment toward these types of drug users because they blamed them for causing their own problems. Multivariate analysis from that study found a significant relationship between attitudes and level of care provided. Doctors with negative attitudes provided less antiviral therapy for HIV-positive drug users than doctors with more positive attitudes. Ding et al. (2005) concluded that intravenous drug users received lower quality treatment than non-intravenous drug users.

In another study assessing stigma held by healthcare practitioners, Silins and colleagues (2007) found high levels of stigma toward drug users to exist among American medical students. Overall, 29 percent of first year medical students and 32 percent of fourth year medical students agreed with the statement “In general, I don’t like heroin addicts” (p. 196). Moreover, 43 percent of first year medical students and 42 percent of fourth year medical students expressed that they

would feel uncomfortable working with heroin addicts, and about 2/5ths of first year medical students and more than half of fourth year medical students agreed with the statement, “I couldn’t imagine working with patients with drug and alcohol problems as a career.” (p.196). In general, their work found males, older students, and those with prior clinical experience to hold the most stigmatizing beliefs. Interestingly though, significant reductions in stigmatizing attitudes were found in both samples following the completion of an educational program on drug and alcohol addiction. These findings suggest that stigma toward substance users is high even among healthcare professionals who will be providing services to this population. However, on the positive side, this research also shows the utility of educational treatment programs in terms of reducing stigmatizing attitudes.

The 10th and final variant of stigma found in the available scholarly literature is public stigma. Public stigma—or what Goffman (1963) referred to as *social stigma*—is the actual condemnation of a particular group of persons by the general public (Kelly & Westerhoff, 2010). Also called community or cultural stigma, social stigma reflects the public’s true thoughts, feelings, and emotions toward a group of marginalized persons, as well as discriminatory actions by the general public toward that marginalized group (Pescosolido & Martin, 2015; Quinn & Chadoir, 2009). Public stigma is context dependent; it reflects the unique cultural climate of a region at one particular point in time (Pescosolido & Martin, 2015).

While levels of public stigma toward mental illness in general have decreased in western nations, in part, due to the general public’s acceptance of neurobiological explanations for mental health disorders and subsequent acceptance of treatment ideologies (Pescosolido et al., 2013; Pescosolido & Martin, 2015), public stigma toward drug users remains high. In fact, researchers have found dimensions of stigma among the general public and healthcare

professionals to be highest for drug users (Barry, McGinty, Pescosolido, & Goldman, 2014; Crisp et al., 2005; Ormston et al., 2010; Room, Rehm, Trotter, Paglia, & Üstün, 2001) and this stigma appears to have increased in recent years (Corrigan, Kuwabara, & O'Shaughnessy, 2009). Survey research from both the U.K. and U.S. found that the public attaches a tremendous amount of blame to Prescription Drug Using (PDU) persons (Crisp et al., 2005; Ormston et al., 2010). In fact, one recent study published by researchers from *John Hopkins Bloomberg School of Public Health* found that Americans placed greater stigma on drug addiction than on all other types of mental illness, including schizophrenia (Barry et al., 2014). In that study, researchers administered a web-based survey to a nationally representative sample of more than 700 Americans. Barry and colleagues (2014) found that 90 percent of Americans were unwilling to have persons with drug addictions marry into their families, and another 63 percent felt that discrimination toward drug users was not a serious problem (p. 1270). Further, their results revealed that only 28% of Americans felt that those suffering from drug addiction could ever get well with treatment and live productive lives (Barry et al., p. 1270). This supports findings from previous literature (Brown, 2011; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Corrigan, Lurie, Goldman, Slopen, Medasani, & Phelan, 2005; Corrigan, Kuwabara, & O'Shaughnessy, 2009; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Phelan & Basow, 2007). These attitudes toward drug users are not unique to Americans. International research conducted by the *World Health Organization* concluded that of all mental health and physical conditions assessed, drug use was ranked as the most stigmatizing condition, and alcoholism was ranked as the 4th (Room et al., 2001). Taken together, these data indicate that public stigma toward drug users is a serious problem.

Pescosolido and Martin (2015) argue that these 10 variants can be collapsed into two broad categories – “experiential stigma” and “action oriented stigma” (p. 92). Action oriented stigmas examine those who give or experience the stigma. These include self-stigma, courtesy stigma, public stigma, provider-based stigma, and structural stigma. Experiential stigma focuses on the experiences of the stigmatized. These include perceived stigma, endorsed stigma, anticipated stigma, received stigma, and enacted stigma. There are two problems with this conceptualization. First, the authors failed to ever fully explain the differences between experimental and action-oriented stigma. Thus, the reader is left to make this determination. Second, it seems that classifying courtesy stigma as *action-oriented* is a bit misleading, as it is a stigma that is experienced, much like received stigma.

Consequently, it seems that these 10 variants in stigma research could more appropriately be combined into three broad categories – experienced stigma, perceived stigma, and social stigma. As the name suggests, experienced stigma encompasses all forms of stigma that are experienced—that which is felt, observed, and/or witnessed by those who have been marginalized. It reflects the actual stigma experienced, not that which is perceived or anticipated. It includes received stigma, self-stigma, and courtesy stigma. Perceived stigma reflects one’s perceptions of stigma, whether real or not. This category includes research on perceived stigma and anticipated stigma. The third logical category is what Goffman (1963) called social stigma, which would refer to all real, as in expressed or administered, stigmas. This is the largest category of stigma and includes endorsed stigma, enacted stigma, public stigma, provider-based stigma, and structural stigma. Having this trichotomy allows the terms or stigmas to be interchangeable regardless of who is the focus of the research, that is, whether the focus is on those applying stigma or receiving stigma. For instance, with this conceptualization, social

stigma, refers to stigma that is real, regardless of which individual or group is the focus of attention for the research (e.g., the stigmatized or the stigmatizer). Although, individuals can anticipate rejection, stigma is only made real when experienced in a social context (Pescosollido & Martin, 2015, p. 91). Therefore, it is recommended that future works consider this trichotomy. In this study, research is solely concerned with assessing social stigmas, what would be referred to as public stigma or practitioner-based stigma, among criminal justice professionals and students. The researcher is interested in studying the real public stigma, or lack thereof, toward heroin/opioid offenders, that occurs in these groups. The next section describes the theoretical development of the concept of social stigmas.

Theoretical Development of Social Stigma

In the 1890s, the French Sociologist, Emile Durkheim, first explored stigma as a social construct. However, the modern conceptualization of social stigma originated with the work of Erving Goffman in 1963. In *Rules of Sociological Methods*, Durkheim (1895) suggested that even in a world full of exemplary persons minor faults would be judged with the same harshness as ordinary offenses in a normal society. This is due to society's reluctance to accept persons who deviate from the norm. As such, behavior that counters the consensus is stigmatized, and over time, those acts of behaviors are labeled criminal.

Almost 70 years later, Erving Goffman (1963) published his book *Stigma: Notes on Management of a Spoiled Identity*, and introduced his theory of social stigma. Goffman's thesis is that people judge what they are unable to understand, and that all behaviors or conditions that deviate from societal standards are labeled with a negative connotation. This has social repercussions for those to whom the label is applied. Goffman used the word stigma to mean "a phenomenon whereby an individual with an attribute which is deeply discredited by his/her

society is rejected as a result of that attribute” (p. 6). The stigmatizing attribute can be a behavior, reputation, or condition—innate or acquired—which socially discredits a person as normal. It is anything that taints a normal identity and disqualifies a person from full social acceptance. In his book, Goffman (1963) used the examples of persons with tattoos, those with disabilities, and those with homosexual orientations as stigmatized groups.

To help illustrate the construction of stigma, Goffman employed the concept of social identity. According to Goffman’s theory, interactions with others are shaped by a mutual awareness of the presence of the identified stigma. When meeting a stranger, one is forced to rely on initial appearances and limited information to help determine his/her social identity. Once these attributes are compartmentalized as either normal or abnormal, a social identity is given. This social identity is a product of both personal attributes, such as intelligence, and structural attributes, such as one’s profession. The identity that one conveys helps others to classify that person on the sociological spectrum of normalcy, and shapes others’ expectations of that identity. Regarding drug use, the identity of a recovering drug addict may make some individuals expect him/her to be untrustworthy, dangerous, or responsible for his/her condition.

According to Goffman (1963), individuals can have one of three relations to stigma. First, one can be a member of the stigmatized group, or what Goffman referred to as the “own” (p. 30). Second, one can be a member of what Goffman referred to as the “normal” group or those who do not hold the stigmatizing label (p.5). Third, one can fall into the category of the “wise,” which refers to those who have certain insight or knowledge about the stigmatized group that makes those who are stigmatized feel as if these persons are “wise” to their condition (p. 19). Stigmatized persons feel comfortable around the wise because they assume that the “wise” have a rich understanding of their plight. The wise focus on similarities and are more understanding,

whereas the normal focus on dissimilarities (Elliott, Ziegler, Altman, & Scott, 1990). In the context of drug use, one example of a “wise” person would be a drug and alcohol abuse counselor who is knowledgeable about substance use disorders, sympathetic to addiction, and viewed favorably by drug users.

More recent work expanding on Goffman’s theory found that there are two types of “wise” persons—active and passive (Smith, 2012). In the first test of Goffman’s taxonomy, Smith (2012) used a Latent Class Analysis to show that undergraduate students ($N=144$) compartmentalized into a four class stigma taxonomy, similar to that hypothesized by Goffman. While her analysis produced two classes (e.g. those who stigmatize and the stigmatized) that resembled Goffman’s descriptions, her final model also produced two additional classes, “active supporters” and “passive supporters” which loosely resembled the characteristics of what Goffman described in his “wise” category (p. 262). According to Smith (2012), both types of supporters did not view stigmatized groups as personally relevant in their lives, but at the same time, they did not discriminate against them. The key difference between the two classifications was that active supporters advocated for education and eradication of stigma, and passive supporters did not. That is, while they did not exacerbate the stigma, passive supporters did not openly fight against stigmatizing labels.

The last vital component of Goffman’s (1963) theory was his concept of courtesy stigma. Courtesy stigma refers to prejudice people experience as a result of their proximity to a stigmatized person. It is the notion that stigma is almost contagious in that persons who are linked to a marginalized person risk being stigmatized themselves. As noted above, this concept has been extensively supported in the mental health literature (Greenburg, Kim, Greenley, 1997; Mikami, Chong, Saporito, & Na, 2014; Phelan et al., 1998; Struening et al., 2001; Corrigan,

Watson, & Miller, 2006). A more thorough discussion of the scholarly literature on courtesy stigma can be found in the previous section describing variants of stigma.

Building on Goffman's work, most early researchers defined social stigma as some form of an attribute. For instance, Stafford and Scott (1986) saw stigma as a characteristic that a person possesses which separates him/her from "the norm of the social unit" (p. 80). Following the conflict perspective in criminology, the norm of a social unit referred to a shared belief, held by dominant social institutions, about how an individual should act. Thus, behavior that violated this shared belief is stigmatized. Similarly, Crocker and colleagues (1998) contended that "stigmatized individuals possess some attribute, or characteristic, that conveys a social identity which is devalued in a particular social context" (p. 505). This definition was not focused on the dissimilarity, but rather society's devaluation of that dissimilarity, because dissimilarities, such as extreme height, may be valued. Following Goffman's (1963, p. 4) conceptualization, Jones et al., (1984) defined stigma as falling between an "attribute and a stereotype" which associates an individual with some undesirable social group (p. 4). One limitation found in these early definitions of social stigma is that emphasis is placed on the individual. Most failed to recognize the external social context which helps to produce and increase or enhance stigma.

Recognizing this drawback, more recent researchers have argued that stigma has been too vaguely defined and focused on the individual (Link & Phelan, 2001; Sayce, 1998). In their revised conceptualization of social stigma, Link and Phelan (2001) view stigma as a label and not an attribute. They argued that stigma is a product of the convergence of labeling, stereotyping, separation, status loss, and discrimination. Accordingly, they contend that stigma is context dependent, in that it is entirely a social creation that differs drastically across time and space. Using their model of stigma formation, social stigma starts when people recognize and

label human differences. These differences are arbitrarily socially selected as people differ in various ways, such as eye color, but these differences do not usually receive explicit attention. It is the beliefs of a dominant culture within a society, such as systematic racism, that link labeled persons to undesirable characteristics and the accompanying negative stereotypes. Labeled individuals are then placed into separate social classifications that serve to reinforce the *us* and *them* distinction.

Consequently, labeled persons suffer status loss and discrimination that results in unequal outcomes such as lower life earnings, housing discrimination, and involvement with the criminal justice system (Link & Phelan, 2001). According to Link and Phelan (2001), and central to the conflict perspective, the key characteristic of stigma creation is a power imbalance between the stigmatized and stigmatizer. They suggested that one needs human, social, and political capital in order to make a negative label stick. Link & Phelan (2001) used the example of a doctor who overprescribes drugs. While the patients may consider him/her a *pill pusher* and blame him/her for their addiction, such a stereotype will not be likely to stick at the societal level because the drug user is viewed by the dominant society as socially inferior to the doctor. They are viewed as less of a person than the doctor; therefore, their opinions matter less than a doctor's opinion.

Currently, the concept of social stigma is defined in various ways. This may be due to the number of conditions that stigma has been applied to and the different frames of reference that accompany multidisciplinary research (Link & Phelan, 2001; Pescolidio & Martin, 2015). Typically, social stigma has been viewed as social ostracism or marginalization of a group of people who share a common characteristic (Cook, Purdie-Vaughns, Meyer, & Busch, 2014; Room, 2005). Kelly and Westerhoof (2010) view social stigma as a process of, “dehumanizing individuals based on social identity or participation in a negative or undesirable social category”

(p.2). Importantly, Hinshaw (2007) notes that social stigma involves both attitudes and behavioral responses to those attitudes. In their review of stigma research, Pescolido and Martin (2015) suggest that social stigma exists as a spectrum rather than a dichotomy. It is a process dependent on 4 components (Link & Phelan, 2001; Pescolido & Martin, 2015). First, stigma requires, “distinguishing and labeling of differences” (Pescolido & Martin, 2015, p. 91). Second, these differences have to be associated with some negative behavior or action. Third, these differences need to be applied in a manner that separates the stigma from the stigmatizer in an *us* against *them* way (Pescolido & Martin, 2015). Last, the stigmatized have to experience status loss or some form of discrimination resulting from this marginalization.

In summarizing the research, Pescolido and Martin (2015) suggest that there are four essential processes unique to cultures through which social stigma is created (p. 91). First, social stigma depends on power imbalances. Specifically, the creation and application of stigmatizing labels are determined by one’s power and one’s control of resources (Link & Phelan, 2001; Pescolido & Martin, 2015; Scambler, 2009). Second, social stigma can only be created and enacted through social relations. Stigma cannot, by definition, exist outside the context of the social unit. Therefore, it is an arbitrarily created social construct. Third, social stigmas are unique to cultures. They are “shaped and reshaped in the particular cultural configurations that arise in social context” (Pescolido & Martin, 2015, p. 91). Fourth, social stigma should be viewed as a spectrum, with varying degrees that are time dependent (Link & Phelan, 2001; Pescolido & Martin, 2015).

With this model, social stigma is conferred through labels applied by the powerful agents of social control. These labels then lead to the creation of stereotypes, which refer to some negative attitude, belief, or expectation about the stigmatized person based solely on his/her

condition (Pescolido & Martin, 2015). Over time, these stereotypes can evolve into acts of discrimination, at the micro (i.e., endorsed stigma), meso (i.e., provider-based stigma), and macro (i.e., structural stigma) levels. This conceptual framework loosely resembles that described by labeling theories in criminology. The next section, describes the evolution of labeling theory and attempts to connect it to research on stigma.

Labeling Theory

The concept of social stigma most closely resembles labeling theory in criminology. While most theories of criminality emphasize the offender, labeling theorists argue that focus should be on the behavior of those who react to or *label* criminals (Akers et al., 2016; Cullen et al., 2014; Lilly et al., 2011). With roots in symbolic interaction theory, labeling theory assumes that individuals act in a manner consistent with the meanings that they have for their own self-image (Akers et al., 2016). According to this perspective, one's identity is a direct reflection of his/her own self-image, which is constructed through a reflective process of social interactions with others.

Three underlying assumptions guide all labeling theorists (Cullen et al., 2014). First, labeling theorists ask why certain behaviors are labeled as criminal and others are not. At the same time, they also are interested in assessing how these definitions and applications vary over time. For them, deviance is entirely a social construct created by dominant social groups. Thus, laws are arbitrarily invented and applied to preserve the interests of these powerful social institutions.

Second, they assume that criminality is not so much a reflection of one's actions but rather how others react to those actions. Ultimately, it is societal reaction that labels someone a criminal or not. Consider the medical doctor who is apprehended for driving under the influence

(DUI). His actions typically are excused as a temporary act of stupidity. However, in other cases where less prominent members of society get charged with DUIs, they are labeled as *drunks* and may face ostracism by the community. Therefore, rather than the act, it is the label that makes one a criminal.

Third, a criminal label becomes a *master status*, or the most salient part of a person's social identity. According to Becker (1963), this influences one's future actions and the public's perception. Once a person bears the label criminal he/she typically loses conventional ties with prosocial peers, may be forced to associate with others who also bear the criminal label, and can be denied certain opportunities in the community, such as employment (Cullen et al., 2014). In relating labeling theory to stigma, Cullen, Agnew, and Wilcox (2014) have argued that labeling theory assumes that, "the criminal justice system stigmatize[s] offenders and ultimately traps them in a criminal career" (p. 256). In the following paragraphs, the evolution of labeling theory is discussed.

Arguably, modern labeling theory was first conceptualized with Charles Cooley's (1902) *Human Nature and Social Order*. In his book, Cooley (1902) proposed his idea of the "looking glass self." According to Cooley, humans develop their own image of themselves through a reflective process in which self-image is shaped by others' perceptions of them. There are three components that influence this self-image. The first component of the looking glass self is one's appearance to others. This appearance then produces judgement from others, either consciously or subconsciously. Finally, as a result of this judgement, humans experience some form of self-feeling. They use this judgement and feeling to shape future social interactions. Essentially, according to Cooley (1902), humans become what others think of them.

In *Mind, Self, and Psychology* (1934), George Mead expanded on Cooley's work. Mead (1934) argued that humans subconsciously exhibit a dual personality. Mead (1934) contended that there is the *Me* that is one's social self, and then there is the *I* which is a reaction to the *Me*. Like Cooley (1902), Mead's work suggested that one's psychological development of his/her self-image was based entirely on social interactions. Humans react to environmental cues from social interactions, and base subsequent actions on these initial readings from previous interactions. Thus, humans act in a way to get a certain type of desired reaction from their audience.

The next influential labeling theorist was Frank Tannenbaum (1938). Tannenbaum's work is important to the conflict community because he was the first scholar to argue that state intervention is criminogenic because it dramatizes evil. In *Crime and the Community* (1938), Tannenbaum used concepts from symbolic interactionism theory as a basis for a labeling theory of crime. He argued that crime arises from conflicts between youth and adults living in urban neighborhoods. He cited the example of children participating in playgroups on the street. Initially, members of the community may view these groups as harmless entities. Any initial acts of delinquency are perceived as good kids doing bad things. However, over time, as more and more social conflict arises between the youth and older adults, the delinquent label is applied to the play group, and members start to identify with this label. Youth identify with their new labels, start to perceive themselves as bad, and act according to their new label. In applying Tannenbaum's theory, accusations, founded or unfounded, can change one's social identity. That new identity then influences the labeled person's future actions.

These early theories were influential in providing the foundation of labeling theory. However, it was not until the publication of Edwin Lemert's (1951) *Social Pathology* that

modern labeling theory truly emerged (Cullen et al., 2014). Lemert (1951) presented a general theory of deviance. He assumed that criminal behaviors originated from a number of psychological, biological, and or psychological factors, such as playing in delinquent peer groups. He referred to those who engage in the early stages of crime as *primary deviants*. While these acts may generate some negative reaction from the general public, much like Tannenbaum (1938) contended, Lemert (1951) assumed that the initial act of deviance is not associated with an attachment of a formal criminal label. Both offenders and society rationalize these acts as temporary, and the individual does not view him/herself as a criminal.

Secondary deviance refers to continuing criminal acts that deviants engage in that they would not have pursued had they not been labeled a criminal. This behavior occurs when formally labeled a criminal by the public, and it is largely dependent on the frequency of crime commission and commitment to one's new social identity. Lemert (1951) argued that social reaction exacerbates crime. Through name-calling and stigma, an offender becomes more embedded in non-conformity. Over time, deviant behavior is no longer a product of the initial socio-environmental causes of primary deviance, but rather an acceptance of a new negative self-image. However, Lemert (1951) suggested that self-image is a dynamic construct and, therefore, it could be altered to prevent future delinquency with the removal of society's negative stigmatization.

Building on Lemert's work, in *The Outsiders*, Howard S. Becker (1963) argued that one's criminal label overrides all other labels, so that people think of an offender merely as a criminal. He referred to this as one's *master status* or the most salient feature of one's public identity. While Becker (1963) suggested that many individuals are falsely labeled as criminals, the label severs them permanently from opportunities such as high paying jobs, and from prosocial

friends. Essentially, this master status forces one into a life of criminality by limiting opportunities and compelling criminals to associate with other deviants, because members of the law abiding general public avoid or shun them. They are, in essence, permanently stigmatized.

Labeling Theory was quickly dismissed by leading criminologists for not fully addressing the causes of crime, for the absence of testable hypotheses, and for the lack of empirical support (Akers et al., 2016; Cullen et al., 2014; Hagan, 1973; Tittle, 1980). Thus, while prominent in the 1960s and 1970s, labeling theory was practically ignored in the early to mid-1980s. However, Paternoster and Iovanni (1989) ushered labeling theory back to mainstream criminology by addressing the concerns and criticisms raised by theorists, and by formulating testable hypotheses in their article entitled, *“Labeling Perspective and Delinquency: An Elaboration of the Theory and an Assessment of the Evidence”*. Paternoster and Iovanni (1989) contended that there are really two hypotheses discussed in the labeling tradition: the status characteristics hypothesis and the secondary deviance hypothesis. They argued that the status characteristics hypothesis assumes that extra-legal factors should be more influential than legal factors in decision-making throughout the criminal justice system. In fact, Tittle’s (1980) critique of the theory suggests that this assumption should be the most important part of the theory’s argument. Paternoster and Iovanni (1989) postulated that in order to test this assumption, researchers should look at arrest data, charge data, waivers, and sentencing disparities between offenders. In reviewing more than 150 articles relating to labeling theory, Paternoster and Iovanni (1989) showed that at every stage of the criminal justice system an offender’s race, gender, and social class influence outcome decisions made by professionals in the system. In support of labeling theory, they demonstrated that the poor, minorities, and males were all more likely to be arrested,

charged, and sentenced to prison than more prominent social groups with power. It was their label that affected reactions by the criminal justice system.

Further, Paternoster and Iovanni (1989) elaborated that labeling theory produced a second hypothesis that they called the secondary deviance hypothesis. This hypothesis states that one's deviant identification becomes his/her dominant identification, or what Becker referred to as one's *master status*. Labeling is largely dependent on societal reactions. These can be inclusive reactions that bring an offender closer to society or these can be exclusive reactions that push the offender away.

Paternoster and Iovanni (1989) outlined four phenomena that affect the impact of a label. Their first concern centered on the public nature of the label. The researchers suggested that a label must be publicly known for it to adversely affect a person. Their second concern addresses social reactions. They argued that these reactions can either be inclusionary reactions which bring the offender closer to the community, or exclusionary reactions that push the offender away. A label should only produce further deviance if the public reacts to it in an exclusionary manner. Their third concern addressed the alteration of personal identity. They hypothesized that in order to become a criminal one must be so adversely affected by exclusionary reactions and the attachment of labels that he/she changes his/her self-image. Finally, Paternoster and Iovanni (1989) contended that support from deviant peers, that is inclusive reactions made by deviant peer circles, will bring a labeled person closer to a deviant circle, which exacerbates criminality. As such, it is the label that produces more crime. Using this logic, tests of this hypothesis should examine patterns of reoffending among those who receive a formal criminal label.

To date, research on traditional labeling theory as defined by Lemert (1951) and Becker (1963), and outlined by Paternoster and Iovanni (1989) has produced mixed results, but there is

some evidence supporting the two hypotheses outlined by Paternoster and Iovanni (Palamara, Cullen, & Gersten, 1986; Miethe & McCorkle, 1997; Chiricos, Barrick, Bales, & Bontrager, 2007; Kavish, 2017; Petrosino et al., 2010; Thistlethwaite, Wooldredge, & Gibbs, 1998; Ventura & Davis, 2005). In one of the first tests of Becker's (1963) concept of *master status* Miethe and McCorkle (1997) used a quasi-experimental design of nearly 200 felony gang members and 200 non-felony gang members in Los Angeles County to show that criminal labels influence prosecutors' decisions. However, while there were significant differences between the two groups in terms of sentencing outcomes, these differences were not in the anticipated direction. Specifically, Miethe and McCorkle (1997) found non-gang members were nearly twice as likely to be sentenced to prison and gang members were almost six times as likely to have their charges dismissed. They concluded that prosecutors associated the label of *gang member* with difficulties in getting a conviction due to fewer witnesses willing to testify and less physical evidence. Miethe and McCorkle (1997) further argued that often times the arrest of these gang members was done just to appease the public.

While subsequent research by Brownfield, Sorenson, and Thompson (2001) found no relationship between gang membership and arrests, they did find that being a minority member from the lower class increased the odds of arrest, independent of delinquency. Their work showed that extra-legal factors impact decisions more than legal ones. Early research (see Engel & Calnon, 2004; Engel, Calnon, & Bernar, 2002; Novak, 2004) as well as more recent research (see Burch, 2015; Feldmeyer, Warren, Siennick, & Neptune, 2015; O'Neal, Tellis, & Spohn, 2015) has also found that whether individuals are subjected to a criminal label is determined by more than just legal factors, and that race and gender play a critical role in criminal justice outcomes.

While direct tests of the master status hypothesis are somewhat scarce in the published literature, comparatively, the secondary deviance hypothesis has received more attention. In one of the earliest tests of the secondary deviance hypothesis on youth living in New York ($n=1,034$), Palamara, Cullen, and Gersten (1986) found that those who had prior contact with police agencies and/or prior mental health interventions were more likely to commit crime later in life than those who did not have such contacts (p. 92). However, later work by Thistlethwaite, Wooldredge, and Gibbs, (1998) and Ventura and Davis, (2005) showed that a formal conviction significantly reduced the likelihood of rearrest at a one year follow up.

More recent work has supported the findings of Palamara et al. (1986) (Chiricos, Barrick, Bales, & Bontrager, 2007; Farrington & Murray, 2014; Kavish, 2017; Petrosino et al., 2010). Chiricos and colleagues (2007) argued that one problem with prior research was that it had been “sanction effect” research that is largely a test of deterrence theory and not labeling theory (p. 554). Thus, they speculated that the theory had never truly been tested as it was conceptualized. In arguably one of the most interesting tests of labeling theory to date, Chiricos et al., (2007) examined a Florida law which allowed judges to withhold adjudication for offenders found guilty of a felony and who were sentenced to probation. This study is unique because the factorial guilt for their sample ($n = 95,000$) was the same across all participants (p. 559). The only difference between offenders was that judges made the decision whether to withhold a formal felony assignment. Their results showed that the application of a felony label was associated with an increased likelihood in recidivism among whites, women, and those with no prior conviction. This finding is particularly interesting because these offenders are historically the least likely to recidivate (Bureau of Justice Statistics, 2018; Castillo et al., 2004). Therefore,

the authors concluded that their results support the secondary deviance hypothesis that labeling is, in fact, criminogenic.

While some researchers continue to express skepticism about the empirical validity of the secondary deviance hypothesis (Akers et al., 2016; Morris & Piquero, 2013), Kavish's (2017) book, *Labeling Theory: Empirical Tests*, showed that there are a number of empirically sound studies that have found contact with the criminal justice system to have a criminogenic effect (see Jennings, 2011; Liberman, Kirk, & Kim, 2014; Wiley, Slocum, & Ebensen, 2013). Moreover, a recent meta-analysis of 29 experimental studies assessing juvenile processing conducted by Petrosino and colleagues (2010) found that formally processing juveniles had no effect on crime control, and resulted in increased delinquency rates. In terms of crime correlation, there is research that suggests that the attachment of a formal criminal label leads to future offending.

Labeling theory experienced a conceptual change in the late 1980s. Until that time, labeling theory had primarily been concerned with formal criminal sanctions (Cullen et al., 2014). Considerably less attention had been given to the role of informal labels—that is the social reactions of friends, neighbors, family members, and other community members. Recognizing this flaw in labeling theory, Bruce Link (1989) and colleagues designed a *Modified Labeling Theory*. While their theory, like other labeling theories, was concerned with assessing self-stigma and perceived public stigma among mental health patients, their work offers two significant contributions to the literature and understanding of social stigma/ labeling. First, guided by Lemert (1961) and Becker's (1963) theories, Link and associates (1989) claim that labels create psychological dysfunction and limit opportunities for success. However, unlike other labeling theorists, they focused on the impact of informal labels and consequences outside

of the criminal justice system. They suggest that informal social reactions adversely affect conduct more than formal sanctions, and that they can lead directly to mental disorders and other negative life outcomes.

Second, they contend that individuals are socialized to form stereotypes of what it means to be mentally ill. Through media propaganda, jokes, and other forms of demeaning propagandas, people form misconceptions that devalue and discriminate against the mentally ill, and the general public seems to adopt these. In support of this argument, Link et al., (1989) found members of the general public felt that most people devalued the mentally ill and were agreeable to discriminating against them. They also found that mentally ill persons felt as though they were devalued by the general public and faced discriminated. Due to this perceived public stigma or informal label, mentally ill persons endorsed coping strategies such as secrecy, isolation, and withdrawal that could worsen their condition (p. 419).

Building on this work, Ross Matsueda (see Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992) has provided the most sophisticated criminological theory describing the impact of informal labels on criminality (Cullen et al., 2014). Guided by symbolic interactionism theory, Matsueda (1992) postulated that a key cause of criminality is the “reflected appraisals of others” or one’s perception of how others, especially those from intimate personal groups (i.e., parents, siblings, significant others), see him/her as delinquent or not (p. 1578). To test his theory, Matseuda used data from the National Youth Survey ($n= 1,725$) which asked children and youth and their parents to report appraisals of themselves/ their child across four domains; including sociability, likelihood to succeed, level of distress, and whether they were a rule violator (p. 1590).

Youth were also asked to respond to these questions from the perspective of their parents. That is, they were asked to report what they thought their parents thought of them. Matsueda's (1992) results showed that reflected appraisals mediated the effects of parental appraisals, prior delinquency, and demographics in causing delinquency. Youth who reported lower scores for reflected appraisals were found to report lower self-appraisals and to commit more crime than youth who perceived their parents to think more highly of them. Subsequent research has also found reflected appraisals affect self-appraisal, and, in turn, impact crime and substance use (Bartusch & Matsueda, 1996; De Coster, & Lutz, 2018; Richard, Trevino, Baker, & Valdez, 2010).

Related to the research on social stigma, these labeling theorists demonstrated the importance of studying both formal and informal labels. The attitude of the public or the perceived attitude toward certain types of conditions and behaviors can impact persons suffering from a variety of stigmatizing conditions, including criminals, the mentally ill, and those addicted to drugs and alcohol. This research suggests that public sentiments exacerbate crime by altering one's self-image. Although one major drawback of most labeling theories is their failure to describe the onset of criminal offending, the available research provides a good argument for how stigmatization helps those who have started offending persist in offending. The next section focuses on describing prior tests of social stigma with an emphasis on the four components of social stigma that have emerged in the literature.

Dimensions of Social Stigma

As noted, while social stigma toward mental health disorders has been given extensive attention, comparatively little attention has been directed toward assessing public perceptions of drug users (Brown, 2011; Corrigan, Morris, Michaels, Rafacz, & Rüsch, 2012; Eisenberg, D.,

Gollust, S. E., & Golberstein, 2008; Link, 1999; Martin, Pescosolido, & Tuch, 2000; Phelan, Link, Stueve, & Pescosolido, 2000). Further, there is little agreement on how to appropriately operationalize social stigma. Consequently, the concept has been tested in various ways, including measuring the public's levels of mistrust regarding certain individuals, assessing the public's fear toward certain groups, and even examining the general public's level of intolerance toward and desire to exclude persons from social situations (Pescosolido, McLeod, & Avison 2007). Yet, no single dimension of social stigma has been widely accepted as the best method of capturing this construct (Pescosolido & Martin, 2015).

Nonetheless, in reviewing the published literature on social stigma, four interconnected themes or concepts of social stigma emerge: dangerousness, blame, social distance, and fatalism (Adlaf, Hamilton, Wu, & Noh, 2009; Albrecht, Walker, & Levy, 1982; Corrigan, River, Lundin, Wasowski, Campion, Mathisen, Goldstein, Gagnon, Bergman, Kubiak., 1999; Link et al., 1999; Kvaale, Gottdiener, & Haslam, 2013; Palamar, Kiang, & Halkitis, 2011). However, due to time constraints and resource limitations in real-world research, most studies have only employed one or two of these dimensions at one time. To gain a more thorough understanding of social stigma and its multi-dimensional construct, it is imperative to analyze these four dimensions independently. A summary of the components of social stigma as they relate to both public health and substance use disorders follows. Table 1 summarizes the data and main findings from previous studies in the mental health realm.

Dangerousness

The first dimension of social stigma documented in the scholarly literature is dangerousness. Dangerousness refers to a fear that stigmatized persons are somehow a threat to themselves or others (Pescosolido & Martin, 2015). It is the belief that those who have

Table 1

Data and Major Findings of Previous Studies on the Predictors of Social Stigma in the Mental Health Literature

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Adlaf, Hamilton, Wu, & Noh (2009) Year data collected: 2005	What is the relationship between age and stigma toward individuals with SUDs?	Survey Ontario Student Drug Use Survey IVs: illicit drug use, peers use of drugs, age, sex, and location DV: Social Distance Stigma attribute (s): Substance Use Disorder	N = 4,078 adolescents (7th-12 th grade) Random sample of students in Ontario Canada Most students were from urban environments (85%) and were male (51%). About 33% had friends who used drugs, and 16.1% had used drugs in the previous year. The mean age was 14.9 years.	About 1/3 of respondents reported that they would be afraid to talk to someone who is a drug user or make friends with them. About 23% of students reported that they would be disturbed or upset if they were in the same classroom as someone who was a drug abuser. Desire for social distance from persons suffering from SUD was found to decrease with age ($p < .001$) Friends drug use and adolescents' own drug use were significant predictors of stigma ($p < .05$). Both were negatively associated with stigma, however friends' drug use was a stronger predictor. In the final model, age and sex were not significant predictors of stigma.
Albrecht, Walker, & Levy (1982)	What are the public's attitudes toward substance users and the disabled?	Survey IVs: personal experience and demographics DV: Social Distance and attributions of responsibility Stigma attribute (s): Substance Use & Physical Disabilities	N = 150 adults Northwestern University Graduate School Respondent characteristics: Median age of 26.9 and all respondents were white. Most were married (94.7%), male (54.7%), and worked full-time (89.3%) with a median household income of \$20,415.	Respondents reported the highest desire for social distance from drug addicts and alcoholics than from all other conditions examined. 41.9% of respondents attributed the responsibility of alcoholism to individual characteristics.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Anglin, Link, & Phelan (2006)	What are Americans attitudes toward the mentally ill? What are the predictors that shape public responses to people with mental illness?	Vignette Used data from the Human Genome Project IVs: Race, education, household income, religion, conservatism. DV: Perceptions of dangerousness and blame. Stigma attribute (s): Mental illness: Schizophrenia and major depression.	N = 671 adults National random sample. 590 Caucasians and 81 African Americans Respondents: Females overrepresented in both groups. Females represented 64% of the African American sample and 65% of the Caucasian sample.	African Americans were more likely than Caucasians to perceive individuals with mental illnesses as dangerous ($p < .05$). No other IV's were statistically significant in the dangerousness models. African Americans were less likely than Caucasians to blame those with mental illness for violent acts. Respondents who were younger ($p < .001$), more conservative ($p < .05$), and protestant ($p < .01$) were more likely to blame individuals with mental illness for committing violent acts.
Anglin, Alberti, Link & Phelan (2008)	What are Americans attitudes toward perceived treatment effectiveness of mental illness? Are there racial differences in perceived treatment effectiveness of the mentally ill?	Vignette Used data from the Human Genome Project IVs: Race, gender, age, education, household income DV: Perceived treatment effectiveness. Stigma attribute (s): Mental illness: Schizophrenia and major depression.	N = 665 adults National random sample. 583 Caucasians and 82 African Americans Respondents: Females overrepresented in both groups. Females represented 64% of the African American sample and 65% of the Caucasian sample. African Americans were younger and reported lower incomes	African Americans were significantly more likely than Caucasians to believe that a mental health professional could help with mental health conditions and that conditions can improve without professional help ($p < .05$). Younger respondents and females did not were more likely to believe that the condition could not improve on its own and were more likely to believe that mental health professionals could help persons suffering with mental illness ($p < .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Blumner & Marcus (2009) Year data collected: 1996 & 2006	What are Americans attitudes toward the mentally ill? Have there been changes in beliefs about the causes of and appropriate treatments for major depression between 1996 and 2006?	Vignette Used data from the General Social Survey IVs: Age, education, social class, location, conservatism. DV: Perception of causes of depression support for treatment options (medical to religious) Stigma attribute (s): Mental illness—Depression	N = 697 adults National random sample. 300 (1996) and 397 (2006) Respondents: 51% male, 49% female, 40% aged 18-34, 78% were White. Most 53% were high school graduates, self-identified as working class or poor (54%), and lived in an urban area (51%)	More Americans (88%) attributed depression to biological causes in 2006 than in 1996 (77%). More Americans (60%) in 2006 were found to favor biological methods of treatment for depression than in 1996 (48%). Males exhibited a significant increase in acceptance of biological causes, whereas females exhibited a significant decrease in endorsement of biological causes between 1996 and 2006 ($p < .01$). Whites also exhibited an increase in acceptance of biological explanations whereas non-whites did not. Non-religious persons and those with high school degrees also reported significantly more acceptance of biological causes in 2006 than in 1996
Boyd, Katz, Link, & Phelan (2008) Year data collected: 2002-2003	Does prior contact with people with mental illness impact social stigma? Are there differences in social stigma across types of mental illness?	Vignette IVs: Prior contact, Gender, age, education, household income, ethnicity/race, conservatism DV: Blame, fatalism, social distance. Stigma attribute (s): Mental illness: Schizophrenia and major depression.	N = 911 adults National random sample. Respondents: Most were female (64%), had a high school degree (29%) or some college (22%), had a household income between \$20,000 and \$40,000, and were somewhat conservative (32%). The mean age was 48.3.	Prior contact was not a significant predictor of fatalism ($p > .05$). More contact was associated with less blame and a desire for less social distance ($p > .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Brown (2011)	What are undergraduates attitudes toward individuals with SUDs?	Survey Midwestern US university IVs: age, sex, race, marital status, and major, previous contact. DV: Social Distance, Dangerousness, and Affect Stigma attribute (s): Mental illness and Substance Use stigma	N = 565 adults Undergraduate students Respondents: Most were female (69%), Caucasian (96%), and never married (99%). The mean age was 18.6 years old.	For social distance, women reported more stigma than men ($p < .01$). On affect, women reported more stigma than did men ($p < .01$). No gendered differences were found in dangerousness. More intense previous contact with substance users had a weak correlation with lower levels of substance use stigma $\rho = -.10$, $p < .01$)
Capitanio & Herek (1999)	Is stigma toward AIDs patients related to stigma toward intravenous drug use? Are there racial differences in levels of stigma?	Survey IVs: prior exposure, age, race, gender, and income. DV: Attitudes toward IDUs and AIDS patients Stigma attribute (s): IDU and AIDS	N = 1,307 whites & 542 blacks Random sample of U.S. households Respondent characteristics: The majority of respondents in both samples were female, and had a mean age between 40 and 45. The white sample reported twice the annual household income as the black sample.	The majority of all respondents saw IDUs as “wrong,” “Disgusting,” and “a threat to society” Respondents with more negative attitudes toward IDUs also held more stigmatizing attitudes toward persons with AIDs. For whites, age was a positive predictor of stigma ($p > .001$), and education was a negative predictor of stigma ($p < .001$). Prior contact was a significant negative predictor of stigma for blacks, but not whites ($p < .001$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Chan, Stooove, Stingernyuang, & Reidpath (2008)	What are public attitudes toward HIV/AIDS, IV Drug Users, and commercial sex workers?	Vignette IVs: age, sex, knowledge, and academic level DV: Social Distance Stigma attribute (s): Substance Use (IDU), AIDs, and Leukemia	N = 144 adults Nursing students in Thailand Respondents: Most were female. The median age was 27.2 years old.	Desire for social distance from IDU persons was significantly larger than that for other stigmatizing conditions (i.e., leukemia, and AIDs). Stigma toward AIDs was significantly less than that toward IV drug users ($p < .05$).
Coleman, Walker, Lee, Friesen, & Squire(2009) Year data collected: 2006	What are children's' beliefs about cause of depression and ADHD? What are the predictors of stigma toward those with depression, ADHD, and asthma?	Vignette Harris Interactive IVs: blame, diagnosis of stigmatizing condition, causal beliefs, age, gender, and race. DV: Social Distance Stigma attribute (s): Mental illness—ADHD, Depression, Asthma	N = 1,091 children (8-18) National random sample. 300 (1996) and 397 (2006) Respondents: 51% male, 49% female, most (61%) were white.	There was statistically significant strong ($r = .530$) positive correlation between blame (believe that person was not trying hard enough) and a desire for social distance ($p < .001$). Compared to males, females were more likely to attribute depression to stress.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Corrigan & Watson (2007) Year data collected: 2002	How do demographics influence public stigma of mental illness and substance use?	Vignette Family Stigma Data Survey IVs: Gender, ethnicity, education DV: Public stigma scale (including a measure of social distance and dangerous) Stigma attribute (s): schizophrenia, drug dependence, and emphysema	N = 968 adults National random sample. Respondents: Most were female (51%), white (73%), and had a high school education (32%) or completed some college (28%).	Women were less likely to endorse stigma than were men. Women were more likely to help people with stigma and report less desire for social distance ($p < .05$). Compared to whites, nonwhites were more likely to perceive those with drug dependency and mental health conditions as dangerous ($p < .05$). Those with more education were less likely to perceive those with mental health problems and substance dependency as dangerous ($p < .05$)
Corrigan (2005) Year data collected: 2003	What is stigmatized more by the general public: mental illness, physical disabilities, or substance use?	Vignette IVs: condition of vignette (mental illness, physical disability, or substance use), familiarity, age, and sex. DV: Public stigma scale (including, Responsibility, anger, and dangerousness) Stigma attribute (s): Mental illness and Substance Use stigma	N = 303 adolescents (13 to 19) High school students in US Respondents: Most were female (56%) and white (61%). The median age was 16.4 years old.	Social stigma toward alcohol use disorder was higher than that of mental illness of leukemia. Respondents perceived those with Alcohol Use Disorder as being more responsible for their condition than those with other forms of mental illness ($p < .001$) Familiarity was found to moderate the effect of perceived responsibility and dangerousness.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Corrigan, Kuwabara, & O'Shaughnessy (2009) Year data collected: 2006	Are there differences in public stigma toward mental illness and substance use?	Vignette Mental Illness Stigma Study IVs: age, gender, ethnicity, education, geographic dispersion. DVs: Dangerousness and social distance Stigma attribute (s): Mental illness, drug Addiction, and physical disorders	N = 815 children (8-18) National random sample. 300 (1996) and 397 (2006) Respondents: 50% male, most (72%) were white. The mean age was 47.7 years old. 31% had some college education, 30% had a high school diploma, and 12% had less than a high school diploma	Respondents reported higher levels of stigma, as measured by perceived dangerousness, for those with drug addictions than those with other mental illnesses and physical disorders. Respondents were more likely to desire to avoid drug addicted persons than those with other forms of mental illness and physical disorders.
Corrigan, River, Lundin, Wasowski, Campion, Mathisen, Goldstein, Bergman, & Gagnon (2000)	What is stigmatized more by the general public: mental illness, physical disabilities, or substance use?	Survey IVs: type of condition, age, sex, and race DVs: Public stigma scale (including Blame) Stigma attribute (s): Substance Use and Mental illness	N = 152 adults Undergraduates in Chicago Most respondents were female (68%), white (50%), single (76%), and had a household income between \$20,000 and \$39,999 (27%). The mean age was 25.7 years old.	Drug use was stigmatized more than mental health disabilities, and physical disabilities. Cocaine dependent persons were seen as more responsible for contributing to their own problems than those with psychotic disorders and depression ($p < .001$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Crisp, Gelder, Rix, Metzger, & Rowlands (2000) Year data collected: 1998	How does the general public (UK) view individuals with SUDs and those with other mental health disorders?	Survey IVs: General demographics (unspecified) DV: General public stigma scale (included blame, dangerousness, and unpredictability) Stigma attribute (s): Substance Use and Mental illness	N = 1737 adults UK Most respondents were female and white	Compared to those with depression, participants viewed those with SUDs as more unpredictable (78% v. 56%), dangerous (74% v. 23%), and blameworthy (68% v. 13%) for their conditions
Croghan, tomlin, Pescosolido, Schnittker, Martin, Lubell, & Swindle (2003) Year data collected: 1998	How do Americans assess the effectiveness of and problems with psychiatric medications?	Interview General Social Survey IVs: Attitudes toward psychiatric medications, race, gender, education DV: Willingness to use prescribed psychiatric medications. Stigma attribute (s): anxiety and depression	N = 1,387 adults National random sample. Respondents: Most were female (58%), white (80%), lived in urban areas (80%), were between the ages of 31-40 (26%), and had a high school education (31%)	75% of respondents felt that psychiatric medications were effective at controlling symptoms. 23% of participants viewed psychiatric medications as harmful and 36% felt that they interfered with daily activities.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Cunningham, Sobell, & Chow (1993)	How do individuals view those who abuse different drugs (i.e., alcohol, cocaine, tobacco)?	Vignette IVs: substance use label (i.e., alcohol, cocaine, tobacco) DV: Public stigma scale (including, Responsibility, anger, and dangerousness) Stigma attribute (s): Mental illness and Substance Use stigma	N = 579 adults Canada Respondents: Most were female (53%) and high school graduates (95%). The mean age was 29.1. almost 75% were current drinkers and 49% had never smoked.	Tobacco users were less stigmatized than alcohol users and users of cocaine ($p < .001$). Abstinent treatment methods were rated as more likely to succeed than non-abstinent best recoveries ($p < .001$).
Decety, Echols, & Correll (2009)	What is the relationship between stigma, perceived responsibility for one's condition and perceptions of pain and empathy toward those individuals?	Vignette IVs: Condition of vignette (HIV infected IDU or result of blood transfusion) DV: Public stigma (assessed by blame, pain, and empathy toward a person) Stigma attribute (s): HIV infected persons and IDUs	N = 22 adults US All respondents were males	Respondents felt that the hypothetical person who had contracted HIV through a blood transfusion experienced more pain than those who contracted HIV through IDU ($p < .05$). The more blame one attributed to the hypothetical scenario they were presented, the less empathetic they were to the persons condition ($p < .10$) Respondents reported more blame and less empathy to IDU infected persons than those who contracted HIV through a blood transfusion.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Diala, Muntaner, Walrath, Nickerson, LaVeist, & Leaf (2001) Year data collected: 1990-1992	Do African Americans have more negative attitudes toward seeking mental health services than do whites?	Survey National Comorbidity Survey IVs: age, sex, income, and education DV: Use of mental health services Stigma attribute (s): Mental illness	N = 5,877 adults National random sample. 4479 whites and 680 African Americans. There were more females than males in both studies, the mean age was between 25-34, and the majority of respondents in both groups had a high school education	African Americans reported more positive attitudes toward seeking care than did whites ($p < .05$). They also reported being more comfortable talking about their problems to healthcare professionals than did whites.
Diala, Muntaner, Walrath, Nickerson, LaVeist, & Leaf (2000) Year data collected: 1990-1992	Are there racial differences in public stigma toward seeking professional health from mental illness?	Survey National Comorbidity Survey IVs: gender, age, education, occupation DV: Use of mental health services Stigma attribute (s): Mental illness	N = 5,877 adults National random sample. 4479 whites and 680 African Americans. There were more females than males in both studies, the mean age was between 25-34, and the majority of respondents in both groups had a high school education	African Americans reported more positive attitudes toward the use of mental health treatment than did white ($p < .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Kelly & Westerhoff (2010) Year data collected: 2008	How do labels toward individuals with SUDs (i.e., substance abuser or having an SUD) impact perceptions of SUDs?	Vignette IVs: Label (i.e., substance abuse or having an SUD) DVs: perceived causes of SUD and appropriate response (therapy or punitive sanctions) Stigma attribute (s): Mental illness and Substance Use stigma	N = 516 adults U.S. Clinicians Respondents: Most were female (63%), white (81%), and had a doctoral level education (65%). The mean age was 51.	Referring to an individual as a “substance abuser” as opposed to “having a SUD” was associated with more negative attitude, such as favoring punitive treatment for them ($p < .05$).
Kuppin & Carpiano (2006) Year data collected: 1996	What are the general public’s beliefs about the causes of addiction and how does that impact perceptions of treatment?	Vignette General Social Survey IVs: causal beliefs, age, education, and race DVs: treatment endorsement Stigma attribute (s): Alcohol dependence, depression, drug dependence, schizophrenia	N = 1,010 adults National random sample.	88 percent of the sample attributed causes of conditions to stress, 62 contributed causes to chemical imbalances, and 46 percent contributed causes to “bad character.” Beliefs in biological causes of stigmatizing conditions was associated with the endorsement of professionally biologically focused treatments (i.e, prescription medication).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Leaf, Bruce, Tischler, & Holzer (1987) Year data collected: 1980	What are American's attitudes toward mental health services?	Survey Yale Epidemiologic Catchment Area Project IVs: age, sex, race, income, and education DV: Attitude toward mental health services Stigma attribute (s): Mental illness	N = 4,184 adults Northeastern US Respondents: Most were female (54%), between 25 and 65 (71%), white (86%), reported annual yearly income between 20,000 and 34,999 dollars. More than 75% had a high school diploma.	81% of respondents showed high receptivity to mental health services, but only 52% believed that family doctors could help for mental health problems. Older adults (over the age of 64) were less receptive to mental health treatment ($p < .001$). Compared to whites, non-white were more likely to believe that doctors and clergy were good sources of mental health treatment ($p < .001$). Women were more receptive of mental health treatment than were men ($p < .001$)
Lehmann, Joy, Kreisman, & Simmens (1976)	How does the label of "mental illness" impact people's perspectives of a person?	Experiment (videotape) IVs: Stimulus (i.e., paranoid video or not), DV: Attitudes toward actor and desire for social distance Stigma attribute (s): Mental illness	90 students Respondent characteristics: Most were female and the median age was 21	Actors showing symptoms of mental illness were rated as being more dangerous, unpredictable, and irresponsible than those who did not present such conditions ($p < .01$). Respondents expressed a desire for the greatest social distance from actors who portrayed mental illness ($p < .01$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Link & Cullen, (1983)	Do public perceptions of mentally illness vary with the attachment of a formal label?	Experiment IV's: Condition of the stimuli (e.g., formally labeled mental patient or exhibit signs of mental illness) DV's: Social Distance Stigma attribute (s): Mental Illness	N = 153 adults Residents in a mid-western city Respondent characteristics: Most respondents were female (51%), most had some college education, and the mean age was 48.9 years.	Respondents reported a higher desire for social distance when the condition was unlabeled than when it was formally labeled ($p < .05$). The authors suggest that the public are more threatened by hidden labels than those which are formally expressed
Link, Cullen, Frank & Wozniak (1987)	How do labels impact a desire for social distance and dangerousness?	Vignette IVs: conditions of vignette (e.g., "normal man" or "hospitalized man") and demographics DV's: Social Distance and dangerousness Stigma attribute (s): Mental Illness	N = 152 adults Ohio Residents Respondent characteristics: Most were female (53%) and married (65%). The mean age was 47.6 and most had some college education	Respondents desired greater social distance from the hospitalized man than from other persons Those who perceived a person as dangerous reported a greater desire for social distance There was an interaction effect with dangerousness and social distance ($p < .01$). Those who perceived a character as dangerous reported a greater desire for social distance

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Link, Phelan, Bresnahan, Stueve, & Pesosolido (1999) Year data collected: 1996	What are the public's conceptions of perceived causes, dangerousness, and desire for social distance toward mentally ill persons and those suffering from SUD?	Vignette IVs: Condition (i.e., major depression, alcohol dependence, and drug dependence [cocaine])) DV: perceived causes of SUD, dangerousness and social distance Stigma attribute (s): Drug dependence, alcohol dependence, mental illness.	N = 1,444 adults 1996 General Social Survey No data on the characteristics of the sample were provided	More respondents felt that cocaine dependence was a product of a person's "own bad character" (66%) or stressful circumstances (72%) compared to a chemical imbalance in the brain (48%) 52% agreed that alcohol dependence was a product of a person's "own bad character," and 63% agreed that chemical imbalances were a contributing factor. Respondents felt that those with cocaine dependence and alcohol dependence issues were more likely to act out violently than those with other mental health conditions, and the public desired to have the greatest social distance from drug dependent persons ($p < .001$).
Loman & Larkin (1976)	How does the label of "mental illness" impact people's perspectives of a person?	Experiment (videotape) IVs: Stimulus (i.e., paranoid video or not), DV: Desire for social distance Stigma attribute (s): Mental illness	204 undergraduates	Higher scores of social distance were present among respondents exposed to the video tape in which the young lady appeared paranoid, than in the in the version where she did not ($p < .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Martin, Pescosolido, & Tuch (2000) Year data collected: 1996	What are the predictors of the public's willingness to interact with people with stigmatizing conditions?	Vignette IVs: Condition of vignette (drug and alcohol, mental illness), causal attributes, dangerousness, age, gender, family income, education, region of residence and size of region. DVs: Social distance Stigma attribute (s): Drug dependence, alcohol dependence, mental illness.	N =1,444 adults 1996 General Social Survey No data was provided on the characteristics of the sample	72 percent of respondents were either definitely or "probably" unwilling to interact with drug dependent persons. Income and size of place of residence were significant predictors of social distance ($p<.05$). As size of place of residence increase, desire for social distance was found to decrease ($p<.05$). Those who made more money reported a greater desire for social distance than those who were poorer ($p<.05$) Belief that mental illness was caused by genetic characteristic or stressful circumstances were significantly and negatively associated with desire for social distance ($p<.05$).
Martin, Pescosolido, Olafsdottir, & McLeod (2007) Year data collected: 2002	What are the public's attitudes toward children suffering from mental illness? What are the predictors of stigma toward children suffering from mental illness?	Vignette IVs: Condition (e.g., ADHD, depression, physical health problems), gender, marital status, parental status, race, income, education, region of residence & size, dangerousness, contact. DVs: Social distance Stigma attribute (s): Mental illness	N = 1,393 adults 2002 General Social Survey No data on the characteristics of the sample were provided	About 20% of respondents desired to avoid and have their children avoid social contact with other children suffering from ADHD and depression. Mental illness was stigmatized more so than physical disabilities ($p<.001$). Perceived dangerousness was a significant positive predictor of social distance, as was belief that condition was caused by bad character ($p<.05$). Compared to males, females were significantly less likely to desire social distance ($p<.05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
McLeod, Fettes, Jensen, Pescosolido, & Martin (2007) Year data collected: 2002	What are the public's knowledge of ADHD, treatment preferences, and sociodemographic correlates of attitudes?	Interview IVs: gender, race, education, income, and age DV: belief that ADHD is a real disease & treatment preferences. Stigma attribute (s): Mental illness	N = 1,139 adults 2002 General Social Survey No data on the characteristics of the sample were provided	78 percent of participants perceived ADHD to be a "real disease." However, women, white respondents, and persons with higher incomes were more likely to see ADHD as a "real disease" ($p < .05$). There were few sociodemographic differences in treatment preferences, however, men were more likely than females to favor no treatment as opposed to a combined treatment approach ($p < .05$).
McLeod, Pescosolido, Takeuchi, & White (2004) Year data collected: 1998	How does the general public feel about the use of psychiatric medications for children with mental health issues?	Vignette IVs: knowledge of psychiatric medications, experiences with psychiatric medications, marital status, residence location (rural/urban), race, sex, age, and income. DV: Willingness to give children medication Stigma attribute (s): Mental Illness	N = 1,186 adults 1998 General Social Survey No descriptive data of the sample was provided.	More respondents were willing to use psychiatric medications for children who expressed suicide statements (57%) than for other oppositional behaviors (34%) and mental illness (30%). Across all models, the strongest predictors of willingness to give psychiatric medication to children were trust in doctors, attitudes toward psychiatric medications, and respondents own willingness to take psychiatric medications. Few demographic variables were consistent and varied by model. Males, older persons, and those with higher incomes were more willing to give psychiatric medication to children ($p < .05$)

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Mojtabai (2007) Year data collected: 1990-1992, 2001-2003	What are American's attitudes toward seeking mental health treatment? Did attitudes toward treatment seeking change from 1993 to 2003?	Survey IVs: gender, race, education, income, and age DV: Attitude toward seeking treatment, beliefs about effectiveness of mental health treatment Stigma attribute (s): Mental Illness	N = 5,388 adults; 4,319 adults National Comorbidity Survey (1990-1992) & National Comorbidity Survey—Revised (2001-2003) No descriptive data of the samples was provided.	There were no significant differences in perceptions of treatment effectiveness across samples ($p > .05$). Participants in both samples felt that more than half of the people who seek mental health services are helped by them. Females, blacks, adults aged 25-34, and those with higher incomes were more likely to see treatment as effective ($p < .05$).
Mojtabai (2009) Year data collected: 1998 & 2006	What are American's attitudes toward psychiatric medications? Did attitudes toward psychiatric medications change from 1998 to 2006?	Survey IVs: gender, race, education, and age DV: Attitudes toward psychiatric medication Stigma attribute (s): Mental illness	N = 1,387 adults; 1,437 adults 1998 & 2006 General Social Survey More than half of respondents in both samples were female, most were between the ages of 25 and 54, white, and had a high school education.	Public attitudes toward psychiatric treatment become more favorable between 1998 & 2006. 83% of the 2006 sample felt that psychiatric medication was appropriate for handling day-to-day stress as compared to 78% of the 1998 sample ($p < .01$). Women, higher educated persons, and whites were more likely than comparisons groups to endorse positive opinions of medications ($p < .01$)

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Mukolo & Heflinger (2011) Year data collected: 2002	What are American's attitudes toward mentally ill children? What factors predict a desire for social distance from mentally ill children? What factors predict attributions about health conditions?	Vignette IVs: condition (e.g., ADHD, depression, physical disability), gender, race, age, residence location (e.g., urban v. rural) DVs: attributions about health conditions & Social Distance Stigma attribute (s): Mental Illness and physical disabilities	N = 1,300 adults 2002 General Social Survey Respondent characteristics: Most were white (80%), female (58%), had children (72%), were not married (51%), and had a high school education (54%). Almost half (47%) lived in urban areas.	There were no significant differences across demographic conditions and attributions except for education. Respondents with more education were less likely to blame the child for their mental illness ($p < .001$). In terms of social distance, those with more education, females, were less likely to desire social distance ($p < .05$). Older persons, and those who blamed the child for his/her condition reported a greater desire for social distance.
Perry, Pescosolido, Martin, Mcleod, & Jensen (2007a) Year data collected: 1996 & 2002	What are American's attitudes toward adults and children with depression? To what does the public attribute the causes of depression?	Vignette IVs: condition (adult depress or child depression), gender, race, age, and education. DVs: attributions, dangerousness, help seeking recommendations, willingness to coerce treatment. Stigma attribute (s): Mental illness	N = 193 adults; 312 adults 1996 & 2002 General Social Survey Respondent characteristics: More than half of both samples were females, most were white, and the average age was in the mid-40s. for both samples	Participants viewed childhood depression as being more serious (83%) than adult depression (51%), and thought children who were depressed (40%) had a greater potential toward violence than did adults who were depressed (30%). More participants favored treatment, including coerced treatment of children than adults. No data on demographic differences was presented.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Pescosolido, Jensen, Martin, Perry, Olafsdottir, & Fettes (2008) Year data collected: 2002	How does the general public perceive children with mental health? What sorts of problems and sources of help do the public favor for treating mentally ill children?	Vignette IVs: condition (e.g., ADHD or depression), perceived severity, gender, race, & age. DV: recognition and treatment endorsement Stigma attribute (s): Mental illness	N = 1,066 adults 2002 General Social Survey Respondent characteristics: Compared to the national population the GSS had a slight overrepresentation of females. No other sample characteristics were given.	Respondents perceived ADHD as less serious as and in need of less treatment than depression. More participants saw general practitioners, mental health professions, and teachers as sources of help than psychiatrists. Females and those with more education were more likely to perceive that conditions would improve with treatment than “improve on their own” ($p < .05$).
Pescosolido, Martin, Long, Medina, Phelan, & Link (2010) Year data collected: 1996:2006	What are the public’s perceptions of neurobiological explanations for mental illness? What are the public’s attitudes toward treatment of mental illness and alcohol dependency?	Vignette IVs: condition (e.g., alcohol dependency or mental illness), age, sex, education. DV: attributions/causation, public stigma (e.g., social distance, dangerousness) attitudes toward treatment Stigma attribute (s): Mental Illness & Alcohol dependence	N = 1,956 adults 1996 & 2006 General Social Survey Sample characteristics: Most were female, white, and completed a high school degree. Profiles were consistent with the Census data.	Public support for neurobiological explanations for depression increased by 13% between 1996 and 2006. No changes in desire for social distance or perceived dangerousness were found to occur between 1996 and 2006. Attribution of alcoholism to “bad character” was a significant positive predictor of public stigma ($p < .01$). In both samples, holding a neurobiological explanation of mental illness was either unrelated to stigma or significantly increased the odds of stigmatization.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Pescosolido, Fettes, Martin, Monahan, & McLeod (2007a) Year data collected: 2002	What are the public's attitudes toward children with mental illness? Does the general public favor coerced treatment of mentally ill children?	Vignette IVs: condition (adult depress or child depression), gender, race, age, income, and education. DVs: dangerousness, willingness to coerce treatment. Stigma attribute (s): Mental illness	N = 1,152 adults 2002 General Social Survey Respondent characteristics: Most were white (88%), had a high school education, and a median household income of \$50,000. The mean age was 44 years old.	31% of the sample perceived children with ADHD as dangerous, whereas 80% thought children with depression were dangerous About 1/3 of the sample favored forced treatment of children with depression differences was presented. The only significant demographic predictor of dangerousness was income ($p < .01$). Respondents with more income were more likely to see problems with dangerousness. Perceived dangerousness was a positive predictor of support for coerced treatment ($p < .01$).
Pescosolido, Monahan, Link, Stueve, & Kikuzawa (1999) Year data collected: 1996	What are the public's perceptions of persons with mental illness and SUD as dangerous? What is the public's willingness to coerce individuals with mental illness and SUD into treatment?	Vignette IVs: condition (e.g. Mental health disorder or SUD), gender, race, age, religion, education, political views, residence location (e.g., urban v. rural) DVs: dangerousness, Support for coerced treatment Stigma attribute (s): Mental Illness, alcohol dependence, and drug dependence	N = 1,444 adults 1996 General Social Survey No data on sample characteristics was provided	Compared to other conditions, more respondents agreed that drug dependent persons were "very likely" (42%) to do something violent to others than persons with other forms of mental illness. Participants favored coerced treatment of drug dependent persons more so than those with other forms of mental illness. Those with more education and no religion were less likely to favor some forms of coerced treatment options ($p < .01$), such as prescription medications and admittance to a hospital. Older persons were more likely to favor some forms of coerced treatment ($p < .01$), such as prescription medication.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Pescosolido, Perry, Martin, McLeod, & Jensen (2007) Year data collected: 2002	What are the public's perceptions of treatment for children with mental illnesses?	Survey IVs: gender, race, age, employment status, marital status, parental status, religion, education, trust in physicians, prior contact with persons with mental illness DVs: perceived stigma, attitudes toward treatment Stigma attribute (s): Mental Illness	N = 1,062 adults 2002 General Social Survey Sample Characteristics: About 80 percent of the sample were whites, more than half were female (57%), about half worked full-time (51%), more than 2/3rds were parents, and the majority had at least one year of college or vocational school.	Many respondents (45%) believed that stigma is a product of mental health treatment and that it adversely affects individuals even in adulthood (45%) Most respondents believed that psychiatric medications affected development (68%), give children a flat or zombie like affect (53%), and delay solving the real underlying behavior problems of children (66%) those with other forms of mental illness. Females and those with more education reported more negative views on acceptance of psychiatric medication for treatment compared to comparison groups ($p < .05$).
Phelan, Link, Stueve, & Pescosolido (2000) Year data collected: 1950 and 1996	What are the general publics' attitudes toward mental illness? Did they change between 1950 and 1996?	Survey IVs: education, family income, community size, race, and gender DVs: description of mentally ill person (i.e. deviant, psychotic, dangerous, etc) Stigma attribute (s): Mental illness	N = 335 adults and 653 adults 1950 The Star Survey and 1996 General Social Survey Respondent characteristics: In the Star survey, all respondents were over the age of 21, most were white and male. In the GSS survey, all respondents were over the age of 18, most were white and female.	Perceptions of mentally ill persons as violent or frightening increased over between 1950 and 1996. White respondents were significantly more likely than non-white respondents to mention psychosis ($p < .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Phelan, Yang, Cruz-Rjas (2006) Year data collected: 1996	Are acceptance of genetic attributions for serious mental illness associated with more positive orientations to professional treatment?	Vignette IVs: condition of vignette (e.g., schizophrenia and depression) perceived genetic causes, gender, education, and ethnicity. DV: treatment recommendations and perceived effectiveness Stigma attribute (s): Mental Illness	N = 601 adults and 426 adults 1996 General Social Survey & Genes, Disease, & Stigma Study No description of sample characteristics was provided	Acceptance of neurobiological explanations was associated with support for mental hospitalization and the use of prescription drugs. Perception of genetic causes was unrelated to perceived treatment effectiveness In the GSS sample, genetic causes were associated with lower perceptions of perceived treatment effectiveness None of the demographic associations were significant
Rao (2009)	How to health care professionals view people with mental illnesses and SUDs?	Vignette IVs: Condition of vignette (Opiate dependence, alcohol dependence, mental health issues) DV: Attitudes toward mental illness and SUDs (scale included dangerousness). Stigma attribute (s): Substance use and mental illness	N = 108 adults US healthcare workers Most respondents were females (86%), Respondents had a mean age of 43.2 years. Most had worked in the field for more than 14 years. 58% were nurses.	Respondents reported higher levels of stigma toward drug users than other conditions. 75% of respondents felt that drug addicts were dangerous and 60% agreed that drug addicts were blameworthy for their conditions. Individuals who are actively using drugs were viewed more negatively than those who are currently in treatment ($p < .01$) No significant differences were found in levels of stigma between those working in the mental health field and those in other professions.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Ross & Goldener (2009)	How do nurses stigmatize the mentally ill?	Systematic review of literature on stigma toward mental illness among nurses Stigma attribute (s): Mental illness	N = 28 studies Respondent Characteristics: No other characteristics of the sample were provided	In terms of nurses as the “stigmatizes,” many nurses hold beliefs that mental illness is caused by weak moral character or will and express negative attitudes toward helping clients who are mentally ill.
Schnittker, Freese, & Powell (2000a) Year data collected: 1996	Are there racial differences in perceptions of etiology and treatment of mental illnesses?	Vignette IVs: condition of vignette (SUD, mental illness), gender, race, income, age, marital status, place of residence (e.g., southern v. non) DVs: Beliefs about causes of mental illness, attitudes toward treatment Stigma attribute (s): Mental illness & SUD	N = 1,444 1996 General Social Survey Respondent characteristics: Most respondents were white (85%), female (54%), had a high school degree, and were not presently married (48%). The mean age was 45. Most respondents were from non-southern regions.	Compared to whites, African Americans were more likely to report negative attitudes toward professional mental health treatment ($p < .05$) Those who were more educated were more likely to attribute mental illness to biological explanations ($p > .05$) Respondents who received a vignette were the person was drug dependent were more likely to blame the persons condition on “a genetic or inherited problem”, “life stresses”, or “bad character” than those given other conditions ($p < .05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Schomerus, Lucht, Holzinger, Matschinger, Carta, & Angermeyer (2009)	How do characteristics of stigma toward alcohol dependence compare to stigma of other conditions?	Systematic review of literature on stigma toward alcohol dependence Stigma attribute (s): Alcohol dependence	N = 17 studies Respondent Characteristics: 7 studies were from Europe, 5 from North America, 3 from New Zealand, and 1 in Brazil.	Compared to people suffering from other stigmatizing conditions, alcohol-dependent persons are less likely to be perceived as mentally ill, are perceived as being more responsible for their conditions, and are more socially rejected.
Year of data collection: Studies published prior to 2010				
Silton, Flannelly, Milstein, & Margaret (2011)	Did stigma toward mental illness in America change between 1996 and 2006?"	Vignette IVs: Condition of vignette (e.g., alcohol dependence, depression, schizophrenia, and minor problems), age, gender, religiosity, race, and education DV: Social distance Stigma attribute (s): Mental illness and alcohol dependence	N = 1092 adults & 1412 adults General Social Survey Respondent characteristics: No other characteristics of the sample were provided	Participant's desire for social distance from characters exhibiting depression and alcoholism was lower in 2006 than it was in 1996. Participants who were younger, white, more educated and attended religious services desired less social distance than comparison groups ($p < .05$)
Year of data collection: 1996 & 2006				

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Walker, Coleman, Lee, Squire, & Friesen (2008)	How do children view their peers who suffer from depression and ADHD?	Vignette IVs: condition of vignette (e.g., depression, ADHD, asthma), age, race, gender, school location, region, and grade level, family views of conditions DVs: negative attributions, social distance Stigma attribute (s): Mental Illness and asthma	N = 1,318 Children Harris Interactive Respondent Characteristics: Most participants were male (51%), white (61%), and all were between the ages of 8 and 18.	Participants were more likely to associate peers with ADHD and Depression with antisocial behavior and violence ($p < .01$) compared to those suffering from asthma African Americans and Asian/Pacific Islander children reported significantly higher scores for positive attributions than did white children ($p < .05$)
Weiner, Perry, & Magnusson (1988)	Are there differences in perceptions of attributions across types of stigma?	Survey IVs: Condition (i.e., substance use, AIDS, Alzheimer's disease) DVs:): Responsibility and blame Stigma attribute (s): Drug use, mental illness, and physical disabilities	59 adults Undergraduates at UCLA Respondent Characteristics: No characteristics of respondents were provided	Compared to physical stigmas, mental-behavioral based stigma, such as drug use were perceived as being "onset controllable", meaning that most respondents felt that persons with these types of stigma had some control over their stigma ($p < .0001$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Whaley (1997)	Are there racial differences in perceptions homeless and homeless person who are mentally ill?	Survey IVs: prior contact, sex, age group, education, family income, political orientation DV: Dangerousness Stigma attribute (s): Mental illness	N = 1,468 adults 1996 General Social Survey Respondent characteristics: 82% of the sample were white. Native Americans represented 1% of the sample, Asian-pacific Islanders represented 1.5%, blacks represented 10%, and Hispanics represented 4%	Asian and Hispanic respondents perceived mentally ill people as more dangerous than did white respondents ($p < .001$) Increased contact with mentally ill persons was associated with lower levels of perceived dangerousness among white respondents, but not among black respondents
Wirth & Bodenhausen (2009)	Does gender play a role in influencing stigma toward mental illness?	Vignette IVs: condition of vignette (e.g., gender typical or gender atypical, mental illness or alcohol abuse), realness of mental disturbance, support for biological causes, previous contact, endorsement of protestant work ethic, demographics. DV: Affective reactions, likelihood to help the person Stigma attribute (s): Mental illness and alcohol abuse	N = 172 adults Knowledge Network Panel Survey Respondent Characteristics: Most respondents were white (73%), female (54%), and had some college education (33%). The mean age was 47 years.	Negative affect was higher when the vignette was gender typical (i.e., male alcoholism) than when it was gender atypical (e.g., female alcoholism) ($p < .01$) Respondents reported greater willingness to help for depression than for alcoholism ($p < .10$). Compared to alcoholism, more respondents perceived depression as a genuine mental disturbance ($p < .05$) Gender atypical disorders were viewed as having more biological causes than were gender typical disorders ($p < .05$)

marginalized conditions are likely to engage in violent behaviors that could result in hurting others or in self-harm. Link and his colleagues have articulated this concept (see, Anglin, Link, & Phelan, 2006; Link et al., 1987, Link et al., 1999, Pescosolido et al., 1999). In fact, the concept of dangerousness within the realm of social stigma traces its roots to the work of Link and associates in 1987. After exposing a sample of more than 150 Ohioans to a vignette describing either a man with a history of hospitalization for mental illness or the same man without such a history, researchers found that those exposed to the scenario depicting the man with a history of hospitalization for mental illness were more likely to view him as dangerous, and expressed more negative attitudes toward him than those exposed to the same scenario in which the hypothetical man had not been hospitalized.

In that study, respondents were presented with 8 statements designed to assess perceptions of dangerous. The eight items included were; “If a group of former mental patients lived nearby, I would not allow my children to go to the movie theater alone,” “If a former mental patient applied for a teaching position at a grade school and was qualified for the job I would recommend hiring him or her,” “One important thing about mental patients is that you cannot tell what they will do from one minute to the next,” “If I know a person has been a mental patient, I will be less likely to trust him,” “The main purpose of mental hospitals should be to protect the public from mentally ill people,” “If a former mental patient lived nearby I would not hesitate to allow young children under my care to play on the sidewalk,” “Although some mental patients may seem all right it is dangerous to forget for a moment that they are mentally ill,” and “There should be a law forbidding a former mental patient the right to obtain a hunting license.” Responses were formatted using a Likert scale with higher numbers reflecting more agreement. The 8 items were then combined to make a perceived dangerous scale ($\alpha = .85$, p. 1481).

They also created a social distance scale (see below). In all, they found a significant interaction between social distance and perceived dangerousness. Those who perceived the mentally ill as dangerous were more likely to stigmatize them, and they took efforts to socially distance themselves from those perceived to be mentally ill. In fact, the baseline model with just measures of social distance explained 23.8% of the variance in negative attitudes. However with the addition of dangerousness, their final model explained 49.4% of the variance in a person's attitude toward the fictitious male (p. 1486).

While these findings have been replicated elsewhere in the area of mental health research (Anglin, Link, & Phelan, 2006; Link, Cullen, & Wozniak, 1987; Martin, Pescosolido, & Tuch, 2000; Pescosolido, Fettes, Martin, Monahan, & McLeod, 2007a; Phelan, Link, Stueve, & Pescosolido, 2000; Whaley, 2009), there has been much less application of the concept of dangerousness to substance users, despite the fact that one study found that 84 percent of the drug users believe that most people think that they are dangerous (Ahern, Stuber, & Galea, 2007, p. 191). Moreover, the public's perceptions of dangerousness and persons perceived as substance users have rarely been measured as a single topic area (Adlaf, Hamilton, Wu, & Noh, 2009; Brown, 2011). Nonetheless, the available research comparing conceptions of dangerousness of persons with mental and physical disabilities to substance users seems to suggest that people perceive drug users as more dangerous (Brown, 2011; Capitanio & Herek, 1999; Corrigan, 2005; Corrigan et al., 2009; Crisp et al., 2009; Cunningham, Sobell, & Chow, 1993; Henderson et al., 2008; Link et al., 1999; Martin et al., 2000; Peckover & Childaw, 2007; Pescosolido, Monahan, Link, Stueve, & Kikuzawa, 1999; Rao, 2009). For instance, in 1999, Link and colleagues used a nationally representative sample of Americans ($n = 1444$) to expand upon their 1987 work by applying an element of perceived dangerousness to alcohol and cocaine dependent persons (p.

1329). Again, using a vignette design, the researchers found members of the general public to perceive persons dependent on alcohol and cocaine as more dangerous than those with other mental illnesses, and respondents expressed greater desire to socially distance themselves from such persons than persons with other forms of mental illness.

In an interesting approach, Capitanio and Herek (1999) used thermometers (with data points ranging from 0 to 100) to test for how favorable or *warm* respondents felt toward certain stigmatized groups, including gay men, people with AIDS, and Intravenous Drug Users (IDUs). Overall, they found the lowest scores for warmth were reported for Intravenous Drug Users (IDUs). Moreover, they also found that roughly 80 percent of the sample agreed with the statement, “People who inject illegal drugs are a threat to society” (p.1152). In qualitative studies of healthcare professionals, Peckover and Childaw (2007) and Henderson and Colleagues (2008) exemplified how practitioners in both the United States and the United Kingdom have expressed perceived risks as one of the biggest barriers to working with Prescription Drug Users (PDU). In both studies, the authors note that these professionals believe PDU patients to be more dangerous than other types of patients. Healthcare workers also discussed how verbal and physical violence were normal when working with such populations.

The author knows of only two other empirical studies (see Brown, 2011; Janulis, Ferrari, & Fowler, 2013) that attempted to examine the relationship between social stigma and perceived dangerousness of substance users exclusively. Using a sample of undergraduate students ($n=565$) from a university in the Midwestern United States, Brown (2011) modified the construct of the Link et al. (1987) dangerousness scale to create his own measure of dangerousness in relation to substance users (DS-SU). To do this, he replaced the terms “patients with a severe mental illness” in the Link et al. (1987) study with “individuals with substance use problems” (p. 138).

Respondents in Brown's (2011) study were asked to report their level of agreement with the 8 items referenced above on a 7-point Likert scale ranging from "Strongly Agree" to "Agree". However, due to problems with internal consistency, Brown dropped the second item from the Link et al. (1987) scale. His final dangerousness scale (DS-SU) consisted of 7 items with adequate internal consistency ($\alpha = .71$, p. 138). Overall, results indicated that students view substance users as moderately dangerous, with a mean score of 27.44 out of a maximum of 49 (p. 139). Moreover, he found no relationship between prior contact with substance using persons and dangerousness, or between gender and perceived dangerousness.

Janulis and colleagues (2013) further modified the Link et al. (1987) dangerousness scale to assess public stigma toward alcohol, marijuana, and heroin users. They were interested in assessing the mediating affects that familiarity, dangerousness, and fear had on one's desire for social distance. In all, they found that perceived dangerousness was significantly related to desire for social distance for all three substances, and that familiarity, or exposure to drug users, was significantly related to perceived dangerousness for marijuana and alcohol.

Overall, this research suggests that measures of social distance are good indicators of social stigma. Unfortunately, there have been few empirical tests of this construct in relation to drug using persons. Clearly, more research is needed in this area. The next section discusses the second dimension of social stigma, blame.

Blame

Blame is another concept documented in the public health and drug use research pertaining to social stigma. The concept of blame is aligned with responsibility. Stigmatized persons are often viewed as playing some role in the creation and exacerbation of their stigmatizing condition. Thus, as a responsible party, they are also seen as being blameworthy

(Crisp, Gelder, Rix, Metzger, & Rowlands, 2000; Lloyd, 2013). Regarding drug use, some empirical research has shown that one reason why drug use is so highly stigmatized is because the responsibility is placed on users (Corrigan et al., 2000; Crisp et al., 2000; Link et al., 1999; Ormston et al., 2010; Rao, 2009; Schnittker, Freese, & Powell, 2000b). There are two main arguments surrounding the responsibility of drug use (Lloyd, 2013). First, drug users are viewed as being responsible for triggering their own onset of drug use. Many people perceive drug use as a voluntary choice (Corrigan, 2005; Cunningham, Sobell, & Chow, 1993; Henden, Melberg, & Røgeberg, 2013) or a product of individual characteristics (Albrecht et al., 1982). Arguments from this perspective assume that somewhere in the progression toward drug use, most drug users made a willful decision to start using drugs, and that only on rare occasions is one forced to take an illicit substance. According to this perspective, users, oftentimes, are responsible for triggering their own problems with drug use, and thus deserve any adverse consequences that stem from that conscious decision.

In this realm, research has demonstrated that persons tend to blame drug users for causing their own problems more so than those with other stigmatizing conditions including AIDs, Depression, and Alzheimer disease (Capitanio & Herek, 1999; Chan, Stooove, Stingermyuang, & Reidpath, 2008; Decety, Echols, and Correll, 2010; Weiner, Perry, & Magnusson, 1988). For example, using a factorial survey design of 352 medical students in China, Chan and colleagues (2007) found respondents reported lower levels of sympathy for hypothetical AIDs patients who were also intravenous drug users. Similar results were found with American respondents (Capitanio & Herek, 1999; Decety et al., 2010; Weiner et al., 1988). For instance, in an experimental design using self-report instruments and neurobrain imaging, Decety and colleagues (2010) found students to report less empathy for AIDs patients who were IDUs than

those who were not. In that experiment, researchers from the University of Chicago presented video clips of people experiencing pain to a sample of 22 students. Participants were told that the people fell into one of three categories: 1) healthy, 2) contracted AIDS through a blood transfusion, 3) contacted AIDs through IDU. Participants were asked to report the level of pain each person was experiencing, and to also report the level of distress that they felt watching the clip. They were also subjected to brain scans that measured neurological pain receptors. Interestingly, analysis of self-report data and brain scan imaging revealed that participants were statistically significantly more sensitive to the pain experienced by those who had contracted AIDs through blood transfusion, than those who had contracted AIDs through IDU. Further, they were found to report less distress watching the clips of AIDs patients who had contracted the disease from intravenous drug use than those who had contracted it through blood transfusion. The research suggests that the general public is less sympathetic to the plights of those who self-harm. As such, persons are viewed as being responsible for their condition, and thus potentially deserving of the stigma and blame that accompany them.

Similarly, research also found that healthcare professionals struggle treating persons who self-harm because they blame them for exacerbating their conditions (Ding et al., 2005; Peckerover & Chidlaw, 2007; Ross, & Goldner, 2009). Qualitative research from the UK has shown that nurses blame prescription drug users (Peckerover & Chidlaw, 2007; Mcraddie et al., 2010). In addition to perceiving PDU's as dangerous, Peckerover and Chidlaw (2007) found nurses report animosity toward the self-inflicting nature of PDU persons and dissatisfaction from working with such clients. Similarly, after interviewing 11 nurses in the UK, McCreaddie and colleagues (2010) found that nurses perceive PDU persons as blameworthy by associating PDU persons with non-compliance, being ungrateful, and early discharge. These data suggest that

nurses feel that PDUs do what they want to do. As noted above (see “structural stigma”), Ding and associates (2005) found these attitudes to exist among doctors working in the United States.

Second, some research suggests that even in cases where members of the public attribute negative social situations and characteristics to precipitating substance use, they still blame users for not stopping (Lloyd, 2013; Ormston, Bradshaw, & Anderson, 2013). While some people may agree that often there are myriad negative influences pushing users toward a life of drug use, they believe that individual choice trumps all other factors. Drug users are seen as lacking self-control (Lloyd, 2013) and thus deserving of blame.

In support of this argument, Ormston and colleagues (2010) found 29 percent of respondents agreed with the statement, “most heroin users came from difficult backgrounds” (p. 24). Yet, 45% of those same respondents also agreed with the statement, “most people who end up addicted to heroin only have themselves to blame.” Similarly, using a vignette design ($n = 815$) describing persons with mental health problems and substance use disorders, Corrigan and colleagues (2009) assessed the relationship between blame and dangerousness. To assess blame, researchers asked respondents to report their level of agreement that the hypothetical person was responsible for his/her condition and able to overcome problems related to it. Dangerousness was measured by asking respondents to report their level of agreement, on a 9-point Likert Scale, that the stigmatized person was dangerous, frightening, and “someone to avoid” (p.142). Participants perceived people addicted to drugs as being more responsible for their condition and more able to overcome their disorder than other stigmatized groups including those battling mental illness, and those with physical disabilities. The authors also found a positive correlation to exist between perceived dangerousness and blame, indicating that the two concepts are related.

Further, in their systematic review of 17 studies that assessed Social stigma regarding alcohol use, Schomerus and colleagues (2011) found that the general public typically holds alcohol dependent persons more responsible for their condition than individuals with all other types of mental and physical disorders. In that study, the authors found that blame toward alcohol dependent persons was so intense that those sampled approved of structural discrimination, such as withholding social services or funds for treatment. Conversely, in their meta-analysis of biogenetic explanations for mental health disorders, Kvaale et al. (2013) found that those who supported medical explanations for mental disorders were less likely to blame individuals for their drug addiction. This finding provides support for the contention that knowledge about the physically addictive nature of substances, and acceptance of neurobiological explanations of addiction and mental health disorders may help reduce some forms stigma (Pescolidio & Martin, 2015).

In sum, this research shows that the general public tends to blame drug using persons for contributing to their own condition. However, there are some clear gaps in the literature. For instance, unlike the dimensions of dangerousness and social distance, there has not been as much application blame to drug use in general, and hard drug use in particular. Moreover, to the author's knowledge, there does not appear to be any valid or reliable psychometric scales that have assessed blame toward substance users in the documented literature. Moreover, the available research on the impact of support for biogenetic explanations of drug addiction and subsequent blame is mixed. Clearly, more research is needed in this domain. In the next section the third dimension of Social stigma, social distance is discussed.

Social Distance

A third, and perhaps the most popular concept that has emerged in scholarly articles assessing social stigma is social distance. Social distance refers to a desire to detach oneself from persons who have a stigmatizing mark or condition (Kvaale, Gottdiener & Haslam, 2013; Link et al., 1987; Pescolidio & Martin, 2015). Essentially, social distance refers to wanting to place tangible distance between a person and those who are stigmatized persons. Most empirical studies that have tested this concept have utilized vignettes in which participants respond to scenarios in which they encounter hypothetical persons who meet the criteria for certain forms of mental illness. After reading scenarios, respondents are presented with a series of questions to assess their willingness to accept the stigmatized person in various social situations, including as a friend, neighbor, coworker, in-law, and spouse (Boyd, Katz, Link & Phelan, 2008; Coleman, Walker, Lee, Friesen & Squire, 2009; Link et al., 1999, Pescosolido et al., 2010). The concept of social distance suggests that the closer one is willing to have social interactions with hypothetical marginalized persons, the less stigma he/she is likely to attach to that person or condition.

Social distance first emerged in the scholarly literature with Bogardus's (1959) work that showed how majority groups were reluctant to engage with ethnic and racial groups. However, the first true empirical test of social distance in the realm of social stigma did not occur until the work of Loman and Larkin in 1976. In that experiment, the researchers presented two versions of a videotape of an attractive coed to a sample of 204 undergraduates enrolled in sociology. In one of the versions, the young woman showed some evidence of being paranoid, and in the other version, she did not. After watching the video all students were presented with a 5-item social distance scale. They found higher scores on their social distance scale among the group of students who were presented with the videotape in which the young woman exhibited signs of

paranoia than among those who were presented with the videotape in which she did not. Their initial study demonstrated that people generally exhibit a desire for social detachment from people with mental illnesses. Results from subsequent work using videotapes and written vignette scenarios have supported these findings (Corrigan & Watson, 2007; Farina, Murray, and Groh, 1978; Lehmann, Joy, Kreisman, and Simmens, 1976; Link & Cullen, 1983; Link, Cullen, Frank, & Wozniak, 1987; Martin, Pescosolido, Olafsdottir, & McLeod, 2007; Mukolo & Heflinger, 2011; Walker, Coleman, Lee, Squire, & Friesen, 2008).

In 1987, Link and colleagues were the first to suggest the importance of social stigma as a multidimensional concept with various components (i.e., Dangerousness, Blame, Social Distance, and Fatalism) interacting with each other. In that research, Link et al., (1987) presented a vignette scenario describing a fictitious person, “Jim Johnson,” who had been hospitalized for mental illness, to a sample of 152 Ohio residents living around the Cincinnati area (p. 1478). After reading the scenario, respondents were presented with a perceived dangerousness scale (see above) and a social distance scale ($\alpha = .92$, p. 1480). The social distance scale consisted of 8 items including “How would you feel about renting a room to someone like Jim Johnson?,” “How about as a worker on the same job as someone like Jim Johnson?” “How would you feel having someone like Jim Johnson as a neighbor?” “How about as the caretaker of your children for a couple hours?” “How about having your children marry someone like Jim Johnson?” “How would you feel about introducing Jim Johnson to a young woman you are friendly with?” and “How would you feel about recommending someone like Jim Johnson for a job working for a friend of yours?” (p. 1494). While their initial simple assessment of social distance by itself produced little effect, when they added the dimension of dangerousness to their model they found that “strong labeling effects emerged” (p. 1490). Specifically, the impact of hospitalization

for mental illness resulted in a desire for increased social distance but only among those who perceived Jim Johnson as dangerous. Those who scored lower on dimensions of perceived dangerousness also scored lower on social distance.

Other work has confirmed these findings in relation to substance use stigma (Adlaf et al., 2009; Albrecht, Walker, & Levy, 1982; Janulis et al., 2013; Link et al., 1999; Ornston, 2010; Pescosolido et al., 2010; Martin, Pescosolido, & Tuch, 2000; Siltan et al., 2011). Link et al. (1999) modified a vignette experiment from the 1996 General Social Survey to depict four different persons with various mental health conditions and cocaine and alcohol dependence. They found symptoms of mental illness to be associated with perceptions of fear and a desire for social distance. Particularly, participants in that study rated those depicted as cocaine dependent as the most violent, followed by those depicted as having alcohol dependency. Similarly, compared to other forms of mental illness, respondents desired to have the most social distance between themselves and those who were cocaine and alcohol dependent.

In a general survey design, Adlaf and colleagues (2009) assessed desire for social distance from drug users held by Canadian students through four questions; “Would you be afraid to talk to someone who is addicted to drugs?” “Would you be upset or disturbed to be in the same class as someone with drugs?”, “Would you make friends with someone who is addicted to drugs?”, “Would you feel embarrassed or ashamed if your friends knew that someone in your family was addicted to drugs?” ($\alpha = .76$, p. 361). Overall, the sample reported moderately strong levels of desired social distance from drug users. There were noted differences for age and exposure. Specifically, their results showed that older students and those who had friends who used drugs reported less desire for social distance. These findings suggest that exposure and age may influence dimensions of Social stigma.

Pescosolido et al. (2010) analyzed responses to vignette scenarios depicting persons suffering from schizophrenia, major depression, and alcohol dependence in the *General Social Surveys* from 1996 to 2006. They too found mental illness to be highly stigmatized as depicted by perceptions of dangerousness and a desire for social distance. Siltan and associates (2011) found support for this finding in a parallel analysis of data from the General Social Survey. The Pescosolido et al. (2010) results showed that acceptance of neurobiological causes of mental disorders resulted in increased support for treatment. However, acceptance of neurobiological explanations as causes of mental illness and support for treatment was unrelated to stigma.

These findings have been reported in systematic reviews (Kvaale, Gottdiener, Haslam, 2013; Schomerus, Lucht, Holzinger, Matschinger, Carta, & Angermeyer, 2011). For instance, in their systematic review of papers comparing mental health to stigma toward alcohol dependent persons, Schomerus and colleagues (2011) found that across nations, the general public desired to distance itself more from alcohol dependent persons than from individuals with any other condition. Further, in their meta-analysis of 25 studies that examined social stigma and mental health disorders, Kvaale and colleagues (2013) also found that those who supported medical explanations for mental health disorders were less likely to blame individuals for their condition ($Mr = -.19$), but more likely to report distancing themselves socially from such stigmatized persons ($Mr = .05$) because they view them as dangerous ($Mr = .09$, p. 95). Although these effect sizes were in the weak to moderate range (Cohen, 1988), they support prior research indicating that support for biogenetic explanations for mental health disorders has no impact of stigma reduction.

While there has been less application of the concept of social distance to users of harder drugs, such as heroin and prescription pills, the available research demonstrated that the public

has a strong desire to place social distance between itself and drug users (Brown, 2010; Barry et al., 2014; Chan et al., 2007). In Chan et al.'s (2007) experiment described above (see social blame), researchers found that IDU had the greatest impact on social distance. Medical students desired to have the greatest social distance from those who were IDU who were AIDS patients than for all other types of patients.

In the context of the United States, Brown (2011) modified Link et al.'s (1987) Social Distance scale to make it suitable to test public perceptions of drug users (SDS-SU). To do this, they replaced the terms "severe mental illness (i.e., schizophrenia, major depression, and/or bipolar disorder)" and "severe mental illness" with "substance use problem (i.e., smokes marijuana, heavy alcohol use)" and "substance use problem" (p. 138). Their final scale had good internal consistency ($\alpha = .85$). In the aggregate, respondents reported moderately high levels of desire for social distance from substance using persons (mean = 21.98, out of possible 28) (p. 139). They found that those who had prior contact with substance using persons reported lower scores for the Social Distance Scale for Substance Users (SDS-SU) than those who had not had prior contact, and that females scored higher on the SDS-SU than did males.

More recently, Barry and colleagues (2014) administered a web-based survey to a nationally representative sample of 709 Americans. Their survey included two measures of social distance, "Would you be willing to have a person with drug addiction start working closely with you on a job?" and "Would you be willing to have a person with a drug addiction marry into your family?" (p. 1270). The same questions were also asked about persons with mental problems. Responses were measured with a 7- point Likert scale with higher numbers reflecting more willingness. They found that only 22 percent of Americans are willing to work closely on a job with someone addicted to drugs, and only 10 percent were willing to have them

marry into their family (p. 1272). Overall, levels of social stigma were higher for persons with drug addictions than for those with mental illness. Interestingly, in that study the authors found political party affiliation was associated with approval of structural stigma and discrimination. On average, respondents who identified as Democrats were more supportive of equivalent social service benefits and more supportive of paying for treatment for drug users.

A second block of questions in that study was designed to assess public approval of structural discrimination toward stigmatized groups. These questions included, “Do you favor or oppose requiring insurance companies to offer benefits for the treatment of drug addiction/mental illness that are equivalent to benefits for other medical services?” “Do you favor or oppose increasing government spending on the treatment of drug addiction/mental illnesses?” “Do you favor or oppose increasing government spending on programs to subsidize housing costs for people with drug addiction/mental illness?” and “Do you favor or oppose increasing government spending on programs that help people with drug addiction/mental illness find jobs and provide on-the-job support as needed?” (p. 1270). Results revealed that people were much more likely to support structural discrimination against those with drug addiction than those with mental health illnesses. In fact, more than half of the sample felt that employers should be allowed to deny employment solely based on a person’s drug addiction, and that landlords should be permitted to deny housing based on a person’s drug addiction. Comparatively, less than 25 percent of the sample felt the same way about mental illnesses (p. 1270).

This research suggests that the public prefers to socially distance itself from drug users. In fact, the available research indicated that the average person wants more detachment from drug-addicted persons than from persons suffering from other forms of mental illnesses. It

appears that this preference for detachment is due, in part, to perceptions of persons with SUDs being dangerous, a finding that remains even among those who support biomedical explanations for the onset of mental illness and drug addiction. The evidence presented also suggests that Americans support policies of structural discrimination against those suffering from SUDs. However, more research is needed in this area. In the next section, the fourth dimension of Social stigma, fatalism, is discussed.

Fatalism

The last of the four main themes, and arguably the least researched theme, that emerges in the published literature on social stigma is the concept of fatalism. Common in the desistance literature (see Brezina, 2000; Halsey, Armstrong, & Wright, 2016; McNeill, 2006), fatalism includes the elements of helplessness and of control. It is the feeling or perception that some people are destined to suffer a certain fate regardless of any assistance that they receive. Regarding drug use, it is the belief that substance use is an intractable condition. While the self-stigma literature on mental health disorders has discussed fatalism (see Easter, 2012; Olmstead, Guy, O'Malley, & Bentler, 1991; Sarang, Rhodes, Sheon, & Page, 2010), less attention has been devoted to assessing the general public's perceptions of fatalism regarding substance users.

Available evidence documenting fatalistic attitudes toward drug users (see Ding et al., 2005, and Barry et al., 2014) is largely based on one or two measures. In fact, to the best of the author's knowledge, there has been no attempt in the published literature to construct a valid psychometric measure of fatalism. For instance, while Ding and colleagues' (2005) work shows how healthcare workers in the United States report fatalistic views toward IDU persons, their finding was based on responses to one statement, "Treating IV drug users seems futile" (p. 619). In that work, about 9 percent of doctors admitted to agreeing with that statement. The authors

suggest that the reason for such sentiments is that physicians who hold such attitudes believe IDU persons are doomed to suffer some negative fate regardless of any help that they receive. More recent work by Barry and associates (2014) has applied the concept of fatalism to members of the public. Barry et al. (2014) measured the concept of fatalism merely by asking respondents to indicate their level of agreement with the statement that full recovery from drug addiction was impossible and that current treatment options were ineffective at treating persons addicted to drugs. They found that 30 percent of Americans felt that full recovery from drug addiction or mental illness was impossible, and 59 percent thought current treatment options were ineffective (p.1271).

In their study, Haug et al. (2016) found police officers and other first responders reported similar feelings toward the use of Narcan and opioid users. Through a content analysis of postings on Twitter by first responders and healthcare workers ($N = 368$)—including law enforcement officers, paramedics, doctors, and nurses—Haug and colleagues (2016) found that the number one emerging theme reported related to the use of Narcan was burnout. That is, many practitioners reported cynical attitudes toward the use of Narcan. They concluded that while some first responders and healthcare workers felt that the widespread use of Narcan encouraged drug use and that administering it was a waste of their time, Haug et al. (2016) found that many first responders and health providers expressed optimism toward the use of Narcan, and viewed medical health treatment as a viable treatment option. Interestingly, Haug et al. (2016) found police officers to report lower levels of stigma than nurses, EMTs, physicians, and other health care providers. In fact, just 6% of all law enforcement officers made a stigmatizing posting compared to 39% of EMTs, 31% of physicians, and 29% of other healthcare workers (p.38). This finding supports prior research by Belenko et al. (2018) which found community correctional

officers to view MAT modalities as effective forms of treatment. However, this finding counters results reported by Mitchell et al. (2016) that indicated that while community correctional officers, in general, perceived MAT as an evidence-based strategy for combating drug use, they viewed it as a treatment of *last resort*. They reported struggling with referring offenders to MAT facilities due to a fear of the addictive nature of some medications.

While no other known research has assessed law enforcement perceptions toward drug users, Medication-Assisted Treatment, and Narcan, this evidence suggests that police officers' and community corrections officers' levels of stigma may be much lower than other professionals. In fact, it appears that they do not express the level of fatalistic sentiments toward such populations or treatment modalities as other practitioners. The limited research makes it difficult to assess how officers and prospective professionals perceive the situation currently. It is clear that more research is needed in this area.

Summary of Prior Research on Social Stigma

Table 2 summarizes findings from research on social stigma and drug use. In sum, the research suggests that substance users are perceived as being more dangerous than those with mental illnesses (Adlaf et al., 2009; Corrigan et al., 1999; Link et al., 1999), and samples of the general public report taking efforts to socially distance themselves from those who are known substance users (Albrecht et al., 1982; Barry et al., 2014). This appears to be largely because those with drug problems are considered to be more responsible for their condition than those with other types of medical conditions. The public perceives some element of control in drug use, and thus those with Substance Use Disorders (SUDs) appear to lack moral character (Blendon & Young, 1998; Baumohl, Speiglmann, Swartz, & Stahl, 2003; Kelly & Westerhoff, 2010) and control (Adlaf et al., 2009). The general public tends to blame those with SUDs for

Table 2

Data and Major Findings of Previous Studies on the Predictors of Social Stigma Toward Drug Use

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Barry, McGinty, Pescosolido, & Goldman (2014) Year of data collection: 2013	How do American's view mental illness and drug addiction?	Survey IV's: Gender, race, political affiliation, and age DV's: Social Distance and fatalism, attitudes toward policies Stigma attribute (s): Drug addiction	N = 709 adults Web-based national survey Respondent characteristics: Most respondents were female (51%). 34% of the sample were non-whites and the mean age was 47.	Respondents held more negative attitudes and a higher desire for social distance from persons with drug addiction than those with mental illness ($p < .05$) Compared to republicans, Democrats showed more favor of policies designed to help drug addicted persons ($p < .05$) 30% of the sample felt that full recovery from drug addiction or mental illness was impossible.
Belenko, Johnson, Taxman, & Riechman (2016)	How do probation offices view substance treatment and evidence-based practices?	Survey IV's: Position, caseload size, demographics DV's: Attitudes toward treatment and evidence-based strategies (i.e., openness, punishment beliefs, rehabilitative beliefs) Stigma attribute (s): Drug addiction	N = 105 probation officers Respondent characteristics: Most respondents were male (55%), white (60%), and 75% had a Bachelor's degree. The mean age was 36.1 years old. 86% were line probation officers and the remaining 14% were supervisors	Overall, probationers seemed open to using innovative practices, such as drug treatment, and may expressed views that favored treatment modalities and saw them as effective. Female officers expressed more openness to using innovative strategies than did males ($p < .05$) More years of working in probation was found to be a negative predictor of openness to treatment modalities ($p < .05$) Officers who supervised specialized caseloads were more sup portative to treatment modalities than other officers ($p < .05$)

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Haug, Bielenberg, Linder, & Lembke (2016)	What are healthcare providers attitudes toward Naloxone?	Content Analysis of Twitter postings IVs: Job title (e.g., EMT, Physician, Police officer, etc) DVs: Attitudes toward naloxone Stigma attribute (s): Drug addiction	N = 368 individuals, 467 Tweets Respondent characteristics: In total, there were 122 paramedics, 70 law enforcement officers, 62 nurses, 48 physicians, 31 social workers, 12 naloxone trained individuals, and 23 students in the sample.	First responders made postings reflecting fatalistic ideas about the use of Naloxone. However, the researchers found police officers to report lower levels of stigma than nurses, EMTs and doctors. In fact, while 39% of EMTs, 31% of physicians, and 29% of other healthcare workers made negative posts about Naloxone, only 6% of officers made a negative posting.
Year of data collection: 2014				
Henderson, Stacey, & Dohan (2008)	How do healthcare patients interact with substance using patients?	Ethnographic research Stigma attribute (s): Drug use	N = 75 (318 observations) healthcare workers County Hospital in California	5 themes emerged from the observations: (1) Providers seemed to value assisting these populations, (2) providers interactions with substance using patients was, at times, problematic, (3) Providers were unsure of the accuracy of information given by substance using patients, (4) many providers were concerned about drug-seeking behaviors, (5) providers had to balance the needs of patients with limited resources
Year of data collection: 2003-2005				

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Janulis, Ferrari, & Fowler (2013)	How do undergraduates view those with SUD? What role does familiarity, social desirability, fears, perceived dangerousness, and social distance have in public stigma?	Survey Variables (Path analysis): Familiarity, social desirability, fear, social distance, perceived dangerousness Stigma attribute (s): Drug use	N = 203 adults Undergraduates at a Midwestern university in the U.S. Respondent Characteristics: Most respondents were freshman (47%), female (78%), and had a mean age of 20.2 years.	Path models suggested that familiarity indirectly predicted ones desire for social distance through perceived dangerousness for users of marijuana and heroin Familiarity was not a predictors of social distance for abusers of alcohol
Kvaale, Gottdiener, & Haslam (2013)	How do biogenetic explanations for mental disorders influence perceptions of blame, dangerousness, and social distance?	Meta-analysis IV's: Support for Biogenetic Explanations for Mental Illness DV's: Blame, dangerousness, and social distance Stigma attribute (s): Drug use	N = 25 studies Characteristics: There were 6 studies on blame, 14 on dangerousness, and 20 on social distance, included in the final analysis.	People who hold biogenetic explanations for mental health problems blame persons less ($Mr = 0.19$), but see them as being more dangerous ($Mr = 0.09$), and desire greater social distance ($Mr = 0.05$).

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Mcreaddie et al (2010)	How do nurses perceive drug users?	Focus groups Stigma attribute (s): Drug use	N = 22 nurses Respondent Characteristics: No other respondent characteristics were provided	Nurses reported perceptions of reduced therapeutic effectiveness for treatment of drug users. Nurses reported negative attitudes about substance users and tended to see them as contributing to their own problems. Substance users reported being stigmatized by nurses.
Mitchell, Willet, Monico, James, Rudes, Viglioni, Schwartz, Gordon, & Friedman (2016)	How do community correctional officers view Medication-Assisted Treatment?	Semi-structured interviews Variables of interest: Attitudes toward MAT Stigma attribute (s): Drug addiction	N = 118 officers 9 different states	Agents had limited authority in making referrals for MAT. Many viewed MAT as a “treatment of last resort” and even among those who did express favor toward its use, they did not tend to support long-term use of MAT. These decisions seemed to be based on the officers understanding of addiction and prior experiences working with clients receiving MAT.

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Ormston, Bradshaw, & Anderson (2010)	How do persons in the Scotland view drugs and drug offenders?	Survey Variables of interest: Perceptions of drug users, blame, and social distance Stigma attribute (s): Drug use	N = 1,483 adults Random sample of Scottish homes No other specifications of the sample were provide other than that it represented the characteristics of the Scottish population at that time	45% of respondents believed that most people who ended up addicted to heroin only have themselves to blame. More than half of participants (53%) disagreed that users of heroin come from difficult backgrounds About half of respondents (47%) agreed that they would be “very” or fairly comfortable working with someone who had used heroin, however most (49%) agreed that they would not be comfortable living near them.
Year of data collection: 2001 and 2009				
Palamar, Kiang, & Halkitis (2009)	How does the public stigmatize different types of drugs?	Survey IVs: gender, race, educational obtainment, religiosity, and lifetime illicit drug use DV: Exposure to drug users, perceived public stigma, and general stigma scale Stigma attribute (s): Drug use	N = 1,048 adults New York City Respondent Characteristics: Most respondents were male (53%), white (44%), and had some college education (46%). It terms of use, 65% had admitted to using marijuana, and a little less than 1/5 th of the sample had reported using powder cocaine, ecstasy, opioids, or amphetamines.	Across all drug types, education and religiosity were significant predictors of stigmatization ($p < .05$). More education persons held less stigma toward drug users compared to less educated persons and more religious persons held higher levels of stigma than non-religious persons

Author(s)	Research Question	Variables/Measurement	Sample	Main Findings
Peckover & Childaw (2007) Year of data collection: 2003	How do nurses in the UK perceive the treatment of drug using persons?	Interviews Variables of interest: Perceptions of discrimination and inequality in treatment of drug users Stigma attribute (s): Drug use	N = 18 nurses 1 hospital in the UK	Nurses perceptions of accounts of clients who used drugs were interwoven with stigma and prejudice Many nurses felt that drug users and alcoholics were discriminated against with general practitioners being unhappy to take them on their caseloads

contributing to their own problems (Schomerus, Lucht, Holzinger, Matschinger, Carta, & Angermeyer, 2011); and consequently, the members of the public are less sympathetic to their plight. They view treatment options as ineffective, and many feel that those addicted to substances can never get clean (Barry et al., 2014). Thus, the public tends to stigmatize drug users.

When assessing the empirical evidence on social stigma, there appears to be some important mixed findings and gaps that can be addressed. Table 3 summarizes significant findings on predictors in prior research. First, in regard to conflicting results, when testing elements of public stigma, through elements designed to measure dangerousness, blame, social distance, or fatalism, researchers have found levels of stigma to vary across population characteristics. Brown's (2011) work found gendered differences for desired levels of social distance from substance users. Specifically, his results suggest that women have reported being less accepting of working with drug users, having them as neighbors, and having them marry into their families. This supports results reported by Fortney et al. (2004) that found that women were less likely to support neurobiological explanations for alcoholism, and more likely to agree that problem drinking was a result of stress and not medical reasons.

Together, these data suggest that women may exhibit higher levels of stigma against substance users than men. Thus, there may be gendered differences in beliefs about actions that should be made to stigmatized persons. This finding appears to contradict findings from stigma on other mental health conditions that has found that when compared to men, women, in general, hold less stigmatizing attitudes toward people with mental illnesses (Bathje & Pryor, 2011; Jorm & Griffiths, 2008; Schnittker, 2000b; Hinkelman & Granello, 2003; Penn & Link, 2002). There

Table 3

Summary Table of Significant Predictors of Social Stigma

Author(s)	Familiarity/ Bio-support	Political Affiliation	Religiosity/ Religion	Gender	Race	Age	Education	Income	Location
Adlaf et al.(2009)	o	N/A	N/A	x	N/A	x	N/A	N/A	N/A
Albrecht et al. (1982)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anglin et al. (2008)	N/A	o	o	x	o	o	x	x	N/A
Anglin et al. (2006)	N/A	N/A	N/A	o	o	o	x	x	N/A
Barry et al. (2014)	N/A	o	x	x	x	x	N/A	N/A	N/A
Belenko et al. (2016)	o	N/A	N/A	o	x	x	x	N/A	N/A
Blumner & Marcus (2009)	N/A	N/A	O	o	o	x	o	N/A	N/A
Boyd et al. (2008)	x/o	N/A	N/A	x	x	x	x	x	N/A
Brown (2011)	o	N/A	N/A	x/o	x	x	N/A	N/A	N/A
Capitanio & Herek (1999)	x/o	N/A	N/A	x	x	o	o	x	N/A
Chan et al. (2008)	N/A	N/A	N/A	x	N/A	x	N/A	N/A	N/A
Coleman et al. (2009)	N/A	N/A	N/A	o	x	x	N/A	N/A	N/A
Corrigan & Watson (2007)	N/A	N/A	N/A	o	o	N/A	o	N/A	N/A
Corrigan (2005)	o	N/A	N/A	x	X	X	N/A	N/A	N/A
Corrigan et al. (2009)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Corrigan et al. (2000)	N/A	N/A	N/A	x	x	x	N/A	N/A	N/A
Crisp et al. (2000)	N/A	N/A	N/A	x	x	x	N/A	N/A	N/A
Croghan et al. (2003)	N/A	N/A	N/A	x	x	N/A	x	N/A	N/A
Cunningham et al. (1993)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Decety et al. l (2009)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diala et al. (2001)	N/A	N/A	N/A	x	o	x	x	x	N/A
Dila et al. (2000)	N/A	N/A	N/A	x	o	x	x	N/A	N/A
Ding et al. (2005)	x	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Farina et al. (1978)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Haug et al. (2016)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Henderson et al. (2008)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Janulis et al. (2013)	x/o	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kelly & Westerhoff (2010)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kuppin & Carpiano (2006)	N/A	N/A	N/A	N/A	x	x	x	N/A	N/A
Kvaale et al. (2013)	o	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Leaf et al. (1987)	N/A	N/A	N/A	o	o	o	x	x	N/A

* x = The variable was included and found statistically significant; x/o = The variable was significant in one model/group, but not others; o= The variable was included, but was not found statistically significant; N/A= A measure of the variable was not included in the study.

Author(s)	Familiarity/ Bio- support	Political Affiliation	Religiosity/ Religion	Gender	Race	Age	Education	Income	Location
Lehmann et al. (1976)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Link & Cullen (1983)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Link et al. (1987)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Link et al. (1999)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loman & Larkin (1976)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Martin et al. (2000)	O	N/A	N/A	N/A	N/A	N/A	N/A	o	o
Martin et al. (2007)	N/A	N/A	N/A	o	x	x	x	x	x
McLeod et al. (2007)	N/A	N/A	N/A	o	o	x	x	o	N/A
McLeod et al. (2004)	N/A	N/A	N/A	o	x	o	N/A	o	x
Mcreaddie et al (2010)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mitchell et al. (2016)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mojtabai (2009)	N/A	N/A	N/A	o	o	o	x	o	N/A
Mojtabai (2007)	N/A	N/A	N/A	o	o	x	o	N/A	N/A
Mukolo & Heflinger (2011)	N/A	N/A	N/A	o	x	o	o	N/A	X
Ormston et al. (2010)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Palamar et al. (2009)	x	N/A	o	x	X	N/A	O	N/A	N/A
Peckover & Childaw (2007)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Perry et al. (2007a)	N/A	N/A	N/A	x	x	x	x	N/A	N/A
Pescosolido et al. 2007)	N/A	N/A	N/A	x	x	x	x	o	N/A
Pescosolido et al. (2008)	N/A	N/A	N/A	o	x	x	o	N/A	N/A
Pescosolido et al. (2010)	o/x	N/A	N/A	x	N/A	x	x	N/A	N/A
Pescosolido et al. (1999)	N/A	N/A	o	x	x	o	o	N/A	N/A
Pescosolido et al. (2007)	N/A	N/A	x	o	x	o	x	N/A	N/A
Phelan & Link (1998)	N/A	N/A	o	x	x	N/A	o	N/A	N/A
Phelan et al. (2000)	N/A	N/A	N/A	x	o	N/A	x	x	x
Phelan et al. (2006)	o	N/A	N/A	x	x	N/A	x	N/A	N/A
Rao et al.(2009)	x	N/A	N/A	x	N/A	x	N/A	N/A	N/A
Ross & Goldener (2009)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* x = The variable was included and found statistically significant; x/o = The variable was significant in one model/group, but not others; o= The variable was included, but was not found statistically significant; N/A= A measure of the variable was not included in the study.

Author(s)	Familiarity/ Bio- support	Political Affiliation	Religiosity/ Religion	Gender	Race	Age	Education	Income	Location
Schnittker et al. (2000b)	N/A	N/A	N/A	x	o	x	o	N/A	x
Schomerus et al. (2009)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silton et al. (2011)	N/A	N/A	x	x	O	O	O	N/A	N/A
Walker et al. (2008)	N/A	N/A	N/A	x	O	X	N/A	N/A	x
Weiner et al. (1988)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Whaley (1997)	O	X	N/A	x	o	x	x	x	N/A
Wirth & Bodenhausen (2009)	N/A	N/A	N/A	x	x	x	N/A	N/A	N/A

* x = The variable was included and found statistically significant; x/o = The variable was significant in one model/group, but not others; o= The variable was included, but was not found statistically significant; N/A= A measure of the variable was not included in the study.

appears to be evidence of gendered differences in levels of public stigma, but the limited research makes it difficult to support such a finding.

Interestingly, another factor that may influence public stigma is one's political party affiliation. Although Barry et al. (2014) did not show that political party affiliation was associated with public stigma, their data indicated that one's political party is a strong predictor of support for treatment and equivalent benefits for drug users. In that study, Democrats stigmatized drug users less than Republicans. To the best of the author's knowledge, no other research has empirically assessed differences in stigma levels across political party affiliation. Thus, more research is needed in this area.

Other significant predictors of public stigma could be age, exposure, education, professional experience, and knowledge of treatment. Adlaf and colleagues' (2009) work suggested that youth who were older and those who had friends who used illicit substances reported having less stigma toward drug users. Similarly, Janulis and associates modified the Corrigan et al., (2003) 7-item *familiarity scale* to assess the impact of knowledge and experience (e.g., familiarity) had on predicting stigmas. Results from their path analysis for stigma toward heroin users showed that familiarity had a statistically significant indirect effect on desire for social distance, dangerousness, and then fear. Moreover, the work of Ding et al. (2005) found attitudes toward drug users improved after educational interventions. These findings may suggest that stigma is higher among populations that are more unaware of or lack knowledge about drug use. Limited knowledge about drug addiction, and drug users, as well as exposure to persons who use illicit substances could be factors that influence stigma toward such populations. However, much more research is need in this area also.

Gaps in Prior Research

In terms of gaps, to date there have been no tests comparing differences in social stigma levels based on residential location. Rost et al. (1993) suggested that persons living in rural communities perceived the general public to stigmatize the mentally ill more than persons living in urban areas. Previously, there was no application of this finding to the realm of public stigma, despite the finding by Martin et al. (2000) of a negative correlation between population size and social stigma. More importantly, as noted above, there has been little application of the concept of public stigma to drugs, drug users, and drug treatments. Further, most studies which have applied the concepts of public stigma to drug use have done so using vignette designs and data from the general social survey (Link et al., 1999; Pescosolido et al., 2010; Siltan et al., 2011). While vignette designs may be better suited to capture respondents' behaviors and characteristics (Brown, 2011; Link et al., 2004), non-vignette designs are better suited to capture respondents *real-world* attitudes toward specified groups (Brown, 2011). Brown (2011) and Pescosolido and Martin (2015) argue that there is a need for a reliable and valid construct capable of capturing all elements of public stigma. They note that there has been no consistency in constructs or measures in prior research. And, to date, no research has even attempted to test all four components of public stigma simultaneously.

Another problem is that there have been few primary solo assessments of public stigma toward drug users and almost no one has examined it for hard drugs (Barry et al., 2014; Brown, 2011). Also, there are just a handful of assessments of criminal justice practitioners' views on harm reduction techniques, such as naloxone (Banta-Green, Beletsky, Schoeppe, Coffin, & Kuszler, 2013; Haug, N., Bielenberg, J., Linder, S., & Lembke, A. 2016; Ray, O'Donnell, & Karhe, 2015). Moreover, the few studies which have assessed practitioner stigma toward drug

users have mostly been qualitative (Peckover & Chidlaw, 2007; McCreaddie et al., 2010; Merrill, Rhodes, Deyo, Marlatt, & Bradley, 2002; Henderson, Stacey, & Dohan., 2008; Neale, Tompkins, & Sheard, 2008; Weiss, McCoy, Kluger, & Finkelstein, 2004, and none has assessed levels of stigma toward heroin and opioid users among criminal justice practitioners. Perhaps most importantly though is that no prior research has assessed the impact of stigma on beliefs about actions. That is, prior research failed to answer the *so what?* question of stigma. While researchers have been quite good at measuring certain elements of stigma, showing that it exists, and assessing predictors of it, with the exception of Ding et al.'s (2005) work, there have been very few attempts to show how stigma influences actions or thoughts about actions in persons who hold stigmatizing views. The current study was designed to fill this gap in the literature by looking at the impact of social stigma on beliefs about help that should be provided to persons who suffer from an opioid or heroin overdose.

CHAPTER III

METHODOLOGY

This study examines attitudes toward opioid/heroin users. Additionally, this study explores social stigma and how it can impact beliefs and decision-making. In part, the significance of the study stems from the unique samples employed and the measurement instruments created. To date, no empirical tests assessing social stigma toward heroin and opioid users using a sample of law enforcement personnel have been published. Thus, it is not known how this population views these offenders. Further, no prior published research has examined all four domains of social stigma—dangerousness, blame, social distance, and fatalism—at the same time. Perhaps more importantly, though, very little research has examined the impact of social stigma on actions. That is, researchers have largely failed to answer the “*So What?*” question regarding stigma. While researchers have measured its prevalence, there has been very little effort to examine stigma’s impact. Moreover, no researcher has investigated how stigma might influence the actions of law enforcement personnel and students enrolled in courses associated with careers as first responders. This study seeks to fill these gaps in the literature.

The current study collected data from two different samples—undergraduate students and law enforcement officers. To compare law enforcement officers’ attitudes toward opioid and heroin users, and to see how these attitudes influence actions, data were collected from a sample of law enforcement officers working in departments located in the Northeastern United States. In addition, this researcher collected data from undergraduate students enrolled in Criminology, Nursing, and EMT/Paramedic training courses at one university in the Northeastern United States. This chapter includes: (1) a description of the research questions/goals, (2) a discussion of the sample strategies and individuals included, (3) the procedures for obtaining each sample, (4)

the research design, (5) the psychometric instruments used, (6) the analytic strategy to be utilized, and (7) a discussion of human subject protections.

Research Questions

This investigation has four research questions: (1) What are law enforcement officers' attitudes toward help provided to opioid users? (2) What are the predictors of law enforcement officers' attitudes toward help provided to opioid users? (3) What are students' attitudes toward help provided to opioid users? (4) What are the predictors of students' attitudes toward help provided to opioid users?

Most of the study variables were derived from the existing empirical literature (Barry et al., 2014; Brown, 2011; Corrigan et al., 2002 & 2009; Ding et al., 2005; Janilus et al., 2013; Link et al., 1987; Ornston et al., 2010; Palamar et al. 2009; Pescosolido et al., 1999; 1998). Because research on social stigma toward drug users is limited, studies in the mental health stigma literature (Adlaf et al., 2009; Easter, 2012; Link et al., 1987) helped guide the development of the measures included in the survey.

Sample Selection

The current project utilized two different samples. First, the researcher solicited and included a sample of law enforcement officers working in departments located in the Northeastern United States. Second, the researcher solicited a sample of undergraduate students enrolled in courses associated with careers related to first responders (i.e., nursing, criminology, EMT/Paramedic) from one university in Western Pennsylvania for participation. Each of the unique sampling frames, strategies, and final participants will be discussed in detail.

Sample 1: Law Enforcement Officers

The first sampling frame consists of law enforcement officers working in departments located in the Northeastern United States. The target sample size for the law enforcement sample was 200 officers. To better determine the sample size needed to achieve adequate statistical power, an a priori power analysis was conducted using G*Power ver. 3.1. As the current research uses hierarchical multivariate regression analysis, the “Linear multiple regression; Fixed model, R^2 deviation from zero” option was selected with power set to .80, and alpha at the conventional .05 level. The power analysis determined that with 20 predictors in the model, and a medium desired squared multiple correlation effect of .13, a minimum of 157 officers would be needed for the sample. With 30 predictors, the minimum number of officers needed to sample was 188. While a power analysis can be useful to determine the number of participants needed for statistical modeling, it is best to attempt to over-sample as many participants may not complete the survey in its entirety, rendering some data unusable. Thus, the target sample of law enforcement officers was set at 200.

To sample law enforcement officers, a mixture of cluster, stratified, and convenience sampling techniques was employed (Bachmann & Schutt, 2015). First, the original goal of this project was to sample police officers working in Central and Western Pennsylvania, as a larger sample of police officers seemed infeasible given the time restraints of this project. Thus, the initial sampling frame consisted of strata of counties and clusters of departments located in Western and Central Pennsylvania. The researcher obtained a list of all accredited police departments operating in each county in Central and Western Pennsylvania (see Table 4). For the purposes of this study, Central and Western Pennsylvania were operationalized using the geographical boundaries of the service area of three Pennsylvania State Trooper Barracks located

Table 4

Law Enforcement Sampling Frame of Potential Participants

Region	County	Department	Number of Officers
Troop G	Blair	Blair County SO	7
		Allegheny Township Police	8
		Altoona PD	75
		Bellwood Borough PD	6
		Duncansville PD	8
		Greenfield Township PD	9
		Hollidaysburg PD	8
		Logan Township PD	16
		Martinsburg PD	4
		Roaring Spring PD	3
		Tyrone Borough PD	8
		Williamsburg PD	3
	Bedford	Bedford County SO	3
		Bedford PD	6
		Everett Borough PD	5
		Saxton Borough PD	5
	Centre	Centre County SO	5
		Bellefonte PD	11
		Ferguson Township PD	16
		Patton Township PD	15
	Fulton	State College PD	8
		Fulton County SO	9
		McConnellsburgh PD	2
	Huntingdon	Huntingdon County SO	13
		Huntingdon PD	11
		Juniata Valley Regional PD	3
		Mount Union Borough PD	6
	Mifflin	Mifflin County SO	7
		Mifflin County Regional PD	14
	Juniata	Port Royal Borough PD	5
		Indiana County SO	5
		Blairsville Borough PD	9
		Cherry Tree PD	4
	Indiana	Clymer Borough PD	2
		Homer City Borough PD	3
		Indiana PD	19
		Saltsburg PD	4
	Cambria	Cambria County SO	7
		Adams Township PD	8
		Ashville Borough PD	4
		Cambria Township PD	7
Troop A		Carrolltown Borough PD	2
		Cresson Borough PD	4
		Croyle Township PD	3
		Dale Borough PD	2
		Ebensburg PD	14
		Ferndale Borough PD	1
		Gallitzin Borough PD	4
		Hastings PD	4
		Jackson Township PD	10

	Johnstown PD	50
	Loretto PD	5
	Nanty-Glo PD	6
	Northern Cambria PD	7
	Patton Borough PD	4
	Richland Township PD	10
	Saint Francis University PD	3
	Sankerton Borough PD	2
	Stonycreek Township PD	11
	Summerhill Township PD	6
	Vintondale Borough PD	4
	West Hills Regional PD	19
Somerset	Somerset County SO	8
	Berlin Borough PD	2
	Boswell PD	5
	Conemaugh Township PD	5
	Elk Lick Township PD	4
	Hooversville Borough PD	3
	Paint Township PD	10
	Rockwood PD	3
	Somerset Borough PD	18
	Summit Township PD	5
Westmoreland	Westmoreland County SO	20
	Allegheny Township PD	12
	Arnold PD	10
	Avonmore Borough PD	6
	Derry Borough PD	2
	Greensburg PD	27
	Irwin Borough PD	10
	Jeannette PD	16
	Latrobe PD	13
	Ligonier Township PD	6
	Lower Burrell PD	17
	Manor Borough PD	7
	Monessen PD	14
	Mount Pleasant PD	6
	Murrysville PD	19
	New Florence Borough PD	5
	New Kensington PD	26
	North Huntingdon Township PD	27
	Penn Township PD	5
	Scottdale PD	8
	Seward Borough PD	5
	South Greensburg PD	10
	Southwest Greensburg PD	5
	Trafford PD	9
	Upper Burrell Township PD	8
	Vandergrift PD	17
	Washington Township PD	10
	West Newton Borough PD	5
	Westmoreland County Park PD	31
Allegheny	Allegheny County SO	114
	Allegheny County PD	240
	Allegheny County Sheriff's Reserve	80
	Aspinwall Borough PD	6
	Avalon PD	9

Troop B	Baldwin Borough PD	30
	Bellevue Borough PD	12
	Bethel Park PD	38
	Blawnox PD	8
	Brackenridge PD	5
	Braddock PD	23
	Braddock Hills PD	21
	Brentwood PD	13
	Bridgeville PD	9
	Carnegie PD	13
	Castle Shannon PD	14
	Chatham University PD	11
	Cheswick PD	9
	Churchill Borough PD	9
	Community College of Allegheny County	1
	Coraopolis Borough PD	8
	Crafton Borough PD	9
	Crescent Township PD	10
	Dormont PD	13
	Dravosburg PD	15
	Duquesne PD	18
	Duquesne City School PD	5
	East McKeesport PD	10
	East Pittsburgh PD	8
	Edgewood Borough PD	19
	Edgeworth Borough PD	10
	Elizabeth Borough PD	8
	Elizabeth Township PD	16
	Etna, Borough of PD	9
	Fawn Township PD	5
	Forest Hills PD	9
	Forward Township PD	8
	Glassport PD	3
	Hampton Township PD	18
	Harmar Township PD	12
	Harrison Township PD	8
	Heidelberg PD	10
	Homestead PD	15
	Indiana Township PD	11
	Ingram Borough PD	6
	Jefferson Hills PD	16
	Leetsdale PD	9
	Lincoln Borough PD	10
	McCandless PD	29
	Stowe Township PD	26
	McKeesport PD	76
	Millvale Borough PD	10
	Monroeville PD	53
	Moon Township PD	28
	Mount Lebanon PD	42
	Mount Oliver PD	14
	Munhall PD	25
	North Braddock PD	21
	North Versailles PD	27
	Northern Regional PD	10
	Oakdale PD	12

	Oakmont (Borough of) PD	14
	O'Hara (Township of) PD	8
	Penn Hills PD	56
	Pine-Marshall-Bradfordwoods PD	15
	Pittsburgh PD	1100
	Pleasant Hills PD	8
	Plum Borough PD	26
	Port Vue Borough PD	14
	Quaker Valley School District PD	2
	Rankin PD	14
	Richland Township PD	10
	Ross Township PD	43
	Sott Township PD	21
	Sewickley PD	7
	Shaler Township PD	27
	Sharpsburg PD	12
	South Fayette Township PD	16
	South Park Township PD	17
	Springdale Borough PD	10
	Swissvale Borough PD	10
	Tarentum Borough PD	10
	Turtle Creek PD	7
	Upper St Clair Township PD	28
	Verona PD	13
	West Deer Township PD	16
	West Homestead PD	15
	West Mifflin Borough PD	10
	Whitaker PD	11
	Whitehall Borough PD	18
	Wilkins Township PD	12
	Wilkinsburg PD	46
Fayette	Fayette County SO	33
	Belle Vernon PD	6
	Brownsville Borough PD	5
	Connellsville PD	16
	Masontown Borough PD	7
	Perryopolis Borough PD	6
	Point Marion Borough PD	3
	Redstone Township PD	6
	Smithfield Borough PD	5
	Uniontown City PD	23
Greene	Greene County SO	5
Washington	Waynesburg Borough PD	8
	Washington County SO	10
	Beallsville Borough PD	1
	Bentleyville Borough PD	6
	Burgettstown PD	12
	California Borough PD	15
	California University of Pennsylvania PD	16
	Charleroi PD	4
	Chartiers Township PD	11
	Donora PD	6
	East Washington Borough PD	10
	McDonald PD	12
	Monongahela PD	14
	North Franklin Township PD	8

	North Strabane Township PD	21
	Peters Township PD	21
	Southwest Regional PD	3
	Washington PD	10
	West Brownsville PD	5
Total	223	4221

Note. PD = Police Department; SO = Sheriff's office

in the central and western part of the state (e.g., Troop G, Troop A, & Troop B). The counties included in these regions are: Allegheny, Bedford, Blair, Cambria, Centre, Fayette, Fulton, Greene, Huntingdon, Indiana, Juniata, Mifflin, Somerset, Washington, and Westmoreland. Departments located in these regions were randomly selected from the list below and all officers from the selected departments were eligible for inclusion in the final sample for the study. For this part of data collection, the researcher contacted a total of 90 departments, and 15 agreed to participate, resulting in a 17% response rate.

Due to anticipated problems in gaining access to police departments, a parallel convenience sampling technique also was employed to obtain departments that were willing to participate in the project. The principal investigator had several contacts in various law enforcement agencies that had indicated preliminary interest in the study and potential cooperation (via verbal agreement) prior to the start of the study. Three of these agencies were located in Central Pennsylvania and one is in Western Pennsylvania. Using these departments to build support, the researcher employed a parallel snowball sampling technique to attempt to gain access to other departments that had good rapport with these agencies, and thus increase sample size.

Through snowball sampling techniques, the researcher gained access to administrators in the *Pennsylvania Chiefs of Police Association* and the *Pennsylvania Statewide Forensic Taskforce*. Both of these organizations agreed to send the survey to their membership listserv. After the survey was administered to members of the *Pennsylvania Chiefs of Police Association*

and *Pennsylvania Statewide Forensic Taskforce*, the researcher was contacted by one other department located in the Rhode Island who expressed interest in participating in the project. A decision was made to include this department as well. In all, 244 officers opened the link to the survey. A total of 208 officers from more than 42 departments located in Pennsylvania, and 1 department in Rhode Island finished the survey. This represents an 85.2% response rate for this part of the sample. Information related to specific departmental participation was not obtained because of confidentiality procedures. Therefore, it is impossible to know exactly how many different departments are represented in this sample.

Sample 2: University Sampling Frame

The second sampling frame consisted of individuals from a four-year university in the Northeastern region of the United States. Students enrolled in undergraduate courses associated with careers related to becoming first responders (i.e., nursing, criminal justice, EMT/Paramedic), and all courses that were delivered through traditional podium style-instruction in these three areas were invited to participate. There are several justifications for using this student sample. First, police officers are different than the general public, and it is hypothesized that their perceptions toward support provided to heroin and opioid users may reflect that. Further, due to time constraints at the academy, or in follow-up professional development classes, police officers typically do not receive training in drug abuse or use, its causes, and treatment. Furthermore, any training that they do receive typically is limited. In addition, research suggests that short-term training, such as one-day police training workshops, usually does not work in that it does not have a long-standing effect on attitudes (Pathirana, & De Zoysa, 2015; Scantlebury, Fairhurst, Booth, McDaid, Moran, Parker, Hewitt, 2017; Van Montfort, Beck, & Twijnstra, 2013). By contrast, students have more time to be engaged in these

types of courses due to their four-year commitment at a university. Moreover, students enrolled in certain programs are likely to be future first-responders. Recognizing this distinction, they seemed like a good comparison group.

Again, to better determine the sample size of students needed to achieve adequate statistical power, an a priori power analysis was conducted using G*Power ver. 3.1. The “Linear multiple regression; Fixed model, R^2 deviation from zero” option was selected with power set to .80, and alpha at the conventional .05 level. For this sample, a smaller desired effect detection ($R^2 = .03$) was inputted. This was due to the greater availability of student respondents compared to law enforcement officers, i.e., the ability to survey more respondents, and the subsequent ability to detect a smaller effect size. The power analysis determined that with 20 predictors in the model, and a minimum desired effect of .03, that 707 students would need to be sampled.

To sample students for the study, a convenience sampling method was employed (Bachmann & Schutt, 2015). The researcher obtained a list of all undergraduate classes offered in the nursing, EMT/paramedic training, and criminology/criminal justice programs at one university in the Northeastern United States for the spring 2019 semester. Online only courses were omitted from this sample. To improve sample size and subsequent statistical power, all students enrolled in those classes were eligible for inclusion in the final sample. Instructors of the courses listed in Table 5 were solicited to participate, and an effort was made to include all students enrolled in those classes in the final sample. The researcher was granted access to 37 of 37 (100%) criminology classes, 11 of 32 (34%) nursing classes, and 4 of 4 (100%) EMT/Paramedic courses, for a total of 51 of 73 (70%) possible classes. As presented in table 5, the final sample ($N = 743$) reflected roughly 56% of the total number of students enrolled in majors included in the sampling frame. It is important to note that there were 67 clinical-style

nursing classes offered at the time of this study that were excluded from this sampling frame because the researcher was denied access to students in these types of courses. All of the applied health and respiratory care related courses within in the Department of Nursing also were excluded from this sampling frame, as these courses are not comprised of nursing majors. In addition, six online criminology courses were not included in this sampling frame. Thus, the participation estimate noted above does not accurately reflect the true ratio of participants to eligible participants, but it is the best approximation given the available data. During survey administration there were 22 students who wrote “Withdrawal” on the top of their survey. Thus, the final response rate for this sample was 97%.

Table 5

Classes Included in the Sampling Frame

Subject	Potential Classes	Number of Students Enrolled	Number of Participants
CRIM	37	646	348
NURS	32	600	321
EMT	4	74	74
TOTAL	73	1,320	743

Research Procedures

For this dissertation study, the survey was the primary instrument of data collection. To improve reliability and validity, the researcher constructed the survey by incorporating a variety of methods including pre-established measures, expert review, and pre-testing (Dillman, Smyth, & Christian, 2014; Maxfield & Babbie, 2018). Primary measures in the survey were developed from preexisting instruments with good psychometric properties. The survey and methodology were approved by the Institutional Review Board (IRB) at Indiana University of Pennsylvania.

Samples 1: Law Enforcement Personnel

As stated, the primary method of data collection involved a questionnaire. Researchers have contended that employing survey instruments in a cross-sectional design can have many advantages including cost savings, time savings, increased sample size and subsequent power, ease of replication, and improved generalizability (Creswell, 2003; Dillman, Smyth, & Christian, 2014; Maxfield & Babbie, 2018). To encourage participation, each law-enforcement organization was provided with two options for accessing the survey: (1) face-to-face hard copy administration or (2) electronic distribution.

In terms of initial contacts, the researcher sent a letter to each police chief of selected departments inviting his/her department to participate in the study. Several steps were taken to gain access to this sample based on Dillman and colleagues' (2014) Tailored Design Method (TDM). TDM is used to increase response rate by making surveys more personable, by acknowledging appreciation, and by utilizing multiple contacts. Following the principles of TDM, an initial personalized contact letter was sent to the chiefs of police at all departments that were randomly selected, or who had verbally agreed to participate through snowball sampling. This initial-contact letter outlined the major aspects of the research including the goals of the project, significance of the study, and length of time for survey response.

The researcher endeavored to facilitate participation by asking chiefs to decide the date and method of survey administration. Chiefs determined if they wanted the researcher to visit their departments to administer the survey, or if they wanted to forward an electronic survey option to officers working in their departments. The electronic option enabled department staff to disseminate the survey to the officers' email addresses through a reusable hyperlink. The two data collection options were intended to encourage departments to participate in the study. Not

surprisingly, as the electronic method of data collection may be perceived as a less intrusive alternative, every department that participated selected this option.

Not all chiefs responded to the initial contact email. The researcher emailed two follow-up letters to chiefs who did not respond after the initial contact. Both of these follow-up emails included a link to the survey. The first follow-up letter was emailed one week after the first-contact letter. The second follow-up letter was sent one week after that, i.e., two weeks after the initial contact letter. In cases where the police department declined participation or did not respond, a replacement department was added. The researcher contacted the chief of the replacement department following the same procedures outlined. If the chief of the replacement department did not respond, the same protocol was followed. This process continued until the desired sample size of law enforcement personnel was obtained as determined by a-priori power analysis conducted in G*Power.

In terms of actual data collection, the survey was administered entirely electronically through Qualtrics. Departments that consented to online survey administration were forwarded a single reusable hyper-link to the survey. This link was disseminated to all of the department's officers via the departmental listserv. The first part of the survey was the IRB approved informed consent letter describing the aims and scope of the survey, confidentiality, and a statement that participation was completely voluntary. Officers were informed that by clicking "NEXT" they agreed to participate in the survey. Those who did not wish to participate in the survey were asked to exit their browser. Survey administration concluded with a block thanking participants for their participation and the researcher's contact information in case officers had any thoughts, comments, questions, or concerns that they wanted to share.

Sample 2: Student Sample

Similar to the law enforcement sample, the primary method of data collection for the student sample was also a survey questionnaire. Again, a cross-sectional design was used. The data collection for sample 2 consisted of a survey provided to undergraduate students enrolled in nursing, EMT/paramedic training courses, and criminology/criminal justice classes offered at a University in Western Pennsylvania. All data were collected through face-to-face survey administration.

College-level classes served as the clusters for the sampling of the study, and the survey was administered to student participants during their normally scheduled class periods. Several steps were taken to gain access to this sample. Again, using the principles of Dillman et al.'s (2014) TDM, an initial contact email was sent to all instructors of the classes in the three different programs specified. In total, there were 88 classes in this sampling frame. The initial contact email outlined the major aspects of the research including the goals of the project, significance of the study, and length of time necessary for survey response. The researcher asked instructors if they would be willing to allow their class to be included, and if the researcher could administer the survey. Every effort was made to allow instructors who consented to decide the date of survey administration. The principal investigator provided instructors with his contact information, and encouraged them to select a date and time that best suited the structure of their class, and their availability.

Not all instructors responded to the first contact email. Consequently, the researcher sent three follow-up contact emails to instructors who did not respond to the first contact. The first follow-up contact email took place one week after the initial email. The second follow-up

contact occurred one week after the first follow-up contact, or two weeks after the initial contact letter. The third contact letter was emailed three weeks after the first contact letter.

In terms of actual data collection, the researcher, or another graduate student at the university who was approved by the University's IRB, administered the survey during the normally scheduled class times. For classes in which the instructors allowed access, the researcher or research assistant visited the classroom at the agreed upon date and time. After briefly introducing him/herself, the researcher explained that participation in the survey was completely voluntary and all results would be kept confidential. If a student chose not to participate in the study, he/she was asked to leave the survey blank, to write "WITHDRAW" on the top of the survey instrument, and to remain silent until all surveys had been collected.

After the introduction, the researcher or another graduate student, briefly discussed the aims and scope of the study. He/she stressed that the students' thoughts/perceptions are part of a much larger data collection effort where many students provide their views about this topic. After the main purposes of the study were discussed, the researcher distributed consent forms for voluntary participation to the students. These forms were approved by the University's IRB. Rather than asking students to sign and return consent forms, the forms stated that by completing a survey the students were agreeing to voluntarily participate in the study. The surveys were then distributed, completed, and collected. Survey administration concluded with the researchers thanking students for their participation and providing them with the principal investigator's contact information. Immediately following data collection, all surveys were placed into a sealed envelope in a locked filing cabinet in the principal investigator's office.

Research Design

The current study was a cross-sectional design. The primary objective of the study was to assess law enforcement officers' and college students' attitudes related to help that should be provided to opioid and heroin users, and to see what role, if any, stigma played in shaping these beliefs. To achieve this goal, a cross-sectional research design was advantageous for several reasons. Primarily, the main goal of this study was to ascertain attitudes toward opioid and heroin users. As this kind of study previously had not been done, this research is exploratory in nature. Cross-sectional designs have been found to be appropriate for measuring attitudes at a given reference point, and they are useful in exploratory research (Creswell, 2003; Maxfield & Babbie, 2018). In addition to measuring elements of stigmatizing attitudes, the researcher attempted to identify predictors of stigma, as noted in the research question. Therefore, the survey instrument and research methods were tailored to achieve these unique goals. Both surveys were thoroughly reviewed by a committee of experts in the field of criminology, and pre-tested using a sample of college students (N = 30) from a neighboring university and one law enforcement officer from the Northeastern United States. These pre-tests were conducted to test for length of time to complete the survey and its readability. The following section describes the survey instruments and provides a detailed discussion of the measures employed.

Survey Instrumentation

Two surveys were created for the proposed study— one for law enforcement personnel (see Appendix A) and one for college student participants (see Appendix B). The measurements of key independent and dependent variables were kept constant in both instruments. However, a few items had to be changed as some items were appropriate only for law enforcement officers, and others were only appropriate for students. In the following sections, all variables of interest

are operationally defined, and the justifications for their inclusion and the unique details of each measure are discussed. Both survey questionnaires are in Appendix A and Appendix B.

Additionally, Table 6 outlines key concepts, items, questions, and sources of the measurement items.

Both surveys were divided into four *blocks* or sections of questions. The first section assessed the key dependent variable in this study—beliefs about helping opioid users. To assess this concept, two scenarios were created for the law enforcement sample. The first scenario asked officers to report how likely they would be to (1) administer Narcan, (2) call for medical assistance, (3) accompany someone to a hospital, (4) notify a family member, (5) refer a person to drug treatment, and (6) ignore a person and keep walking, if they encountered someone who appeared to be suffering from an opioid or heroin overdose. The second scenario asked officers to report their level of agreement regarding whether officers should complete the six actions described above. Students were presented only with the second scenario.

The second block assessed opinions about opioid/heroin users and included measurements of social stigma toward opioid and heroin users. Opinions about opioid/heroin users were assessed with four questions designed to measure what respondents perceived to be demographic characteristics of *typical* drug users. Assessment of social stigma included four different domains—dangerousness, blame, social distance, and fatalism—each measured with scales comprised of questions derived from previous literature. As displayed in Table 6, items for this study were adapted using the existing literature on social stigma (Adlaf et al., 2009; Barry et al., 2014; Brown, 2011; Corrigan et al., 2002; Ding et al., 2005; Julius et al., 2013; Link et al., 1987; Ormston et al., 2010). Cognizant of the fact that social stigma toward hard drug use had received little attention in the published research literature, many items included were more

primary than secondary. That is, while they were based on research from existing literature, the actual construction of measurements was modified to better suit the unique design of this study. The items included all came from scales with good internal consistency ($\alpha > .70$, DeVellis, 2012).

The third section of the survey was designed to assess respondents' experiences or *familiarity* with opioid/heroin users and perceptions about responses to opioid/heroin use, such as Medication-Assisted Treatment and Narcan. The survey assessed familiarity by modifying the 7 items from the Corrigan et al. (2002) *Familiarity Scale* that measured exposure to persons who have used drugs. Information on MAT and Narcan was obtained with the initial goal of examining attitudes toward these concepts. However, most students and first responders either did not know what these concepts were or expressed indifference, thus these measures were excluded from the analysis.

The final section of the survey addressed participant's personal life, experiences, and demographics. As seen in Table 6, the measures of education and training (Ding et al., 2005), gender (Brown, 2011; Fortney et al., 2004), political party affiliation (Barry et al., 2014), age (Adlaf et al., 2009), location (Rost et al., 1993), religiosity, and race were included. Further, in the student version of the survey, measures of college major and minor, year in school, desired career path, and grade-point average also are incorporated. In the law enforcement version of the survey, use of Narcan, departmental policies related to Narcan, and arrests of persons unlawfully using or possessing MAT were included, as well as a measure of the highest level of education, number of years in policing, and current rank. The next sections outline the specifics details of survey items and provide the justification for the inclusion of concepts.

Measures

In the sub-sections below, all variables included in this study are defined and their measurement properties are discussed. The first sub-section defines the dependent variables. The next two sub-sections outline the independent and control variables. Table 7 provides a quick reference for the variable types, concepts, measurement level, response categories, and number of items for each variable in the survey.

Dependent Variables

Beliefs about helping opioid/heroin users. The main dependent variable in this study was beliefs about helping opioid/heroin users. Belief was defined as the degree to which a respondent thinks that an officer should help a person who appears to be suffering from an opioid/heroin overdose. Two scenarios were created to assess this concept in the law enforcement sample.

Table 6

Survey Item Reference by Concept

Concept	Section(s)*	Item(s)	Source(s)
Beliefs about help	I	1-12 (LE) 1-6 (S)	Original
Belief about typical user	II	13-16 (LE) 7-10 (S)	Original
Dangerousness	II	17-22 (LE) 11-16 (S)	Brown (2011); Link et al., (1987)
Blame	II	23-25 (LE) 17-19 (S)	Corrigan et al.(2002, 2009); Ding et al (2005)
Social Distance	II	26-31 (LE) 20-25 (S)	Brown (2011); Link et al., (1987)
Fatalism	II	32-34 (LE) 20-25 (S)	Barry et al. (2014); Ding et al. (2005)
Beliefs about Addiction	II	35-38 (LE) 29-32 (S)	Original
Familiarity	III	39-45 (LE) 33-39 (S)	Corrigan et al. (2002, 2009)
Attitude Toward MAT	III	46-50 (LE) 40-44 (S)	Original (excluded)
Attitude Toward Narcan	III	51-55 (LE) 45-50 (S)	Original (excluded)

Knowledge of Addiction	III	56-57 (LE) 50-51 (S)	Adlaf et al (2009); Corrigan et al. (2002); Ding et al. (2005)
Exposure to Harm Reduction	III	58-64 (LE) 52 (S)	Original
Political Affiliation	III	66-67 (LE) 53-54 (S)	Anlin et al. (2008); Barry et al. (2014)
Residence Location	III	68-69 (LE) 55-56 (S)	Martin et al. (2000); Rost et al. (1993)
Years Policing	III	70 (LE)	Original
Rank	III	71 (LE)	Original
Religiosity	III	72-73 (LE) 57-58 (S)	Palamar et al (2009); Pescosolido et al (1999,1998)
College Major/Minor	III	62-63 (S)	Original
Year in School	III	65 (S)	Original
GPA	III	66(S)	Original
Desired Career Path	III	64 (S)	Original
Educational Obtainment	III	77 (LE)	Blummer (2009); Capitanio & Herek (1999); Corrigan & Watson (2007); Mojtabai (2007); Mukolo & Heflinger (2011); Pescosolido et al (1998,2008); Phelan & Link (1999); Schnittker et al. (2000a)
Demographics	III	74-76 (LE) 59-60(S)	Baithe & Pryor, (2011); Brown (2011); Ding et al. (2005); Fortney et al. (2004); Hinkelman & Granello, 2003; Jorm & Griffiths, (2008); Penn & Link, (2002); Schnittker, (2000a) Original

In the first vignette, participants were presented with a scenario designed to measure their views associated with how they perceived they would help/ not help overdose victims. This variable was referred to as *Anticipated Help*. The follow displays the scenario from the survey:

“If you were on-duty and you encountered a person lying on the sidewalk who appeared to have overdosed on opioids or heroin, how likely would you be to do the following?”

Response categories include: Item #1 “Administer Narcan”, Item #2” “Call for medical assistance,” Item # 3“Accompany the person to the local hospital/urgent care facility,” Item #4 “Attempt to identify the person and notify a family member or friend,” Item #5 “Refer the person to a drug treatment program,” and Item #6 “Ignore the person

and keep walking.” Response categories followed a 5-point Likert scale ranging from Very Likely (1) to Very Unlikely (5). Only the law enforcement sample was given this scenario.

This measure was subjected to a Principal Components Analysis (PCA) using direct oblimin rotation with SPSS version 25. This was intended to provide support for the grouping of key concepts. PCA with direct oblimin rotation was chosen over other Factor Analysis techniques because it allows some correlation between components and thus produces more robust results (Field, 2016; Tabachnick & Fidell, 2013). In reality, Gaudagnoli and Velicer (1988) determined that PCA solutions differed little from those of other factor analytic techniques. Nonetheless, differences can occur when fewer than 20 variables are analyzed (Field, 2016). Accordingly, additional Principal Axis analyses using both varimax and oblimin rotation were conducted. They supported the results of the PCA, and the groupings of the variables as described below.

Prior to performing PCA, the suitability of data for PCA was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Olkin value (.674) exceeded the recommended convention (.6, Kaiser 1970, 1974) and Bartlett’s (1954) Test of Sphericity was statistically significant ($P = .000$), thus supporting the factorability of the correlation matrix. PCA analysis revealed the presence of 2 components with eigenvalues exceeding 1, explaining 33.027% and 20.478% of the variance, respectively. Inspection of a scree plot revealed a break after the 2nd component. A parallel analysis (Eigenvalue Monte Carlo Simulation) conducted in SPSS was also utilized to inspect corresponding criterion values for a randomly generated data matrix with 1000 respondents.

Thus, using the results from subsequent PCA's, Cattell's (1966) scree test, in combination with the above analyses and desired scales for this sample, it was decided to retain 2 components for further investigation. Tables 7 displays results from this analysis.

Table 7

Results From PCA for Anticipated Help (Law Enforcement Sample)

How likely would you be to...	Factor 1	Factor 2
Administer Narcan	.522	
Call for medical assistance		.750
Accompany the person to the local hospital/urgent care facility	.746	
Attempt to identify the person and notify a family member or friend	.707	
Refer the person to a drug treatment program	.780	
Ignore the person and keep walking		.793
Eigenvalue	1.982	1.229
Variance (%)	33.027	20.478

Note. The higher factor loadings for each item are shown (based on structure matrix). Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

To help assist interpretation, oblimin rotation was performed. The rotated solution showed the presence of a simple structure (Thurstone, 1947), with many components demonstrating strong loadings on one component. Results indicated that the variables related to calling for medical assistance and ignoring the person did not load with factor 1. Further, analysis of Cronbach's alpha indicated that these two measures had weak internal consistency when assessed together ($\alpha = .184$). Thus, these items were dropped from the scale and not included in analyses. The 4-item *Anticipated Help Scale* was created by combining responses from the 4 other items mentioned above, with higher scores indicating more support ($\alpha = .647$, $r = .313$). Cronbach's alpha for this measure

did fall below DeVellis' (2012) .70 established guidelines. However, this result is likely sensitive to the small number of items in this scale (Briggs & Cheek, 1986; Remler & Van Ryzin, 2015). Moreover, Briggs and Cheek (1986) suggest that because the mean inter-item correlations for these scales are above the conventional .2, they can be regarded as reliable. These procedures were repeated for all other scale measures used in this sample.

The second scenario modified the first scenario slightly and asked respondents:

“If an on-duty police officer encounters a person lying on the sidewalk who appears to have overdosed on opioids or heroin, in your opinion, what do you think the officer should do?”

Response categories included: Item #7 “Administer Narcan”, Item #8 “Call for medical assistance,” Item # 9 “Accompany the person to the local hospital/urgent care facility,” Item #10 “Attempt to identify the person and notify a family member or friend,” Item #11 “Refer the person to a drug treatment program,” and Item #12 “Ignore the person and keep walking.” Response categories followed a 5-point Likert scale ranging from Strongly Agree (1) to Strongly Disagree (5).

This measure was also subjected to PCA using direct oblimin rotation with SPSS version 25, following the same procedures outlined above. Tables 8 and 9 display the loadings for variables across both samples. Once again, the responses related to calling for medical assistance and ignoring the persons did not load with the other four items. These two measures showed poor internal consistency when grouped together in both samples ($\alpha < .60$). A decision was made to drop these items from the analysis. Interestingly, the item related to Narcan administration did not group as well with Component 1 in the student sample as in the law enforcement sample.

Nonetheless, it did load and produced acceptable internal consistency when combined with the other items in component one, but not when combined with the other items in

Table 8

Results From PCA for Beliefs About Help (Law Enforcement Sample)

An officer should...	Factor 1	Factor 2
Administer Narcan	.571	
Call for medical assistance		.699
Accompany the person to the local hospital/urgent care facility	.774	
Attempt to identify the person and notify a family member or friend	.770	
Refer the person to a drug treatment program	.764	
Ignore the person and keep walking		.779
Eigenvalue	2.235	1.297
Variance (%)	37.256	21.615

Note. The higher factor loadings for each item are shown (based on structure matrix). Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

Table 9

Results From PCA for Beliefs About Help (Student Sample)

How likely would you be to...	Factor 1	Factor 2
Administer Narcan	.126	.361
Call for medical assistance		.809
Accompany the person to the local hospital/urgent care facility	.591	
Attempt to identify the person and notify a family member or friend	.743	
Refer the person to a drug treatment program	.561	
Ignore the person and keep walking		.508
Eigenvalue	2.182	1.312
Variance (%)	36.359	21.872

Note. The higher factor loadings for each item are shown Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

Component 2. There are no rigid rules in factor analytic techniques, and discretion is necessary when cross loadings are detected (Pallant, 2016; Field, 2016; Tabbernick & Fidell, 2013). In fact, Andy Field (2016) has argued that, “Factor analysis is an exploratory tool and so it should be used to guide the researcher to make decisions: you shouldn’t leave the computer make them” (p. 698). In order to be consistent with the other measures in the law enforcement sample, the item measuring Narcan administration was included in the dependent measure in the student sample as well. Thus, the variable, *Beliefs About Help*, was created by combining the remaining four items in a manner similar to that for the variable, *Anticipated Help*. The measure showed acceptable internal consistency in the law enforcement sample ($\alpha = .711$, $r = .377$) and in the student sample ($\alpha = .587$, $r = .272$).

Independent Variables

The independent variables included in the survey were adapted from previous research assessing social stigma. This section discusses the components of the independent variables in the survey.

Beliefs about a typical drug user. The first independent variable assessed in the survey asked respondents to report who they perceived as being a *typical* drug user. This concept was defined as a participant’s belief about the gender, race, social class, and employment status of a *typical* drug user. Four questions from section 2 (e.g., “Opinions About Opioid/Heroin Users”) are used to assess this concept; Item #13 (LE) and Item # 7 (S) “A typical drug user belongs to which social class?” with response categories including “Lower,” “Middle,” and “Upper;” Item # 14 (LE) and Item # 8 (S) “From your experiences, a typical drug user is which gender?” with response categories “Male,” “Female,” and “Other;” Item #15 (LE) and Item # 9 (S) “From your

experiences a typical drug user is which race?” with response categories including “Caucasian,” “African American,” “Asian,” “Hispanic,” and “Other,” and Item #16 (LE) and Item # 10 (S) “From your experiences, is a typical drug user employed?” with response categories “Yes” or “No.”

Social stigma toward opioid and heroin users. The main independent variable in this study is social stigma toward opioid/heroin users. It was defined as the degree to which persons place blame on opioid/heroin users, perceive them as dangerous, report a desire for social distance from such persons, and hold fatalistic views of opioid and heroin use. Social stigma is divided into four unique concepts—*Dangerousness*, *Blame*, *Social Distance*, and *Fatalism*.

The first scale (Law Enforcement Section 2: Items #17-22, Student Section 2: Items #11-16) included measures of *Dangerousness* modified from Brown (2011) who expanded on Link et al.’s (1987) scale. In this context, dangerousness was defined as a participant’s agreement that opioid/heroin users are unpredictable, frightening, likely to harm others, and a threat to the safety of a community. Measures of *Dangerousness* include; “If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside,” “One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next.” “If I knew a person had used heroin or opioids, I would be less likely to trust him/her,” “People who use heroin and/or opioids are a threat to the safety of our community,” “The main purpose of opioid treatment facilities should be to protect the general public from users,” and “Although some heroin/opioid users may seem all right it is dangerous to forget that they are drug users.” Responses were Likert in design with 5 response categories ranging from “Strongly Agree” (1) to “Strongly Disagree” (5). Items in this scale were summed and then averaged. PCA analysis (see below) supported the creation of this scale.

Table 10

Variable Summary

Variable Type	Concept	Measurement Level	Response Categories	Items
DV	Beliefs about helping	Interval	<i>Items #1-12 (LE), 1-6 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	12, 6
IV	Belief about typical user		<i>Items #13-16 (LE), 7-10 (S)</i>	4
	Social Class	Ordinal	<i>Lower, Middle, Upper</i>	1
	Gender	Nominal	<i>Male, Female, Other</i>	1
	Race	Nominal	<i>Caucasian (White), African American, Asian, Hispanic, Other</i>	1
	Employment	Nominal	<i>Yes, No</i>	1
IV	Dangerousness	Interval	<i>Items #17-22 (LE), 11-16 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	6
IV	Blame	Interval	<i>Items #23-25 (LE), 17-19 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	3
IV	Social Distance	Interval	<i>Items #26-31 (LE), 20-25 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	6
IV	Fatalism	Interval	<i>Items #32-34 (LE), 26-28 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	3
IV	Beliefs About Addiction	Interval	<i>Items #35-38 (LE), 29-32 (S)</i> Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree	4
IV	Familiarity	Nominal	<i>Items# 39-45 (LE), 33-39 (S)</i> <i>Yes, No</i>	7
IV	Exposure to Harm Reduction	Nominal	<i>Items #58-64 (LE), 52 (S)</i> <i>Yes, No</i>	7,1
		Nominal	<i>Item #66 (LE), 53 (S)</i> Democrat, Independent, Libertarian, Republican, Other	1
IV	Political Affiliation	Ratio	<i>Item #67 (LE), 54 (S)</i> Liberal=1; Conservative=10	1

Variable Type	Concept	Measurement Level	Response Categories	Items
IV	Knowledge of Addiction	Nominal	<i>Items #56-57 (LE), 50-51 (S)</i> Yes, No	1
CV	Years in Policing	Ratio	<i>Item # 70 (LE)</i> Years (text entry)	1
CV	Rank	Ordinal	<i>Item # 71 (LE)</i> Technician, Patrol Officer, Corporal, Sargent, Lieutenant, Captain, Major, Colonel, Deputy Chief, Chief/ Sheriff, Other	1
CV	Residence Location	Nominal	<i>Items # 68-69 (LE), 55-56 (S)</i> Rural, Urban, Suburban	2
CV	Religiosity	Ordinal	<i>Items #72 (LE), 57 (S))</i> Not at all, somewhat, very religious	1
		Nominal	<i>Item 73 (LE), 58 (S)</i> Liberal Protestant, Moderate Protestant, Catholic, Muslim, Mormon, Jewish, Presbyterian, Atheist, No Preference, Other	1
CV	College Major/Minor	Nominal	<i>Items #62-63 (S)</i> Criminology, Nursing, Other	1
CV	Year in School	Ordinal	<i>Item #65 (S)</i> Freshman, sophomore, junior and senior.	1
CV	Grade Point Average	Interval	<i>Item #66 (S)</i> Less than 1.0, 1.0-1.9, 2.0-2.9, 3.0-3.0, 4.0 or above	1
CV	Desired Career Path	Nominal	<i>Item # 64 (S)</i> Law enforcement, Law and courts, Corrections, Victim Services, Medicine/Medical Field, other	1
CV	Educational Attainment	Ordinal	<i>Item #77(LE)</i> Less than a high school diploma, high school diploma or GED, some college, associate's degree or other trade degree, college graduate, graduate or other advanced degree	1
CV	Gender	Nominal	<i>Item #74 (LE), 59 (S)</i> Male, Female, Other	1
CV	Race	Nominal	<i>Item #75 (LE), 61 (S)</i> Caucasian (White), African American, Asian, Hispanic, Other	1
CV	Age	Ratio	<i>Item #76 (LE), 60 (S)</i> Report in number of years	1

Blame was the next concept measured (Law Enforcement Section 2: Items # 23-25, Student Section 2: Items #17-19). *Blame* was defined as one's agreement that heroin/opioid users are responsible for their own addiction and problems surrounding it. For example, Item #23 (LE), #17 (S) states, "Persons addicted to heroin and/or opioids are usually responsible for their own condition," and Item # 24 (LE), #18 (S), "Those who become addicted to heroin and/or opioids are those who the lack work ethic needed to get 'clean,' were loosely adapted from Corrigan et al., (2006, 2009). Item #25 (LE), #19 (S) "Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition" were derived from the findings of Ding and colleagues (2005). All the items utilized a 5-point Likert scale with response categories ranging from strongly "Strongly Agree" (1) to "Strongly Disagree" (5). These items were summed and averaged to create a composite measure that could be compared to the other stigma variables. PCA analysis (see below) supported the creation of this scale.

Social Distance was the third concept considered (Law Enforcement Section 2: Items #26-31, Student Section 2: Items #20-25). Social distance was operationally defined as a participant's level of agreement/disagreement that he/she would be comfortable working with, living near, or being related to a person who uses heroin/opioids. All items in this scale came from Brown (2011), who modified Link et al.'s (1987) scale. Questions include; "If I knew someone was addicted to heroin and/or opioids I would try to avoid them," "It would bother me to live near a person who used heroin or opioids," "It would be difficult for me to develop a friendship with someone who uses heroin or opioids," "I would not feel comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple hours," "If I could, I would prefer not to work with someone who was a known user of heroin or opioids," and "I would be fine letting someone who had a history of opioid and heroin use marry

into my family.” Responses to these items were a 5-point Likert scale that ranged from “Strongly Agree” (1) to “Strongly Disagree” (5). Item 31(LE), #25 (S) was reverse coded to improve reliability and validity. Items in this scale were summed and averaged to create a composite measure that could be compared to the other stigma variables. PCA analysis (see below) supported the creation of this scale.

The fourth concept considered was *Fatalism* (Law Enforcement Section 2: Items # 32-34, Student Section 2: Items # 26-28). *Fatalism* was defined as one’s level of agreement/disagreement with the perception that there is no hope of recovery for opioid/heroin users. As noted, unlike the other dimensions of social stigma, *Fatalism* has received considerably less empirical attention. As a result, only two items in this scale can be found in prior research. Item #32 (LE), #26 (S) “Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result)” derived from Ding et al. (2005), and Item #34 (LE), #28 (S) “Full recovery from opioid addiction is impossible” from Barry et al. (2014). Item #33 (LE), #27 (S), “Most people who become addicted to heroin or opioids are addicts for life,” was created by the researcher in consideration of the findings from Ding et al. (2005), Barry et al. (2014), and Haug et al. (2016). As with the other scales, items included a 5-point Likert scale with response categories ranging from “Strongly Agree” (1) to “Strongly Disagree” (5). Consistent with the other measures of social stigma, these items were summed and averaged to create a composite measure that could be compared to the other stigma variables. PCA analysis (see below) supported the creation of this scale.

As noted above, the variables assessing social stigma were submitted to a PCA to see if the variables grouped in the hypothesized directions. Tables 11 and 12 display the results from these analyzed for both samples, and confirm the theorized groupings of the variables as noted

Table 11

Results From PCA for Stigma Variables (Law Enforcement Sample)

	Factor 1	Factor 2	Factor 3	Factor 4
If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside	.682			
One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next	.793			
If I knew a person had used heroin or opioids, I would be less likely to trust him/her	.437			
People who use heroin and/or opioids are a threat to the safety of our community	.753			
The main purpose of opioid treatment facilities should be to protect the general public from users	.431		-.614	
Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users	.737			
Persons addicted to heroin and/or opioids are usually responsible for their own condition			-.804	
Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get clean			-.722	
Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition			-.603	
If I knew someone was addicted to heroin and/or opioids I would try to avoid them				-.671
It would bother me to live near a person who used heroin or opioids	.673			-.616
It would be difficult for me to develop a friendship with someone who uses heroin or opioids				-.759
I would not feel comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours				-.574
If I could, I would prefer not to work with someone who was a known user of heroin or opioids				-.701

I would be fine letting someone who had a history of opioid and/or heroin use marry into my family					-.558
Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result)		.679			
Most people who become addicted to heroin or opioids are addicts for life		.829			
Full recovery from opioid addiction is impossible		.816			
Eigenvalue	5.809	1.926	1.433	1.122	
Variance (%)	32.272	10.701	7.959	6.236	

Note. The higher factor loadings for each item are shown (based on structure matrix). Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

Table 12

Results From PCA for Stigma Variables (Student Sample)

	Factor 1	Factor 2	Factor 3	Factor 4
If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside			-.750	
One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next			-.748	
If I knew a person had used heroin or opioids, I would be less likely to trust him/her			-.510	
People who use heroin and/or opioids are a threat to the safety of our community			-.518	
The main purpose of opioid treatment facilities should be to protect the general public from users			-.713	-.605
Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users			-.652	
Persons addicted to heroin and/or opioids are usually responsible for their own condition				-.742
Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get clean				-.813
Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition				-.805
If I knew someone was addicted to heroin and/or opioids I would try to avoid them	.706			
It would bother me to live near a person who used heroin or opioids	.694		-.602	
It would be difficult for me to develop a friendship with someone who uses heroin or opioids	.761			
I would not feel comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours	.690			
If I could, I would prefer not to work with someone who was a known user of heroin or opioids	.767			

I would be fine letting someone who had a history of opioid and/or heroin use marry into my family	.630			
Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result)		.603		-.622
Most people who become addicted to heroin or opioids are addicts for life		.767		
Full recovery from opioid addiction is impossible		.795		
Eigenvalue	6.365	1.520	1.300	1.079
Variance (%)	35.363	8.445	7.225	5.995

Note. The higher factor loadings for each item are shown (based on structure matrix). Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

above. As can be seen in the tables, there were very few cross loadings and all items loaded strongly on one component. Subsequent auxiliary PA analyses with varimax and oblimin rotations supported these results, and the creation of the four different stigma scales. All scales were found to have good internal consistency in both samples—Law Enforcement:

Dangerousness ($\alpha = .767, r = .363$), *Blame* ($\alpha = .683, r = .414$), *Social Distance* ($\alpha = .763, r = .365$), *Fatalism* ($\alpha = .741, r = .488$); Student: *Dangerousness* ($\alpha = .777, r = .373$), *Blame* ($\alpha = .763, r = .518$), *Social Distance* ($\alpha = .820, r = .432$), and *Fatalism* ($\alpha = .603, r = .335$).

Beliefs about addiction. Some researchers (Pescosolido, 2013; Pescosolido, & Martin, 2015) have argued that western societies' acceptance of neurobiological explanations for mental illness have resulted in reduced stigma toward the mentally ill living in those regions in recent years. In this study, *Beliefs About Addiction* referred to one's belief in whether a person can become physically addicted to drugs. Four questions were included to determine if the respondent believed that addiction is a product of physiological conditions (Law Enforcement Section 2: Items #35-38, Student Section 2: Items #29-32). These measures were intended to assess one's belief that physical addiction is possible, and thus express support for neurobiological explanations for addiction. These questions included, "A person can become physically addicted to drugs," "Drug abuse is a disease," "A person addicted to drugs can control his/her use," "Some people are genetically predisposed to become drug addicts." Response categories included the 5-point Likert scale outlined above ranging from "Strongly Agree" (1) to "Strongly Disagree" (5).

This measure was also subjected to a PCA. Table 13 displays results for this analysis for the law enforcement sample. As presented in Table 13, the PCA depicted a 2 component structure, which was inconsistent with the proposed measure. As such, a decision was made to

retain the two components that loaded best together and reported the best internal consistency estimates. These variables included: “Drug abuse is a disease” and “Some people are genetically predisposed to become drug addicts.” A composite measure was created by adding these two variables together to form a *Beliefs About Addiction* scale ($\alpha = .589$, $r = .426$), with higher scores indicating greater support of biopsychosocial explanations of drug addiction. Unfortunately, none of these items loaded together in factor analysis in the student sample and showed weak internal consistency ($\alpha = .391$, mean Inter-item $r = .131$). Thus, the researcher decided to omit this scale from the student analysis. Instead, the researcher dichotomized the variable, “Drug abuse is a disease,” and used it for in analyses. This was the item within that scale that had the most face validity and a good distribution of response categories. The variable was dichotomized into 1 = “Agree” (responses 1-2) and 2 = “Do not Agree” (responses 3-5). A second dichotomous variable also was made by combining the “Neither Agree nor Disagree” category with the “Strongly Agree and Agree” categories and then entering them into separate HMR models to test for robustness. Results supported the use of the initial dichotomous variable.

Table 13

Results From PCA for Beliefs About Addiction (Law Enforcement Sample)

	Factor 1	Factor 2
A person can become physically dependent on drugs	.212	.051
Drug abuse is a disease	.418	.819
A person addicted to drugs can control his/her use	.943	.267
Some people are genetically predisposed to become drug addicts	.060	.544
Eigenvalue	1.674	1.073
Variance (%)	41.842	26.819

Note. The higher factor loadings for each item are shown (based on structure matrix). Extraction method: Principal component analysis. Rotation method: Oblimin rotation.

Familiarity with heroin/opioid users. In this study, *Familiarity* referred to one's closeness or level of exposure to heroin/opioid users (Adlaf et al., 2009; Corrigan et al., 2002; Jannulis et al., 2013). Seven items adapted from Corrigan et al. (2002) measured this variable (Law Enforcement Section 3: Items #39-45, Student Section 3: Items #33-39). Items included, "My job involves providing services/ treatment for persons who use heroin/opioids," "I have observed, in passing, a person I believe may have problems with heroin/opioids," "I have observed persons who use heroin/opioids on a frequent basis," "I have worked with a person who used heroin/opioids," "I have a friend of the family who has used heroin/opioids," Item #43 "I have a relative who has used heroin/opioids," and "I have lived with, or close to a person(s) who used heroin/opioids." Responses to this block of questions were dichotomous with participants asked to select, "Yes" (1) or "No" (2).

To better measure *Familiarity*, a composite score was created by adding five of the seven items discussed above together. This produced a variable with higher scores indicating greater familiarity with opioid/heroin users. The first two items, "My job involves providing services/ treatment for persons who use heroin/ opioids" and, "I have observed, in passing, a person I believe may have problems with heroin/opioids" were dropped from the scale due to their negative impact on measures of internal consistency. The initial seven-item familiarity scale produced a weak alpha (.574), and an unacceptable inter-item correlation (.157) in the law enforcement sample. By dropping the first two items, the five-item scale produced an acceptable inter-item correlation (.202). Thus, it is a better estimate of familiarity than the 7-item scale (Briggs & Cheeks, 1987). The variable was found to have acceptable estimates of internal consistency in the student sample as well ($\alpha = .681$, $r = .299$).

Knowledge of substance use addiction. The findings of Adlaf and colleagues (2009), Corrigan and colleagues (2002), Ding and colleagues (2005), and Janulis and colleagues (2013) suggest that exposure to substance users and knowledge of substance use treatment is associated with lower levels of stigma. In consideration of those findings, two questions were included to assess one's exposure to substance use training (Law Enforcement Section 4: Items #56-57, Student Section 4 Items #50-51). In this study, knowledge of substance use addiction referred to one's participation in training or classes on substance use addiction. Specifically, respondents were asked, "Have you ever taken any classes on substance use addiction?" and "Have you completed any training course or program on substance use addiction?" Responses to both questions were dichotomous in nature with response categories "Yes" (1) or "No" (2).

Departmental policy on Narcan. In this study, Departmental Policy surrounding Narcan referred to the degree to which an officer's department exposed officers to the administration and use of Narcan. For the police officer sample, one item (Law Enforcement Section 4: Item # 58) was included to assess prior experiences administering Narcan. Exposure to drug users and knowledge of treatment are associated with reduced levels of stigma (Adlaf et al., 2009; Corrigan et al., 2002; Ding et al., 2009; Janulis, 2013). Therefore, it seems logical that an officer's experience in administering Narcan could be related to his/her level of stigma. Item #58, "Have you ever had to administer Narcan?" asked respondents about their own use of Narcan. Students (Item #52) also were presented with this question. Responses were dichotomous with response categories "Yes" (1) or "No" (2). Five other questions (Law Enforcement Section 4: Items #59-63) asked officers to report departmental policies on Narcan, training involving Narcan, and if they personally carry Narcan on-duty. Again, response categories were dichotomous "Yes" (1) or "No" (2).

Control Variables

Political affiliation. Research by Anlin et al (2008) and Barry and colleagues (2014) showed that political party affiliation predicted respondents' support of stigmatizing attitudes toward drug users. Particularly, they found that those who self-identified as Democrats were less accepting of structural stigmatizing attitudes than Republicans. For the purposes of this study, political affiliation was defined as the degree of liberalism or conservatism that one feels more closely aligned. Two items were designed to capture this variable. The first item (Law Enforcement Section #4: Item #64, Student Section 4: Item #53) asked respondents, "Which of the following political affiliations do you BEST identify with?" with response categories including "Democrat," "Independent," "Libertarian," "Republican" and "Other." The second questions (Law Enforcement Section 4: Item #65, Student Section 4: Item #54) asked respondents, "If you had to classify your political beliefs on a scale from 1-10 (with 1 being completely liberal and 10 being completely conservative) where would you place yourself? **PLEASE CIRCLE A NUMBER."

Residence location. Past research has found that respondents from rural areas hold higher levels of stigma than those who live in more urban areas (Martin et al., 2000; Rost et al., 1993). For the purposes of this study, residence location was defined as the location in which the person currently lives, and the area in which they grew-up. Two items in both surveys were created to measure this concept. These included, "In what type of area do you currently live" (Law Enforcement Section 4: Item #66, Student Section 4: Item #55) and, "In what type of area did you grow up" (Law Enforcement Section 4: Item #67, Student Section 4: Item #56). The responses to these two items were rural, urban, and suburban.

Prior experience. Prior research suggests that job-related experiences, such as years working and caseload type, can impact perceptions of offenders (Belenko et al., 2016). To help investigate this in the law enforcement sample, two items were included. Specifically, Item # 68 in the law enforcement survey asked officers to report how long, in years, they had been working in policing. Further, Item # 69 asked officers to report their rank.

Religiosity. Prior research found religiosity to predict social stigma (Palamar et al., 2009; Pescosolido et al 1999,1998). In this study, religiosity was defined as one's level of involvement in a religious institution and the religion with which he/she most affiliates. Two items were included to measure religiosity, "How religious a person do you consider yourself to be" with responses of "Not at all," "Somewhat," and "Very Religious" (Law Enforcement Section 4: Item #70, Student Section 4: Item #57). A second item, "What is your religious affiliation" was also included with response categories "Liberal Protestant," "Moderate Protestant," "Catholic," "Muslim," "Mormon," "Jewish," "Presbyterian," "Atheists," "No preference," and "Other" with a line for specification. (Law Enforcement Section 4: Item #71, Student Section 4: Item #58).

Demographics. Past empirical research indicates that demographic variables are important predictors of social stigma (Baithje & Pryer, 2011; Brown, 2011; Ding et al., 2005; Fortney et al., 2004; Hinkelman & Granello, 2003; Jorm & Griffiths, 2008; Penn & Link, 2002; Schnittker, 2000a). For instance, female respondents have been found to be more likely to perceive drug users as dangerous, blame them for their use, and report greater desire to socially distance themselves from drug users than male respondents (Brown, 2011; Fortney et al., 2004). However, when examining stigma toward other forms of mental illness, women, in general, hold less stigmatizing attitudes toward people with mental illnesses than men (Bathje & Pryor, 2011; Jorm & Griffiths, 2008; Schnittker, 2000b; Hinkelman & Granello, 2003; Penn & Link, 2002).

Other research has found age (Anglin et al., 2006 & 2008; Ding et al., 2005; Leaf, 1987; Mojtabai, 2009; Mukolo & Heflinger, 2011; Pescosolido et al. 1999; Pescosolido et al., 2007; Siltan, 2011) and race (Anglin et al., 2006 & 2008; Blumner & Marcus, 2009; Corrigan & Watson, 2007; Diala et al. 2001 ; Dila et al., 2000; Leaf et al., 1987; McLeod et al., 2007; Mojtabai, 2009; Mojtabai, 2007; Mukolo & Heflinger, 2011; Pescosolido et al., 2008 & 2007; Schnittker et al., 2000a; Siltan et al., 2011; Walker et al., 2008; Whaley, 1997). These earlier findings suggest that demographics may be significant predictors of substance use stigma. Thus, measures of gender (Law Enforcement Section 4: Item #72, Student Section 4: Item #59), age (Law Enforcement Section 4: Item #74, Student Section 4: Item #61), and race (Law Enforcement Section 4: Item #73, Student Section 4: Item #60) were included in both surveys.

College major/minor. To date, no research on stigma had examined differences in stigma between college students based on their identified major. In this study, student sample respondents were asked to report their major and minor (Student Section 4: Item #62 and Item #63). Response categories included “Criminology,” “Nursing,” and “Other.” Additionally, they were asked to report their desired career path (Item #64) with response categories including; “Law Enforcement,” “Law and Courts,” “Corrections,” “Victim Services” and “Medicine/Medical Field,” and “Other.”

Year in school. Similar to the rationale for including age in this study, data were also collected about a student’s year in school. Year in school was defined as a student’s self-reported academic standing with response categories including “freshman”, “sophomore”, “junior”, and “senior” (Student Section 4: Item #65).

Grade point Average. Prior research on social stigma had not examined the relationship between academic achievement and social stigma. No research to date had looked at the

potential relationship between grade point average and social stigma. The current study defined grade point average as a participant's cumulative self-reported GPA from a 0.0 to 4.0 scale. GPA was measured with one item in the student survey, "What is your current grade point average?" (Student Section 4: Item #66) with various response categories: Less than 1.0, 1.0-1.9, 2.0-2.9, 3.0-3.9, and 4.0 or above. This item was included only in the student surveys.

Educational attainment. Educational attainment has been found to be a significant predictor of social stigma (Blummer, 2009; Capitanio & Herek 1999; Corrigan & Watson, 2007; Mojtabai, 2007; Mukolo & Heflinger, 2011; Pescosolido et al, 1998, 2008; Phelan & Link, 1999; Schnittker et al., 2000a). Educational attainment is defined as one's self-reported highest level of education completed. To assess the relationship between education and social stigma, one question in the law enforcement sample asked officers to report their highest level of educational attainment. Specifically, Item # 75 asked officers, "What is your highest level of education attained?" with response categories including "Less than a high school diploma," "High school diploma or GED," "Some College," "Associates Degree or other trade degree," "College Graduate," and "Graduate or other Advanced Degree." This item was included only in the survey for law enforcement officers.

Tables 14 and 15 summarize the alpha scores for all scale variables created from Likert items used in this dissertation. As can be seen in the tables, all measures showed acceptable internal consistency.

Table 14

Alpha Scores for Scales (Law Enforcement Sample)

Scale	# of Items	Alpha	Mean Inter-item Correlation
Anticipated Help	4	.647	.313
Beliefs about help	4	.711	.377
Dangerousness	6	.767	.363
Blame	3	.683	.414
Social Distance	6	.763	.365
Fatalism	3	.741	.488
Beliefs about addiction	2	.589	.426

Table 15

Alpha Scores for Scales (Student Sample)

Scale	# of Items	Alpha	Mean Inter-item Correlation
Beliefs about help	4	.587	.272
Dangerousness	6	.777	.373
Blame	3	.763	.518
Social Distance	6	.820	.432
Fatalism	3	.603	.335

Analysis Plan

The analysis plan consisted of three steps. First, data were cleaned and checked for abnormalities. Cases with substantial missing data were removed from the final analysis. Second, preliminary analyses were conducted to describe the data. Preliminary analyses included frequency statistics for categorical variables, calculating measures of central tendency and dispersion for continuous and discrete variables, generating bar charts, histograms, quantile-quantile plots and probability-probability plots, and ocular inspections of the distribution each variable takes.

As noted in this chapter, to examine the reliability and validity of the groupings of the independent and dependent measures, it was necessary to conduct a factor analysis (Blunch,

2012; Carmines & Zeller, 1979; Cattell, 1952; Cureton & D'Agostino, 1983; Devellis, 2012; Gorsuch, 1974; McDonald, 1985; Pallant, 2016; Porter & Fabrigar, 2011; Tabachnick, & Fidell, 2013). Items that did not load appropriately to scales were dropped from the inferential analysis. Cronbach's alpha and inter-item correlations were also used to test for internal consistency (Pallant, 2016; Tabachnick, & Fidell, 2013). Scores from the four domains were added together and then averaged to construct a composite score reflective of one's overall stigma level for each concept.

Third, inferential statistics were utilized to examine predictors of beliefs related to help (Mernard, 2002, 2010; Pallant, 2016; Tabachnick, & Fidell, 2013). A series of bivariate correlations among variables were run to test the strength of relationships between independent variables and dependent variables. Since the outcome variables of focus for this study are continuous (e.g., beliefs about help), and all assumptions for inferential statistical techniques were met (Tabachnick & Fidell, 2013), a series of multivariate regression models were employed to assess the effects of key variables specified to predict stigma among groups of interest. Specific comparisons were made between persons living in urban and rural areas, between genders, races, political beliefs, and age groups. All analyses were conducted in SPSS 25.

Multiple regression is the most appropriate statistical analysis for this project because an attempt was being made to predict dependent measures (Y) by multiple independent measures (X). The formulas for the multiple regression equation and for calculating the coefficient of determination (R^2) are as follows (Fitzgerald & Fitzgerald, 2014; Field, 2013; Pallant, 2016; Tabachnick & Fidell, 2013):

$$\hat{Y} = a + b_1(X_1) + b_2(X_2) + b_3(X_3) \dots + b_k(X_k) + e$$

$$R^2 = \frac{SSr}{SSt}$$

In the first formula $\hat{Y}$ represents the dependent measure attempted to be predicted by X the independent variable. The multiple X 's represent the multiple predictors in the model. X_1 represents the first independent variable, X_2 represents the second independent variable, and X_3 and subsequent variables follow. The intercept is represented by a , and the error term is represented by e . The second formula represents that the coefficient of determination (R^2) is calculated by dividing the Sum of Squares Regression (SSr) by the Sum of Squares Total (SS_t). The SS_t is calculated by adding the error sum of squared deviations ($\sum(y - \bar{y})^2$) to the Sum of Squares Regression (SSr). R^2 represents the percent of variation in the dependent variable that can be explained by the independent variables in the model (Lewis-Beck, 2011; Tabachnick & Fidell, 2013).

The specific regression technique used for analyses was Hierarchical Multiple Regression (HMR) (Field, 2016), which is a procedure that enables researchers to add independent variable(s) into the model in *blocks*. Independent variables were added into the model in four separate blocks. In the first model, only demographic variables (gender, race, age, political beliefs, residence location, religiosity, years policing, rank, college major, year in school, grade point average, and level of educational attainment) were included. In the second model, variables related to departmental policy and training were entered into the regression equation. For the law enforcement sample, these variables included the items reflecting departmental policy related to Narcan and training in Narcan, as well as a variable assessing whether officers had taken a class or had training on addiction. For students, these variables included two items looking at their experiences with substance use addiction training, and one item assessing their use of Narcan. Variables within the personal life/experiences with substance use addiction training were entered into model three. These variables included beliefs about typical drug users (e.g., social class,

gender, race, and employment status), *Beliefs about Addiction*, and *Familiarity*. In the final model (model 4), variables assessing social stigma were entered. These variables included those measuring *Dangerousness*, *Blame*, *Social Distance*, and *Fatalism*.

Using this procedure, the statistical output showed the changes in R^2 measures with each new block added to the model, as well as the level of statistical significance for the model and individual predictors (Fitzgerald & Fitzgerald, 2014; Lewis-Beck, 2011; Tabachnick & Fidell, 2013).

The goal of inferential statistical procedures is to estimate parameters beyond the sample into a population of interest. Therefore, it was important to consider the statistical assumptions of the model. These assumptions enable researchers to generalize results from a small sample to the entire population (Field, 2013; Lewis-Beck, 2011; Tabachnick & Fidell, 2013). The assumptions of linear regression that were examined included: no specification error, no measurement error, the absence of perfect collinearity, and no issues with the error term. There has to be homoscedasticity or constant variances of the residual terms (Field, 2013; Fitzgerald & Fitzgerald, 2014; Pallant, 2016; Tabachnick & Fidell, 2013). All these assumptions were tested in the analyses conducted for the current study, and they will be discussed in Chapter 4.

Human Subjects Protections

In accordance with University policy, the researcher submitted the proposed study to the University's Institutional Review Board (IRB). All components of data collection, analyses, and reporting were conducted precisely as specified in the approved IRB protocol. For this work, confidentiality was the top human protections issue of concern. To ensure confidentiality, participants were asked to not record any identifying information on their surveys. Further, all of the collected physical surveys were stored in a locked filing cabinet in the researcher's office.

Additionally, all data were stored electronically on an external hard drive in a secure location in the researcher's university office.

Participants were given a copy of the consent form for their own records. The consent form outlined the important components of the study. First, all participants were informed of the procedures used to protect their confidentiality. Second, the consent form explained the risks of the study to the participants. While there were no major risks to this proposed study, due to the sensitive nature of the subject matter, the questions and the responses could have elicited some unpleasant feelings from respondents. As such, participants were provided with the number for counseling services. Participants were also given the contact information of the researcher, in case they had any questions or concerns.

In regard to research benefits, the researcher communicated to all participants that the results could be used to help inform future policy, academic courses, and training regarding substance use and addiction. Further, participants were made aware that participation was completely voluntary and that they could redact consent at any time. Finally, the researcher included in the consent form a statement that findings from the study may be published in peer-reviewed journal articles and/or presented at conferences, but that data would only be discussed in the aggregate.

CHAPTER IV

FINDINGS

This dissertation research attempted to assess attitudes toward help provided to opioid/heroin users who overdose. Further, the researcher was interested in analyzing the impact of stigma on beliefs about help that should be provided for opioid/heroin users. To answer each research question specified above, multiple analytical techniques were employed. Results from statistical analyses performed are summarized. Due to the fact that the data were collected from two different samples—a sample of law enforcement officers and a sample of students—the results are organized into two parts. First, the results from the law enforcement sample are discussed. Then, the results from the student sample are discussed. Finally, the chapter concludes with a comparison of the results between the two samples.

Law Enforcement Sample

Sample Demographics

Table 16 displays demographic information from the law enforcement sample. The sample consisted of 208 officers. As presented in Table 16, the majority of the sample was male (N = 183, 91%) and Caucasian (N = 190, 94.5%). For both *Resident Location (current)* and *Resident Location (upbringing)*, “suburban” was the most common geographical location identified. Regarding current living location, 53.7% (N = 110) reported “suburban,” 32.7% (N = 67) of officers reported “rural,” and 13.7% (N = 28) reported “urban.” Respondents reported an average of 6.70 on the political beliefs scale, indicating that, in the aggregate, officers held more conservative beliefs than liberal beliefs. In terms of religiosity, most respondents (64.0%, N = 128) reported being “somewhat religious,” compared to just 19.0% (N = 38) who indicated not being religious at all, and 17.0% (N = 34) who indicated to be “very religious.”

Table 16

Participant Demographic Information (Law Enforcement Sample, N = 208)

Variable	n	%	M (SD)
Gender (n = 201)			
Male	183	91.0	
Female	18	9.0	
Race (n = 201)			
Caucasian	190	94.5	
Other	11	5.5	
Resident Location (Current) (n = 205)			
Rural	67	32.7	
Urban	28	13.7	
Suburban	110	53.7	
Resident Location (Upbringing) (n = 205)			
Rural	65	31.7	
Urban	44	21.5	
Suburban	96	46.8	
Religiosity (n = 200)			
Not at all	38	19.0	
Somewhat	128	64.0	
Very	34	17.0	
Political Beliefs (n = 194) (0= Liberal, 10= Conservative)			6.70 (1.86)
Age (n = 187)			43.58 (9.20)
Educational Attainment (n = 203)			
HS Diploma or G.E.D	8	3.9	
Some College	36	17.7	
Associate Degree/Trade School	36	17.7	
College Graduate	83	40.9	
Graduate of Other Advanced Degree	40	19.7	
Years Policing (n = 171)			17.98 (9.86)
Rank (n = 202)			
Patrol Officer	77	38.1	
Corporal/Detective	25	12.4	
Sergeant, Captain, Colonel	56	27.7	
Deputy Chief, Chief, Sheriff	44	21.8	

The average age of the law enforcement sample was 43.58 years old. The majority of the sample respondents had completed post-secondary education with 83 (40.9%) respondents reporting having graduated college, and another 40 (19.7%) having a graduate or other advanced degree. In all, 36 respondents (17.7%) reported having an associate's degree or trade school education, and 36 (17.7%) reported having "some college" experience. Only 3.9 percent of the sample (N = 8) indicated having attained a high school diploma or G.E.D as their highest level of

education. Officers had an average of nearly 18 years working in policing. Regarding rank, most respondents were patrolman (N = 77, 38.1%). In all, 44 respondents (21.8%) reported being at the deputy chief rank or higher, 56 held the rank of sergeant, captain, or colonel (27.7%), and 25 were at the rank of corporal or detectives (12.4%).

Officer Characteristics Regarding Narcan

Given the nature of the scope of this study, it was also important to measure officers' experiences with addiction training and the use of Narcan. Table 17 depicts law enforcement officers' responses to questions about experiences with addiction training, use of Narcan, and departmental policies on the use of Narcan. As presented in Table 17, more than 86% (N = 178) of officers reported that they had taken a class on substance use addiction, and nearly 88% (N = 182) reported having completed a training course or program on substance use addiction. Regarding departmental policy on Narcan, 87.9% (N = 182) of officers reported that their department had a policy or practice related to administering Narcan for opioid overdoses, compared to just 12.1% (N = 25) who reported that their department did not have such a policy. More than 89% (N = 185) of participants reported that their department permitted them to carry Narcan, but just 58% (N = 120) indicated that their department required them to carry Narcan at all times. Most officers (N = 163, 78.7%) stated that they carry Narcan on-duty. However, 21.3% (N = 44) of participants reported that they did not carry Narcan on-duty. In terms of actual use of Narcan, 60.4% (N = 125) of participants had administered Narcan, and 39.6% (N = 82) had never administered Narcan.

Table 17

Participant Information on Addiction Training and Narcan (Law Enforcement Sample, N = 208)

Variable	Yes (%)	No (%)
Have you ever taken any class on substance use addiction? (n = 206)	178 (86.4)	28 (13.6)
Have you completed any training courses or programs on substance use addiction? (n = 207)	182 (87.9)	25 (12.1)
Have you ever had to administer Narcan? (n = 207)	125 (60.4)	82 (39.6)
Does your department have a policy or practice on Administering Narcan for opioid overdoses? (n = 207)	182 (87.9)	25 (12.1)
Have you been trained in the administration of Narcan? (n = 206)	196 (95.1)	10 (4.9)
Does your department permit you to carry Narcan? (n = 207)	185 (89.4)	22 (10.6)
Does your department require you to carry Narcan at all times? (n = 207)	120 (58.0)	87 (42.0)
Do you carry Narcan on-duty?	163 (78.7)	44 (21.3)

Research Question 1: Officers' Attitudes Toward Help Provided for Opioid Users

Additional results are now presented as they pertain to the main research questions of interest in this study. The first main research question was, "What are law enforcement officers' attitudes toward help provided to opioid users?" As described in Chapter III, two dependent measures, *Anticipated Help* and *Beliefs About Help*, were included in the law enforcement sample to help answer this question.

Table 18 displays the frequency statistics of the individual items in the *Anticipated Help* scale. As presented in Table 18, most officers (N = 191, 92.8%) reported that they would be either "Very likely" or "Somewhat Likely" to administer Narcan if they encountered a person suffering from an opioid overdose. Interestingly, 2 officers (1.0%) stated that they would be

“Neither Likely nor Unlikely” to administer Narcan. In total, 13 officers (6.3%) stated that they would be either “Somewhat Unlikely” or “Very Unlikely” to administer Narcan. Officers also reported that they would be inclined to attempt to identify the person overdosing and notify a family member or friend. In total, 164 officers (75.2%) reported that they would be either “Very Likely” or “Somewhat Likely” to attempt to identify the person overdosing and notify a family member or friend, 20 officers (9.9%) stated that they would be “Neither Likely nor Unlikely” to respond in a similar way, and 28 officers (13.5%) indicated that they would be either “Somewhat Unlikely” or “Very Unlikely” to respond in a similar manner.

Comparatively, fewer officers indicated that they would be likely to refer the person to a drug treatment program with just 75 (37%) officers reporting that they would be either “Very Likely” or “Somewhat Likely” to refer the person to a drug treatment program. Similarly, about 29% (N= 58) of officers reported that they would be either “Very Likely” or “Somewhat Likely” to accompany the person to the local hospital or urgent care center.

Table 18

Frequency Statistics for Items Related to Anticipated Help (Law Enforcement Sample, N = 208)

Response	Very Likely		Somewhat Likely		Neither Likely Nor Unlikely		Somewhat Unlikely		Very Unlikely	
	N	%	N	%	N	%	N	%	N	%
Administer Narcan (n = 206)	175	85.0	16	7.8	2	1.0	2	1.0	11	5.3
Accompany the person to the local hospital/urgent care facility (n = 201)	29	14.4	29	14.4	45	22.4	30	14.9	68	33.8
Attempt to identify the person and notify a family member or friend (n = 202)	115	55.9	39	19.3	20	9.9	13	6.3	15	7.2

Refer the person to a drug treatment program (n = 200)	42	21.0	32	16.0	43	21.5	22	11.0	61	30.5
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Table 19 displays the frequency statistics of the individual items in the *Beliefs About Help* scale. As presented in Table 12, 89.3% (N = 180) of officers either “agreed” or “strongly agreed” that an officer who encounters an overdose should administer Narcan. This statistic is about 3% less than the percent of officers who indicated some form of likelihood that they would administer Narcan (92.8%, N = 191). Interestingly, more than 6% (N = 13) of officers indicated some form of disagreement that an officer should administer Narcan to someone who appears to be suffering from an opioid overdose. However, only 69% (N = 141) of officers expressed agreement that an officer should identify the person overdosing and notify a family member or friend. This statistic is about 5% less than that reported by officers in *Anticipated Help* (N= 164, 75.2%).

Table 19

Frequency Statistics for Items Related to Beliefs About Help (Law Enforcement Sample, N =208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Administer Narcan (n = 205)	156	77.6	24	11.7	9	4.4	3	1.4	10	4.8
Accompany the person to the local hospital/urgent care facility (n = 203)	23	11.3	17	8.4	73	36.0	34	16.7	56	27.6
Attempt to identify the person and notify a family member or friend (n = 204)	90	44.1	51	25.0	31	15.2	11	5.4	21	10.3
Refer the person to a drug treatment program (n = 203)	32	15.4	32	15.4	65	32.0	31	14.9	43	20.7

Similarly, fewer officers indicated that an officer should refer the person overdosing to a drug treatment program (30.8%, N = 64) compared to those who stated that they would be likely to make a referral (37%, N = 75%). Only 29 % (N= 58) of officers agreed or strongly agreed that an officer should accompany the person to the local hospital/urgent care center. This statistic is more than 9 percent less than that reported for *Anticipated Help*.

Table 20 shows the descriptive statistics for the two help scales. The mean score for *Anticipated Help* was 14.20 (*sd* = 3.67) with a minimum score of 4 and maximum score of 20. The mean score for *Beliefs About Help* was slightly lower at 13.88 (*sd*= 3.64) with a minimum score of 4 and a maximum score of 20. These data suggest that officers' beliefs about the appropriate level of care provided for persons suffering from an opioid overdose are slightly lower than the level of care that they anticipated providing. However, this difference was not statistically significant ($t = 0.875, p = .382$).

Table 20

Descriptive Statistics for Help Scales (Law Enforcement Sample, N = 208)

	N	M	SD	Range	Min	Max
Anticipated Help	199	14.20	3.67	16.00	4.00	20.00
Beliefs About Help	201	13.88	3.64	16.00	4.00	20.00

Research Question 2: Predictors of Anticipated Help

The second main research question was, “What are the predictors of law enforcement officers’ attitudes toward help provided to opioid users?” In the following discussion, the variables are discussed in the manner in which they were entered into Hierarchical Multivariate Regression (HMR) models. As noted in Chapter 3, the first model contained the descriptive statistics and the demographic variables previously discussed. Additional descriptive statistics of the variables included in the second, third, and fourth models are described below.

Departmental policy and training (model 2). Variables related to departmental policy and training were entered into Model 2. These variables included the items reflecting departmental policy related to Narcan and training in Narcan, as well as a variable reflecting whether officers had taken a class or had training on addiction. The frequency statistics for these items are described above.

Personal life/experiences with substance use addiction training (model 3). Variables within the personal life/experiences with substance use addiction training entered into Model 3 were *Beliefs About Typical Drug Users* (e.g., social class, gender, race, and employment status), and *Beliefs About Addiction*, and *Familiarity*.

The frequency statistics for items relating to *Beliefs About Typical Drug Users* (e.g., social class, gender, race, and employment status) are presented in Table 21. Regarding social class, only 2 (1.0%) officers selected “upper” for the social class they perceived to be representative of a typical drug user. Thus, responses for “middle” and “upper” were combined. In total, more than half of the officer respondents believed that a *typical* drug user is from the lower class (N = 108, 53.7%). Conversely, 46% (N = 93) of officers perceived a *typical* drug user to be from the middle or upper class. Regarding gender, 124 officers (N = 60.8%) perceived the *typical* drug user to be male, 18 (8.8%) officers perceived the *typical* drug user to be female, and 62 (30.4) officers indicated “other” as the gender of a *typical* drug user. Interestingly, all the officers who selected “other” indicated “both” genders when asked to write-in their response. Thus, the “other” category was changed to reflect both genders.

Table 21

Frequency Statistics for Beliefs About Typical Drug Users (Law Enforcement Sample, N = 208)

	N	%
Social Class (n = 201)		
Lower	108	53.7
Middle/Upper	93	46.3
Gender (n = 204)		
Male	124	60.8
Female	18	8.8
Both	62	30.4
Race (n = 204)		
White	156	76.5
Other	48	23.6
Employment Status (n = 203)		
Employed	58	28.6
Unemployed	145	71.4

In terms of perceived racial composition, 13 (6.4%) officers selected African American and 35 (17.2%) selected “other” when asked to report the racial composition of a *typical* drug user. A decision was made to collapse the variable by combining the “African American” and “Other” categories. Overall though, most officers (N = 156, 76.5%) perceived that a *typical* drug user is white, compared to other racial groups (N = 48, 23.6%). Officers also indicated that the *typical* drug user is unemployed (N= 145, 71.4%).

Table 22 displays frequency statistics for individual items making up the *Beliefs About Addiction* scale. As depicted in Table 22, just 46.2 % (N = 96) of officers expressed agreement with the statement that, “Drug abuse is a disease.” In fact, 39 % (N = 81) of officers either disagreed or strongly disagreed with the statement that, “Drug abuse is a disease.” In all, 85 officers (40.9%) either agreed or strongly agreed with the statement, “Some people are genetically predisposed to become drug addicts,” compared to 71 (34.1%) officers who disagreed with that statement, and 52 (25%) officers neither agreed or disagreed.

Table 23 displays descriptive statistics for *Beliefs About Addiction* scale. Larger scores indicate greater support for biophysiological explanations for substance use addiction. As presented in Table 23, the average score was 6.14 ($sd = 2.27$) suggesting moderately strong support for biophysiological explanations for substance use addiction. The range was 8, with a minimum score of 2 and a maximum score of 10. As previously reported, the analysis of inter-item correlations suggested that this scale had adequate internal consistency.

Table 22

Beliefs About Addiction Item Frequencies (Law Enforcement Sample, N = 208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Drug abuse is a disease (n = 208)	49	23.6	47	22.6	31	14.9	37	17.8	44	21.2
Some people are genetically predisposed to become drug addicts (n = 208)	23	11.1	62	29.8	52	25.0	45	21.6	26	12.5

Table 23

Descriptive Statistics for Beliefs About Addiction Scale (Law Enforcement Sample, N = 208)

	N	M	SD	Range	Min	Max
Beliefs About Addiction	208	6.15	2.27	8.00	2.00	10.00

Familiarity was another concept entered into Model 3. The frequency statistics for items related to *Familiarity* are depicted in Table 24. Overall, 93.2% (N = 193) of officers selected “yes” when asked if they have witnessed persons who use heroin/opioids on a frequent basis, and most officers (N = 138, 66.7%) reported that they knew a friend of the family who had used heroin/opioids. Conversely, most officers (N = 145, 70.0%) had never worked with a person who

used heroin or opioids. With respect to having a relative who used heroin/opioids (N = 106, 51.2%) reported that they did not, and (N = 162, 77.9%) had never lived with a person who used heroin or opioids.

Table 24

Frequency Statistics for Familiarity Items (Law Enforcement Sample, N = 208)

Variable	Yes (%)	No (%)
I have witnessed persons who use heroin/opioids on a frequent basis	193 (93.2)	14 (6.8)
I have worked with a person who used heroin/opioids	62 (30.0)	145 (70.0)
I know a friend of the family who has used heroin/opioids	138 (66.7)	69 (33.3)
I have a relative who has used heroin/opioids	101 (48.8)	106 (51.2)
I have lived with, or close to a person(s), who used heroin/opioids	45 (21.7)	162 (77.9)

Descriptive statistics for *Familiarity* score are depicted in Table 25. As presented in Table 25, the mean *Familiarity* score was 2.60 ($sd = 1.31$) with a minimum score of 0, a maximum score of 5, and range of 5. These data suggest that, in the aggregate, officers reported moderate *Familiarity* scores.

Table 25

Descriptive Statistics for Familiarity Score (Law Enforcement Sample, N = 208)

	N	M	SD	Range	Min	Max
Familiarity	207	2.60	1.31	5.00	0.00	5.00

Stigma variables (model 4). In the final model (Model 4), variables assessing social stigma were entered. These variables included those measuring *Dangerousness*, *Blame*, *Social*

Distance, and *Fatalism*. A discussion of the frequency statistics of the items that comprise each scale follows.

The frequency statistics for items related to *Dangerousness* are presented in Table 26. More than 45% (N = 94) of officers either agreed or strongly agreed that they would not allow their child to play outside alone if they lived by a heroin addict. Comparatively, 22.7% (N = 57) of officers disagreed or strongly disagreed with that statement, and 31.9% (N = 66) expressed neither agreement nor disagreement. Overwhelmingly, most officers (91.3%, N = 188) expressed some form of agreement that they would be less likely to trust someone if he/she knew that they had used heroin or opioids. Similarly, most officers (78.1%, N = 161) either agreed or strongly agreed with the statement, “People who use heroin and/or opioids are a threat to the safety of our community,” and most officers (74.9%, N = 155) expressed some form of agreement with the statement, “Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users.” A majority of officers (59.2%, N = 123) seemed to feel that opioid users were unpredictable by agreeing that one cannot tell what an opioid user will do from one minute to the next. Despite elevated perceptions of dangerousness reported in other items, just 16.5% (N=34) of officers agreed or strongly agreed with the statement, “The main purpose of opioid treatment facilities should be to protect the general public from users.”

Table 27 shows the frequency statistics for items related to *Blame*. Overall, more than two-thirds of the sampled officers (69.5%, N = 144) expressed agreement with the statement, “Persons addicted to heroin and/or opioids are usually responsible for their own condition.” Conversely, only 20.3% (N = 37) of officers agreed or strongly agreed that persons addicted to heroin and/or opioids lacked the work ethic needed to get clean. In fact, more than half of the officers (52.3%, N = 108) expressed some form of disagreement with that statement. Similarly,

Table 26

Frequency Statistics for Dangerousness Items (Law Enforcement Sample, N = 208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside (n = 207)	39	18.8	55	26.6	66	31.9	39	18.8	8	3.9
One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next (n = 207)	41	19.8	82	39.4	37	17.9	45	21.6	2	1.0
If I knew a person had used heroin or opioids, I would be <i>less likely</i> to trust him/her (n = 206)	110	53.4	78	37.9	13	6.3	5	2.4	0	0
People who use heroin and/or opioids are a threat to the safety of our community (n = 206)	73	35.4	88	42.7	33	16.0	11	5.3	1	0.5
The main purpose of opioid treatment facilities should be to protect the general public from users (n = 206)	18	8.7	16	7.8	49	23.8	100	48.5	23	11.2
Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users (n = 207)	62	30.0	93	44.9	35	16.9	14	6.8	3	1.4

Table 27

Frequency Statistics for Blame Items (Law Enforcement Sample, N = 208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Persons addicted to heroin and/or opioids are usually responsible for their own condition (n = 207)	52	25.1	92	44.4	47	22.7	11	5.3	5	2.4
Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get clean (n = 207)	17	8.2	25	12.1	57	27.5	97	46.9	11	5.3
Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition (n = 207)	31	15.0	58	28.0	66	31.9	47	22.7	5	2.4

43% (N = 89) of officers either agreed or strongly agreed with the statement, “Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition,” compared to just 25.1% (N = 52) percent of officers who disagreed with that statement, and 31.9% (N = 66) who expressed neither agreement nor disagreement.

Table 28 displays frequency statistics for items related to *Social Distance*. As shown in Table 28, a majority of officers (56.7%, N = 128) either agreed or strongly agreed with the statement, “If I knew someone was addicted to heroin and/or opioids I would try to avoid them.” Most officers also agreed that it would bother them to live near a person who used heroin or opioids (74.6%, N = 155), that it would be difficult for them to develop a friendship with someone who uses heroin or opioids (79.8%, N = 166), and that they would prefer not to work with someone who was a known user of heroin or opioids (91.4%, N = 189). In the aggregate, 74.4% (N = 154) percent of officers expressed disagreement with the statement, “I would be fine letting someone who had a history of opioid and/or heroin use marry into my family,” compared to just 11.1% (N = 23) who agreed, and 14.5% (N = 30) who neither agreed nor disagreed.

Overall, officers’ responses suggest that they desired the greatest social distance from opioid/heroin users in matters involving their children. Specifically, 97.1% (N = 202) of officers expressed some form of agreement with the statement, “I would not feel comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours”.

The frequency statistics for items related to *Fatalism* are depicted in Table 29. As presented in Table 29, most officers did not appear to hold fatalistic views of opioid/heroin users. In all, just 21.2% (N = 44) of officers either agreed or disagreed with the statement, “Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result).”

Table 28

Frequency Statistics for Social Distance Items (Law Enforcement Sample, N = 208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
If I knew someone was addicted to heroin and/or opioids I would try to avoid them (n = 208)	47	22.6	71	34.1	48	23.1	36	17.3	6	2.9
It would bother me to live near a person who used heroin or opioids (n = 208)	59	28.4	96	46.2	31	14.9	18	8.7	4	1.9
It would be difficult for me to develop a friendship with someone who uses heroin or opioids (n = 208)	93	44.7	73	35.1	23	11.1	16	7.7	3	1.4
I <i>would not feel</i> comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours (n = 208)	182	87.5	20	9.6	5	2.4	0	0	1	0.5
If I could, I would <i>prefer not to</i> work with someone who was a known user of heroin or opioids (n = 207)	133	64.3	56	27.1	16	7.7	1	0.5	1	0.5
I would be fine letting someone who had a history of opioid and/or heroin use marry into my family (n = 207)	11	5.3	12	5.8	30	14.5	65	31.4	89	43.0

Table 29

Frequency Statistics for Fatalism Items (Law Enforcement Sample, N = 208)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result (n = 208)	11	5.3	33	15.9	45	21.6	93	44.7	26	12.5
Most people who become addicted to heroin or opioids are addicts for life (n = 207)	23	11.1	75	36.2	48	23.2	52	25.1	9	4.3
Full recovery from opioid addiction is impossible (n= 208)	9	4.3	28	13.5	36	17.3	97	46.6	38	18.3

Comparatively, 57.2 % (N = 119) of officers disagreed with that statement and 21.6% (N = 45) expressed neither agreement nor disagreement. Similarly, most officers (64.9%, N = 135) disagreed with the statement, “Full recovery from opioid addiction is impossible.” Officers expressed some ambivalence toward the chronicity —that is, a belief that heroin and opioid addiction is a lifelong condition—of heroin/opioid addiction with 47.3% (N = 88) expressing some form of agreement with the statement, “Most people who become addicted to heroin or opioids are addicts for life,” 29.4% (N = 61) expressing some form of disagreement, and 23.2% (N = 48) neither agreeing nor disagreeing with that statement.

Table 30 displays the frequency statistics for the four stigma scales. As stated previously, all scales had adequate internal consistency. To aid with interpretation for comparison purposes, the four measures were averaged. As presented in Table 22, officers reported the highest average score for *Social Distance* (M = 4.16, *sd* = 0.63) indicating that of all the types of stigma assessed in this study, officers desired social distance from heroin/opioid users more so than they blamed them, perceived them as dangerous, or viewed their condition as intractable

Table 30

Descriptive Data for Stigma Scales (Law Enforcement Sample, N = 208)

	N	M	SD	Range	Min	Max
Dangerousness	206	3.65	0.66	3.50	1.50	5.00
Blame	206	3.28	0.79	4.00	1.00	5.00
Social Distance	207	4.16	0.63	2.83	2.17	5.00
Fatalism	207	2.72	0.86	4.00	1.00	5.00

Bivariate correlations. Results from the bivariate correlations between all variables and their relationship in the law enforcement sample are presented in Table 31. These analyses revealed that 11 of the 42 independent variables assessed were statistically significantly

correlated with *Anticipated Help* and 11 of the 42 independent variables were statistically significantly correlated with *Beliefs About Help*.

Regarding *Anticipated Help*, carrying Narcan on-duty had the strongest significant correlation ($r = .350, p < .01$). As indicated by the positive direction of the correlation, officers who carry Narcan while on-duty, were more likely to report higher levels of *Anticipated Help* than officers who do not carry Narcan on-duty. The next strongest associations were related to departmental policy surrounding Narcan. Specifically, officers who worked in departments that have a policy on administering Narcan ($r = .347, p < .01$), that permit officers to carry Narcan ($r = .293, p < .01$), or that require officers to carry Narcan ($r = .241, p < .01$) reported higher levels of *Anticipated Help* than officers in other departments. Officer training on the administration of Narcan ($r = .244, p < .01$) also was found to significantly correlate with *Anticipated Help* in the positive direction.

Interestingly, the next strongest correlation with the dependent variable was *Beliefs About Addiction* ($r = .254, p < .01$). Officers who supported biopsychosocial explanations for addiction also reported being more likely to provide a variety of services to overdose victims. The next strongest correlation with the dependent variable was *Political Beliefs* ($r = -.228, p < .01$), measured with a 0 (Liberal) to a 10 (Conservative) scale. This finding suggests that as officers' reported political beliefs become more conservative, their anticipated level of help provided to persons suffering from an opioid/heroin overdose decreases. The stigma variables reported the next highest correlations. As expected, there was a statistically significant negative correlation between *Fatalism* ($r = -.227, p < .01$) and *Anticipated Help*, suggesting that as officers' perception of *Fatalism* increased, their beliefs about how they would help someone suffering from an opioid or heroin overdose decreased. Similarly, the stigma variables *Blame* ($r = -.219, p$

< .01) and *Social Distance* ($r = -.186$, $p < .01$) were both negatively correlated with *Anticipated Help*. These findings indicate that as one's social stigma toward heroin/opioid users increases, the anticipated level of help the officer would provide to someone suffering from an overdose decreases.

The last significant variable found through bivariate correlation analyses was related to race. Compared to officers of other racial backgrounds, white respondents ($r = .195$, $p < .01$) reported higher levels of *Anticipated Help*. However, this finding should be interpreted cautiously because of the small number of respondents who identified as non-white, and this variable will not be used in multivariate models because it is essentially a constant. Future research should explore the relationship between race and anticipated help more carefully.

Many of the same independent variables that were significantly correlated with *Anticipated Help* also were significantly correlated with *Beliefs About Help*. This is largely a product of the similarities between the two variables. As expected, the two variables had a strong correlation ($r = .830$, $p < .01$). The only difference is that one scale reflects beliefs about how another officer *should* respond while the other reflects the individual officer's actual anticipated response. Thus, it is important to examine the two concepts independently. There were differences in strengths and types of variables that were significantly related to each variable.

The strongest correlation with *Beliefs About Help* was found for the variable measuring *Beliefs About Addiction* ($r = .316$, $p < .01$). As anticipated, as support for biopsychosocial explanations for addiction increased, so did one's belief that officers should provide greater support to overdose victims. The next strongest correlation was found for *Fatalism* ($r = -.266$, $p < .01$). As belief that opioid and heroin use was an intractable condition increased, officers' beliefs that other officers should provide a wide-range of services to overdose victims decreased.

Table 31

Correlations (Law Enforcement Sample, N = 208)

Variable	1	2	3	4	5	6	7	8	9	10
1. Anticipated Help (DV)	1									
2. Beliefs About Help (DV)	.830**	1								
3. Male	-.042	.004	1							
4. White	.195**	.203**	.088	1						
5. Typical Drug User Middle/Upper Class	.005	.028	.032	.032	1					
6. Typical Drug User White	.063	.022	.075	.039	.041	1				
7. Typical Drug User Employed	.015	.060	.129	.046	.235**	-.175*	1			
8. Typical Drug User Male	-.054	-.020	.183*	.002	-.126	.265**	-.084	1		
9. Typical Drug User Female	-.069	-.127	-.091	.073	.095	.132	-.080	-.387**	1	
10. Typical Drug User Other	.100	.100	-.139	-.048	.074	-.362**	.139*	-.823**	-.206**	1
11. Taken class on substance use addiction	.028	.002	-.073	-.031	.118	-.085	-.029	-.145*	.075	.108
12. Completed training courses on substance use addiction	.043	.034	-.009	.119	.019	-.103	-.061	-.057	.011	.053
13. Has administered Narcan	.061	-.018	.029	-.018	.045	-.069	-.113	-.073	-.103	.141
14. Department has a policy on Administering Narcan	.347**	.255**	.045	.046	.110	-.032	.006	-.026	-.041	.053
15. Has been trained on administering Narcan	.244**	.156*	.168*	.045	.031	.141*	-.056	.049	-.089	.003
16. Department permits carrying of Narcan	.293**	.154*	.120	.132	.071	-.008	.011	-.054	-.058	.094
17. Department requires officers to carry Narcan	.241**	.168*	.012	.233**	.123	-.031	-.013	-.039	.092	-.016
18. Carry Narcan on-duty	.350**	.259**	.133	.194**	.087	.080	-.025	.026	.034	-.049
19. Familiarity	.042	.012	.031	-.003	.111	-.118	-.015	.021	-.063	.017
20. Beliefs about addiction	.254**	.316**	.007	.049	.137	.036	.194**	-.043	-.002	.047

21. Dangerousness	-.017	-.119	.032	-.069	-.216	.066	-.252	.124	-.037	-.109
22. Blame	-.219**	-.253**	.156*	.051	-.175*	-.030	-.153*	.040	.000	-.043
23. Social Distance	-.186**	-.219**	-.054	-.009	-.269**	-.018	-.153*	.088	-.099	-.032
24. Fatalism	-.227**	-.266**	.056	-.070	-.044	-.029	-.102	.044	.032	-.066
25. Political beliefs	-.228**	-.141	.174	.018	-.186	-.029	-.125	.183	-.119	-.120
26. Age	.051	.064	.165	-.062	.178	.082	.190	.011	.039	-.037
27. Years working in policing	.084	.074	.181	-.019	.205	.080	.165	.052	.098	-.123
28. Resident location (current) - rural	.072	.077	-.040	.029	-.143	-.083	-.167	.007	-.074	.038
29. Resident location (current) - urban	.001	-.050	.021	-.098	-.075	.045	-.027	-.041	.081	-.006
30. Resident Location (current) -suburban	-.068	-.038	.023	.040	.187**	.048	.176*	.022	.015	-.032
31. Resident location (grow) - rural	.078	.038	.059	.064	-.103	-.070	-.179*	-.032	.007	.029
32. Resident location (grow) - urban	-.050	-.145	-.045	-.190	-.112	-.027	.014	-.002	.006	-.001
33. Resident Location (grow) - suburban	-.031	.084	-.017	.099	.188**	.088	.155*	.032	-.011	-.027
34. Not religious	.012	.017	-.025	.045	.077	-.016	.101	-.039	-.018	.053
35. Somewhat religious	-.010	-.035	.054	-.014	-.079	-.052	-.067	.011	.016	-.022
36. Very religious	.001	.027	-.043	-.029	.022	.084	-.019	.027	-.001	-.028
37. Some college	-.026	-.097	-.006	-.137	.007	.034	.011	-.044	-.041	.072
38. Associates degree	.049	.090	.056	.055	.069	-.060	-.066	-.089	-.054	.128
39. Bachelor's Degree	.000	-.011	.048	.064	-.144*	-.044	-.030	.095	.017	-.112
40. Graduate Degree	-.020	.031	-.106	.010	.108	.078	.090	.013	.074	-.061
41. Patrol Officer	-.046	-.083	-.044	-.036	-.083	.012	-.038	.028	-.180	.083
42. Detective	-.096	-.084	-.145*	.092	-.100	-.168*	-.079	-.017	.098	-.043
43. Sergeant	.045	.019	.038	-.050	-.017	-.013	-.022	-.054	.118	-.016
44. Chief	.084	.147*	.126	.023	.198**	.134	.135	.039	.008	-.046

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Variable	11	12	13	14	15	16	17	18	19	20
11. Taken class on substance use addiction	1									
12. Completed training courses on substance use addiction	.518**	1								
13. Has administered Narcan	.058	.124	1							
14. Department has a policy on Administering Narcan	.069	.090	.336**	1						
15. Has been trained on administering Narcan	-.021	-.015	.278	.552	1					
16. Department permits carrying of Narcan	.000	-.032	.266**	.738**	.670**	1				
17. Department requires officers to carry Narcan	.066	.195**	.251**	.405**	.218**	.341**	1			
18. Carry Narcan on-duty	.040	.097	.376**	.605**	.433**	.549**	.419**	1		
19. Familiarity	.120	.092	.140*	.137*	.104	.075	.116	.077	1	
20. Beliefs about addiction	.005	.042	.022	.199**	.055	.062	.038	.166*	.083	1
21. Dangerousness	-.080	-.050	.056	.003	.065	-.011	-.068	.079	-.037	-.203**
22. Blame	-.139*	-.060	.049	-.092	.054	-.007	-.009	-.011	-.148*	-.393**
23. Social Distance	-.038	.015	-.070	-.008	.032	.016	-.106	-.023	-.108	-.230**
24. Fatalism	-.045	-.014	-.035	-.044	-.063	-.069	-.035	-.019	-.005	-.175*
25. Political beliefs	-.022	-.076	-.067	-.118	-.010	-.053	.025	-.012	.001	-.265
26. Age	.134	.054	-.026	.105	-.024	.062	.060	.043	.015	.208**
27. Years working in policing	.184*	.099	-.084	.086	-.046	.063	.101	.042	-.026	.156*
28. Resident location (current) - rural	-.062	.003	-.117	-.157*	-.085	-.064	-.060	-.070	-.070	-.074
29. Resident location (current) - urban	-.006	.106	-.022	-.025	.022	-.045	.027	-.033	.008	-.145*

30. Resident Location (current) -suburban	.062	-.076	.125	.164*	.065	.091	.038	.089	.060	.169*
31. Resident location (grow) - rural	-.036	-.033	.003	-.065	.105	.102	.079	.077	-.065	-.184**
32. Resident location (grow) - urban	.033	.083	-.116	-.063	-.161*	-.208**	-.040	-.197**	-.115	-.099
33. Resident Location (grow) - suburban	.007	-.037	.092	.113	.033	.074	-.041	.088	.155*	.253**
34. Not religious	-.083	-.021	-.030	.011	.051	.074	-.015	.089	-.012	.114
35. Somewhat religious	-.009	-.018	-.012	-.007	-.075	-.109	-.013	-.102	.116	-.053
36. Very religious	.097	.045	.045	-.003	.043	.063	.032	.038	-.135	-.051
37. Some college	-.039	-.103	.040	.046	.065	.062	.018	.011	.142*	-.193**
38. Associates degree	-.007	.051	.038	.051	.047	.074	.009	.116	.005	.011
39. Bachelor's Degree	-.001	-.008	-.002	-.008	.049	.017	.019	.011	-.116	.012
40. Graduate Degree	.049	.067	-.075	-.086	-.173*	-.156*	-.050	-.136	-.009	.176*
41. Patrol Officer	-.170*	-.089	.105	.006	.086	.035	-.051	.037	-.061	-.149*
42. Detective	-.028	-.047	-.182**	-.140*	-.122	-.118	-.044	-.134	.017	-.051
43. Sergeant	.045	-.049	.117	.088	.038	.064	.074	.075	.032	.085
44. Chief	.173*	.195**	-.105	.009	-.045	-.016	.015	-.017	.024	.125

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Variable	21	22	23	24	25	26	27	28	29	30
21. Dangerousness	1									
22. Blame	.473**	1								
23. Social Distance	.619**	.409**	1							
24. Fatalism	.304**	.420**	.361**	1						
25. Political beliefs	.142	.147*	.137	.059	1					
26. Age	-.295**	-.200**	-.337**	-.024	.038	1				
27. Years working in policing	-.381**	-.246**	-.379**	-.060	.096	.900**	1			
28. Resident location (current) - rural	.210**	.171*	.123	.077	.057	-.134	-.125	1		
29. Resident location (current) - urban	.060	.053	.019	-.021	-.009	.047	-.017	-.277**	1	
30. Resident Location (current) -suburban	-.239**	-.198**	-.128	-.057	-.047	.094	.129	-.750**	-.428**	1
31. Resident location (grow) - rural	.080	.085	.001	-.030	.044	-.175*	-.089	.576**	-.088	-.481**
32. Resident location (grow) - urban	.064	.038	.027	.002	.015	.069	.075	-.162*	.519**	-.205**
33. Resident Location (grow) - suburban	-.128	-.111	-.023	.026	-.054	.105	.020	-.404**	-.345**	.617**
34. Not religious	-.023	-.072	.034	.027	-.170*	.034	-.103	.121	-.005	-.111
35. Somewhat religious	-.054	.067	-.044	-.027	.021	-.003	.027	-.138	.052	.094
36. Very religious	.093	-.010	.021	.006	.149*	-.033	.071	.050	-.062	-.005
37. Some college	.191**	.094	.050	.154*	.031	.052	-.047	.043	.076	-.092
38. Associates degree	.015	-.045	-.046	-.038	.104	.017	.030	.091	-.068	-.039
39. Bachelor's Degree	.009	.098	.063	-.034	.018	-.183*	-.102	.043	-.060	.000
40. Graduate Degree	-.224**	-.176*	-.087	-.079	-.152*	.155*	.154*	-.185**	.061	.132
41. Patrol Officer	.256**	.287**	.284**	.027	-.028	-.554**	-.605**	.097	-.056	-.053
42. Detective	.083	.036	.108	.164*	.072	-.006	.034	-.035	.034	.010
43. Sergeant	-.163*	-.130	-.166*	.009	-.060	.100	.137	-.074	.058	.030
44. Chief	-.190**	-.225**	-.242**	-.173*	.041	.555**	.593**	-.006	-.025	.022

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Variable	31	32	33	34	35	36	37	38	39	40
31. Resident location (grow) - rural	1									
32. Resident location (grow) - urban	-.356**	1								
33. Resident Location (grow) - suburban	-.639**	-.491**	1							
34. Not religious	.006	-.042	.029	1						
35. Somewhat religious	-.038	-.004	.038	-.646**	1					
36. Very religious	.042	.049	-.079	-.219**	-.603**	1				
37. Some college	.009	.071	-.067	-.005	.088	-.107	1			
38. Associates degree	.023	-.056	.025	.072	-.055	-.004	-.244**	1		
39. Bachelor's Degree	.157*	-.048	-.105	-.119	.117	-.025	-.437**	-.386**	1	
40. Graduate Degree	-.225**	.040	.176*	.083	-.183**	.147*	-.261**	-.230**	-.412**	1
41. Patrol Officer	.057	-.006	-.047	.133	-.133	.031	.119	.037	.042	-.209**
42. Detective	-.023	-.013	.032	.013	.094	-.133	.024	-.058	.086	-.075
43. Sergeant	-.007	.055	-.039	-.066	.111	-.073	.028	-.146*	.003	.107
44. Chief	-.041	-.041	.072	-.095	-.040	.150*	-.188**	.161*	-.121	.188**

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Variable	41	42	43	44
41. Patrol Officer	1			
42. Detective	-.295**	1		
43. Sergeant	-.486**	-.233**	1	
44. Chief	-.414**	-.198**	-.327**	1

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

The second strongest association related to social stigma was *Blame* ($r = -.253, p < .01$), with results suggesting that as perceptions of blameworthiness increased, *Beliefs About Help* decreased. The only other stigma related variable significantly correlated with *Beliefs About Help* was *Social Distance* ($r = -.219, p < .05$). As desire for greater distance from opioid/heroin users in social settings increased, *Beliefs About Help* decreased.

The next strongest correlations not associated with social stigma variables were related to departmental policy. Specifically, carrying Narcan on-duty ($r = .259, p < .01$) and having a departmental policy on administering Narcan ($r = .255, p < .01$) were positively correlated with *Beliefs About Help*. Other departmental policies also significantly correlated with *Beliefs About Help*. For instance, a departmental policy permitting officers to carry Narcan ($r = .154, p < .05$) and a policy requiring officers to carry Narcan ($r = .168, p < .05$) were positively correlated with *Beliefs About Help*. This correlation was also found when officers reported that they had received training on administering Narcan ($r = .156, p < .05$).

Regarding demographics, statistically significant positive correlates of *Beliefs About Help* were being white ($r = .203, p < .05$) and being a police chief, sheriff, or deputy chief/sheriff ($r = .147, p < .05$). These data indicate that compared to non-white officers, white officers believed that other officers should provide more help to overdose victims. Again, this variable is excluded from all subsequent analyses for lack of data. Further, compared to officers at lower ranks, those at the rank of chief believed that officers should provide more help to overdose victims

Hierarchical Multiple Regression (HMR) Analysis – Anticipated Help

HMR statistical techniques were used to assess the influence of the four different domains of variables specified above on beliefs related to *Anticipated Help* officers would provide to persons suffering from a heroin and/or opioid overdose. As specified above, the first

model consisted of demographic variables including gender, race, age, political beliefs and years in policing. A decision was made to omit variables related to location (where an officer lived as a youth), education, and religiosity from the model due to concerns related to statistical power. Consequently, as a result of relatively small sample size, some variables had to be eliminated from the final model. Using G*Power version 3.1, it was determined that based on the sample size ($N = 208$), the maximum number of predictor variables that should be entered into the model in order to detect a moderate effect was 22. With a large effect, this number could increase to near 30 predictors (depending on the size of the effect). However, the researcher decided to proceed with caution. Therefore, the researcher endeavored to omit as many variables from the analysis as possible to preserve power. An auxiliary model was run with religiosity and education included. Results were unchanged.

In the second model, variables related to departmental policy pertaining to Narcan and officer training were entered. These variables included: taking a class on addiction training, Narcan training, departmental policy on Narcan, departmental policy requiring officers to carry Narcan, departmental policy permitting officers to carry Narcan, carrying Narcan on-duty, and administering Narcan.

In model three, the variables related to experiences with drug users and beliefs about users were entered. These variables included *Beliefs about Addiction, Familiarity, and Beliefs about a Typical Drug User*. In the final model (Model 4) the stigma variables—*Dangerousness, Blame, Social Distance, and Fatalism*—were added. A discussion related to the assumptions of the HMR model follows. These same procedures were followed for the *Beliefs About Help* HMR model described below.

Assumptions of HMR

Prior to constructing all regression models, the data were inspected to ensure that they met the assumptions for Ordinary Least Squares (OLS) Regression. First, multicollinearity was examined using Variance Inflation Scores (VIF) and correlation coefficients ($r = .9$). All variables inputted into the HMR regression model had tolerances above .1 and VIFs below 10 (Pallant, 2016). Second, the distribution of the dependent variables (e.g., Anticipated Help) was checked for normality using Kolmogorov-Smirnov and Shapiro-Wilk normality tests. The significant tests suggested the possible presence of an abnormal distribution for the dependent variable. However, these tests often reach the level of significance in larger datasets, and thus further inspection was warranted (Pallant, 2016). Ocular inspection of histograms indicated that the distribution was fairly normally distributed. Further, analysis of normal Quantile-Quantile and Probability-Probability plots also indicated the presence of a normal distribution, and the assessment of skewness (-.533) and kurtosis (-.172) values for dependent variables fell within the accepted conventions (-2.00 and + 2.00, Field, 2016; George & Maller, 2010; Gravetter & Wallnau, 2014), thus indicating that abnormality was not likely to be a concern. Third, residual scatter plots were drawn to assess normality, linearity, and to ensure independence of residuals (Tabachnick & Fidell, 2013). No significant issues were detected, thus supporting the use of OLS regression.

The researcher also assessed outliers by inspecting Mahalanobis distances. Only three cases slightly exceeded the critical chi-square value (51.1786). Thus, a decision was made to retain these in the analysis as it is not unusual for a few small outliers to appear in “real” data. (Pallant, 2016). Unusual cases were also inspected using Cook’s Distance. The maximum value for Cook’s distance (.084) was less than 1, suggesting no major problems (Tabachnick & Fidell,

2013). These procedures were followed prior to running all other HMR analyses discussed in this dissertation. Results from such analyses supported the use of HMR. Further, the researcher also reanalyzed data by dichotomizing key dependent variables and running Logistic Regression models. Results were similar to those presented below; and they supported the use of OLS regression.

Findings From HMR – Anticipated Help

Table 32 displays the HMR results for predictors of officers' *Anticipated Help*. The sample size in this analysis was 159 cases. This was due to the inclusion of the *political beliefs*, *age*, and *years working in policing items*. Many officers in the sample refused to answer these questions, and including them resulted in the reduction in the sample size. A post-hoc power analysis was conducted using G*Power version 3.1. Results from that analysis suggested good power (.99). Thus, the results from the HMR model are considered robust. A subsequent OLS analysis without those variables in the model was also conducted and similar results were found.

The first model in the HMR analysis was not statistically significant ($F = 1.635$, $p = .110$), and it explained about 9 percent of the variance in the dependent variable ($R^2 = .090$, Adjusted $R^2 = .035$). Examining the predictors individually, political beliefs was the strongest statistically significant predictor of *Anticipated Help* ($b = -.491$, $\beta = -.244$, $p = .003$). Political conservatism was a negative predictor of *Anticipated Help*. That is, a one unit increase in officers' reported level of conservative beliefs was associated a .481 reduction in *Anticipated Help* provided to persons suffering from a heroin and/or opioid overdose.

Table 32

Hierarchical Multiple Regression Analysis for Officers' Anticipated Help (N = 159)

Variable	Model 1			Model 2			Model 3			Model 4		
	b	β	p	b	β	p	b	β	p	b	β	p
<i>Demographics</i>												
If Male	-.425	-.033	.686	-.993	-.077	.322	-.939	-.073	.351	-.768	-.060	.442
Age	-.085	-.213	.250	-.079	-.199	.254	-.132	-.331	.063	-.130	-.325	.066
If live in rural area	.323	.041	.731	.493	.063	.573	.168	.022	.849	.271	.035	.753
If live in suburban area	-.498	-.068	.573	-.623	-.085	.450	-.885	-.121	.290	-.668	-.091	.411
Political Beliefs	-.481	-.244	.003	-.446	-.226	.003	-.426	-.216	.008	-.436	-.221	.005
Years working in policing	.117	.314	.133	.092	.246	.215	.146	.392	.054	.157	.422	.042
Rank ^a												
Detective	-1.009	-.091	.333	-.361	-.033	.713	-.291	-.026	.772	-.384	-.035	.699
Sergeant	-.012	-.001	.989	.124	.015	.876	.031	.004	.969	-.220	-.027	.780
Chief	.118	.013	.918	.595	.067	.580	.407	.046	.704	-.254	-.029	.811
<i>Departmental Policy</i>												
If taken class on addiction				-.255	-.024	.752	-.188	-.018	.817	-.152	-.014	.848
If has policy on Narcan				1.780	.158	.193	1.434	.128	.297	1.441	.128	.284
If trained on Narcan				1.809	.106	.296	1.461	.086	.404	1.445	.085	.396
If permitted carry Narcan				-.306	-.026	.836	-.208	-.017	.889	-.061	-.005	.967
If required carry Narcan				.653	.088	.292	.867	.117	.161	.909	.123	.132
If carried Narcan on-duty				2.142	.239	.016	2.146	.240	.017	1.989	.222	.023
If administered Narcan				-.793	-.106	.202	-.878	-.117	.167	-1.093	-.146	.080
<i>Beliefs</i>												
Beliefs about addiction							.247	.153	.062	.155	.096	.250
Familiarity							.080	.029	.704	.020	.007	.925
Beliefs about gender ^b												
If believe male							-1.021	-.136	.125	-1.078	-.144	.096
If believe female							-2.466	-.191	.029	-2.562	-.198	.020
If believe drug user middle/ upper class							-.805	-.110	.168	-.924	-.126	.108
If believe drug user white							.734	.085	.317	.565	.065	.428
If believe drug user employed							-.035	-.004	.958	.015	.002	.981
<i>Stigma</i>												

Dangerousness				1.431	.258	.012
Blame				-.546	-.117	.217
Social Distance				-1.255	-.215	.031
Fatalism				-.475	-.112	.177
R^2	.090	.256	.315		.378	
Adjusted R^2	.035	.173	.198		.250	
F	1.635	3.060	2.693		2.949	
P-value	.110	.000	.000		.000	
Sig. F Change		.000	.131		.012	

a = referent category is "patrol officer;" b = referent category is "both genders"

Departmental Policy related variables were entered into Model 2. As a whole, the second model was statistically significant ($F = 3.060, p = .000$), and it explained roughly 25.6 percent of the variance in the dependent variable ($R^2 = .256$, Adjusted $R^2 = .173$). The R^2 change in the model was statistically significant ($p = .000$) compared to Model 1, and represented nearly a 17% increase in the model R^2 . The strongest statistically significant predictor in that model was related to officers carrying Narcan on-duty ($b = 2.142, \beta = .239, p = .016$). Officers who carried Narcan on duty were found to have an average of a 2.142 higher scores for *Anticipated Help*. *Political Beliefs* retained statistical significance ($b = -.446, \beta = -.226, p = .003$) in the same direction as Model 1. Specifically, a one unit increase in conservatism was associated with a .446 reduction in *Anticipated Help*. No other variables were significant in that model.

In the third model, variables related to *Beliefs* were entered. Overall, Model 3 was statistically significant ($F = 2.693, p = .000$), and it explained more than 31 percent of the variance in *Anticipated Help* ($R^2 = .315$, Adjusted $R^2 = .198$). However, the R^2 change in the model was not statistically significant ($p = .131$), and the increase in R^2 values for this block was only about 6 percent more than Model 2. The strongest statistically significant variable in that model was related to belief that a typical drug user is female ($b = -2.466, \beta = -.191, p = .029$). Officers who thought that a typical drug user was female reported an average of 2.466 units lower in *Anticipated Help* scores. The next strongest statistically significant predictor in that model was related to officers carrying Narcan on-duty ($b = 2.146, \beta = .240, p = .017$). Officers who carried Narcan on duty were found to have an average of 2.146 higher scores for *Anticipated Help*. *Political Beliefs* also retained statistical significance in Model 3 ($b = -.426, \beta = -.216, p = .008$) with a one unit increase in conservatism resulting in a .426 reduction in the dependent variable.

The variables measuring social stigma were entered into Model 4. Overall, Model 4 was statistically significant ($F = 2.949, p = .000$), and it explained more than 37 percent of the variance in the dependent variable ($R^2 = .378$, Adjusted $R^2 = .250$). The R^2 change in the model was statistically significant ($p = .012$), and it represented more than a 6 percent increase in value from Model 3. There were six statistically significant predictors in the final model. The strongest statistically significant predictor related to stigma was *Dangerousness* ($b = 1.431, \beta = .258, p = .012$). Surprisingly, *Dangerousness* was a positive predictor of *Anticipated Help* suggesting that those who perceived opioid and heroin users as dangerous reported higher levels of *Anticipated Help* for someone who was suffering from an opioid/heroin overdose. Specifically, a one unit increase in *Dangerousness* was found to be associated with a 1.431 increase in *Anticipated Help*. *Social Distance* ($b = -1.255, \beta = -.215, p = .031$) was the only other stigma related variable that was found to be a significant predictor. As anticipated, a one unit increase in *Social Distance* was associated with a 1.255 reduction in *Anticipated Help*.

Belief that a typical drug user was female ($b = -2.562, \beta = -.198, p = .020$) was a negative predictor of *Anticipated Help*. Those who believed that a typical drug user was female reported *Anticipated Help* scores that were 2.562 units lower than those who believed that a typical drug user could be either gender. Further, *carrying Narcan on-duty* ($b = 1.989, \beta = .222, p = .023$), *Political Beliefs* ($b = -.436, \beta = -.221, p = .005$), and *Years working in Policing* ($b = .157, \beta = .422, p = .042$), were significant predictors in the final model. In fact, *carrying Narcan on-duty* was the second strongest predictor in Model 4. The results indicated that officers who carried Narcan reported an average of 1.989 units higher in *Anticipated Help* than officers who did not carry Narcan. Similar to earlier models, a one unit increase in levels of conservatism was

associated with a .436 unit reduction in *Anticipated Help*. Further, each additional year of police work was associated with a .157 increase in *Anticipated Help*.

The researcher considered the possibility that the variable related to carrying Narcan was only significant because of the operational definition of the dependent variable. That is, the dependent variable included only one item that assessed Narcan administration. As such, an auxiliary model with a dependent variable with the item related to Narcan administration removed was run. Results were the same.

HMR Analysis – Beliefs About Help

The second part of research question two involved assessing officers' beliefs about how an officer should respond to an opioid overdose. To do this, an HMR model was constructed by regressing the same predictors specified in the *Anticipated Help* HMR model above onto the *Beliefs About Help* scale. Consequently, the first model contained the descriptive statistics and demographic variables previously discussed. Variables related to *Departmental Policy* were entered into the second model. The third model included the variable *Beliefs*. In the final model, the four social stigma variables were entered into the regression equation.

Findings From HMR – Beliefs About Help

Table 33 displays the HMR results for predictors of officers' *Beliefs about Help*. The first model in the HMR analysis was not statistically significant ($F = 1.012, p = .433$), and it explained just under 6 percent of the variance in the dependent variable ($R^2 = .058$, Adjusted $R^2 = .001$). No individual predictors were statistically significant.

Departmental Policy related variables were entered into Model 2. As a whole, the second model reached statistical significance level ($F = 1.865, p = .028$), and it explained roughly 17.4 percent of the variance in the dependent variable ($R^2 = .174$, Adjusted $R^2 = .081$).

This model produced a significant change in R^2 from Model 1 ($p = .008$), and it increased the model R^2 by nearly 12 percent. *Carrying Narcan on-duty* was a statistically significant predictor in Model 2 ($b = 1.910$, $\beta = .215$, $p = .040$). Officers who carried Narcan while on duty reported an average of 1.910 units higher for *Beliefs About Help* than officers who did not carry Narcan. No other variables were statistically significant in that model.

In the third model, variables related to *Beliefs* were entered. Overall, Model 3 was statistically significant ($F = 2.047$, $p = .006$), and it explained 26 percent of the variance in *Beliefs About Help* ($R^2 = .259$, Adjusted $R^2 = .132$). The R^2 change also was statistically significant ($p = .037$), and indicated more than a 7 percent increase in R^2 values. Statistically significant predictors included carrying Narcan on duty ($b = 1.896$, $\beta = .213$, $p = .041$), *Beliefs about Addiction* ($b = 1.896$, $\beta = .213$, $p = .041$), and believing that the typical drug user is a female ($b = -2.907$, $\beta = -.227$, $p = .013$). The strongest predictor in that model was believing that a typical drug user is female. Compared to officers who believed that males and females were equally likely to be drug users, those who perceived the typical drug user to be a female reported an average score for *Beliefs About Help* that was 2.907 units lower. *Carrying Narcan on-duty* was the next strongest predictor with officers who carried Narcan reporting an average score for *Beliefs About Help* that was 1.896 units higher than officers who did not carry Narcan. Support for biopsychosocial explanations for addiction was found to be a significant positive predictor. Specifically, a one unit increase in *Beliefs About Addiction* was associated with a .365 unit increase in *Beliefs About Help*.

The variables measuring social stigma were entered into Model 4. Overall, Model 4 was statistically significant ($F = 2.218$, $p = .037$), and it explained more than 31 percent of the

Table 33

Hierarchical Multiple Regression Analysis for Officers' Beliefs About Help (N = 159)

Variable	Model 1			Model 2			Model 3			Model 4		
	b	β	p	b	β	p	b	β	p	b	β	p
<i>Demographics</i>												
If Male	.130	.010	.903	-.228	-.018	.828	-.234	-.018	.821	.098	.008	.925
Age	-.019	-.048	.798	-.013	-.034	.853	-.072	-.181	.325	-.044	-.112	.545
If live in rural area	.904	.117	.342	1.092	.141	.235	.563	.073	.536	.803	.104	.371
If live in suburban area	.281	.039	.753	.253	.035	.769	-.245	-.034	.776	-.124	-.017	.883
Political Beliefs	-.293	-.150	.071	-.268	-.137	.088	-.205	-.105	.211	-.183	-.094	.256
Years working in policing	.005	.013	.952	-.014	-.038	.855	.037	.101	.630	.005	.014	.949
Rank ^a												
Detective	-.120	-.011	.909	.235	.021	.819	.346	.031	.739	.583	.053	.573
Sergeant	.659	.081	.446	.762	.094	.360	.719	.088	.386	.511	.063	.534
Chief	1.718	.195	.139	1.980	.225	.080	1.817	.206	.102	1.338	.152	.227
<i>Departmental Policy</i>												
If taken class on addiction				-.476	-.045	.573	-.363	-.034	.666	-.279	-.026	.736
If has policy on Narcan				2.515	.225	.079	1.920	.172	.177	2.222	.199	.114
If trained on Narcan				1.718	.102	.343	1.596	.094	.378	1.500	.089	.398
If permitted carry Narcan				-2.095	-.178	.178	-1.934	-.164	.211	-2.016	-.171	.185
If required carry Narcan				.553	.075	.394	.794	.108	.214	.735	.100	.242
If carried Narcan on-duty				1.910	.215	.040	1.896	.213	.041	1.928	.217	.035
If administered Narcan				-1.160	-.156	.075	-1.232	-.166	.061	-1.380	-.186	.034
<i>Beliefs</i>												
Beliefs about addiction							.365	.228	.008	.260	.163	.065
Familiarity							-.075	-.027	.732	-.136	-.049	.531
Beliefs about gender ^b												
If believe male							-.914	-.123	.183	-.822	-.110	.223
If believe female							-2.907	-.227	.013	-2.823	-.220	.014
If believe drug user middle/ upper class							-.388	-.053	.520	-.501	-.069	.401
If believe drug user white							.257	.030	.734	.197	.023	.791
If believe drug user employed							.002	.000	.998	-.089	-.011	.895
<i>Stigma</i>												

Dangerousness					.350	.064	.553
Blame					-.337	-.073	.464
Social Distance					-.958	-.165	.113
Fatalism					-.610	-.145	.097
R^2	.058	.174	.259			.314	
Adjusted R^2	.001	.081	.132			.172	
F	1.012	1.865	2.047			2.218	
P-value	.433	.028	.006			.002	
Sig. F Change		.008	.037			.037	

a = referent category is "patrol officer;" b = referent category is "both genders"

variance in the dependent variable ($R^2 = .314$, Adjusted $R^2 = .172$). The R^2 in Model 4 statistically was a significant improvement from Model 3 ($p = .037$). Specifically, the inclusion of the stigma related variables increased the model R^2 by more than 6 percent. There were three statistically significant predictors in the final model. *Belief That A Typical Drug User Is Female* ($b = -2.823$, $\beta = -.220$, $p = .014$) was the strongest predictor in that model. Compared to officers who perceived the typical drug user as being either gender, officers who perceived the typical drug user as female reported an average score 2.823 units lower for *Beliefs About Help*. *Carrying Narcan on-duty* ($b = 1.928$, $\beta = .217$, $p = .035$) was the next strongest predictor. Compared to officers who did not carry Narcan, officers who carried Narcan reported an average score for *Beliefs About Help* that was 1.928 units higher. The only other statistically significant predictor in that model was related to officers' use of Narcan ($b = -1.380$, $\beta = -.186$, $p = .034$).

Officers who had administered Narcan reported an average score for *Beliefs About Help* that was 1.380 units lower than officers who had not administered Narcan. In brief, officers who had administered Narcan believed that other officers should provide less support to overdose victims. This finding may be due to problems with the operational definition of the dependent variable. That is, perhaps officers who had administered Narcan previously believed that it was effective enough to be the only response to overdoses. Also, officers could have witnessed a person who they had previously revived with Narcan relapse, or they could just view Narcan as ineffective. Accordingly, a second OLS analysis was utilized with the *Beliefs About Help* variable that did not include the item related to Narcan administration. The results were the same.

Surprisingly, no social stigma variables were statistically significant in the final model presented. Interestingly, *Dangerousness* and *Social Distance* were statistically significant in the

auxiliary OLS model that excluded the variable related to Narcan from the dependent variable. Thus, this finding suggests that social stigma may impact officers doing more or offering more assistance than the typical job expectations to provide services for heroin/opioid users. Officers may be willing to administer Narcan, but stigma might hinder them from providing additional support.

Student Sample

The second stage of the research examined attitudes related to stigma and opioid/heroin users among a sample of students, and beliefs about help provided to persons suffering from an opioid or heroin overdose. Apart from the information related to university affiliation and accompanying analytical tests, all statistical procedures were identical to those outlined above for the law enforcement sample.

Sample Demographics

Table 34 displays the demographic information for the respondents in the university sample. In total, the sample consisted of 743 participants. Criminology students (46.8%, N = 348) comprised the majority of the sample, nursing students (43.2%, N = 321) were the second largest group, and EMT/Paramedic students (N = 74) represented approximately 10% of the sample. The second column in Table 34 displays demographic information for the university sample in the aggregate. There were more females (68.5%, N = 509) than males (31.5%, N = 234). The majority of the sample self-identified as Caucasian (86.7%, N = 640), with just 13.3% (N = 98) of students self-identifying as non-white. Geographically, the university is located in a rural region. Thus, not surprisingly, more than 40% of the students reported living in (45.6%, N = 334) or grew-up in (45.9%, N = 334) rural areas. Just 98 (13.4%) students lived in urban areas, but 301 (41.1%) lived in suburban areas. Similarly, 96 (13.2%) students grew-up in urban areas, and 297 (40.9%) grew-up in suburban areas.

Table 34

Participant Demographic Information (University Sample, N = 743)

Variable	Total (N = 743)		Criminology (N = 348, 46.8%)		Nursing (N = 321, 43.2%)		EMT/Paramedic (N = 74, 10.04%)		Bivariate Statistics χ^2 (p) or F (p)
	n	%	n	%	n	%	n	%	
Gender									$\chi^2 = 146.600$ (.000)
Male	234	31.5	165	47.4	26	8.1	43	58.1	
Female	509	68.5	183	52.6	295	91.9	31	41.9	
Race									$\chi^2 = 23.825$ (.000)
Caucasian	640	86.7	276	80.2	320	92.8	67	90.5	
Other	98	13.3	68	19.8	23	7.2	7	9.5	
Resident Location (Current)									$\chi^2 = 40.808$ (.000)
Rural	334	45.6	115	33.6	175	55.2	44	59.5	
Urban	98	13.4	63	18.4	27	8.5	8	10.8	
Suburban	301	41.1	164	48.0	115	36.3	22	29.7	
Resident Location (Upbringing)									$\chi^2 = 28.330$ (.000)
Rural	334	45.9	123	36.4	170	54.0	41	55.4	
Urban	96	13.2	61	18.0	26	8.3	9	12.2	
Suburban	297	40.9	154	45.6	119	37.8	24	32.4	
Religiosity									$\chi^2 = 3.829$ (.430)
Not at all	185	25.0	91	26.2	72	22.6	22	29.7	
Somewhat	438	59.2	206	59.4	189	59.2	43	58.1	
Very	117	15.8	50	14.4	58	18.2	9	12.2	
Political Beliefs (0= Liberal, 10= Conservative)	708	M = 5.48 SD = 2.07	331	M = 5.47 SD = 2.11	309	M = 5.34 SD = 1.98	68	M = 6.13 SD = 2.20	F = 3.977 (.019)
Age	741	M = 21.13 SD = 3.76	348	M = 20.20 SD = 1.43	319	M = 20.61 SD = 1.84	74	M = 27.77 SD = 8.30	F = 197.867 (.000)

Year									$\chi^2 = 111.310 (.000)$
Freshman	83	11.8	74	21.3	0	0	9	25.7	
Sophomore	248	35.3	91	26.1	152	47.5	5	14.3	
Junior	176	25.0	105	30.2	64	20.0	7	20.0	
Senior	196	27.9	78	22.4	104	32.5	14	40.0	
Grade Point									
Average									$\chi^2 = 92.240 (.000)$
2.0 - 2.9	132	18.7	98	28.5	27	8.4	4	10.3	
3.0 – 3.9	538	76.5	221	64.2	289	90.3	28	71.8	
4.0 or above	33	4.7	23	6.7	4	1.3	6	15.4	
Career Path									$\chi^2 = 665.390 (.000)$
Law									
Enforcement	188	25.5	187	54.4	0	0	1	1.4	
Law and courts	59	8.0	59	17.2	0	0	0	0	
Corrections	28	3.8	27	7.8	1	0.3	0	0	
Victim services	33	4.5	33	9.6	0	0	0	0	
Medical Field	400	54.3	14	4.1	319	99.7	67	93.1	
Other	28	3.8	24	7.0	0	0	4	5.6	

Students reported moderate levels of religiosity. Specifically, 59.2% (N = 438) of students identified as being “somewhat religious.” Comparatively, 25.0% (N = 185) of students reported not being religious at all, and 15.8% (N = 117) reported that they were very religious. Regarding *Political Beliefs* most students seem to have moderate views. As measured with a scale where “0 = Liberal and 10 = Conservative”, the mean score for political affiliation was a moderate 5.48 (*sd* = 2.07). Most students were at the sophomore (35.3%, N = 248) level in their academic career, and the mean age was 21.13 (*sd* = 3.76). There were 83 (11.8%) freshman, 176 (25.0) juniors, and 196 (27.9%) seniors in the sample. Most students reported good academic achievement with the mode Grade Point Average (GPA) in the 3.0 – 3.9 (76.5%, N = 538) category. The second most commonly reported GPA was 2.0 – 2.9 (18.7%, N = 132), and the third was 4.0 or above (4.7%, N = 33).

In terms of *Career Path*, most students indicated a desire to work in the *Medical Field* (54.3%, N = 400). Law enforcement (25.5%, N = 188) was the second most desired career path. The third most desired career path was *Law and Courts*, and 8% (N = 59) of students reported a desire for a career in *Law and Courts*. Just 4.5% (N = 33) responded that they desired a career in *Victim Services*, 3.8% (N = 34) responded that they planned to work in *Corrections*, and 3.8% (N = 28) desired a career path in “Other” categories that were non-first responder-related careers.

Bivariate Analyses: Group Differences

In addition to the frequency statistics presented in Table 34, the results from bivariate analyses testing for differences in demographic variables across sub-groups of the sample are reported. For categorical demographic variables, a Chi-Square Test for Independence was conducted. One-way Analysis of Variance (ANOVA) tests were employed to assess differences across groups for continuous variables.

The test for group differences in gender reached the statistically significant threshold ($\chi^2 = 146.600, p = .000$). There were more male students in the EMT/Paramedic sample (58.1% male, 41.9% female) than in the criminology sample (47.4% male, 52.6% female), or nursing sample (8.1% male, 91.9% female).

For race, the Chi-Square test for independence also reached statistical significance ($\chi^2 = 23.825, p = .000$). Participants most commonly identified as Caucasian in each subgroup with the greatest proportion of white respondents within the nursing subgroup (92.8% White, 7.2% Other), followed by the EMT/Paramedic subgroup (90.5% White, 9.5% Other), and the criminology subgroup (80.2% White, 19.8% Other).

For current resident location, the Chi-Square Test of Independence was also statistically significant ($\chi^2 = 40.808, p = .000$). There were more rural respondents across groups, with the greatest percentage found in the EMT/Paramedic subgroup (59.2% rural, 10.8% urban, 29.7% suburban), followed by the nursing subgroup (55.5% rural, 8.5% urban, 36.3% suburban), and the criminology subgroup (33.6% rural, 18.4% urban, 48.0% suburban). For geographical area associated with where the respondents lived growing up, the Chi-square Test of Independence also was statistically significant ($\chi^2 = 28.330, p = .000$). Again, there were more rural respondents across groups with the greatest percentage within the EMT/Paramedic subgroup (55.4% rural, 12.2% urban, 32.4% suburban), followed by the nursing subgroup (54.0% rural, 8.3% urban, 37.8% suburban), and the criminology subgroup (43.6% rural, 15.7% urban, 40.7% suburban).

Regarding *Religiosity*, the Chi-square Test of Independence was not statistically significant ($\chi^2 = 3.829, p = .430$). For *Political Beliefs*, an ANOVA test ($F = 3.977, p = .019$) revealed a statistically significant group mean difference, with EMT/Paramedic students

reporting the highest level of conservatism ($M = 6.13$, $sd = 2.20$), followed by criminology students ($M = 5.47$, $sd = 2.11$), and then nursing Students ($M = 5.34$, $sd = 1.98$).

The ANOVA test ($F = 197.867$, $p = .000$) also found that statistically significant group mean differences existed between groups for *Age*. The subgroup with the oldest participants was the EMT/Paramedic group ($M = 27.77$, $sd = 8.30$), followed by the nursing subgroup ($M = 20.61$, $sd = 1.84$), and the criminology subgroup ($M = 20.20$, $sd = 1.43$).

Regarding year in school, the Chi-square Test of Independence ($\chi^2 = 111.310$, $p = .000$) was statistically significant. There were more Freshman in the EMT group (25.7%), followed by the Criminology group (21.3%). There were no Freshman in the nursing group.

Regarding Grade Point Average (GPA) the Chi-square Test of Independence ($\chi^2 = 92.240$, $p = .000$) was statistically significant. In the aggregate, most respondents reported a GPA in the 3.0-3.9 range. However, the greatest percentage of students in this range was found for the nursing subgroup (8.4% 2.0-2.9, 90.3% 3.0-3.9, 1.3% 4.0 or above), followed by the EMT/Paramedic group (2.6% less than 1.0, 10.3% 2.0-2.9, 71.8% 3.0-3.9, 15.4% 4.0 or above), and the criminology subgroup (0.6% 1.0-1.9, 28.5% 2.0-2.9, 64.2% 3.0-3.9, 6.7% 4.0 or above). The Chi-square Test of Independence was also statistically significant for *Career Path* ($\chi^2 = 665.390$, $p = .000$). For the criminology subgroup, most students desired a career in law enforcement (54.4%, $N = 187$), followed by Law and Courts (17.2%, $N = 59$), Victim Services (9.6%, $N = 33$), Corrections (7.8%, $N = 27$), “other” (7.0%, $N = 24$), and careers in the Medical Field (4.1%, $N = 14$). Almost all students in the nursing subgroup (99.7%, $N = 319$), and most of the EMT subgroup (93.1%, $N = 67$) desired careers in the medical field. For the “other” subgroup, 6.9% ($N = 11$) reported that they wanted a career in law enforcement, 8.2% ($N = 13$) desired a career in Law and Courts, 3.8% ($N = 6$) desired a career in corrections, 4.4% ($N = 7$)

desired a career in the victim services field, and 15.7% (N = 25) would like to work in the medical field.

Research Question 3: Students Attitudes Toward Help Provided to Opioid Users

As indicated above, the third main research question of this project was, “What are students’ attitudes toward help provided to opioid users?” One dependent measure, *Beliefs about Help*, was included in the student sample to help answer this question. As noted in Chapter III, *Beliefs about Help* was a four-item scale created to measure students’ agreement/disagreement that an officer should respond to an overdose in the four ways previously stated (e.g., administer Narcan, accompany to hospital, refer to drug treatment, call a family member). As noted, the PCA analysis suggested that the items loaded on one item, and reliability analysis indicated acceptable internal consistency.

Table 35 displays the frequency statistics of the individual items in the *Beliefs About Help* scale. As presented in Table 35, 74.6 percent (N = 552) of students either “agreed” or “strongly agreed” that an officer who encounters an overdose should administer Narcan. By contrast, 10.3% (N = 76) of students indicated some form of disagreement that an officer should administer Narcan to someone who appears to be suffering from an opioid overdose. Further, more than 15.1% (N = 115) of the sample indicated that they neither agreed nor disagreed that officers should administer Narcan. Most students (70.1%, N = 511) also expressed some form of agreement that an officer should accompany a person who has overdosed to a local hospital or urgent care facility with only 9.0% (N = 66) expressing disagreement, and 20.9% (N = 152) expressing neither agreement nor disagreement. Similarly, 81.7% (N = 602) of students agreed that an officer should attempt to identify a person who has suffered an overdose and notify a family member.

Table 35

Frequency Statistics for Items Related to Beliefs About Help (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Administer Narcan (n = 740)	312	42.2	240	32.4	112	15.1	60	8.1	16	2.2
Accompany the person to the local hospital/urgent care facility (n = 729)	267	36.6	244	33.5	152	20.9	57	7.8	9	1.2
Attempt to identify the person and notify a family member or friend (n = 737)	330	44.8	272	36.9	82	11.1	46	6.2	7	0.9
Refer the person to a drug treatment program (n = 736)	327	44.4	213	28.9	121	16.4	59	8.0	16	2.2

Nearly three fourths of the student sample (73.3%, N = 540) agreed that an officer should refer a person who has suffered from a heroin or opioid overdose to a drug treatment program. Comparatively, only 10.2% (N = 75) of students disagreed that an officer should make a referral to a drug treatment program, and 16.4% (N = 121) expressed neither agreement nor disagreement.

Table 36 shows the descriptive statistics for *Beliefs About Help*. The mean score for *Beliefs About Help* was 16.23 ($sd = 2.68$) with a minimum score of 4 and a maximum score of 20. These data suggest that students' reported beliefs about the appropriate level of care that officers should provide persons suffering from a heroin or opioid overdose is fairly high.

Table 36

Descriptive Statistics for Beliefs About Help (University Sample, N = 726)

	N	M	SD	Range	Min	Max
Beliefs about Help	726	16.23	2.68	16	4.00	20.00

Research Question 4: Predictors of Beliefs About Help

The fourth main research question was, "What are the predictors of students' attitudes toward help provided to opioid users?" In the following sections, variables are discussed in the manner in which they were entered into Hierarchical Multivariate Regression (HMR) models. As with the law enforcement sample, variables were entered into HMR models in four steps. The first model included the demographic variables described above. In the following paragraphs, additional descriptive statistics of the variables in the second, third, and fourth models are described.

Training on addiction (model 2). Variables related to addiction training and experiences with Narcan were entered into model 2. These variables included the items reflecting whether students had taken a class or had training on addiction and had administered Narcan. The

frequency statistics for these items are displayed in Table 37. According to the students' self-reporting, 41.3% (N = 305) of students had taken a class on substance use addiction. Similarly, a little more than one quarter (28.4%, N = 210) of the sample had completed a training course or program on substance use addiction, and just 7.6% (N = 56) of the sample had administered Narcan.

Table 37

Student Information on Addiction Training and Narcan (University Sample, N = 743)

Variable	Yes (%)	No (%)
Have you ever taken any class on substance use addiction? (n = 739)	305 (41.3)	434 (58.7)
Have you completed any training courses or programs on substance use addiction? (n = 739)	210 (28.4)	529 (71.2)
Have you ever had to administer Narcan? (n = 739)	56 (7.6)	683 (92.4)

Beliefs about addiction and drug users (model 3). Variables related to Beliefs About Addiction and drug users were entered into Model 3. These variables included: *Beliefs About Typical Drug Users* (e.g., social class, gender, race, and employment status), *Beliefs About Addiction*, and *Familiarity*. The frequency statistics for items relating to *Beliefs About Typical Drug Users* (e.g., social class, gender, race, and employment status) are presented in Table 48.

Regarding social class, the upper and middle classes had to be combined again because of a lack of data in the “upper” category. In total, most students believed that a *typical* drug user is from the lower class (N = 434, 58.6%). In addition, about 24.3% (N = 180) of students perceived a *typical* drug user to be from the middle or upper class. An unexpected event occurred with this grouping of questions with the student sample. As it was administered via hard copy, many students in the first days of the administration of the survey checked multiple boxes, indicating

that they perceived a drug user as being from many different social classes. Further, several students stated verbally or by writing next to the questions that there was no typical social class. A decision was made to permit students to select more than one category for this group of questions. All of these responses related to class were coded as “More than 1 class.” Approximately 17.0% (N = 126) of students selected this category, suggesting that they believed drug use might transcend social class.

Regarding gender, 524 (N = 71.0%) students perceived the *typical* drug user to be male, 61 (8.3%) students perceived the *typical* drug user to be female, and 153 (20.7) students indicated “other” as the gender of a *typical* drug user. Interestingly, like the law enforcement sample, most of these students responded with “both” genders beside their response. Similar to the law enforcement sample, the students selected the “other” category, and wrote “both” genders.

Table 38

Frequency Statistics for Beliefs About Typical Drug Users (University Sample, N = 743)

	N	%
Social Class (n = 740)		
Lower	434	58.6
Middle/Upper	180	24.3
More than 1	126	17.0
Gender (n = 738)		
Male	524	71.0
Female	61	8.3
Both	153	20.7
Race (n = 738)		
White	482	65.3
Other	256	34.7
Employment Status (n = 708)		
Employed	245	34.6
Unemployed	463	65.4

In terms of perceived racial composition, due to lack of data for non-white categories a decision was made to combine the non-white related variables. Overall, most students (N = 482,

65.3%) perceived a *typical* drug user to be white, compared to other racial groups (N = 256, 34.7%). Students also thought that the *typical* drug user is unemployed (N = 463, 65.4%).

Table 39 displays frequency statistics for the items related to beliefs about addiction. As presented in Table 39, 22.1% (N = 164) of students expressed disagreement with the statement that “Drug abuse is a disease.” In fact, 62.6% (N = 465) of students either agreed or strongly agreed with the statement, “Drug abuse is a disease.” As discussed in Chapter III, the researcher dichotomized this variable and used it for analyses. The variable was dichotomized into 1 = “Agree” (responses 1-2) and 2 = “Do not Agree” (responses 3-5). A second dichotomous variable also was constructed by combining the response 1-3 into “Don’t Disagree” and 4-5 “Disagree”, and then entered into a separate, auxiliary HMR model to test for robustness. Results supported the use of the initial dichotomous variable.

Table 39

Beliefs About Addiction Item Frequencies (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Drug abuse is a disease (n = 743)	260	35.0	205	27.6	114	15.3	93	12.5	71	9.6

The frequency statistics for items related to *Familiarity* are depicted in Table 40. As presented in Table 40, the majority of students (56.5%, N = 420) selected “No” when asked if they had witnessed persons who use heroin/opioids on a frequent basis. Similarly, most students (51.8%, N = 383) reported that they did not have a friend of the family who had used heroin/opioids. Moreover, most students (67.5%, N = 499) had never worked with a person who

used heroin or opioids, did not have a relative who used heroin/opioids (59.7%, N = 442), and had never lived with a person who used heroin or opioids (74.9%, N = 554).

Table 40

Frequency Statistics for Familiarity Items (University Sample, N = 743)

Variable	Yes (%)	No (%)
I have witnessed persons who use heroin/opioids on a frequent basis (n = 740)	320 (43.2)	420 (56.5)
I have worked with a person who used heroin/opioids (n = 739)	240 (32.5)	499 (67.5)
I know a friend of the family who has used heroin/opioids (n = 909)	357 (48.2)	383 (51.8)
I have a relative who has used heroin/opioids (n = 740)	298 (40.3)	442 (59.7)
I have lived with, or close to a person(s), who used heroin/opioids (n = 740)	186 (25.1)	554 (74.9)

To better measure *Familiarity*, the researcher created a composite score by following the same procedures used in the law enforcement sample. The five items discussed above were added together, thus producing a variable with higher scores indicating greater *Familiarity* with opioid/heroin users. Table 41 displays the descriptive statistics for *Familiarity*.

As depicted in Table 41, the mean *Familiarity* score was 1.89 ($sd = 1.57$) with a minimum score of 0, a maximum score of 5, and range of 5. These data suggest that, in the aggregate, students reported little *Familiarity* with heroin and opioid users.

Table 41

Descriptive Statistics for Familiarity Score (University Sample, N = 743)

	N	M	SD	Range	Min	Max
Familiarity	743	1.89	1.57	5.00	0.00	5.00

Stigma related variables (model 4). In the fourth model, variables assessing social stigma were entered. These variables included those measuring *Dangerousness*, *Blame*, *Social Distance*, and *Fatalism*. A discussion of the frequency statistics of items that comprise each scale follows.

The frequency statistics for items related to *Dangerousness* are displayed in Table 42. As presented in Table 42, more than 59.1% (N = 438) of students either agreed or strongly agreed that they would not allow their child to play outside alone if a heroin addict lived nearby. Comparatively, just 16.0% (N = 119) of students disagreed or strongly disagreed with that statement, and 24.8% (N = 184) expressed neither agreement nor disagreement. Overwhelmingly, most students (73.6%, N = 544) expressed some form of agreement that they would be less likely to trust someone if they knew that he/she had used heroin or opioids.

Similarly, more than half of all students (59.1%, N = 438) either agreed or strongly agreed with the statement, “People who use heroin and/or opioids are a threat to the safety of our community.” More than half of the students (59.3%, N = 440) also expressed some form of agreement with the statement, “Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users.” A majority of students (72.8%, N = 540) felt that opioid users were unpredictable by responding that they agreed that one cannot tell what an opioid user will do from one minute to the next. Despite elevated perceptions of dangerousness reported in other items, just 22% (N = 163) of students agreed or strongly agreed with the statement, “The main purpose of opioid treatment facilities should be to protect the general public from users.” In fact, more than half of all students (57.4%, N = 426) expressed some form of disagreement with that statement.

Table 42

Frequency Statistics for Dangerousness Items (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside (n = 741)	170	22.9	268	36.2	184	24.8	104	14.0	15	2.0
One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next (n = 742)	174	23.5	366	49.3	126	17.0	69	9.3	7	0.9
If I knew a person had used heroin or opioids, I would be <i>less likely</i> to trust him/her (n = 739)	246	33.3	298	40.3	123	16.6	60	8.1	12	1.6
People who use heroin and/or opioids are a threat to the safety of our community (n = 741)	135	18.2	303	40.9	215	29.0	82	11.0	6	0.8
The main purpose of opioid treatment facilities should be to protect the general public from users (n = 742)	62	8.4	101	13.6	153	20.6	319	43.0	107	14.4
Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users (n = 742)	117	15.8	323	43.5	193	26.0	94	12.7	15	2.0

Table 43 shows the frequency statistics for items related to *Blame*. Overall, more than half of the student sample (56.8%, N = 422) expressed some form of agreement with the statement, “Persons addicted to heroin and/or opioids are usually responsible for their own condition.” Another 17.9% (N = 133) expressed some form of disagreement, and 25.3% (N = 188) indicated neither agreement nor disagreement. Conversely, only 28.4% (N = 211) of students agreed or strongly agreed that persons addicted to heroin and/or opioids lacked the work ethic needed to get clean. In fact, almost half (49%, N = 364) of students expressed some form of disagreement with that statement, and 22.6% (N = 168) indicated neither agreement nor disagreement. Roughly 45.9% (N = 340) of students either agreed or strongly agreed with the statement, “Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition.” Conversely, 25.1% (N = 186) of students expressed some form of disagreement with that statement, and 29.0% (N = 215) expressed neither agreement nor disagreement.

Table 44 displays frequency statistics for items related to *Social Distance*. As presented in Table 44, students reported ambivalent feelings toward the statement, “If I knew someone was addicted to heroin and/or opioids I would try to avoid them,” with 43.6% (N = 324) expressing some form of agreement, 27.6% (N = 205) expressing some form of disagreement, and 28.8% (N = 214) expressing neither agreement nor disagreement. More than half of the student sample also agreed that it would bother them to live near a person who used heroin or opioids (55.8%, N = 414), and a larger percentage indicated that it would be difficult for them to develop a friendship with someone who uses heroin or opioids (66.8%, N = 510). Regarding working with a known user of heroin or opioids, 50.9% (N = 377) would prefer not to work with someone who was a

Table 43

Frequency Statistics for Blame Items (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Persons addicted to heroin and/or opioids are usually responsible for their own condition (n = 743)	161	21.7	261	35.1	188	25.3	111	14.9	22	3.0
Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get clean (n = 743)	74	10.0	137	18.4	168	22.6	271	36.5	93	12.5
Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition (n = 741)	100	13.5	240	32.4	215	29.0	149	20.1	37	5.0

Table 44

Frequency Statistics for Social Distance Items (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
If I knew someone was addicted to heroin and/or opioids I would try to avoid them (n = 743)	92	12.4	232	31.2	214	28.8	175	23.6	30	4.0
It would bother me to live near a person who used heroin or opioids (n = 741)	118	15.9	296	39.9	182	24.6	133	17.9	12	1.6
It would be difficult for me to develop a friendship with someone who uses heroin or opioids (n = 742)	209	28.2	301	40.6	133	17.9	87	11.7	12	1.6
I <i>would not feel</i> comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours (n = 743)	393	52.9	222	29.9	88	11.8	35	4.7	5	0.7
If I could, I would <i>prefer not to</i> work with someone who was a known user of heroin or opioids (n = 741)	160	21.6	217	29.3	214	28.9	131	17.7	19	2.6
I would be fine letting someone who had a history of opioid and/or heroin use marry into my family (n = 743)	29	3.9	109	14.7	303	40.8	188	25.3	114	15.3

Table 45

Frequency Statistics for Fatalism Items (University Sample, N = 743)

Response	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result) (n = 741)	20	2.7	74	10.0	160	21.6	331	44.7	156	21.1
Most people who become addicted to heroin or opioids are addicts for life (n = 742)	40	5.4	186	25.1	149	20.1	283	38.1	84	11.3
Full recovery from opioid addiction is impossible (n = 742)	17	2.3	61	8.2	87	11.7	320	43.1	257	34.6

known heroin or opioid user, 20.3% (N = 150) indicated that they would be fine working with a heroin or opioid user, and 28.9% (N = 214) responded that they neither agreed nor disagreed.

In the aggregate, 40.6% (N = 302) of students expressed disagreement with the statement, “I would be fine letting someone who had a history of opioid and/or heroin use marry into my family,” compared to just 18.6% (N = 138) who expressed agreement, and 40.8% (N = 303) who neither agreed nor disagreed. Overall, students desired the greatest social distance from opioid/heroin users in responses to questions involving their children. Specifically, 82.8% (N = 377) percent of students expressed some form of agreement with the statement, “I would not feel comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours”.

The frequency statistics for items related to *Fatalism* are depicted in Table 45. As displayed in Table 45, students did not seem to report fatalistic views of opioid/heroin users. In all, just 12.7% (N = 94) of students either agreed or disagreed with the statement, “Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result).” Comparatively, 65.8% (N = 487) of students disagreed with that statement, and 21.6% (N = 160) expressed neither agreement nor disagreement. Students also seemed to be somewhat positive toward the chronicity of heroin/opioid addiction with 49.4% (N = 367) expressing some form of disagreement with the statement, “Most people who become addicted to heroin or opioids are addicts for life.” In fact, 30.5% (N = 226) of students expressed some form of agreement with that statement, and 20.1% (N = 149) neither agreed nor disagreed. Similarly, most students (77.7%, N = 577) indicated some form of disagreement with the statement, “Full recovery from opioid addiction is impossible,” while only 10.5% (N = 77) expressed some form of agreement, and almost the same number, 11.7% (N = 87) indicated neither agreement nor disagreement.

Table 46 displays the frequency statistics for the four stigma scales. As stated, all scales loaded well in PCA analysis and had adequate internal consistency. Again, to help aid with interpretation for comparison purposes the four measures were averaged. As presented in Table 46, like officers, students also reported the highest average score for *Social Distance* ($M = 3.61$, $sd = 0.74$) indicating that of all the types of stigma assessed, students desired social distance from heroin/opioid users more so than they blamed opioid/heroin users ($M = 3.21$, $Sd = 0.91$), perceived them as dangerous ($M = 3.55$, $sd = 0.68$), and held fatalistic views about heroin/opioid addiction ($M = 2.35$, $sd = 0.77$).

Table 46

Descriptives for Stigma Scales (University Sample, N = 743)

	N	M	SD	Range	Min	Max
Dangerousness	737	3.55	0.68	3.50	1.50	5.00
Blame	741	3.21	0.91	4.00	1.00	5.00
Social Distance	738	3.62	0.74	4.00	1.00	5.00
Fatalism	741	2.35	0.77	4.00	1.00	5.00

Bivariate correlations. Results from the computed bivariate correlations between all variables are presented in Table 47. Results from those analyses revealed that 16 of the 46 independent variables assessed were statistically significantly correlated with the dependent variable. By contrast, 30 of the independent variables did not have a statistically significant relationship with *Beliefs About Help*.

Regarding key demographics, being a male was negatively correlated with *Beliefs About Help* ($r = -.126$, $p < .01$), as was age ($r = -.116$, $p < .01$), and conservatism ($r = -.127$, $p < .01$). These data indicate that male students, more politically conservative students, and older students believe officers should provide less help to persons suffering from a heroin or opioid overdose. Further, living in a urban location ($r = -.136$, $p < .01$) was also negatively correlated with *Beliefs*

Table 47

Correlations (University Sample, N = 743)

Variable	1	2	3	4	5	6	7	8	9	10
1. Beliefs about help Help (DV)	1									
2. Male	-.126**	1								
3. White	.020	-.002	1							
4. Political Beliefs	-.127**	.233**	.170**	1						
5. Age	-.116**	.160**	.032	.073	1					
6. Resident location (current) - rural	.057	-.089*	.098**	.120**	.044	1				
7. Resident location (current) - urban	-.136**	.102**	-.148**	-.060	-.027	-.359**	1			
8. Resident Location (current) - suburban	.036	.020	.004	-.080*	-.026	.764**	-.328**	1		
9. Resident location (grow) - rural	.040	-.070	.165**	.105**	.015	.700**	-.141**	-.611**	1	
10. Resident location (grow) - urban	-.045	.095*	-.244**	-.073	.006	-.232**	.536**	-.134**	-.360**	1
11. Resident Location (grow) - suburban	-.009	.005	.000	-.056	-.019	-.551**	-.225**	.712**	-.766**	-.324**
12. Not religious at all	-.035	-.050	.095**	-.201**	.014	-.092*	.006	.089*	-.064	-.028
13. Somewhat religious	.010	.050	-.063	.113**	.023	.039	-.022	-.025	.011	.031
14. Very religious	.027	-.008	-.028	.088*	-.047	.057	.022	-.073*	.062	-.008
15. Criminology Major	-.079*	.322**	-.179**	-.005	-.234**	-.224**	.139**	.131**	-.179**	.133**
16. Nursing Major	.139**	-.439**	.157**	-.056	-.121**	.169**	-.124**	-.085*	.141**	-.128**
17. EMT Major	-.100**	.191**	.038	.102**	.589**	.093*	-.025	-.077*	.064	-.010
18. GPA – 2.9 or under	-.076*	-.024	.015	-.008	.147**	.042	-.015	-.032	.042	-.015
19. GPA – 3.0-3.9	-.077*	.083*	-.056	-.008	-.023	.006	-.021	.009	.005	-.022
20. GPA – 4.0 or above	-.004	.139**	-.200**	-.100**	-.075*	-.155**	.134**	.063	-.188**	.160**
21. Freshman	-.044	.178**	-.047	-.004	-.148**	-.028	.053	-.008	-.031	.039
22. Sophomore	.073	-.152**	.054	-.014	-.279**	.074	.008	-.080*	.089*	-.034
23. Junior	.034	.050	-.064	-.067	.039	-.124**	.014	.116**	-.139**	.085*
24. Senior	-.080*	-.014	.037	.082*	.366**	.061	-.059	-.021	.062	-.074

25. Career Path – LE	-.065	.423**	.005	.143**	-.134**	-.104**	.099**	.037	-.118**	.093*
26. Career Path - Courts	-.070	-.081*	-.144**	-.126**	-.106**	-.114**	.032	.093*	-.082*	.038
27. Career Path - Corrections	-.006	.003	-.091*	-.008	-.031	-.024	.109**	-.052	-.011	.091*
28. Career Path – Victim	.058	-.090*	-.075*	-.060	-.051	-.049	-.021	.065	-.029	.018
29. Career Path - Medical	.075*	-.338**	.150**	-.006	.227**	.201**	-.125**	-.116**	.165**	-.148**
30. Career Path - Other	-.004	.126**	-.028	-.060	-.046	-.047	-.035	.072	-.004	.009
31. If taken class on substance use addiction	-.070	.056	.062	.113**	.174**	.043	-.056	-.005	.035	-.024
32. If taken a course on substance use addiction	-.023	-.003	.011	.127**	.246**	.074*	-.047	-.043	.056	-.037
33. If administered Narcan	-.092*	.091*	.035	.083*	.449**	.019	.058	-.059	.049	.043
34. Familiarity	.064	-.012	.059	.022	.099**	.060	-.027	-.042	.050	.045
35. If agree that drug abuse is a disease	.115**	-.063	-.096**	-.181**	-.090*	-.080*	-.038	.107**	-.114**	.008
36. If believe that typical drug user is white	.025	-.052	-.056	-.078*	.029	-.014	.030	-.007	-.004	.034
37. If believe that typical drug user is employed	-.004	.061	.019	-.026	.082*	-.046	-.008	.052	-.059	.012
38. If believe that typical drug user is male	-.003	.031	.016	.027	-.095**	-.036	.050	.001	-.026	.016
39. If believe that typical drug user is female	-.039	-.004	-.041	-.043	-.006	.052	-.032	-.030	.014	.034
40. If believe that typical drug user is both genders	.029	-.032	.010	.000	.111**	.005	-.034	.019	.019	-.041
41. If believe that typical drug user is lower class	-.063	-.033	.079	-.002	-.162**	-.072	.054	.036	-.043	-.024
42. If believe that typical drug user is middle/upper class	.051	.048	-.026	-.002	.167**	.064	-.058	-.025	.033	.013
43. If believe that typical drug user is multiclass	.036	-.033	-.135**	.010	.003	.026	.004	-.029	.029	.030
44. Dangerousness	-.050	.115**	-.003	.251**	-.082*	.056	.077*	-.110**	.073	-.011
45. Blame	-.140**	.152**	.004	.295**	-.029	-.004	.133**	-.088*	.027	.028
46. Social Distance	-.145**	.175**	.071	.261**	-.021	.023	.059	-.064	.035	-.028
47. Fatalism	-.130**	.089*	.007	.234**	-.006	-.006	.123**	-.079*	.028	.023

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

1= 1 variable is a constant

Variable	11	12	13	14	15	16	17	18	19
1. Beliefs about help Help (DV)									
2. Male									
3. White									
4. Political Beliefs									
5. Age									
6. Resident location (current) - rural									
7. Resident location (current) - urban									
8. Resident Location (current) - suburban									
9. Resident location (grow) - rural									
10. Resident location (grow) - urban									
11. Resident Location (grow) - suburban	1								
12. Not religious at all	.099**	1							
13. Somewhat religious	-.053	-.732**	1						
14. Very religious	-.054	-.250**	-.476**	1					
15. Criminology Major	.077*	-.026	.017	.010	1				
16. Nursing Major	-.045	-.085*	.014	.090**	-	1			
					.585**				
17. EMT Major	-.006	.130**	-.038	-.114**	-	-	.056		
					.370**	.347**			
18. GPA – 2.9 or under	-.029	.056	-.041	-.014	-.028	-.026	-.016	1	
29. GPA – 3.0-3.9	.031	-.036	.049	-.024	.032	-.045	.022	-.002	1.000

20. GPA – 4.0 or above	.037	.086*	-.016	-.087*	.178**	- .219**	.076*	-.017	-.029
21. Freshman	-.002	.050	.003	-.069*	.172**	- .309**	.130**	C	.034
22. Sophomore	-.047	-.030	-.015	.059	- .127**	.227**	-.079*	C	.000
23. Junior	.060	.001	.042	-.061	.109**	-.080*	-.027	C	.012
24. Senior	-.006	-.009	-.027	.049	- .103**	.076*	.008	C	-.037
25. Career Path – LE	.050	-.068*	.040	.031	.610**	- .399**	-.171**	-.019	.061
26. Career Path - Courts	.011	.047	-.017	-.036	.265**	- .221**	.002	-.010	-.018
27. Career Path - Corrections	-.052	.056	-.028	-.032	.167**	- .136**	-.001	-.007	-.012
28. Career Path – Victim	-.007	-.010	-.008	.024	.196**	- .161**	-.002	-.008	-.013
29. Career Path - Medical	-.040	-.080*	.028	.063	- .687**	.780**	-.296**	.037	-.054
30. Career Path - Other	.022	.135**	-.055	-.097**	- .159**	- .301**	.631**	-.014	.032
31. If taken class on substance use addiction	.010	.077*	-.061	-.012	.001	-.013	-.093**	.043	-.047
32. If taken a course on substance use addiction	-.012	-.016	-.004	.026	- .143**	.125**	-.135**	.060	-.033
33. If administered Narcan	-.076*	.041	-.036	-.001	- .123**	- .101**	-.099**	-.007	-.013
34. Familiarity	-.091**	.065	-.059	.000	.023	-.007	-.065	.004	-.056
35. If agree that drug abuse is a disease	.077*	.002	-.029	.039	.083*	.048	-.096**	-.043	.007

36. If believe that typical drug user is white	.023	-.017	.028	-.019	.028	.022	-.067*	-.045	.004
37. If believe that typical drug user is employed	.031	.017	-.026	.015	-.040	-.009	.046	-.026	-.003
38. If believe that typical drug user is male	.008	-.017	.029	-.019	.065	-.030	-.005	-.054	.037
39. If believe that typical drug user is female	-.014	.017	-.068*	.074*	.035	-.021	-.019	-.010	-.017
40. If believe that typical drug user is both genders	.000	.008	.012	-.027	-.096**	.047	.018	.068*	-.030
41. If believe that typical drug user is lower class	.046	.050	-.029	-.025	.046	.002	.003	.024	-.006
42. If believe that typical drug user is middle/upper class	-.025	-.034	.052	-.031	-.030	-.004	-.015	-.022	-.038
43. If believe that typical drug user is multiclass	-.050	-.043	-.051	.130**	-.041	.004	.026	-.007	.103**
44. Dangerousness	-.080*	-.107**	.085*	.017	.089**	-.054	-.032	-.027	.016
45. Blame	-.070*	-.080*	.112**	-.056	.061	-.091**	.002	-.008	.029
46. Social Distance	-.014	-.049	.028	.022	.017	-.074*	.024	.010	.026
47. Fatalism	-.049	.004	-.021	.025	.043	-.075*	.001	.073*	.067*

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

1= 1 variable is a constant

Variable	20	21	22	23	24	25	26	27	28	29
20. GPA – 4.0 or above	1									
21. Freshman	.079*	1								
22. Sophomore	.005	-.286**	1							
23. Junior	.064	-.230**	-.404**	1						
24. Senior	-.126**	-.252**	-.443**	-	1					
				.355**						
25. Career Path – LE	.123**	.129**	-.081*	.115**	-.123**	1				
26. Career Path - Courts	.050	.060	.016	-.024	-.040	-	1			
						.158**				
27. Career Path - Corrections	.129**	.036	-.035	-.048	.054	-	-.060	1		
						.108**				
28. Career Path – Victim	.070*	.070*	-.040	.043	-.052	-	-.064	-.044	1	
						.116**				
29. Career Path - Medical	-.249**	-.271**	.171**	-.087*	.113**	-	-.280**	-.191**	-	1
						.508**			.205**	
30. Career Path - Other	.053	.119**	-.112**	.006	.020	-	-.119**	-.081*	-	
						.216**			.087**	-.382**
31. If taken class on substance use addiction	-.074*	-.015	-.137**	-.012	.167**	.034	.007	-.021	-.008	.022
32. If taken a course on substance use addiction	-.093**	-.102**	-.184**	-.007	.278**	-.081*	-.065	.000	-.078*	.210**
33. If administered Narcan	-.011	.026	-.060	-.033	.075*	-	-.025	-.053	-.013	.176**
						.087**				
34. Familiarity	-.001	-.017	-.079*	.029	.068*	-.009	-.009	.050	.046	.017
35. If agree that drug abuse is a disease	-.031	.036	-.006	-.030	.008	.000	.020	.045	.086**	-.038
36. If believe that typical drug user is white	-.018	-.054	.087*	-.067*	.014	-.017	-.008	.024	.039	.032

37. If believe that typical drug user is employed	-.025	-.048	-.021	.017	.044	-.046	.003	.007	-.025	.013
38. If believe that typical drug user is male	.007	.017	.089**	-.001	-.106**	.042	.024	.053	-.028	-.048
39. If believe that typical drug user is female	.044	-.034	-.049	.026	.052	.042	-.040	.005	.037	-.035
40. If believe that typical drug user is both genders	-.037	.004	-.066	-.017	.083*	-.075*	.000	-.062	.007	.077*
41. If believe that typical drug user is lower class	.016	.010	.043	.006	-.061	.073*	-.018	.012	.008	-.029
42. If believe that typical drug user is middle/upper class	-.014	-.015	-.016	-.040	.069	-.044	.009	-.011	-.004	.008
43. If believe that typical drug user is multiclass	-.007	.011	-.067	.078*	-.011	-.075*	.022	-.004	-.011	.050
44. Dangerousness	.035	.079*	.044	-.017	-.090**	.161**	.016	-.018	-.041	-.072*
45. Blame	.126**	.060	.072*	.003	-.125**	.150**	-.021	-.007	-.045	-.034
46. Social Distance	.022	.012	.047	-.009	-.050	.150**	-.014	-.071*	-.073*	-.034
47. Fatalism	.007	.023	.044	.018	-.081*	.113**	-.007	-.045	-.031	-.036

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

C = 1 variable is a constant

Variable	30	31	32	33	34	35	36	37	38	39
30. Career Path - Other	1									
31. If taken class on substance use addiction	-.062	1								
32. If taken a course on substance use addiction	-.109**	.492**	1							
33. If administered Narcan	-.092**	.208**	.301**	1						
34. Familiarity	-.062	.193**	.166**	.164**	1					
35. If agree that drug abuse is a disease	-.037	-.011	-.035	-.073*	-.005	1				
36. If believe that typical drug user is white	-.055	-.048	-.019	.015	-.005	.065	1			
37. If believe that typical drug user is employed	.046	.063	.114**	-.047	.056	.026	-.035	1		
38. If believe that typical drug user is male	-.013	-.082*	-.064	-.096**	-.077*	.033	.209**	-.093**	1	
39. If believe that typical drug user is female	.006	.011	-.031	-.009	.010	.028	.154**	.058	-.460**	1
40. If believe that typical drug user is both genders	.011	.084*	.091**	.113**	.079*	-.056	-.336**	.066	-.807**	-.152**
41. If believe that typical drug user is lower class	-.048	-.063	-.060	-.079*	-.102**	-.080*	-.087*	-.353**	.097**	-.075*
42. If believe that typical drug user is middle/upper class	.045	.086*	.082*	.074*	.118**	.077*	.109**	.341**	-.098**	.072*
43. If believe that typical drug user is multiclass	.012	-.048	-.043	.018	-.026	.013	-.042	.063	-.007	.013
44. Dangerousness	-.068*	-.007	.004	-.008	-.102**	-.104**	-.122**	-.190**	.088**	-.056
45. Blame	-.084*	-.009	.004	.077*	-.089**	-.304**	-.093**	-.140**	.085*	-.052
46. Social Distance	-.036	-.030	-.010	.041	-.204**	-.166**	-.100**	-.174**	.125**	-.033
47. Fatalism	-.035	.060	.071*	.061	-.049	-.144**	-.097**	-.040	.037	.005

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

C = 1 variable is a constant

Variable	40	41	42	43	44	45	46	47
40. If believe that typical drug user is both genders	1							
41. If believe that typical drug user is lower class	-.056	1						
42. If believe that typical drug user is middle/upper class	.059	-.910**	1					
43. If believe that typical drug user is multiclass	-.003	-.306**	-.115**	1				
44. Dangerousness	-.061	.120**	-.142**	.039	1			
45. Blame	-.060	.163**	-.174**	.009	.531**	1		
46. Social Distance	-.117**	.183**	-.212**	.047	.653**	.535**	1	
47. Fatalism	-.044	.087*	-.109**	.043	.351**	.401**	.387**	1

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

C = 1 variable is a constant

About Help, suggesting that compared to students living in other regions, those living in urban areas believed that an officer should provide less help to persons suffering from an overdose.

Other demographic variables that were statistically significantly correlated with *Beliefs About Help* were being a criminology major ($r = -.079$, $p < .05$), nursing major ($r = .139$, $p < .01$), being a senior ($r = -.084$, $p < .05$), being an EMT major ($r = -.100$, $p < .01$), being a senior ($r = -.080$, $p < .05$), having a GPA of 2.9 or under ($r = -.076$, $p < .05$), having a GPA under 3.9 ($r = -.077$, $p < .05$), and desiring a career in the medical field ($r = .075$, $p < .05$). These data suggest that senior level students, criminology majors, EMT majors, and students with GPAs under 3.9 believed that officers should provide less help to overdose victims. Nursing majors and students who desired a career in the medical field believed that officers should provide more help to overdose victims.

Agreeing that drug abuse is a disease was positively correlated with *Beliefs About Help* ($r = .115$, $p < .01$), suggesting that acceptance of the biophysiological explanations for addiction also was associated with a belief that officers should provide more help to persons suffering from an opioid overdose. Further, administering Narcan was found to negatively correlated with the dependent variable ($r = -.092$, $p < .01$). This suggests that students who had administered Narcan believed that officers should provide less help to overdose victims.

Every stigma related variable except for *Dangerousness* was significantly and negatively correlated with *Beliefs About Help*. For those variables, the strongest correlation was with *Social Distance* ($r = .145$, $p < .01$), followed by *Blame* ($r = -.140$, $p < .01$), and *Fatalism* ($r = -.130$, $p < .01$). These findings suggest that as beliefs that drug users are responsible for their condition increases, support for the belief that officers should provide a wide range of services to persons suffering from an overdose decreases. Further, belief that opioid use is an intractable condition is

associated with beliefs that law enforcement officers should provide less help to overdose victims. Moreover, students who desired greater social distance from opioid and heroin users also believed that officers should provide less help to overdose victims.

Findings From HMR

An HMR model was built following the procedures specified above. Unfortunately, due to issues related to multicollinearity, the variables assessing career path had to be omitted from the analysis. That is, they were too highly correlated with other variables in the model. Table 48 displays the HMR results for predictors of students *Beliefs About Help*. As seen in Table 48, the sample size dropped from 743 to 585 in the 31-variable model. This was largely due to the inclusion of the variables related to beliefs about a *typical* drug user being included in the model. Only 614 (82.6%) answered questions related to a *typical* drug user's social class. Thus, including this variable in the final model caused the reduction in the sample size. Multiple imputations were not used to fill in these missing data as it was determined that they were not missing at random. The researcher ran an auxiliary model that excluded the variables related to a *typical* drug user's class. Results from that analysis were similar to those presented below.

Outliers were assessed using Mahalanobis Distance and Cook's Distance. There were 10 cases that were identified as potential outliers. The maximum score for Cook's Distance (.446) was below "1" though, and this finding suggested that these cases were not distorting the results (Pallant, 2016). The researcher decided to keep these cases in the final analysis. They were within the accepted range of outliers for "real" data, and it was determined that they were not likely to be distorting the results (Pallant, 2016). To help ensure that the HMR model had adequate statistical power, a post-hoc power analysis was conducted using G*Power version 3.1. Results from that analysis indicated that power (.99) was not a concern.

Table 48

Hierarchical Multiple Regression Analysis for Beliefs About Help (University Sample, N = 585)

Variable	Model 1			Model 2			Model 3			Model 4		
	b	β	<i>p</i>	b	β	<i>p</i>	b	β	<i>p</i>	b	β	<i>p</i>
<i>Demographics</i>												
If Male	-.171	-.030	.531	-.172	-.030	.527	-.128	-.022	.640	-.066	-.011	.811
If White	.144	.018	.671	.175	.022	.608	.270	.034	.435	.306	.039	.377
Political Beliefs	-.165	-.127	.004	-.164	-.127	.004	-.144	-.112	.013	-.116	-.090	.054
Age	-.047	-.066	.249	-.043	-.060	.309	-.053	-.074	.211	-.055	-.077	.190
Resident location ^a												
Suburban	-.073	-.013	.761	-.073	-.013	.763	-.080	-.015	.742	-.060	-.011	.804
Urban	-1.120	-.142	.001	-1.120	-.142	.002	-1.051	-.133	.003	-.970	-.123	.007
Religiosity ^a												
Somewhat religious	.345	.063	.196	.317	.058	.239	.268	.049	.321	.237	.043	.380
Very religious	.501	.068	.165	.472	.064	.194	.396	.054	.280	.367	.050	.316
Major ^c												
Nursing	.462	.085	.095	.414	.076	.142	.399	.074	.157	.394	.073	.162
EMT/Paramedic	-.134	-.015	.783	-.117	-.013	.822	.014	.002	.979	.108	.012	.837
GPA ^d												
3.0-3.9	-3.825	-.076	.063	-3.877	-.077	.060	-3.415	-.068	.096	-3.261	-.065	.112
4.0 or above	.160	.023	.593	.168	.024	.578	.200	.029	.508	.209	.030	.489
Class Rank ^e												
Sophomore	.119	.021	.764	.121	.022	.760	.234	.042	.557	.301	.054	.450
Junior	.213	.034	.600	.187	.030	.647	.293	.047	.475	.335	.054	.415
Senior	-.254	-.043	.557	-.290	-.049	.511	-.198	-.033	.653	-.192	-.032	.665
<i>Training</i>												
If taken class on addiction				-.265	-.049	.310	-.352	-.065	.182	-.343	-.063	.191
If completed a course on addiction				.288	.048	.346	.298	.050	.338	.324	.054	.298
If administered Narcan				-.218	-.021	.672	-.427	-.042	.413	-.344	-.034	.510
<i>Beliefs</i>												
Familiarity							.140	.082	.054	.103	.061	.162
If agree that drug abuse is a disease							.466	.084	.045	.335	.061	.166
Belief about users' gender ^f												
Male							-.244	-.041	.405	-.179	-.030	.542

Female						
Belief about drug users'						
Class ^g						
Lower						
Upper						
If believe drug user white						
If believe drug user						
employed						
<i>Stigma</i>						
Dangerousness						
Blame						
Social Distance						
Fatalism						
R^2	.075	.077	.099	.111		
Adjusted R^2	.050	.048	.057	.063		
F	3.062	2.626	2.371	2.320		
P-value	.000	.000	.000	.000		
Sig. F Change		.691	.088	.110		

The first model in the HMR analysis was statistically significant ($F = 3.062, p = .000$), and it explained about 7 percent of the variance in the dependent variable ($R^2 = .075$, Adjusted $R^2 = .050$). The only individual predictors statistically significant in that model were *Political Beliefs* ($b = -.165, \beta = -.127, p = .004$) and living in an *urban area* ($b = -1.120, \beta = -.142, p = .001$). Results suggest that a one unit increase in conservatism was found to result in a .165 unit reduction in *Beliefs About Help*. Further, compared to students who live in rural locations, those who live in urban regions were an average of 1.120 units lower in *Beliefs About Help*.

Variables related to *Training* were entered into model two. As a whole, the second model was statistically significant ($F = 2.626, p = .000$), but it still only explained only about 8 percent of the variance in the dependent variable ($R^2 = .077$, Adjusted $R^2 = .048$). The R^2 change was not statistically significant ($p = .691$). *Political Beliefs* ($b = -.164, \beta = -.127, p = .004$), and living in an *urban area* ($b = -1.120, \beta = -.142, p = .002$) retained statistical significance in the same direction as in Model 1. Specifically, a one unit increase in conservatism was associated with a .164 unit decrease in *Beliefs About Help*. Similarly, those living in urban areas reported an average score for *Beliefs About Help* that was 1.120 units less than that reported by students living in rural areas. No other variables were statistically significant in that model.

In the third model, variables related to *Beliefs* were entered. Overall, Model 3 was statistically significant ($F = 2.371, p = .000$), and it explained about 10 percent of the variance in *Beliefs About Help* ($R^2 = .099$, Adjusted $R^2 = .057$). The R^2 change represented a 2.2% increase from Model 2 but was not statistically significantly different from Model 2 ($p = .088$). Believing that drug abuse is a disease ($b = .466, \beta = .084, p = .045$) was a statistically significant positive predictor of the dependent variable. Compared to students who did not believe that drug abuse is a disease, students who believe that drug abuse is a disease reported an average of .466 units

more for *Beliefs About Help*. *Political Beliefs* ($b = -.144$, $\beta = -.112$, $p = .013$) and living in an *urban area* ($b = -1.051$, $\beta = -.133$, $p = .003$) retained statistical significance in the same direction as in previous models. Specifically, a one unit increase in conservatism was associated with a .144 unit decrease in *Beliefs About Help*. Similarly, those living in urban areas reported an average score for *Beliefs About Help* that was 1.051 units less than that reported by students living in rural areas.

The variables measuring social stigma were entered into Model 4. Overall, Model 4 was statistically significant ($F = 2.320$, $p = .000$), and it explained slightly more than 11 percent of the variance in the dependent variable ($R^2 = .111$, Adjusted $R^2 = .063$). The R^2 change was not statistically significantly different from Model 3 ($p = .110$). Regarding individual predictors, living in an urban area was the strongest statistically significant predictor of *Beliefs About Help* ($b = -.970$, $\beta = -.123$, $p = .007$). Compared to students who lived in rural areas, students who lived in urban areas reported an average of .970 units less for *Beliefs About Help*. *Social Distance* ($b = -.484$, $\beta = -.131$, $p = .014$) was the only statistically significant predictors in that model. As expected, *Social Distance* was a negative predictor. A one unit increase in social distance was associated with a .419 decrease in *Beliefs About Help*.

Summary and Comparison of Findings Across Both Samples

Whether reviewing the results in the aggregate or within each individual sample, the study produced some interesting findings. Below is a brief summary of those findings. The first is related to perceptions of help. Table 49 displays scores for students' and officers' *Beliefs About Help*. Compared to officers ($M = 13.88$, $SD = 3.64$), students ($M = 16.23$, $SD = 2.68$) reported statistically significantly higher scores for *Beliefs About Help* ($t = 10.12$, $p < .001$). This

indicates that students believed that officers should provide more help to overdose victims than did the law enforcement officers in the sample.

Table 49

Results From T-Test Comparing Group Differences in Beliefs About Help

	N	M	SD	t	p
Group				10.12	.000
Law Enforcement Sample	201	13.88	3.64		
Student Sample	726	16.23	2.68		

The second key finding across groups in this study is related to stigma. One of the main goals of this dissertation was to assess the impact of social stigma on attitudes, beliefs, and actions. Table 50 displays the descriptive statistics for the stigma related variables by sample. Overall, both samples reported moderately high levels of social stigma as measured by *Dangerousness*, *Blame*, and *Social Distance*. However, as displayed in Table 50, officers reported statistically significantly higher levels of social distance and fatalism than students.

Table 50

Results From T-Test Comparing Group Differences in Stigma

	Law Enforcement Sample		Student Sample	
	M	SD	M	SD
Dangerousness	3.65	0.66	3.55	0.68
Blame	3.28	0.79	3.21	0.91
Social Distance*	4.16	0.63	3.62	0.74
Fatalism*	2.72	0.86	2.35	0.77

*p<.01

Third, and perhaps the most interesting finding, was that *Dangerousness* was a positive predictor of *Anticipated Help* in the law enforcement sample. This finding counters previous research that suggested that social stigma should adversely impact social interactions (Abern et al., 2007; Corrigan, 2005; Corrigan et al., 2009; Link et al., 1987; Link et al, 1999; Martin et al., 2000; et al., 2000). Further, the only variable related to *Social Stigma* that negatively impacted perceptions of help in either sample was *Social Distance*. Thus, these findings suggest that

perceptions of *Dangerousness*, *Fatalism*, and *Blame* have little influence to no negative influence on beliefs about officers' actions. Overall, the models were stronger in the law enforcement sample, and the stigma related variables reported larger beta values. But, what seemed to matter more than stigma were departmental policies related to Narcan. Regarding stigma, students seemed report less stigma as measured by Social Distance and Fatalism, than officers reported. However, stigma, as measured by *Social Distance*, seemed to influence students' beliefs about the appropriateness of help more than it did officers. But, the betas in the officer's *Anticipated Help* HMR model were much larger than in the student model. With the exception of *Social Distance*, there was little consistency in predictors across the samples, and many key demographic variables assessed were not related to the dependent variables. Policy implications related to these findings will be discussed in Chapter 5.

CHAPTER V

DISCUSSION

The current study attempted to better understand social stigma and perceptions of opioid/heroin users. This study expanded prior research on social stigma by measuring levels of stigma toward opioid and heroin users among a sample of law enforcement officers working in departments located in the Northeastern United States, and students enrolled in criminology, nursing, and EMT/paramedic courses at one university in the Northeastern United States. This dissertation study employed more predictors than previous assessments of social stigma, and it was the first study to examine perceptions of *Dangerousness*, *Blame*, *Social Distance*, and *Fatalism* simultaneously. Additionally, this project was the first to assess the impact of stigma on decision-making by examining how these four key concepts of social stigma influence the likelihood of officers providing services to a person suffering from an opioid or heroin overdose, as well as beliefs about how officers, in general, should help persons suffering from an opioid or heroin overdose. Some of the current findings were consistent with major conclusions from previous works, particularly those showing the importance of beliefs related to substance use addiction shaping stigma. However, a number of new findings emerged from this research.

Major implications from the study results are presented in this chapter. The discussion is organized in a manner similar to that in Chapter 4. First, implications from the results of the law enforcement sample are discussed in sequential order by research question. Next, implications from the results of the university sample are presented in sequential order by research question. Finally, implications are discussed based on a comparison of the two samples. This section concludes with recommendations for future research.

Law Enforcement Sample – Implications

The first sample in the study consisted of law enforcement officers, and it was comprised of 208 officers representing at least 42 different departments located in the Northeastern United States (e.g., Pennsylvania and Rhode Island). The results from this sample inform several policy implications discussed in the following sections.

Research Questions 1 & 2: Beliefs About Help

The first research question of this dissertation project assessed beliefs about help provided to persons suffering from an opioid or heroin overdose. As presented in Chapter 4, an *Anticipated Help* scale was created to measure officers' perceived likelihood of providing an array of services to an overdose victim, including, administering Narcan, accompanying the victim to a local hospital or urgent care center, identifying the victim and notifying a family member or friend, and referring the victim to a drug treatment program. Officers' perceived likelihood of help was measured with one composite item ranging from 0 to 20 with higher scores indicative of greater help. In the aggregate, officers reported high levels of *Anticipated Help* ($M = 14.20$, $SD = 3.67$), indicating that overall, officers were relatively likely to provide a full spectrum of services to persons suffering from a heroin or opioid overdose.

A second scale, *Beliefs About Help*, was created to assess officers' beliefs about help that officers *should* provide to a person suffering from an opioid or heroin overdose. This scale also ranged from 0 to 20 with higher numbers indicating a belief that officers should provide more services to persons suffering from an overdose. In the aggregate, officers reported moderately high levels of *Beliefs About Help* ($M = 13.88$, $SD = 3.64$) indicating that most of the officers sampled believed that other officers should provide a full range of services to persons suffering from an opioid or heroin overdose. Interestingly, mean scores for *Anticipated Help* ($M = 14.20$)

were higher than means scores for *Beliefs About Help* ($M = 13.88$), suggesting that officers themselves were likely to provide greater support to overdose victims than what they felt an officer should be required to provide. However, the difference in mean scores did not reach statistical significance ($p > .05$). Thus, there appears to be no significant difference in the population between officers' reported likelihood of providing services to overdose victims, and their beliefs about what other officers should provide to overdose victims. In sum, their belief about care provided to overdose victims matches their anticipated behavior.

The second part of the first research question was concerned with examining predictors of these attitudes. To do this, a series of HMR models were constructed. Table 51 summarizes results from those analyses. Significant predictors of officers' *Anticipated Help* included *Political Beliefs*, carrying Narcan on-duty, believing that a typical drug user is female, perceptions of *Dangerousness*, and *Social Distance*. As expected, and consistent with prior research, the officers who self-identified as more politically conservative reported that they would be less likely to provide a full range of services to overdose victims than officers who identified as being less conservative. Similarly, officers who desired greater *Social Distance* from opioid and heroin users were less likely to provide a full range of services to overdose victims. A new finding that emerged in this study that had not been tested in prior research was related to beliefs about typical drug users. Interestingly, officers who perceived the typical drug user as female, indicated being less likely to provide a full range of services to overdose victims. Another new finding was that officers who carried Narcan on duty were more likely to provide a full range of services.

Further, and perhaps one of the most interesting finding regarding question one was that *Dangerousness* positively predicted *Anticipated Help*. This suggests that officers who perceive

heroin and opioid users as being dangerous reported being more likely to help them. This finding is surprising, because it counters prior research which found primary caregivers with high levels of social stigma to be less willing to help drug users (Ding et al., 2005).

Table 51

Summary of Regression Results for Officers' Anticipated Help and Beliefs About Help

Variable	Anticipated Help (N = 159)	Beliefs About Help (N = 159)
<i>Demographics</i>		
If Male	n/s	n/s
Age	n/s	n/s
If live in rural area	n/s	n/s
If live in suburban area	n/s	n/s
Political Beliefs	-	n/s
Years working in policing	+	n/s
Rank		
Detective	n/s	n/s
Sergeant	n/s	n/s
Chief	n/s	n/s
<i>Departmental Policy</i>		
If taken class on addiction	n/s	n/s
If has policy on Narcan	n/s	n/s
If trained on Narcan	n/s	n/s
If permit carry Narcan	n/s	n/s
If requires carry Narcan	n/s	n/s
If carry Narcan on-duty	+	+
If administered Narcan	n/s	-
<i>Beliefs</i>		
Beliefs about addiction	n/s	n/s
Familiarity	n/s	n/s
Beliefs about gender		
If believe drug user male	n/s	n/s
If believe drug user female	-	-
If believe drug user upper class	n/s	n/s
If believe drug user white	n/s	n/s
If believe drug user employed	n/s	n/s
<i>Stigma</i>		
Dangerousness	+	n/s
Blame	n/s	n/s
Social Distance	-	n/s

Fatalism	n/s	n/s
R^2 (Adjusted R^2)	.378 (.250)	.314(.172)
positive direction = '+'; Statistically significant, negative direction = '-' ; Variable not significant = 'n/s'		

Similarly, carrying Narcan on-duty was also a statistically significant positive predictor of *Beliefs About Help*, and believing that a typical drug user is female was a negative predictor. Interestingly, none of the variables measuring social stigma was related to officers' *Beliefs About Help*. That is, *Dangerousness*, *Blame*, *Social Distance*, and *Fatalism* were unrelated to officers' beliefs related to help and their anticipated responses. In fact, the only other statistically significant predictor in that model was related to administering Narcan. Officers who had administered Narcan believed that other officers should provide less help to overdose victims. It is possible that this finding may be due to the construction of the dependent variable. Perhaps officers who had administered Narcan perceived it to be so effective that they perceived that the other measures of help were unnecessary. To further explore this, an auxiliary HMR model was constructed with a dependent variable that dropped the item related to Narcan administration from the *Beliefs About Help*. The results were the same. These data suggest that officers who had administered Narcan in the past believed that other officers should provide less support to overdose victims than officers who had not administered Narcan previously.. The overlap in significant predictors between the two concepts indicates several important policy implications.

The Importance of Stigma

One key finding from research question 1 is related to the importance of social stigma impacting help. While perceptions of *Dangerousness* increased officers' likelihood of providing a wide range of support to overdose victims, *Social Distance* decreased the likelihood of providing a wide-range of services. Thus, it appears that officers who do not desire to interact with opioid/heroin users in social situations are also less likely to help them in work- related

situations. Simply stated, as this dimension of stigma increases, help decreases. Therefore, if stigma can be reduced among officers, help provided toward overdose victims could increase.

Further support for this position is derived from beliefs about drug users. These data indicate that compared to officers who perceived the *typical* drug user as either gender, officers who perceived the typical drug user as female believed that other officers should provide fewer services to overdose victims. Also, officers who believed the typical drug user to be female reported being less likely to provide a full range of services to overdose victims. Essentially, officers who perceive drug users as being female anticipate providing less help to overdose victims, and they reported that other officers also should provide less help to overdose victims. Thus, these data indirectly reflect some form of stigma or negative sentiment toward opioid and heroin users. If one believes that drug users have a common attribute or trait, such as gender or class, then they are in a way stereotyping them. Together, these results suggest that it might be useful to introduce information and/or training designed to prevent and reduce stigma toward heroin and opioid users. The training accompanied by public service announcements could demonstrate the fact that addiction affects every social class and all members of society. This could be enhanced through realistic media depictions, billboards, specific instruction, or drug education programs in schools.

The Importance of Labeling

Drug use transcends social class, race, gender, and employment status. While the opioid epidemic appears to disproportionately impact white suburbia (Hansen, 2017), when examining drug use in the aggregate, there is no one specific demographic that makes up *a typical drug user*. The use of drugs within a jurisdiction is affected by many factors, including the demographic characteristics of the region and the availability of substances (Whitesell, Bachand,

Peel, & Brown, 2013). While there may not be one *typical drug user*, the survey results indicate that the belief that there is a *typical drug user* is associated with officers' beliefs related to their anticipated help. Thus, it seems important to address this perception.

While most training related to substance use tends to focus on prevention, desistence, relapse prevention, or recognition, to date there are few general education programs directed at law enforcement personnel (Hartman, Richman, Hayes, & Huestis, 2016; Pentz, Riggs, & Warren, 2016; Substance Abuse and Mental Health Services Administration, 2019). Moreover, results from this preliminary study found that while most officers (between 86% and 88%) reported that they had completed a class, training, or program on substance use addiction, 13.6% of officers had never taken any class on substance use addiction. Further, due to limitations with data, it is impossible to gauge the comprehensiveness, frequency, or length of training that these officers received. In addition, it is possible that the officers who reported having completed the training were not involved in any recent training on addiction. Further, more than one-fifth of the sample was at the rank of chief or sheriff. As such, it is probable that they had some form of addiction training merely because of their leadership role. Thus, the percentage of officers who completed training courses on addiction in this sample could over-represent the actual percentage of all officers. Moreover, to the best of the researcher's knowledge, there is not a national estimate on the number of police agencies that provide such training, nor is there a publicized uniform standard for the curriculum for these courses.

Recognizing these limitations, one promising program that could be expanded is SAMHSA's *Creating Safe Scenes Training Course*. *Creating Safe Scenes* is a 1.5-hour training course designed to help first responders understand more about mental health issues and substance use disorders. *Creating Safe Scenes* includes video accounts of other first responders'

experiences with mental health problems. The training also introduces participants to resources and de-escalation strategies for working with individuals suffering from mental illnesses and SUDs. This course is brief (1.5 hours), but its principles seem relevant. Such videos and training could be expanded to include more general education on SUDs, Narcan, and Medication Assisted Treatment. The program could be initiated during cadet training and regularly occur over an officer's career in conjunction with several updated professional development classes. Such a strategy could help reduce or prevent stereotyping among officers and subsequently alter attitudes related to help.

These results also illustrate the potential importance of anti-stigma campaigns. Unfortunately, the long-term effectiveness of anti-stigma campaigns is understudied, and systematic reviews have concluded that there have been few effective interventions that have produced lasting results in target populations (Corrigan, Morris, Michaels, Rafacz, & Rüsch, 2012; Griffiths, Carron-Arthur, Parsons, & Reid, 2014; Mehta et al., 2015; Thornicroft et al., 2015). Nonetheless, the most promising type of anti-stigma campaigns, at least in the short-term, appear to be campaigns that increase social contact (Corrigan et al., 2012; Griffiths et al., 2014; Mehta et al., 2015; Thornicroft et al., 2015). Contact interventions try to improve positive interactions between stigmatized persons and those stigmatizing by introducing the two groups to one another in a shared environment that fosters education and discussion. While a measure of contact was included in this study (e.g., Familiarity) and found insignificant, it measured all types of contact, including positive and negative contact. The research suggests that lack of positive contact can result in perceptions of fear, distrust, blame, and a greater desire for social distance (Cook et al., 2014). The positive contact could be achieved by enabling officers and

substance users who are in recovery to interact during the training programs and possibly co-teach or co-facilitate the session.

Corrigan and colleagues (2013) have outlined 5 *key ingredients* related to program design, targeting, staffing, messaging, and evaluation that should be incorporated in any contact campaign to be successful. First, programs should be presented face-to-face when possible. It is important to note though that effective contacts also can occur electronically through Internet communication, if it is infeasible to conduct face-to-face interventions (Yamaguchi et al., 2013). Second, programs need to target individuals who have some power or authority over people with mental illnesses (i.e., police officers), and have goals tailored to this population. Third, the programs should be staffed by individuals who have “lived experience” related to the condition (p.176). In this case, it may be best to recruit former officers or other criminal justice professionals and social service staff who have suffered from opioid or heroin addiction to facilitate such programs. Fourth, the message communicated during the programs has to be one that qualifies the presenter, in that it describes him/her in a way that suggests he/she was “on the way down,” and then rose to a position of prominence (p. 176). Lastly, any good contact campaign requires a follow-up component and mechanism of evaluation. It is through long-term contact and education that stigma is reduced.

There is also some evidence that mass-media anti-stigma campaigns are effective at reducing public stigma (Clement et al., 2013). One such strategy is the *Time to Change* program implemented in England from 2009 to 2014 (Sampogna, Bakolis, Evans-Lacko, Robinson, Thornicroft, & Henderson, 2017). *Time to Change* was a unique program in that it incorporated elements of contact and mass media in a program intended to reduce stigma among middle-class men and women from their mid-20s and mid-40s. The program used social media sites such as

Facebook and Twitter to project messages directed at providing information on mental illness and reducing the stigma associated with it. Further, *Time to Change* facilitated workshops to increase contact with mentally ill persons and foster knowledge about mental illness. Results for the campaign showed that it increased participants' general knowledge about mental illness and led to a subsequent increase in positive attitudes toward mentally ill persons (Sampogna et al., 2019).

Contact programs and mass media campaigns should be created, implemented, and directed toward law enforcement officers based on the principles and strategies outlined. If instituted fully, they can help reduce stigma among police officers and possibly result in increased help and officer involvement for overdose victims. Ultimately, that assistance could save lives. Further, it is essential that primary researchers evaluate the long-term effectiveness of such programs.

Policies on Narcan

Variables related to departmental policies on Narcan seemed to matter more than stigma in regard to officers' attitudes toward help provided for overdose victims. These variables were responsible for the largest contribution to the overall R^2 in both models. Further, carrying Narcan on duty was a significant predictor in both the *Anticipated Help* and *Beliefs About Help* models. As such, it appears that these variables may be the most important in terms of shaping attitudes related to help that should be provided to overdose victims.

While most officers (87.9%) in this study worked for departments that have a policy or practice on administering Narcan for opioid overdoses, 12.1% of officers surveyed worked for departments that did not have a policy or practice on administering Narcan for opioid overdoses. This statistic is much lower than the most recent national estimate that there are only 2,482 law

enforcement agencies across the U.S. that have implemented some form of a Narcan program or policy (North Carolina Harm Reduction Coalition, 2019b). That represents less than 20 percent of all law enforcement agencies in the United States (Federal Bureau of Investigation, 2018b). Thus, a substantial number does not have a formal written policy related to Narcan use and administration.

While it may seem like a straightforward implication to have every department adopt a policy pertaining to Narcan, it is important to note the importance of the specifics of such a policy. Results from HMR analyses suggest that training on Narcan, permitting officers to carry Narcan, and requiring officers to carry Narcan, were all unrelated to beliefs about help that should be provided to overdose victims. Unfortunately, no measures of the extent of Narcan training were taken in this project. It is possible that many officers who reported having undergone training on Narcan could have attended only a brief workshop. These results show that simply requiring officers to carry Narcan and providing training on Narcan may not be enough to significantly impact help that is provided to overdose victims. However, what did matter was having officers actually carry Narcan.

When implementing a policy on Narcan administration, organizations should first consider the Bureau of Justice Assistance's (2019) *toolkit*. This *toolkit* provides helpful resources for police departments including information on how to obtain and use naloxone. One model policy that organizations should review before implementing their own policy is the *North Carolina Naloxone Law Enforcement Officer Policy* (North Carolina Harm Reduction Coalition, 2019a). This policy describes the purpose of Naloxone use, specifies mandated training requirements for all North Carolina officers, outlines procedures for administering Naloxone, and describes appropriate reporting practices post-administration. It is imperative that

departments commit to providing this training in the long-term, and that they incorporate education on substance use and addiction, which could influence officers' attitudes toward opioid users, the use of Narcan, and the use of MAT. While research in this area is limited, adopting such a policy or practice is a promising overdose reduction measure that can also improve the public's perceptions of law enforcement (Davis, Carr, Southwell, & Beletsky, 2015).

University Sample – Implications

The second part of the implications of this dissertation study relates to results from the sample of university students. In total, 743 students enrolled in criminology, nursing, and EMT/Paramedic courses comprised the university sample. The discussion proceeds in a similar manner to the previous section.

Research Questions 3 & 4: Beliefs About Help

The first research question related to the student sample concerned assessing student beliefs pertaining to services that law enforcement officers should provide to opioid and heroin overdose. Consistent with the law enforcement sample, beliefs about help were measured by a multi-item scale where a score of 0 equaled agreement with offering the least help possible, and a score of 20 equaled agreement with providing the most help possible. In the aggregate, students reported high scores for *Beliefs About Help* ($M = 16.23$, $SD = 2.68$) indicating that most students felt officers should provide a fair amount of help to overdose victims.

The second part of the first research question assessed predictors of these beliefs. An HMR model was constructed to examine predictors of students' beliefs as they related to help provided to opioid/heroin overdose victims. Table 52 displays key findings from that analysis. In the final model, just two variables were found to statistically significantly influence students'

Beliefs About Help. These variables were living in an urban area and *Social Distance*. Compared to students who lived in rural areas, students who lived in urban areas believed that officers should provide less help to overdose victims. Further, students who reported higher levels of *Social Distance* and those who lived in urban areas believed that officers should provide less help than students who had lower fatalistic perceptions of opioid and heroin users.

Overall, these findings suggest two interesting implications. First, stigma as measured by *social distance*, may negatively impact student beliefs and actions. However, stigma measured through perceptions of *Dangerousness*, *Blame*, and *Social Distance* had no significant impact on beliefs about help. Future research should expand upon this finding by examining the role that stigma plays in student decision-making and actions in other situations, and to explore whether stigma does influence actions. Further, these results demonstrate support for the use of positive contact-based anti-stigma campaigns described previously because they have been found to reduce desire for *Social Distance* and other stigmas (Corrigan et al., 2012; Griffiths et al., 2014; Mehta et al., 2015; Thornicroft et al., 2015). Enabling students to interact with recovered opioid and heroin users, in a positive setting, may increase perceptions about users and treatment. When implementing such programs, attention should be directed toward all students. However, students living in urban areas are an especially important demographic to reach out based on the results of this research.

Table 52

Summary of Regression Results for Students' Beliefs About Help

Variable	Beliefs About Help (N = 585)
<i>Demographics</i>	
If Male	n/s
If White	n/s
Political Beliefs	n/s
Age	n/s
Resident Location	
Suburban	n/s
Urban	-
Religiosity	
Somewhat religious	n/s
Very religious	n/s
Major	
Nursing	n/s
EMT/Paramedic	n/s
Other	n/s
GPA	
3.0-3.9	n/s
4.0 or above	n/s
Class Rank	
Sophomore	n/s
Junior	n/s
Senior	n/s
<i>Training</i>	
If taken class on addiction	n/s
If completed a course on addiction	n/s
If administered Narcan	n/s
<i>Beliefs</i>	
Familiarity	n/s
If believe drug abuse is disease	n/s
Beliefs about gender	
If believe drug user male	n/s
If believe drug user female	n/s
Beliefs about class	
If believe drug user lower class	n/s
If believe drug user is upper class	
If believe drug user white	n/s
If believe drug user employed	n/s
<i>Stigma</i>	
Dangerousness	n/s

Blame	n/s
Social Distance	-
Fatalism	n/s
R^2 (Adjusted R^2)	.111 (.063)
Positive direction = '+'; Statistically significant, negative direction = '-'; Variable not significant = 'n/s'	

The Importance Of Addiction Training Courses

Evidence suggests that people can become physically addicted to drugs such as opioids and heroin (Goel, Gupta, Lochan, Gupta, Chander, & Neki, 2018; Heal, Gosden, & Smith, 2018; National Institute on Drug Abuse, 2018a). Much like a disease, these drugs change or inhibit neurofunctions in the human body (National Institute on Drug Abuse, 2017). Data from this study indicate that just 62.6% of the student sample agreed with the statement that, “drug abuse is a disease.” Moreover, more than 58.4% of the student sample had never taken a class on substance use addiction. This is an especially troubling finding given that the student respondents have chosen majors associated with professions where they will be likely to be called to provide service to substance using persons. Further, examination of the schedule of classes at the university in which this study occurred revealed that none of the programs of interest (e.g., Criminology, Nursing, or EMT/Paramedic) offered a class on substance use addiction for the Spring 2019 semester. Moreover, across all three majors, there was only one elective course with one section on substance use addiction offered in the fall semester of 2018, and it was in criminology. While agreement with the question that drug abuse is a disease was unrelated to student beliefs about assistance that should be provided to overdose victims, students should understand substance use and addiction. Many of these students are likely to work with persons who use various substances. Further, the measure employed in this study was based on only one variable, as the *Beliefs About Addiction* scale did not load properly in the student sample. It is possible that that variable was a faulty or inaccurate measure of this concept.

Regardless, these data suggest that students lack knowledge in the areas of substance use and addiction, and that they may not be formally exposed to specialized semester length courses on substance use and addiction through their other coursework. Criminology, nursing, and EMT/Paramedic program faculty might consider expanding their curricula to include classes on substance use addiction each semester.

Departments interested in providing such courses could review the *Institute for Research, Education, and Training in Addictions* (IRETA, 2019) website. IRETA (2019) offers online training courses and webinars on topics ranging from drug dependency and treatment to “doctor shopping” and opioid misuse. Interested faculty members can learn more about addiction by attending these workshops and subsequently structure their courses accordingly. Increasing opportunities for students to enroll in addiction courses could enhance their knowledge and potentially improve their attitudes toward drug users. Reliable and current course content also could help alleviate the desire for social distance, which could increase beliefs about help. These recommendations are a first step, but more research is needed in this area.

Implications Across Both Samples

In reviewing results from both the law enforcement sample and university sample, a few themes are apparent. One of the main goals of this dissertation was to assess the impact of social stigma on attitudes, beliefs, and actions. To do this, four measures of social stigma, dangerousness, blame, social distance, and fatalism, were examined and analyzed with a law enforcement sample and a university sample. Overall, both law enforcement officers and students reported moderately high levels of social stigma as measured by *Dangerousness*, *Blame*, and *Social Distance*. Comparatively, perceptions of *Fatalism* were much lower. This suggests that there does appear to be a labeling effect for drug users. Specifically, officers and students, in

general, perceive opioid and heroin users as dangerous, and blameworthy, and they reported a desire to avoid them in social settings. However, most sample respondents did not perceive heroin or opioid use as an intractable condition. Further, it appears that both groups desired social distance more than they perceived users as dangerous, blameworthy, or in an irreversible state. Officers reported significantly higher levels of social stigma for dimensions of *Dangerousness* and *Fatalism* than did students. This suggests that officers may hold more stigmatizing views of opioid and heroin users than students do. One implication from this finding would be a greater impetus for workshops and training for law enforcement officers.

Despite fairly high levels of stigma, both samples believed that officers should provide a relatively high level of support to persons suffering from an opioid or heroin overdose. However, students believed that officers should provide more support than the officer sample indicated. As noted in Chapter 4, compared to officers, students reported statistically significantly higher scores for *Beliefs About Help*. In brief, students believed that officers should provide more help to overdose victims than did law enforcement officers.

When examining the individual predictors across HMR models related to beliefs about help, none of the variables significant in the law enforcement model was also significant in the student model. The only non-stigma related variables that were significant in the models were related to departmental policy and beliefs about typical drug users (law enforcement) and geographical residence/location (students). This finding suggests that these variables may not be as directly related to beliefs as much as stigma. However, despite the fact that *Dangerousness* and *Social Distance* may have influenced officers' likelihood to help, no stigma related variables were significantly related to officers' beliefs about help. Only one of the social stigma variables (e.g., Social Distance) was significant in the student model, but none was significant in the law

enforcement model. Further, the inclusion of the stigma variables in all models, across both samples, did little to improve overall model fit and the R-squared value in the HMR models presented. While it appears that some dimensions of stigma do, in part, affect beliefs about help, overall stigma does not seem to have a significant impact on attitudes. However, social stigma is still an important variable to consider, and it appears to influence the beliefs of officers more so than it does students. Notably, stigma may influence the actions of law enforcement officers more so than that of students as the beta coefficients in the law enforcement model and the overall impact on R^2 values were much larger than in the student model. Thus, while it is recommended that anti-stigma campaigns be provided for both groups, it appears that anti-stigma campaigns may be more essential for law enforcement officers. However, more research is needed in this area first.

Study Limitations and Implications for Future Studies

A comprehensive effort was made to minimize the limitations of this study at each step in the research process. However, there are a number of limitations that should be addressed by future researchers. First, there are issues related to the sampling techniques employed in this project. This project used data from a convenience sample of law enforcement officers and students. While an effort was made to use probability techniques to collect a random sample of participants, limitations with time, funding, and rapport prevented the researcher from obtaining a truly random sample. For future studies, it is recommended that a random sample be utilized.

Law enforcement officers are a difficult group to acquire access to and to solicit participation. In fact, prior to the survey being disseminated by the *Pennsylvania Chiefs of Police Association* and *Pennsylvania Forensic Taskforce*, not many officers had agreed to participate in this project. It would be advantageous for future researchers to try to secure the endorsement of

professional police organizations (i.e., International Association of Chiefs of Police) before attempting to survey law enforcement officers. Further, more than 20 percent of the law enforcement sample in this study was comprised of officers at the rank of chief or sheriff. These law enforcement professionals are not typically the ones who are tasked with aiding overdose victims because they are not usually the officers responsible for patrol. Future research should make an effort to survey more patrol officers.

It is also recommended that future studies attempt to use probabilistic sampling techniques. Moreover, efforts should be made to expand this project to officers working in departments located in other regions of the United States. The sample in this study is small, and it does not represent adequately law enforcement in the state or region.

Consideration should also be directed toward obtaining a larger and more diverse student sample. The current sample consists of students in one university in the Northeast United States. Therefore, results are not generalizable beyond the three majors of that university. Furthermore, only students in traditional podium classes were included. Online and practicum/clinical students should be solicited for participation in the future, even if through online surveys. In addition, researchers should expand this project to students located in universities across the United States.

The response rate also is an important limitation to address. While police departments were contacted multiple times, more contacts and extending the data collection by a couple of more months could have increased the size of the law enforcement sample. The same caveat extends for the student sample. Students were only provided one opportunity to participate in the study. If they missed class, as many did, they did not get to participate in the study. Future research should try to make multiple contacts, face-to-face and electronically, with potential participants to increase sample size. Further, it is recommended that researchers expand the

sampling frame to include online classes and clinical courses. Although there are limitations associated with including these courses, these sample respondents' perceptions are important.

Furthermore, researchers should also examine stigma among samples of police cadets. It would be important to assess the attitudes and stigma of police cadets in training academies currently. As a group that is clearly planning to work in law enforcement, their perceptions would be especially important. Such data could inform the curricula and other training offered at police academies.

More primary studies are needed to examine stigma among other agents in the criminal justice system that come in contact with substance users. For instance, efforts need to be made to assess stigma among probation and parole officers, correctional officers, and judges. They work directly with persons addicted to heroin and opioids and other substances. Further, these persons are in positions to authorize or manage treatment for such persons. Judges, particularly those who oversee drug courts, decide if offenders in their court can enroll in MAT programs. Further, probation officers and correctional officers play an active role in providing offenders with access to MAT and other forms of treatment. It would be prudent for future researchers to examine the role that stigma has in shaping attitudes, beliefs, and actions of these actors as well.

The second main limitation with this dissertation was related to the strength of scales. While most of the scales used produced acceptable estimates for measures of internal consistency, the *Beliefs About Addiction* scale for the student sample was weak, and had to be abandoned. Future research should attempt to develop a more empirically sound instrument to measure this concept. It would be important to know which variables influence beliefs and to utilize reliable and valid survey instruments.

Researchers should also explore this topic using Qualitative methods. Qualitative methods can enable researchers to gather data that emerge naturally from subject participants. Qualitative strategies can produce findings with more interpretation worth (Creswell, 2003; Denzin & Lincoln, 2011; Merriam, 2002). Quantitative surveys may not fully measure social stigma and may not fully capture sample participants' perceptions of opioid users. For example, participants in this study were presented with a variety of pre-determined items, and then asked to report their level of agreement or disagreement to those items. While many of the items were created from prior research that was methodologically sound, it is possible that participants embrace attitudes that were not included in the survey. To fully understand social stigma, future researchers should try to examine stigma inductively through quantitative and qualitative methods.

Additionally, future studies should consider the indirect effects of social stigma related variables on attitudes and actions. Factor analytic techniques did help confirm the different measures of social stigma. This research focused on exploring the direct effects of each of these variables, while controlling for the other variables. It may be interesting to see how the variables interact with each other to predict attitudes and beliefs. Therefore, future research should examine potential mediation and moderation effects between the four stigma variables.

Finally, the key dependent variable in the law enforcement sample was really a proxy measure for a behavioral response. That is, the measure was created to assess officers' likelihood of responding in a certain way. It does not assess actual responses. Future research should examine the impact of social stigma on behaviors. One way to do this would be through an experimental/quasi-experimental design. First, the researcher would measure the officers'

stigma. Then, officers participate in a simulation in which they encounter an overdose victim and have to decide their course of action.

Conclusion

Opioid and heroin use is a serious problem affecting American culture and its criminal justice system. These drugs now take more American lives annually than car crashes and shootings (Centers For Disease Control and Prevention, 2018). Many criminal offenders are addicted to heroin and opioids. That addiction can involve the entire criminal justice system. First responders within the system have been tasked with providing services to persons who overdose on opioids. The American court system determines whether to prosecute these offenders; and the correctional system has been forced to explore ways to treat and rehabilitate such offenders.

While there have been many different responses to the opioid epidemic, this research suggests that social stigma influences attitudes, beliefs, and potential actions related to these responses. However, that influence is not as significant as other variables, such as departmental policy. The findings and implications from this project help provide a basis for understanding the importance of social stigma and departmental policies in the criminal justice system. Future researchers can build on this work by incorporating different methods of inquiry and by surveying different populations. Opioid and heroin use transcends time and place. Thus, it is imperative that researchers continue to examine this phenomenon in different ways in an attempt to identify, treat, and prevent problems associated with it.

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Appendix A

Law Enforcement Survey

The following survey asks for your thoughts and opinions on opioid and heroin use, and responses to this phenomenon. The survey is split into four sections: (1) responses to opioid/heroin use, (2) opinions about opioid/ heroin users, (3) perceptions about responses to opioid/heroin use, and (4) personal life. Please answer all questions and do not skip any questions. Your answers will be kept confidential.

Section I: *Responses to Opioid/Heroin Use*

Instructions: Please read the two hypothetical scenarios below and answer the questions that accompany them. There are no right or wrong answers. They are merely intended to assess opinions of how you would respond to the scenario.

Scenario 1:

If you were on-duty and you encountered a person lying on the sidewalk who appeared to have overdosed on opioids or heroin, how likely would you be to do the following?

ITEM	Very Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Very Unlikely
(1) Administer Narcan.	☐	☐	☐	☐	☐
(2) Call for medical assistance.	☐	☐	☐	☐	☐
(3) Accompany the person to the local hospital/urgent care facility.	☐	☐	☐	☐	☐
(4) Attempt to identify the person and notify a family member or friend.	☐	☐	☐	☐	☐
(5) Refer the person to a drug treatment program.	☐	☐	☐	☐	☐
(6) Ignore the person and keep walking.	☐	☐	☐	☐	☐

Scenario 2:

If an on-duty police officer encounters a person lying on the sidewalk who appears to have overdosed on opioids or heroin, in your opinion, what do you think the officer should do?

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(7) Administer Narcan.	☐	☐	☐	☐	☐
(8) Call for medical assistance.	☐	☐	☐	☐	☐
(9) Accompany the person to the local hospital/urgent care facility.	☐	☐	☐	☐	☐
(10) Attempt to identify the person and notify a family member or friend.	☐	☐	☐	☐	☐
(11) Refer the person to a drug treatment program.	☐	☐	☐	☐	☐
(12) Ignore the person and keep walking.	☐	☐	☐	☐	☐

Section II: *Opinions About Opioid/ Heroin Users*

Instructions: The following questions ask about characteristics of drug users. When answering these questions, think about your own experiences. Please check the boxes indicating the demographic makeup (background information) of what you perceive to be a typical drug user. There are no right or wrong answers.

(13) A typical drug user belongs to which social class?

☐Lower ☐Middle ☐Upper

(14) From your experiences, a typical drug user is which gender?

☐Male ☐Female ☐Other (Please Specify_____)

(15) From your experiences, a typical drug user is which race?

☐Caucasian (White) ☐ African American ☐Asian ☐Hispanic ☐Other (please specify:_____)?

(16) From your experiences, is a typical drug user employed?

☐Yes ☐No

Instructions: The following items are statements of opinions regarding “Opioid/Heroin Users.” When answering the questions please think about opioid use in which the person does not have a prescription. There are no right or wrong answers. Please place an “X” on the box to indicate your level of agreement/disagreement with the statements.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(17) If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside.	☐	☐	☐	☐	☐
(18) One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next.	☐	☐	☐	☐	☐
(19) If I knew a person had used heroin or opioids, I would be <u>less likely</u> to trust him/her.	☐	☐	☐	☐	☐
(20) People who use heroin and/or opioids are a threat to the safety of our community.	☐	☐	☐	☐	☐
(21) The main purpose of opioid treatment facilities should be to protect the general public from users.	☐	☐	☐	☐	☐
(22) Although some heroin/opioid users may seem alright, it is dangerous to forget that they are drug users.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(23) Persons addicted to heroin and/or opioids are usually responsible for their own condition.	☐	☐	☐	☐	☐
(24) Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get clean	☐	☐	☐	☐	☐
(25) Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(26) If I knew someone was addicted to heroin and/or opioids I would try to avoid them.	☐	☐	☐	☐	☐
(27) It would bother me to live near a person who used heroin or opioids.	☐	☐	☐	☐	☐
(28) It would be difficult for me to develop a friendship with someone who uses heroin or opioids.	☐	☐	☐	☐	☐
(29) I <u>would not feel</u> comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours.	☐	☐	☐	☐	☐
(30) If I could, I would <u>prefer not to</u> work with someone who was a known user of heroin or opioids.	☐	☐	☐	☐	☐
(31) I would be fine letting someone who had a history of opioid and/or heroin use marry into my family.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(32) Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result).	☐	☐	☐	☐	☐
(33) Most people who become addicted to heroin or opioids are addicts for life.	☐	☐	☐	☐	☐
(34) Full recovery from opioid addiction is impossible.	☐	☐	☐	☐	☐

The following question asks you about your views of drug addiction. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(35) A person can become physically dependent on drugs.	☐	☐	☐	☐	☐
(36) Drug abuse is a disease.	☐	☐	☐	☐	☐
(37) A person addicted to drugs can control his/her use.	☐	☐	☐	☐	☐
(38) Some people are genetically predisposed to become drug addicts.	☐	☐	☐	☐	☐

Section III: *Experiences and Perceptions*

The following items are questions that ask about your experiences with drug using persons. When answering the questions please think about opioid use in which the person does not have a prescription. Please place an “X” on the box to indicate your answer.

ITEM	YES	NO
(39) My job involves providing services/ treatment for persons who use heroin/opioids.	☐	☐
(40) I have observed, in passing, a person I believe may have problems with heroin/opioids.	☐	☐
(41) I have witnessed persons who use heroin/opioids on a frequent basis.	☐	☐
(42) I have worked with a person who used heroin/opioids.	☐	☐
(43) I know a friend of the family who has used heroin/opioids.	☐	☐
(44) I have a relative who has used heroin/opioids.	☐	☐
(45) I have lived with, or close to a person(s), who used heroin/opioids.	☐	☐

The following items are questions that ask you to report your level of agreement with statements about Medication-Assisted Treatment (MAT). Medication-Assisted Treatment for opioid addiction involves prescribing opioid/heroin users with medication, such as Suboxone and Methadone, that is designed to wean users off of drugs. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
(46) MAT is effective at reducing overdoses.	☐	☐	☐	☐	☐	☐
(47) MAT is effective at reducing future crime.	☐	☐	☐	☐	☐	☐
(48) MAT puts more drugs on the streets.	☐	☐	☐	☐	☐	☐
(49) Persons who use heroin/opioids <u>do not need</u> to use MAT to get “clean.”	☐	☐	☐	☐	☐	☐
(50) MAT is a good investment for society.	☐	☐	☐	☐	☐	☐

The following items are questions that ask you to report your level of agreement with statements about Narcan. Narcan is a drug that reverses the effects of an opioid overdose. First responders use Narcan to prevent people who overdose on opioids/heroin from dying. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
(51) Narcan is effective at reducing overdoses.	☐	☐	☐	☐	☐	☐
(52) Narcan is effective at reducing future crime.	☐	☐	☐	☐	☐	☐
(53) Narcan encourages people to use opioids/heroin.	☐	☐	☐	☐	☐	☐
(54) There should be a limit to the number of times that a person can be given Narcan.	☐	☐	☐	☐	☐	☐
(55) Narcan is a waste of resources.	☐	☐	☐	☐	☐	☐

Section III (Part A): *Personal Life*

The following items are questions that ask you about your past experiences. Please place an “X” on the box to indicate your answer.

ITEM	YES	NO
(56) Have you ever taken any classes on substance use addiction?	☐	☐
(57) Have you completed any training courses or programs on substance use addiction?	☐	☐
(58) Have you ever had to administer Narcan?	☐	☐
(59) Does your department have a policy or practice on administering Narcan for opioid overdoses?	☐	☐
(60) Have you been trained in the administration of Narcan?	☐	☐
(61) Does your department permit you to carry Narcan?	☐	☐
(62) Does your department require you to carry Narcan at all times?	☐	☐
(63) Do you carry Narcan on-duty?	☐	☐

Section IIII (Part B): *Demographics*

The final items are questions that ask you for some personal information about yourself. Please place an “X” on the box to indicate your answer or write an answer on the line provided to record your response depending on what the question asks of you.

(64) Which of the following political affiliations do you BEST identify with?

☐ Democrat ☐ Independent ☐ Libertarian ☐ Republican ☐ Other: _____

(65) If you had to classify your political beliefs on a scale from 1-10 (with 1 being completely liberal and 10 being completely conservative) where would you place yourself? ****PLEASE CIRCLE A NUMBER**

LIBERAL 1 2 3 4 5 6 7 8 9 10 *CONSERVATIVE*

ITEM	RURAL	URBAN	SUBURBAN
(66) In what type of area do you currently live?	☐	☐	☐
(67) In what type of area did you grow up?	☐	☐	☐

(68) How long have you been working in policing? _____ years or _____ months

(69) What is your current rank?

☐ Technician ☐ Patrol Officer ☐ Corporal ☐ Sergeant ☐ Lieutenant ☐ Captain
☐ Major ☐ Colonel ☐ Deputy Chief/ Chief Deputy ☐ Chief/Sheriff
☐ Other (Please Specify: _____)

(70) How religious of a person do you consider yourself to be?

☐ Not at all ☐ Somewhat religious ☐ Very religious

(71) What is your religious affiliation?

☐ Liberal Protestant ☐ Moderate Protestant ☐ Catholic ☐ Muslim ☐ Mormon ☐ Jewish
☐ Presbyterian ☐ Atheist ☐ No Preference ☐ Other (Please Specify: _____)

(72) With which gender do you most identify?

☐ Male ☐ Female ☐ Other (Please Specify: _____)

(73) What is your race?

☐ Caucasian (White) ☐ African American ☐ Asian ☐ Hispanic ☐ Other (please specify: _____)

(74) What is your current age? _____ years old

(75) What is your highest level of educational attainment?

☐ Less than a High School Diploma ☐ High School Diploma or GED ☐ Some College ☐ Associate Degree or
Other Trade Degree ☐ College Graduate ☐ Graduate or Other Advanced Degree

Please provide any additional thoughts you may have on opioid/heroin users in the space provided.

APPENDIX B

Student Survey

The following survey asks for your thoughts and opinions on opioid and heroin use, and responses to this phenomenon. The survey has four sections: (1) responses to opioid/heroin use, (2) opinions about opioid/ heroin users, (3) perceptions about responses to opioid/heroin use, and (4) personal life. Please answer all questions and do not skip any questions. Your answers will be kept confidential.

Section I: *Responses to Opioid/Heroin Use*

Instructions: Please read the following hypothetical scenario below and answer the question that accompanies it. There are no right or wrong answers. It is merely intended to assess opinions of how you think an officer should respond to the situations depicted.

Scenario 1:

An on-duty police officer encounters a person lying on the sidewalk who appears to have overdosed on opioids or heroin. What do you think the police officer should do in this situation?

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(1) Administer Narcan.	☐	☐	☐	☐	☐
(2) Call for medical assistance.	☐	☐	☐	☐	☐
(3) Accompany the person to the local hospital/urgent care facility.	☐	☐	☐	☐	☐
(4) Attempt to identify the person and notify a family member or friend.	☐	☐	☐	☐	☐
(5) Refer the person to a drug treatment program.	☐	☐	☐	☐	☐
(6) Ignore the person and keep walking.	☐	☐	☐	☐	☐

Section II: *Opinions About Opioid/ Heroin Users*

Instructions: The following questions ask about characteristics of drug users. When answering these questions, think about your own experiences. Please check the boxes indicating the demographic makeup (background information) of what you perceive to be a typical drug user. There are no right or wrong answers.

(7) A typical drug user belongs to which social class?

☐ Lower ☐ Middle ☐ Upper

(8) From your experiences, a typical drug user is which gender?

☐ Male ☐ Female ☐ Other (Please Specify _____)

(9) From your experiences, a typical drug user is which race?

☐ Caucasian (White) ☐ African American ☐ Asian ☐ Hispanic ☐ Other (please specify: _____) ?

(10) From your experiences, is a typical drug user employed?

☐ Yes ☐ No

Instructions: The following items are statements of opinions regarding “Opioid/Heroin Users.” When answering the questions please think about opioid use in which the person does not have a prescription. There are no right or wrong answers. Please place an “X” on the box to indicate your level of agreement/disagreement with the statements.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(11) If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside.	☐	☐	☐	☐	☐
(12) One important thing about people addicted to heroin and/or opioids is that you cannot tell what they will do from one minute to the next.	☐	☐	☐	☐	☐
(13) If I knew a person had used heroin or opioids, I would be <u>less likely</u> to trust him/her.	☐	☐	☐	☐	☐
(14) People who use heroin and/or opioids are a threat to the safety of our community.	☐	☐	☐	☐	☐
(15) The main purpose of opioid treatment facilities should be to protect the general public from users.	☐	☐	☐	☐	☐
(16) Although some heroin/opioid users may seem all right, it is dangerous to forget that they are drug users.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(17) Persons addicted to heroin and/or opioids are usually responsible for their own condition.	☐	☐	☐	☐	☐
(18) Those who become addicted to heroin and/or opioids are those who lack the work ethic needed to get “clean”.	☐	☐	☐	☐	☐
(19) Those addicted to heroin and opioids are self-harming persons who exacerbate (make worse) their own condition.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(20) If I knew someone was addicted to heroin and/or opioids I would try to avoid them.	☐	☐	☐	☐	☐
(21) It would bother me to live near a person who used heroin or opioids.	☐	☐	☐	☐	☐
(22) It would be difficult for me to develop a friendship with someone who uses heroin or opioids.	☐	☐	☐	☐	☐
(23) I <u>would not feel</u> comfortable letting someone who has a history of heroin and/or opioid use be the caretaker of my child for a couple of hours.	☐	☐	☐	☐	☐
(24) If I could, I would <u>prefer not to</u> work with someone who was a known user of heroin or opioids.	☐	☐	☐	☐	☐
(25) I would be fine letting someone who had a history of opioid and/or heroin use marry into my family.	☐	☐	☐	☐	☐

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(26) Treating persons addicted to heroin and opioids seems futile (incapable of producing any useful result).	☐	☐	☐	☐	☐
(27) Most people who become addicted to heroin or opioids are addicts for life.	☐	☐	☐	☐	☐
(28) Full recovery from opioid addiction is impossible.	☐	☐	☐	☐	☐

The following question asks you about your views of drug addiction. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
(29) A person can become physically dependent on drugs.	☐	☐	☐	☐	☐
(30) Drug abuse is a disease.	☐	☐	☐	☐	☐
(31) A person addicted to drugs can control his/her use.	☐	☐	☐	☐	☐
(32) Some people are genetically predisposed to become drug addicts.	☐	☐	☐	☐	☐

Section III: *Experiences and Perceptions*

The following items are questions that ask about your experiences with drug using persons. When answering the questions please think about opioid use in which the person does not have a prescription. Please place an “X” on the box to indicate your answer.

ITEM	YES	NO
(33) My job involves providing services/ treatment for persons who use heroin/opioids.	☐	☐
(34) I have observed, in passing, a person I believe may have problems with heroin/opioids.	☐	☐
(35) I have witnessed persons who use heroin/opioids on a frequent basis.	☐	☐
(36) I have worked with a person who used heroin/opioids.	☐	☐
(37) I have a friend of the family who has used heroin/opioids.	☐	☐
(38) I have a relative who has used heroin/opioids.	☐	☐
(39) I have lived with, or close to a person(s), who used heroin/opioids.	☐	☐

The following items are questions that ask you to report your level of agreement with statements about Medication-Assisted Treatment (MAT). Medication-Assisted Treatment for opioid addiction involves prescribing opioid/heroin users with medication, such as Suboxone and Methadone, that are designed to wean users off of drugs. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
(40) MAT is effective at reducing overdoses.	☐	☐	☐	☐	☐	☐
(41) MAT is effective at reducing future crime.	☐	☐	☐	☐	☐	☐
(42) MAT puts more drugs on the streets.	☐	☐	☐	☐	☐	☐
(43) Persons who use heroin/opioids <u>do not need</u> to use MAT to get “clean.”	☐	☐	☐	☐	☐	☐
(44) MAT is a good investment for society.	☐	☐	☐	☐	☐	☐

The following items are questions that ask you to report your level of agreement with statements about Narcan. Narcan is a drug that reverses the effects of an opioid overdose. First responders use Narcan to prevent people who overdose on opioids/heroin from dying. Please place an “X” on the box to indicate your answer.

ITEM	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
(45) Narcan is effective at reducing overdoses.	☐	☐	☐	☐	☐	☐
(46) Narcan is effective at reducing future crime.	☐	☐	☐	☐	☐	☐
(47) Narcan encourages people to use opioids/heroin.	☐	☐	☐	☐	☐	☐
(48) There should be a limit to the number of times that a person can be given Narcan.	☐	☐	☐	☐	☐	☐
(49) Narcan is a waste of resources.	☐	☐	☐	☐	☐	☐

Section IIII (Part A): *Personal Life*

The following items are questions that ask you about your past experiences. Please place an “X” on the box to indicate your answer.

ITEM	YES	NO
(50) Have you ever taken any classes on substance use addiction?	☐	☐
(51) Have you completed any training courses or programs on substance use addiction?	☐	☐
(52) Have you ever had to administer Narcan?	☐	☐

Section IIII (Part B): *Demographics*

The final items are questions that ask you for some personal information about yourself. Please place an “X” on the box to indicate your answer or write an answer on the line provided to record your response depending on what the question asks of you.

(53) Which of the following political affiliations do you BEST identify with?

☐ Democrat ☐ Independent ☐ Libertarian ☐ Republican ☐ Other: _____

(54) If you had to classify your political beliefs on a scale from 1-10 (with 1 being completely liberal and 10 being completely conservative) where would you place yourself? ****PLEASE CIRCLE A NUMBER**

LIBERAL 1 2 3 4 5 6 7 8 9 10 *CONSERVATIVE*

ITEM	RURAL	URBAN	SUBURBAN
(55) In what type of area do you currently live?	☐	☐	☐
(56) In what type of area did you grow up?	☐	☐	☐

(57) How religious of a person do you consider yourself to be?

☐ Not at all ☐ Somewhat ☐ Very religious

(58) What is your religious affiliation?

☐ Liberal Protestant ☐ Moderate Protestant ☐ Catholic ☐ Muslim ☐ Mormon ☐ Jewish
☐ Presbyterian ☐ Atheist ☐ No Preference ☐ Other (Please Specify: _____)

(59) With which gender do you most identify?

☐ Male ☐ Female ☐ Other _____ (Please Specify)

(60) What is your race?

☐Caucasian (White) ☐Other

(61) What is your age? _____ years old

(62) What is your major? (if you have not yet declared one, what is your intended major?)

☐Criminology ☐Nursing ☐Other_____ (Please Specify)

(63) What is your minor? (if you have not yet declared one, what is your intended minor?)

☐Criminology ☐Nursing ☐Other_____ (Please Specify)

(64) What is your desired career path?

☐Law Enforcement ☐Law and Courts ☐Corrections ☐Victim Services ☐Medicine/Medical Field

☐Other (please specify:_____)

(65) What year are you considered to be academically?

☐Freshman ☐Sophomore ☐Junior ☐Senior

(66) What is your current Grade Point Average (GPA)?

☐less than 1.0 ☐1.0-1.9 ☐2.0-2.9 ☐3.0-3.9 ☐4.0 or above

Please provide any additional thoughts you may have on opioid/heroin users in the space provided.

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