

University of Nevada, Reno

**Attitudes toward people who are addicted to opioids: The intersection
of race, social class, and gender**

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in
Social Psychology

by

Emily F. Wood

Dr. Marta Elliott/Dissertation Advisor

May 2019

© Emily F. Wood 2019
All Rights Reserved



THE GRADUATE SCHOOL

We recommend that the dissertation
prepared under our supervision by

Entitled

be accepted in partial fulfillment of the
requirements for the degree of

, Advisor

, Committee Member

, Committee Member

, Committee Member

, Graduate School Representative

David W. Zeh, Ph.D., Dean, Graduate School

Abstract

Opioid addiction is one of the largest social and public health issues the United States is currently facing. Overdose deaths are now the leading cause of preventable deaths in the United States, having surpassed deaths from motor vehicle accidents (Rudd, Aleshire, Zibbell, & Gladde, 2016). Drug addiction is one of the most stigmatized conditions in the Western world and stigma is a major barrier to combatting the opioid epidemic (Surgeon General Report, 2016). Stigma prevents people from seeking and completing treatment, results in poor quality of care, and is related to negative mental, physical, and societal outcomes (Ahern, Stuber, & Galea, 2007; Link & Phelan, 2001). Despite the recognition that addiction stigma is pervasive, harmful, and a barrier to combatting the opioid epidemic, research on addiction stigma is lacking and not empirically sophisticated, especially compared to research on mental illness stigma (National Academy of Sciences, 2016).

Using a between subjects experimental design, this dissertation research investigated opioid addiction stigma and support for public health-oriented policies and programs among White undergraduate students at a university in the western United States. An intersectionality framework was used to investigate how the race, social class, and gender of a fictional opioid user depicted in a vignette relate to stigma, support for punishing the person via the criminal justice system (criminalization), and support for helping the person via medical treatment (medicalization). To test intergroup relations hypotheses, this research investigated how characteristics of participants interact with characteristics of the opioid user. In general, more negative attitudes were reported toward the White and working-class opioid user compared to the Black and middle-class

opioid user. Higher social class participants and participants higher in system-justifying beliefs reported more negative attitudes. Results for participant gender were mixed and opioid user gender was only related to medicalization with participants being more likely to indicate the male opioid user should be medicalized.

Attributions about the cause of addiction were tested as mediators between the race and social class of the opioid user and the stigma, medicalization, and criminalization dependent variables. Attributing the opioid user's addiction to his or her bad character partially mediated the relationships between opioid user race and the dependent variables and opioid user social class and the dependent variables. Attributing the cause of addiction to disease/genetics did not mediate these relationships.

This research also investigated how contact with addiction as well as the nature, quality, and outcomes related to contact relate to stigma, criminalization, and medicalization. In general, participants who indicated they had been addicted to drugs or alcohol reported lower stigmatizing attitudes. Participants who knew someone close to them who was addicted reported less negative attitudes toward the vignette opioid user but only on the social distance, disease/genetic attributions, medicalization, and criminalization measures. Participants who indicated that their relationship with the addicted person they know had become weaker because of the addiction reported more stigmatizing attitudes compared to participants who indicate the relationship got stronger. Finally, participants who indicated the addicted person they knew was their romantic partner were less likely to support criminalization compared to participants who knew an extended family member, parent, or friend who is addicted.

This research also investigated how stigma and attributions about the cause of addiction relate to support or opposition to six public health-oriented policies (e.g., medication-assisted treatment, needle exchange programs) aimed at helping opioid users. In general, stigmatizing beliefs were related to reduced support for the policies and programs. Additionally, attributing addiction to the person's bad character was negatively related to support and attributing addiction to a disease or genetics was positively related to support. Next, criminalization and medicalization were tested as mediators between attributions about the cause of addiction and support for the policies and programs. Both criminalization and medicalization partially mediated the relationships between attributions about the cause of addiction and support for the policies and programs.

Results of this dissertation expand the literature on opioid addiction stigma. Findings should inform stigma reduction initiatives. Attributing the cause of opioid addiction to a person's bad character related to increased stigma and decreased support for policies and programs. Thus, education and stigma reduction campaigns can try to reduce stigma by educating individuals about the external causes of opioid addiction, such as misconduct on the part of pharmaceutical companies, the addictive properties of opioids, and stressful life circumstances. These strategies attempt to take the focus off the individual and emphasize external factors that have contributed to the opioid epidemic. Interestingly, attributing the cause of addiction to a disease or genetics did not reduce stigma but increased support for policies and programs. This indicates that the disease model of addiction might not be useful to reduce stigma, as other research has also found. Finally, this research indicated that opioid addiction is not universal but the experience of stigma differs depending on social characteristics of the opioid user.

Dedication

For my mother and father who have given me the world. To my father, for teaching me where hard work can take you and that you can have (a lot of) fun along the way. To my mother, for teaching me the power of a positive attitude and perseverance.

Acknowledgements

I would not have gotten to this point without the support of many people.

First, thanks to Dr. Marta Elliott (and Penny) for your kindness, excitement, and superior research skills. You helped make this project and this year far better than I could have ever anticipated. I learned so much from you in a short amount of time and will be forever grateful that this process ended with you.

Thank you to the other members of my dissertation committee, Drs. Karla Wagner, Barbara Kohlenberg, Yueran Yang, and Markus Kemmelmeier. Your expertise, guidance, and interest in the topic helped shaped and improve this project exponentially. I'm grateful for your time and understanding.

Thanks to my cohort (Rosie, Theresa, and Ann E) who have been there from the beginning. I am grateful for your unwavering support and assistance through this process. You've taught me what supporting and building up other strong women looks like.

Finally, thanks to my partner, Brady and my dog, Shasta for loving adventuring as much as I do. Those adventures got me through the past five years. On to the next one!

Table of Contents

Abstract.....	i
Dedication.....	iv
Acknowledgements.....	v
Table of Contents.....	vi
List of Tables.....	vii
List of Figures.....	viii
Chapter 1- Introduction.....	1
Chapter 2- Overview of Opioid Epidemic.....	6
Chapter 3- Opioid Addiction Stigma	16
Chapter 4- The Intersection of Race, Social Class, Gender and Stigma.....	31
Chapter 5- Stereotypes.....	40
Chapter 6- Intergroup Relations and the Black Sheep Effect.....	46
Chapter 7- Attributions.....	57
Chapter 8- Study Overview and Hypotheses	65
Chapter 9- Method, Measures, Materials, and Descriptive Statistics.....	79
Chapter 10-Opioid User Race, Social Class, and Gender and Participant Characteristics.....	94
Chapter 11- The Mediating Role of Attributions about the Cause of Addiction.....	103
Chapter 12- Contact and Familiarity with Addiction.....	127
Chapter 13- Attitudes toward Public Health-Oriented Policies and Programs.....	130
Chapter 14- The Mediating Role of Medicalization and Criminalization.....	160
Chapter 15: General Discussion, Limitations, Future Directions, and Conclusion.....	177
References.....	214
Appendices.....	257

List of Tables

Table 9.1 Participant Demographics.....	88
Table 9.2 Scale Characteristics.	92
Table 9.3 Pearson Correlations between Scales.	93
Table 10.1 Main Effects of Opioid User and Participant Characteristics on stigma, Criminalization, Medicalization, and Attributions Dependent Variables.....	103
Table 11.1 Significant Indirect Pathways from Opioid User Race to the Dependent Variables.....	118
Table 11.2 Significant Indirect Pathways from Opioid User Social Class to the Dependent Variables.....	121
Table 12.1 Significant Main Effects of Attributions and Stigma on Support for Policies and Programs.....	130
Table 13.1 Significant Main Effects of Attributions and Stigma on Support for Policies and Programs.....	153
Table 14.1 Significant Indirect Pathways from Bad Character Attributions to the Dependent Variables.....	166
Table 14.2 Significant Indirect Pathways from Disease/Genetic Attributions to the Dependent Variables.....	172

List of Figures

Figure 8.1 Opioid user race to dependent variables mediated by attributions about the cause of addiction.....	71
Figure 8.2 Opioid user social class to dependent variables mediated by attributions about the cause of addiction.....	72
Figure 8.3 Bad character attributions to support for policies and programs mediated by medicalization and criminalization.....	77
Figure 8.4 Disease/genetic attributions about the cause of opioid addiction to support for programs and policies mediated by medicalization and criminalization.....	78
Figure 10.1 Opioid user gender by opioid user social class interaction	98
Figure 10.2 Opioid user race by opioid user social class interaction	100

Chapter 1 – Introduction

The United States is amidst an opioid epidemic (Surgeon General Report, 2016). Heroin use and heroin-related overdose deaths have surged, especially in populations with historically low rates (e.g., the middle and upper class, Caucasians, women; Jones, Logal, Gladden, & Nohm, 2013). The number of people who use heroin in the United States has risen to approximately one million—three times the number from 2003 (UN Office on Drugs and Crime World Drug Report, 2016). Additionally, in 2017, opioids were a factor in 47,600 overdose deaths, 68% of all drug overdose deaths that year (CDC, 2018). Overdose deaths are now the leading cause of preventable deaths in the United States, having surpassed deaths from motor vehicle accidents (Rudd, Aleshire, Zibbell, & Gladdon, 2016).

The White House has declared the opioid crisis a national emergency and many states have declared public health emergencies (e.g., Arizona, Massachusetts). Many others, such as the Surgeon General, have called for initiatives to combat this epidemic (Surgeon General Report, 2016). Despite national and political attention to the problem of addiction and increases in drug use and overdose deaths among almost all demographics, stigma toward people who are addicted to drugs persists (Corrigan, Kuwabara, & O’Shaughnessy, 2009; Sorsdahl, Kakuma, Wilson, & Stein, 2012).

Drug addiction is one of the most stigmatized conditions in the Western world (Corrigan et al., 2009; Sorsdahl et al., 2012). Substance abuse disorders are viewed more negatively compared to other mental illnesses such as depression and schizophrenia (Schomerus et al., 2011; Sorsdahl, Mall, Stein, & Joska, 2010) and people who are addicted to drugs are viewed as more to blame for their condition compared to people

with other mental illnesses such as schizophrenia, severe depression, and eating disorders (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). Stigma toward people who are addicted to drugs has been identified as a major barrier to combatting the opioid epidemic (Surgeon General Report, 2016; UK Drug Policy Commission, 2010). Stigma prevents people from seeking and completing treatment (Brenner, von Hippel, von Hippel, Resnick, & Treloar, 2010; Thornicroft, 2008), is a barrier to healthcare providers providing evidence-based treatments (resulting in poorer quality of care; van Boekel, Brouwers, Van Weeghel, & Garretsen, 2013), and can have harmful mental, physical, and societal health outcomes for people who are stigmatized (Ahern, Stuber, & Galea, 2007; Link & Phelan, 2001).

Despite the recognition that drug addiction stigma is pervasive and extremely harmful, there is a lack of research investigating stigma toward opioid addiction beyond descriptive research (e.g., demographics and public opinion surveys; National Academy of Sciences, 2016; Schomerus et al., 2010). Especially compared to the research on mental illness stigma, research on drug addiction stigma is lacking and not empirically sophisticated as research on mental illness stigma (National Academy of Sciences, 2016). Past studies (e.g., van Boekel et al., 2013) have investigated attitudes toward drug use and drug addiction, including the attitudes of the general public, healthcare providers, and pharmacists; however, there is little research investigating the social psychological mechanisms that relate to these attitudes. Identifying factors that influence stigma toward opioid addiction can better explain the underlying stigma processes and provide insight into how to best design evidence-based strategies to reduce stigma and promote support

for public health policies and programs. Characteristics, such as a race, social class, and gender, of drug users are factors that might relate to stigma.

The current opioid epidemic has been depicted as a “White middle class” problem (Netherland & Hansen, 2016). The response to the opioid epidemic has focused on treatment and compassion, which is in stark contrast to the criminalization and fear response to the crack cocaine epidemic that was depicted as a “poor minority problem” (Netherland & Hansen, 2016; Stuart, 2008). The response to the opioid epidemic might be different because of the type of people who are becoming addicted and dying from opioids and how the news media has covered this crisis (Golub & Hartman, 1999). However, little empirical research has investigated this claim.

Given that opioid addiction stigma has been identified as a serious and understudied problem, it is important to more thoroughly investigate the underlying factors and processes that relate to addiction stigma. A better understanding of addiction stigma will help to design evidence-based programs to reduce stigma and inform strategies that promote support for public health policies (Corrigan & Wassel, 2008). Thus, the purpose of this dissertation is to use intersectionality, intergroup relations, stereotypes, and attributions theoretical frameworks to investigate stigma toward opioid addiction and support for public health policies. This contributes to the dearth of research and helps to better explain opioid addiction stigma.

More specifically, the first purpose of this research was to investigate how survey participants react to a hypothetical vignette character who is addicted to opioids and whether their reactions vary as a function of the character’s race, social class, and gender. Furthermore, this study investigated how the social class and gender of White

participants interact with characteristics of the opioid user and relate to stigma toward the vignette character. We then tested if attributions about the cause of opioid addiction mediated the relationships between opioid user race and the dependent variables and between opioid user social class and the dependent variables. The second purpose of this research was to more thoroughly investigate how contact with addiction relates to stigma by investigating if the nature and quality of the relationship as well as outcomes related to the addicted person affect stigma. Finally, this research investigated how stigma and attributions about the cause of addiction relate to support for programs and policies designed to reduce the harm associated with opioid use and addiction. We then tested if support for punishing opioid users via the criminal justice system and support for helping opioid users via medical treatment mediated the relationships between attributions about the cause of addiction and support for the programs and policies.

Chapter 2 of this dissertation further describes the opioid epidemic in the United States including incidence rates, who is affected by the epidemic, and a description of strategies being used to remedy the epidemic. Chapter 3 describes the theoretical foundations of stigma as well as discusses drug addiction stigma and why it is harmful. Chapter 4 describes why the constructs of race, social class, and gender are central to the opioid epidemic and how this study examined the intersection of opioid addiction stigma and these social characteristics. Chapter 5 defines stereotypes and discusses how certain characteristics and beliefs have become associated with drug users. This chapter then covers the limited, but relevant, research on stereotypicality. Chapter 6 defines intergroup bias and the black sheep effect and describes relevant findings from past research and applies the theory to the current study. Chapter 7 defines attribution theory and provides

an overview of attributions research and the fundamental attribution error and applies the concepts to the present study. Chapter 8 gives an overview of the study and lists the hypotheses and research questions. Chapter 9 describes the study method, materials, and measures as well as displays and describes descriptive statistics. Chapter 10 presents the results of the analyses investigating how opioid user race, social class, and gender, participant social class, and gender, and system justification result to stigma, support for punishment, and support for helping. Chapter 11 presents the results of the analyses testing if attributions about the cause of opioid addiction mediate the relationships between opioid user race and opioid user social class and the dependent variables. Chapter 12 presents the results of the analyses that investigated how contact relates to stigma. Chapter 13 presents the results of the analyses that investigated how stigma and attributions about the cause of opioid addiction relate to support for six public health-oriented programs and policies. Chapter 14 presents the results investigating if support for punishing opioid users via the criminal justice system and support for helping opioid users via medical treatment mediate the relationships between attributions about the cause of opioid addiction and the dependent variables. Each of these five results chapters provides a discussion of the results presented. Chapter 15 discusses these findings in the larger context of the opioid epidemic and describes the implications of this research. Limitations of the present research and directions for future research are also discussed.

Chapter 2 – Overview of the Opioid Epidemic

Opioid addiction is one of the largest social and public health issues the United States is facing (Surgeon General Report, 2016). The number of people who use and who are dying from drugs, particularly opioids, has been increasing. In 2017, nearly half a million people age 12 and older reported using heroin in the past year (Substance Abuse and Mental Health Services Administration, 2018). There were 70,237 drug overdose deaths in the United States in 2017, making it the deadliest year on record (CDC, 2018). Over two-thirds (47,600) of these deaths involved an opioid, such as prescription opioid pain relievers or heroin, an average of 130 Americans dying per day (CDC, 2018). Of these opioid related-deaths, over 16,000 involved a prescription opioid, 15,000 involved heroin, and approximately 28,400 involved synthetic opioids (e.g., fentanyl) other than methadone (Scholl, Seth, Kariisa, Wilson, & Baldwin, 2018). The number of heroin-related overdose deaths in 2017 has increased by a factor of five since 2010 (Hedegaard, Minino, & Warner, 2018) and the number of opioid-related deaths has increased by a factor of six since 1999.

The next sections describe how prescription and nonprescription opioid use has changed over time, the demographic groups affected by the opioid epidemic, and some of the strategies being used to tackle the opioid epidemic.

Changes over time

The rise in opioid use and opioid-related deaths and the current opioid epidemic in the United States can be attributed, in part, to changes in the prescribing practices of opioids by healthcare professionals, increases in heroin use and heroin-related deaths, and increases in the use of synthetic opioids (CDC, 2018, Paulozzi, Budnitz, & Yongli,

2006). Historically, prescription opioids were not commonly prescribed by healthcare professionals for chronic pain because of the risk of addiction. In the early 1990s a shift in perspective occurred. Pain specialists and chronic pain advocacy organizations argued that pain was going untreated and people were suffering. As a result, prescription opioids became common for treating chronic pain (American Academy of Pain Medicine and American Pain Society, 1997; Paulozzi et al., 2006). Around the same time, the prescription opioid OxyContin became widely available and was extensively marketed to primary care providers across the country. These marketing efforts included giving doctors gifts and invitations to all expenses paid conferences (Maxwell, 2011). Sales representatives also downplayed the addiction and abuse risk associated with OxyContin. Sales of OxyContin drastically increased from 48 million in the mid-1990s to 2.4 billion by 2012 (Maxwell, 2011). As a result of the shift in view of how chronic pain should be treated and the successful marketing tactics of pharmaceutical companies, the number of prescription opioids prescribed and the number of people with access to prescription opioids increased dramatically (Joranson, Ryan, Gilson, & Dahl, 2000; Novak, Nemeth, & Lawson, 2004) and legal drugs (e.g., prescription opioids) replaced illegal drugs as the most common cause of drug overdose deaths by 2002 (Paulozzi et al., 2006). By 2013, almost 250 million opioid prescriptions were written by healthcare professionals (IMS Health National Prescription Audit, 2015). The increase in prescription opioids in the past twenty-years has been identified as one factor responsible for the increase in opioid use and opioid-related deaths over time (Paulozzi, et al., 2006).

Following the increase in prescription opioids and the increase in opioid-related deaths, heroin overdose rates also began to increase sharply since 2007. Heroin use has

increased 150% from 2007 to 2013 and heroin overdose deaths have quadrupled from 2002 to 2013 (Hedegaard, Chen, & Warner, 2015; Substance Abuse and Mental Health Services Administration, 2015). Heroin use and overdoses might have increased because people who became addicted to prescription opioids switched to heroin, which is less expensive and easier to obtain than prescription opioids (Pollini et al., 2011).

Additionally, previous abuse of prescription opioids is a risk factor for heroin use (Pollini et al., 2011) and numerous studies have found a strong positive correlation between prescription opioid use and heroin use (Compton, Jones, & Grant, 2016). The heroin market and supply have also changed over time and become more dangerous with the addition of synthetically manufactured drugs (Gladden, Martinez, & Seth, 2016). In 2013 the use of and deaths associated with synthetic opioids, such as fentanyl, increased sharply adding to opioid-related overdose deaths (Rudd et al., 2016; Scholl et al., 2018). The continued and growing problem of the opioid epidemic can be attributed to continuing increases in synthetic opioid use and deaths (Scholl et al., 2018). Use of heroin and other opioids vary according to drug users' race, social class, and gender, and have increased among populations with previously low rates, as discussed next.

Characteristics of People who Use Opioids

Although no demographic group is immune to opioid addiction and overdose, some groups are at a greater risk for use and overdose compared to others. Additionally, opioid use and overdoses have increased at a higher rate for certain groups. In the past decades, heroin users were typically young minority men living in urban areas (DuPont, 1971; Greene, 1974; Lankenau et al., 2012). Recent analyses using multiple datasets have found a shift in the demographics of people who use heroin. For example, data from the

National Survey on Drug Use and Health as well as the National Vital Statistics System showed heroin use is still highest among men compared to women (3.6 per 1,000 compared to 1.6 per 1,000 respectively), persons 18-25 years old, persons with an annual household income less than \$20,000, persons who live in urban areas (population greater than 1 million), and persons with no health insurance (Jones et al., 2015; Rigg & Monnat, 2015). However, heroin use among groups with previously low rates has grown rapidly. In this sample, the rate of heroin use among women and non-Hispanic whites has doubled and has increased among persons who are privately insured and who have higher incomes from 2002-2004 to 2011-2013 (Jones et al., 2015).

Another recent analysis using data from the nationwide Survey of Key Informants' Patients Program, which surveys patients from treatment centers, found nearly equal numbers of men and women seeking treatment for heroin (Cicero, Ellis, Surratt, & Kurtz 2014). The majority of heroin users who started using heroin in 2010 were white (90%). Additionally, most respondents who used heroin lived in small urban or nonurban area compared to urban areas (75% compared to 25% respectively; Cicero et al., 2014). This sample only included people in treatment; thus, results could be confounded by differences in demographic characteristics of people who seek, have access to, and can afford treatment. Nonetheless, these data do demonstrate that populations previously considered to be relatively unaffected by heroin use (e.g., women, people who are white, people living in nonurban areas, and people who have a higher socioeconomic status) are also being affected by the opioid epidemic in the United States. Additionally, although the total numbers are relatively small, there have been large increases in opioid-related deaths among American Indians/Alaskan Natives. In 2015,

this group had the highest drug overdose death rate with overdose deaths increasing by over 500% from 1999 to 2015 (Mack, Jones, & Ballesteros, 2017).

Although opioid abuse and overdose deaths were once considered an inner city problem, opioid use is also particularly prevalent in rural areas (Hartman & Golub, 1999; Wunsch, Nakamoto, Behonick, & Massello, 2009) such as in rural Maine, Ohio, and West Virginia among others. Results from the National Vital Statistics System Mortality data indicate that the prevalence of drug overdose deaths in rural areas is surpassing the rate in urban areas (Mack et al., 2017). Other data analyzed from the nationally representative National Survey of Drug Use and Health did find that adults in rural areas had lower odds of reporting prescription opioid misuse compared to adults in urban areas (Rigg & Monnat, 2015); however, other studies, with more restricted samples have found that people in rural areas were more likely to engage in prescription opioid misuse compared to people in urban areas (Ford & Watkins, 2012; Wu, Blazer, Swartz, Burchett, & Brady, 2013). Additionally, other studies have found that among adolescents, those who reside in rural areas are more likely to engage in prescription opioid misuse compared to their urban counterparts (Dew, Elifson, & Dozier, 2007; Havens, Young, & Havens, 2011).

The characteristics of people who are affected by, and who are depicted in the media as being affected by the opioid epidemic, are important to consider as this might relate to attitudes toward people addicted to opioids. Crack cocaine is a stimulant drug that can be smoked or injected and is highly addictive. Demographic characteristics of people depicted during the crack epidemic (poor minorities in urban areas) shaped the public's attitudes and policy responses to this drug epidemic (Hartman, & Golub, 1999;

Morone, 1997; Singer & Page, 1995). In similar ways, the characteristics of people depicted as being affected by the opioid epidemic may shape responses and attitudes. Thus, this study investigated how characteristics of the opioid user, such as race, social class, and gender, relate to stigma and attitudes toward harm reduction strategies (discussed more in chapter 4).

Strategies Aimed at Combatting the Opioid Epidemic

Strategies addressing the opioid epidemic have largely been public health oriented instead of punitive (Netherland & Hansen, 2016; Stuart, 2008). These strategies can be divided into a number of categories including strategies aimed at (1) preventing drug misuse and abuse, (2) increasing access to treatment, and (3) mitigating harm and preventing overdose deaths. The key stakeholders that are invested in these strategies include federal, state, and local government agencies, local communities, health professionals, law enforcement, insurance companies, people who know and care for people who use drugs, and people who are addicted to drugs.

There are a number of policies and programs aimed at preventing drug misuse and abuse. These include mandatory enactment of prescription drug monitoring programs, encouraging alternatives to opioid pain medications, drug take back programs, mandatory provider training, and increased education and awareness of the risk of addiction associated with prescription opioids (American Public Health Association, 2015).

Other strategies are aimed at increasing access to treatment for people who already struggle with opioid misuse or addiction. These include increased funding for evidence-based treatment including counseling and medication-assisted treatment. Medication-assisted treatment (e.g., methadone maintenance treatment (MMT)) has been

shown to be effective (Amato et al., 2005; Schilling, Dornig, & Lungren, 2006). Medication-assisted treatment utilizes FDA approved drugs, such as methadone, to help treat opioid use disorders by reducing cravings as well as positive psychological effects of opioids (Substance Abuse and Mental Health Services Organization, 2019). MMT can be administered at specialty care facilities but recently there has been a push to integrate MMT into primary care settings. Integrating substance use treatment into primary care settings might help de-stigmatize this evidence-based treatment and normalize the use of it (McKeown, Matheson, & Bond, 2003; Nosyk et al., 2013). Additionally, integrating MMT into primary care settings might also help people who use opioids get other types of care that they need (Dooley, Asbridge, Fraser, & Kirkland, 2012). However, the successful integration of substance use treatment into primary care settings is reliant on healthcare providers being willing and able to provide treatment to this population. Stigma on the part of healthcare providers is one barrier preventing the successful integration of treatment into primary care settings (Abouyanni et al., 2000; McKeown et al., 2003). Increased access to treatment in primary care settings might be particularly important in rural areas that historically have less access to harm reduction services, such as addiction treatment and needle exchange programs (Cummings et al., 2014; Jarlais et al., 2015).

Other strategies are aimed at preventing overdose deaths and opioid use related harm. These include access to naloxone, needle exchange programs, Good Samaritan Laws, and safe injection sites. Naloxone is a drug that is easy and safe to administer that can reverse the effects of opioid overdose. Historically, healthcare professionals and emergency responders were the only people who carried naloxone and, in many cases,

people experiencing an accidental overdose would die before these people could be summoned (Davis, Webb, & Burris, 2013; McAuley, Aucott, & Matheson, 2015). All states have passed laws that have made it easier to acquire, carry, and administer naloxone (Bonner, 2016); however, the stigma surrounding addiction might still be a barrier preventing people who use drugs and their associates from acquiring and carrying naloxone (Davis et al., 2013). Good Samaritan Laws seek to encourage people who witness an overdose to assist the person and call 911. In general, Good Samaritan Laws state that people who assist in the case of an overdose (e.g., administer naloxone, stay with the person, call the police) are not criminally liable for any wrongdoing (Davis et al., 2013).

Perhaps the most controversial of these strategies aimed at preventing overdose deaths are supervised injection sites (also called safer injection facilities). These facilities are hygienic places with medical supervision where people can go to use illicit drugs more safely. Supervised injection sites aim to decrease the risks associated with injecting drugs such as rushed injections, overdose, and diseases acquired using unhygienic equipment. The trained staff at these sites can also provide information and connect drug users to services (Kral & Davidson, 2017). With similar harm reduction goals in mind, needle exchange programs provide legal access to clean unused syringes. This helps reduce the transmission of diseases such as hepatitis and HIV that can be transmitted by sharing needles (Ababasi, 2017).

Despite some evidence that these strategies reduce harm, can be cost effective, and are encouraged by public health experts (Abbasi, 2017; Janulis, 2012), opposition to and underutilization of these strategies persists. Misinformation, such as that medication-

assisted treatment just replaces the substance people are addicted to or that these programs encourage drug use, is one barrier to adoption and use of these strategies (Volkow, Frieden, Hyde, & Cha, 2014). Negative attitudes toward people who use opioids, such as opioid users are to blame for their addiction are not deserving of help, are another barrier (Pugh, Hatzenbuehler, & Link 2015). One study found that stigma toward people with prescription opioid use disorders was positively related to punitive opioid policies (e.g., arrest for people who obtain multiple prescriptions) and negatively related to public health-oriented policies (e.g., giving people the option of treatment instead of arrest; Kennedy-Hendricks et al., 2017). Even if laws and policies are passed there are still barriers to implementation and utilization that need to be addressed. For example, there is evidence that access to sterile syringes reduces disease (Abbasi, 2017) however; a survey of community pharmacists in Kentucky found that 39% were unwilling to provide clean syringes (Goodin, Fallin, Bennett, Green & Freeman, 2018). Finally, Republicans tend to be the least supportive of these programs and policies while Democrats tend to be the most supportive (McGinty et al., 2018).

This dissertation measured attitudes toward six public health-oriented policies and programs (e.g., needle exchange programs, increased government funding for addiction treatment). In addition to measuring support for specific policies and programs, this study assessed general attitudes about support for punishment and helping. This study measured whether participants believe a vignette character addicted to opioids should be criminalized or medicalized to assess general orientations toward punishing (criminalizing) and helping (medicalizing). Medicalizing refers to conceptualizing addiction as a biologically-based disease that can be treated by health care interventions,

whereas criminalizing refers to conceptualizing addiction as an immoral or illegal behavior that should be punished. The next chapter describes opioid addictions stigma and how it is a barrier to implementation and utilization of the harm reduction strategies just described.

Chapter 3 – Opioid Addiction Stigma

Stigma refers to the process of being devalued and discredited due to possessing an undesirable characteristic (e.g., drug addiction; Goffman, 1963). Public stigma—the type of stigma that this research investigates—refers to prejudice and discrimination toward people who possess a stigmatizing characteristic that results from people endorsing stereotypes about the stigmatized group (Corrigan & Kosyluk, 2014). Another type of stigma, self-stigma, occurs when people who possess the stigmatizing characteristic internalize public stereotypes and apply these stereotypes to themselves; this can result in decreased self-esteem, self-efficacy, and wellbeing (Ahern et al., 2007; Link, 1987; Link & Phelan, 2001). Drug use and addiction tend to be highly stigmatized and many people affected by drug-related stigma feel shame and fear that disclosing their condition will result in social disapproval (Ahern et al., 2007). Drug addiction stigma has many negative consequences and has been identified as a barrier to combatting the opioid epidemic. The remainder of this chapter describes the theoretical foundations of public stigma, past research on drug addiction stigma, and the relationship between contact and stigma.

Theoretical Foundations of Stigma

Like opioid addiction, mental illness remains a highly stigmatized condition (Pescosolido, 2013). Although less research has investigated opioid addiction stigma, research on mental illness stigma can be used to help understand addiction stigma. Specifically, theoretical frameworks can be used to understand the processes by which people who possess a stigmatizing characteristic, such as drug addiction or mental illness, are devalued and discredited resulting in negative outcomes for the stigmatized. Past

research, mostly on mental illness stigma, has produced two conceptual models of stigma.

The social cognitive model (Corrigan, 2011; Corrigan & Shapiro, 2010) identifies the processes that occur between identifying a stigmatizing characteristic and the resulting negative treatment of the stigmatized person. In the case of mental illness, the model posits that individuals attend to signals that identify an individual as mentally ill. Signals might include the display of symptoms (e.g., talking to one's self) or someone's appearance. As a result of these signals the person is labeled and categorized as belonging to a stigmatizing group.

Once signals are used to identify and categorize someone as mentally ill, stereotypes about mentally ill people are activated. Stereotypes are common beliefs about a group of people that are used to quickly form impressions about others (Hilton & von Hippel, 1996). Stereotypes about people with mental illness often include that a person is dangerous, unpredictable, or can't care for himself. Prejudice occurs when people believe and endorse these negative stereotypes, which is often accompanied by an affective reaction such as fear or anger. Discrimination is a behavioral reaction to prejudicial feelings. For example, people who believe that individuals with mental illness are dangerous or unpredictable might not hire someone or rent a house to someone who has a mental illness. Experiencing discrimination on the basis of belonging to a stigmatized group has direct and indirect consequences. Examples of direct consequences include not being able to get a job or find a romantic partner. Examples of indirect consequences include feeling poorly about oneself and one's prospects in life. Research with people who have experienced stigma, such as people with substance use disorders or a mental

illness, also report experiencing and anticipating that they will experience stereotyping, prejudice, and discrimination from others (Earnshaw, Smith, & Copenhaver, 2012). This provides support for the model in that people who are doing the stigmatizing go through the processes of stereotyping, prejudice, and discrimination and that people who are stigmatized also report experiencing these same processes. This model allows researchers to investigate the underlying stigma processes, which is helpful when investigating strategies to disrupt these individual processes and thus, reduce stigma.

Another model of stigma posits that stigma is the co-occurring processes of labeling, stereotyping, separation, status loss, and discrimination (Link & Phelan, 2001). First, salient differences in other people are identified and labeled. What is considered a salient difference is socially created and differs by culture and time periods. Labeled differences are linked to undesirable characteristics, which are the basis of stereotypes. These labels, and their accompanying negative characteristics, create a separation of “us” (people without the labeled difference) and “them” (people with the labeled difference). This labeling, linking to undesirable characteristics, and separation results in status loss and discrimination. The experience of status loss and discrimination relates to a number of negative outcomes such as lack of job opportunities and poorer well-being (Druss et al., 2000; Link, 1987). Importantly, stigmatization cannot occur without a power differential in that the people doing the labeling hold more power than the people being labeled (Link & Phelan, 2001).

System-justifying beliefs can be used to help explain why people hold negative beliefs (e.g., people with mental illness are dangerous) about stigmatized groups. System-justifying beliefs justify and help maintain the status quo (i.e., existing social and

institutional hierarchies and structures; Jost & Banaji, 1994). Stigma can, in part, be explained by system-justifying ideologies in that stereotypes, prejudice, and discrimination toward stigmatized groups serve the purpose of maintaining the status quo (Watson, Ottati, & Corrigan 2003). In this way, motivations to preserve the status quo and existing hierarchies can lead to stigmatizing others through the processes of stereotyping, prejudice, and discrimination in order to remain more powerful. Connecting negative stereotypes to stigmatized groups can serve the function of justifying the negative treatment of certain groups and justifying why some groups belong lower in the social hierarchy while others remain higher. For example, stereotypes that the mentally ill are dangerous or that poor people are lazy serve the purpose of justifying their relatively low status in the social structure. When this happens oppressive and unequal systems remain because people believe they are justified.

People who hold system-justifying beliefs and justify the unequal and unjust treatment of certain groups often resist social changes related to equality (Jost et al., 2012; Wakslak, Jost, Tyler, & Chen, 2007). This might explain why, even though it has been recognized that mental illness and addiction stigma are extremely harmful, efforts to reduce stigma have not led to the elimination of stigmatizing attitudes. With regard to opioid addiction, endorsing system-justifying beliefs might relate to stigma because people who hold these beliefs might be more likely to endorse negative stereotypes about opioid addicts and justify their poor treatment. Thus, this study also investigated how system-justifying beliefs relate to stigmatizing attitudes toward a person addicted to opioids and support for public health-oriented policies and programs.

Drug Addiction Stigma

The public's and healthcare professionals' attitudes toward people who are addicted to drugs tends to be very negative (Barry et al., 2014; van Boekel et al., 2013). People with substance use disorders are some of the most stigmatized groups, experiencing more stigma than people with mental illness and other physical disabilities (Kulesza, Larimer, & Rao, 2013; van Boekel et al., 2013). The public's attitudes include beliefs that people who use drugs should receive low priority for health care (Olsen, Richardson, Dolan, & Menzel, 2003). People also tend to believe that discrimination against people who are addicted to drugs is not a serious problem; including beliefs that employers and landlords should be able to deny employment and housing to people who are addicted to drugs (Barry et al., 2014). Additionally, other studies have indicated that many healthcare providers are unable and unwilling to empathize with patients who use illicit drugs (McLaughlin et al., 2006) and report lower satisfaction caring for patients who use illicit drugs compared to other patient groups (Ford et al., 2008).

Stigma is harmful in a number of ways. First, the stigma about opioid addiction prevents some people from seeking help and utilizing lifesaving services such as methadone treatment, needle exchange programs, and naloxone (Corrigan et al., 2017). For example, although it is legal for people to acquire and carry naloxone, people who use drugs and their friends and family are deterred from acquiring naloxone because of the stigma associated with opioid use (Green et al., 2017). This might be especially problematic in small towns where pharmacists and fellow shoppers are people known to the person trying to acquire naloxone. By avoiding being seen acquiring naloxone people are attempting to avoid the stigma that comes from utilizing these services (Clement et al., 2015; Rivera, DeCuir, Crawford, Amnesty, & Lewis, 2014). Similarly, stigma might

also prevent people from utilizing treatment such as methadone because they do not want to be seen visiting methadone clinics.

Stigma held by healthcare providers can also negatively affect people who are addicted to drugs. Stigma toward this population might affect prescribing practices (e.g., willingness to prescribe and administer methadone treatment), access to care for people addicted to drugs, and quality of treatment (Abouyanni et al., 2000; McKeown et al., 2003; Peckover & Chidlaw, 2007). Public stigma is also related to higher support for punitive policies and lower support for harm reduction policies (Kulesza et al., 2015; Kennedy-Hendricks et al., 2017), possibly impeding the enactment and implementation of life saving programs and policies (e.g., integrating addiction treatment into primary care settings, supervised injection sites).

In addition, to public stigma reducing access to and use of services, being the target of stigma is related to negative physical and mental health outcomes (Ahern et al., 2007), lower quality of life (Luoma et al., 2007), and overall decreases in well-being (Corrigan & Kosyluk, 2014; Perlick et al., 2001). Finally, people tend to desire social distance from those who have a stigmatizing characteristic, such as addiction. This desire for social distance can result in loss of opportunities in housing, employment, and social relationships (Barry et al., 2014). Because stigma is so harmful, a number of strategies have been used to try to reduce stigma. One strategy, which this dissertation research investigates, is contact.

Contact and Stigma

Contact might be one mechanism to reduce stigma and the negative impact it has on the stigmatized; however, the research on contact and stigma is mixed and

underdeveloped with regard to opioid addiction stigma. Contact with a member of a stigmatized group can refer to direct contact, such as interacting with someone face-to-face, for example a co-worker, classmate, or neighbor. The extent of contact can range from very impersonal, such as riding on the subway with someone, to much more intimate, such as being in a romantic relationship with someone. It can also refer to indirect contact such as watching a video about someone who is a member of a stigmatized group (Couture & Penn, 2003). Contact and personal experience with addiction might relate to stigma toward someone who is addicted to opioids. In general, positive contact with a member of a stigmatized group relates to more positive attitudes toward the stigmatized group as a whole (Addison & Thorpe, 2004; Corrigan et al., 2012). There has been an abundance of research on the relationship between contact and mental illness stigma with many reviews and meta-analyses indicating that contact between the general population and people with mental illness has been one of the most promising mechanisms to reduce stigma (National Academy of Sciences, 2016). Contact diminishes beliefs about dangerousness and other negative beliefs that can result in stigmatizing attitudes (Corrigan et al., 2001). Though less research has investigated the relationship between contact and addiction stigma, some research indicates that contact decreases addiction stigma.

Overall, knowledge about addiction, personal experience with addiction and drug use, and knowing someone who is addicted are all related to less stigmatizing attitudes (Addison & Thorpe, 2004; Corrigan et al., 2003). Participants who reported they knew someone who was currently addicted to alcohol and/or cocaine reported less fear and avoidance and a greater desire to help hypothetical vignette characters depicted as being

addicted to alcohol or cocaine (Sattler, Escande, Racine, & Goritz, 2016). Specific to opioids, participants who indicated that they know someone with an opioid addiction had higher concern and sympathy scores and lower anger and disappointment scores (Goodyear, Haass-Koffler, & Chavanne, 2018). Additionally, participants' own experience with addiction might affect attitudes towards other people addicted to drugs, as represented by vignette characters. Participants who self-reported an alcohol and/or cocaine substance use disorders reported less blame and avoidance towards vignette characters depicted as having an alcohol or cocaine addiction (Sattler et al., 2016). Past/current opioid use related to positive affect toward a vignette character depicted with an opioid use disorder (Goodyear et al., 2018). This may be because experience and familiarity with drug addiction is related to increased tolerance and understanding (Corrigan, 2000; Corrigan et al., 2003; Penn & Martin, 1998).

However, contact does not always relate to reduced stigma and increased positive attitudes. In some research, participant substance use was related to a lower desire to help, a higher desire to avoid, and being more likely to blame vignette characters for their addiction (Sorsdahl et al., 2012). This might occur because of the desire to avoid being associated with other stigmatized individuals or distancing oneself from "problematic" individuals to minimize one's own substance use problems (Sorsdahl et al., 2012). Another study defining familiarity as participants having a personal prescription opioid use disorder and/or knowing someone with prescription opioid user disorder found that contact was related to negative attitudes (Kennedy-Hendricks et al, 2017). Knowing someone who is addicted might relate to more negative attitudes because of the challenges that come with being close to someone who is addicted to drugs or alcohol.

Many people are indirectly affected by the opioid epidemic. One poll found that nearly one third of Americans know someone who is or has been addicted to opioids (American Psychiatry Association, 2018). Another survey found that approximately 54% of White individuals age 18-34 know someone who is addicted to opioids (NBC News, 2018). The opioid epidemic has also resulted in an increase of the number of children in foster care due to parental substance abuse (Hoban, 2017). Experiences and relationships with others who are addicted might affect stigmatizing attitudes and support for policies and programs.

Drug addiction can strain or damage a relationship between friends, parents and children, siblings, romantic partners etc. (Velleman, 1992). Lying, stealing, and involvement in the criminal justice system can make maintaining relationships with someone who is addicted to drugs difficult (Shafer, 2011). Additionally, people who are addicted and feel like they cannot talk to their family about their addiction tend to engage in avoidance and emotional and physical distance (Shafer, 2011). This strain or dissolution of relationships is harmful both for the person who is addicted and the non-addicted person.

The attitudes of people who are indirectly affected by the opioid epidemic might vary depending on who they know who has been affected by addiction, how the addiction has affected their relationship, and outcomes related to the addicted person, such as if they have received or refused treatment or have been involved in the criminal justice system. A study found that participants who knew someone moderately close to them (e.g., acquaintance or coworker) with a mental illness reported more social distance towards a vignette character depicted as having either schizophrenia, depression, alcohol

abuse, or substance abuse compared to participants who knew someone very close to them (e.g., spouse or family member) with a mental illness (Marie & Miles, 2007). Interestingly, there was no significant difference in social distance ratings between participants with someone very close or moderately close to them with a mental illness and participants who did not personally know anyone with a mental illness. However, a replication of this study did not find any difference in social distance or perceived dangerousness ratings based on level of closeness to someone with a mental illness.

Due to mixed results regarding the effects of contact on stigma (e.g., Kulesza et al., 2013; Link & Phelan, 2001) and the increase in people indirectly affected by the opioid epidemic, more research is needed to understand how contact with opioid users relates to opioid addiction stigma. Much of the past research on the relationship between contact and stigma investigated this relationship by simply asking if participants know someone with mental illness, addiction, or other stigmatized condition. However, as described above there are many factors that might shape how contact relates to stigma. Investigating the nature and the quality of contact is important to more thoroughly parse apart the relationship between contact and stigma (Couture & Penn, 2003; Pescosolido, 2013).

Stigma, Contact, and the Present Study

It is clear that addiction is a highly stigmatized condition and that stigmatized people, directly and indirectly, experience harmful consequences and negative outcomes related to stigma. In fact, stigma has been identified as a major barrier for tackling the opioid epidemic (Surgeon General Report, 2016). Although the existence and negative effects of opioid addiction stigma are clear, the National Academy of Sciences concluded

in 2016 that research on addiction stigma is lacking and not as conceptually or empirically sophisticated as the research on mental illness stigma (National Academy of Sciences Report, 2016). Past research (Gilchrist et al., 2011; van Boekel et al., 2013) has examined the public's attitudes toward addiction and people who use drugs (i.e., public opinion research) and how certain characteristics of people (e.g., their gender, age, or political orientation) relate to attitudes and stigma; however, this research is descriptive in nature and little research has investigated social psychological mechanisms that relate to stigma toward opioid addiction. Additionally, little research has investigated the public's attitude toward people addicted to opioids and how this might affect views about what should be done about the opioid epidemic and support for harm reduction strategies (Kennedy-Hendricks, 2017). Thus, the purpose of this study was to add to what little empirical research exists on stigma toward people who are addicted to opioids.

The stigma associated with drug addiction might not be universal for all races, social classes, and genders as discussed in the next chapter. Thus, one purpose of this study was to investigate stigma and other attitudes toward people who are addicted to opioids through the lens of social structural factors such as a race, social class, and gender of both the opioid user and the participant. Additionally, this study investigated if the nature and quality of contact reduces or exacerbates stigma. Although some research has found that contact results in more positive attitudes because of increased empathy and familiarity, contact might result in more negative attitudes because of interpersonal strain between participants and the addicted person they know or observing negative outcomes. Thus, this research not only investigated how contact with addiction relates to attitudes but also investigated how the nature of the relationship between the participant and

addicted person they knew (e.g., romantic partner, sibling), the effect of the addiction on their relationship (e.g., made the relationship weaker), and the trajectory of the addiction (e.g., treatment, recovery, involvement in criminal justice system) relate to stigma.

This study assessed stigma toward people who use opioids with a variety of measures. Stereotypes and associated feelings toward the vignette character were assessed using measures of stereotype endorsement, negative feelings, social distance, beliefs about acceptability of discrimination, and beliefs about violence. Attributions about the cause of opioid addiction were also assessed. These measures of public stigma were chosen because they are often used to measure public stigma toward mental illness and HIV, which makes up a large proportion of the literature on stigma (Mahajan et al., 2008).

Stereotype endorsement measures assessed the negative characteristics that people link to opioid use. The feelings toward the opioid user measure assessed people's emotional reactions toward people who use opioids (e.g., fear). Perceptions of violence questions measured the extent to which participants view the opioid users as a threat to others. Social distance measures assessed people's willingness to interact with the opioid user in a variety of situations (e.g., work). Discrimination measures assessed people's beliefs about whether or not discriminating against certain people is acceptable because of their stigmatizing characteristic. Additionally, a series of questions and measures also assessed participants' beliefs about punishment and helping (e.g., should opioid users be criminalized or medicalized).

Another set of questions assessed support for programs and policies aimed at helping people addicted to opioids. The relationship between *internalized* stigma and

help-seeking is relatively clear. People who report perceptions of internalized stigma are less likely to seek help for their stigmatized condition (e.g., mental illness; addiction; Clement et al., 2015). However, the relationship between *public* stigma and desire to help or punish is less clear. A national public opinion survey conducted in 2013 found that participants reported high levels of opposition to policies aimed at helping people addicted to drugs (Barry et al., 2014). Participants were much more supportive of the same policies when they were aimed at helping people with mental illness. For example, 43% of respondents opposed insurance parity for drug addiction but only 21% of respondents opposed insurance parity for people with mental illness (Barry et al., 2014). This difference may emerge because drug addiction is often viewed as a moral shortcoming instead of a medical condition (Barry et al., 2014). Furthermore, people with drug addiction tend to be held more responsible and to blame for their condition compared to people with mental illness. Finally, drug use and addiction has been linked to criminality and thus, people are less likely to believe people with drug addiction are deserving of help. The study conducted by Barry and colleagues (2014) measured stigma toward people with drug addiction and support for policies but did not investigate the factors that relate to each. Other research has found that when people blame obese people for being obese, they are less likely to support policies that would help obese people (Barry, Brescoll, Brownell, & Schlesinger, 2009). This research will investigate additional factors that relate to attitudes toward helping or punishing people who are addicted to opioids as well as support for public health-oriented policies and programs.

This research investigates different facets of attitudes toward opioid addiction. As described above, stereotypes and associated feeling about a vignette character as well as

attributions about the vignette character's addiction are measured. Additionally, beliefs about if an opioid user should be helped via medical treatment (referred to as medicalization) or punished via the criminal justice system (referred to as criminalization) are measured. Finally, support for programs and policies aimed at helping people who are addicted to opioids are assessed. By using a variety of measures (e.g., feelings toward an opioid user, beliefs about what should be done to an opioid user) this research helped more thoroughly understand opioid addiction stigma and associated attitudes.

This study investigated whether the factors that relate to stigma have the same relationship with supporting medical treatment for the opioid user or punishing the opioid user via the criminal justice system. For example, people who report high levels of stigma toward addiction might not support programs aimed at reducing harm to opioid users. Empathy and sympathy are emotions that facilitate prosocial behavior (Feshbach & Feshbach, 1986). Empathy occurs when people understand another person's situation and sympathy occurs when people feel a true concern for another person and feel compassion for the person. These feelings relate to prosocial behaviors such as helping (Carlo & Randall, 2002). Thus, people who report negative and stigmatizing beliefs about opioid users will likely not have feelings of sympathy and empathy and lower support for strategies aimed at helping opioid users. However, people can simultaneously hold positive and negative beliefs or feelings about an attitude object, referred to as attitude ambivalence (Gardner, 1987). Ambivalent attitudes tend to be less stable and easier to change because in different situations the positive or negative evaluations of an attitude object are highlighted (Conner & Sparks, 2002). In lay terms attitude ambivalence occurs

when people have “mixed feelings” about something. For example, people are capable of engaging in both aggressive and prosocial behaviors simultaneously (Feshbach & Feshbach, 1986). In the case of this research, people could endorse harmful stereotypes or beliefs about drug users but also support policies aimed at helping opioid users. This study will further research on how social psychological theories relate to both stigma and desire to help or punish in similar or different ways. The next chapter discusses how race, social class, and gender might relate to opioid addiction stigma.

Chapter 4 – The Intersection of Race, Social Class, Gender

Demographic characteristics, such as race, social class, and gender, are factors that have shaped the social construction, perceptions of, and response to the opioid epidemic. Belonging to social groups that are disadvantaged is related to negative outcomes such as poorer mental and physical health and less access to resources such as healthcare, education, and employment opportunities. Those who belong to multiple marginalized social groups might experience even more negative outcomes. The theory of intersectionality (Crenshaw, 1989) describes the effects of belonging to multiple disadvantaged social groups. This chapter first describes how different characteristics have become associated with drug users and presents research relating to the race, gender, and social class of drug users. It also describes the theory of intersectionality and applies it to the present research.

Portrayal of Drug Users

Historically, illicit drug use (e.g., crack cocaine, black tar heroin) has been associated with minorities, poor people, and people living in urban areas (Hartman & Golub, 1999). Additionally, illicit drug users were portrayed in the media as criminals and were often associated with violence (Reinarman & Levine, 2004; Taylor, 2008). This portrayal, in part, contributed to the War on Drugs and widespread criminalization of illicit drug use and disproportional imprisonment of minorities that continues today. Members of racial minority groups are more likely to be arrested and receive harsher sentences compared to Whites with regard to drug related offenses (Curry & Corral-Camacho, 2008; Mitchell & Caudy, 2015).

The types of people who use other drugs have been depicted in the media as being predominately White. For example, methamphetamine has been depicted as a drug used by poor White people in rural areas (Linnemann & Kurtz, 2014; Murakawa, 2011; Netherland & Hansen, 2016) and has not been associated with violence but has been depicted in a sympathetic and contextualized way (e.g., poor communities coping with stressors associated with poverty such as factories closing; Murakawa, 2011). Additionally, the illicit use of stimulants, such as Adderall, has been depicted as a drug used by hardworking middle class and affluent people coping with the demands to perform at their jobs (Arria & DuPont, 2010). The ways in which certain drugs and the people who use them have been depicted have affected attitudes toward the people who use the drugs and policy responses.

In recent years, media coverage of the opioid epidemic has shifted from an urban war on drugs and the mass incarceration of minorities to “The New Face of Heroin Addiction” (ABC News, 2010), which often portrays White suburban or rural users in a sympathetic way (Netherland & Hansen, 2016; Netherland & Hansen, 2017). Unlike the War on Drugs’ response to the crack cocaine epidemic in the 1980s and 1990s, which focused on criminalization and incarceration, some responses to the modern-day opioid epidemic have focused on prevention, treatment, and harm reduction. Just as the depiction of the crack cocaine epidemic as affecting poor minorities in urban areas contributed to the public’s attitudes and policy response (Hartman, & Golub, 1999; Morone, 1997), some suspect that the White middle class representation of the modern day opioid epidemic might have contributed to this less punitive and more sympathetic response (Cadet, 2012; Cohen, 2015). This portrayal has contributed to a perception that

opioid users are less deserving of blame and worthy of help (Netherland & Hansen, 2016). The representations of minority illicit drug users as criminal and White opioid users as blameless and deserving of sympathy might have shaped policy responses and attitudes to the recent opioid epidemic. In this way, race and social class could have shaped the social constructions of the modern-day opioid epidemic and the response to the epidemic.

Past Research on Race, Gender, Social Class and Drug Use

Some research (e.g., Netherland & Hansen, 2016) has investigated how the portrayal of the race and social class of illicit drug users has changed in the media and have hypothesized that the less punitive response to the opioid epidemic is because White middle-class people are dying; however, little research has empirically investigated this claim. One nationally representative survey (Kennedy-Hendricks et al., 2017) conducted in 2014 investigated the publics' perceptions of what types of people are affected by prescription opioid user disorders and rates of stigma (e.g., social distance, discrimination). Overall, participants reported high levels of stigma toward people with prescription opioid addiction. Over 75% of participants indicated that all races, social classes, and people from different geographic areas are affected equally. However, of the people who believed particular groups were affected more than others, the most frequently picked groups were Whites/Caucasians, middle class, and people from suburban areas. Believing that poor people are the most affected by prescription opioid addiction was related to an increased likelihood of believing that people with prescription opioid addictions are dangerous and to blame for their problems. This provides some support that perceived demographic factors affect stigma toward people addicted to

opioids. Additionally, higher stigma ratings were associated with more support for punitive policies and lower support for harm reduction policies. This study asked specifically about prescription opioids; thus, results might differ when investigating addiction to other types of opioids such as heroin.

Past research has examined how characteristics such as race, gender, and social class are related to a number of drug related outcomes such as involvement in the criminal justice system. For example, although drug use and drug related crimes (e.g., selling) are similar across different racial and ethnic groups, drug use has historically been associated with minorities. Furthermore, minorities are more likely to be arrested and are treated more punitively compared to Whites (Curry et al., 2008; Fielding-Miller, Davidson, & Raj, 2016). Minorities, particularly African Americans, also have the disadvantage of for many years being associated with the crack cocaine epidemic (Hartman & Golub, 1999). Minorities were depicted as criminals, violent, and needing to be punished. Because of this long held association between drug use, minorities, and negative labels (e.g., criminal), it is expected that an opioid user that is depicted as Black compared to White will be evaluated more negatively.

With regard to gender, past research has produced mixed results about whether male or female drug users are evaluated more negatively. Some research indicates male drug users are evaluated and treated more negatively. In a vignette that experimentally manipulated the gender of people addicted to cocaine or alcohol, participants reported more blame, fear, avoidance and anger and less pity and desire to help a male vignette character compared to a female vignette character (Sattler et al., 2017). Negative feelings (e.g., blame, fear, avoidance) associated with male drug users may result in more

negative attitudes; however, these negative feelings are not associated to the same degree with female drug users. Another study found that participants reported more positive affect toward female opioid users compared to males (Goodyear et al., 2018).

Additionally, men tend to be treated more punitively for drug related crimes (Cano & Spohn, 2012; Davidson & Rosky, 2015) and past research has found that more sympathy and interest in helping is expressed for females with substance abuse disorders compared to males with substance abuse disorders (Wirth & Bodenhausen, 2009). This might be because males with substance use disorders are associated with more adverse consequences compared to females (Wilsnack, Vogeltanz, Wilsnack, & Harris, 2000). These associations might have resulted from years of young minority males being arrested and incarcerated for drug related crimes and thus, males and drug use became associated with crime, fear, and blame. For example, male drug addicts are seen as aggressive and violent and female drug addicts are seen as vulnerable and needing help (Corrigan & Wassel, 2008; Sorsdahl et al., 2012).

Other research indicates that female drug users are evaluated more negatively (Myers & Fakier, 2009). One study found that participants assigned more negative attributions to females who use cannabis and methamphetamine compared to males (Sorsdahl et al., 2012). However, in this same study females depicted as dependent on alcohol were evaluated more positively compared to males. In some instances, females might be evaluated more negatively because a number of negative stereotypes (e.g., bad mother; sexually promiscuous, immoral) have been associated with female drug users (Schroedel & Fiber, 2001; Terplan et al., 2015). These negative stereotypes are in

contrast to traditional gender roles that are expected of women, which might explain why in some instances female drug users are evaluated more negatively relative to males.

Less research has investigated social class as a stigmatizing characteristic (Ostrove & Cole, 2003; Williams, 2009), especially in the context of addiction stigma. Like minorities, poor people have been associated with drug use (Hartman & Golub, 1999). Lower class people tend to be evaluated more negatively compared to higher-class people and a number of negative stereotypes (e.g., lazy, poor self-control) are associated with poor people (Bullock, Williams, & Limbert, 2003; Shildrick & MacDonald, 2013; Weeks & Lupfer, 2004). One study varied the socioeconomic status (SES) of a pregnant woman who became addicted to opioids after being prescribed opioids for an injury (Kennedy-Hendricks et al., 2016). Participants reported more stigma toward the low SES women compared to the high SES women and were more likely to indicate that healthcare providers should be required to report the woman. Participants were also less likely to blame the high SES woman relative to the control condition who did not read a narrative about the pregnant woman. The manipulation of SES included age and whether she was married when she was pregnant, which might have unintentionally added other manipulations in addition to socioeconomic status.

Intersectionality Framework

People belong to multiple social categories (e.g., race/ethnicity, gender) that shape their life experiences. Investigating how multiple characteristics intersect and interact is important to more fully understand stigma and the experiences of people addicted to opioids. The intersectionality framework can be used to describe the effects of belonging to multiple stigmatized categories.

People who are addicted to drugs are already members of the stigmatized group ‘drug addicts’ but they are also situated within a larger social context. How others perceive and treat them is also affected by the other social categories they belong to. People who are addicted to drugs who are also members of other disadvantaged groups, such as minority or low social class groups, might experience additional burdens compared to people who are addicted to drugs who belong to groups with a more favorable position in society (e.g., Whites, higher class; Rosenfield, 2012). This is because many social categories are linked to structural inequalities, such as racism and classism. Understanding how these characteristics and the structural inequalities they are linked to is important to better understand differences in outcomes (e.g., health, employment). Being addicted to opioids and belonging to multiple groups that experience bias (e.g., Black women) might intersect and compound relating to poorer outcomes.

The theory of intersectionality posits that social categories are interrelated and the combination of belonging to multiple social categories shapes one’s outcomes and experiences (Remedios & Snyder, 2015). The double or triple jeopardy perspective of intersectionality asserts that challenges associated with belonging to a stigmatized group compound when someone belongs to multiple stigmatized groups (Rosenfield, 2012). In this way, it is believed that individuals who belong to multiple disadvantaged groups are worse off compared to individuals who only belong to one disadvantaged group. For example, Black women leaders are treated more harshly for failures compared to Black men or White women leaders (Rosette & Livingston, 2012). This indicates belonging to two marginalized groups (Blacks and women) results in a more negative outcome compared to only belonging to one marginalized group.

Belonging to multiple disadvantaged groups can be viewed additively or interactively. The additive model argues that an individual who belongs to two or more marginalized groups experiences the negative effects of each identity independently and these negative experiences are summed together (Almquist, 1975). The interactive model argues that the marginalized identities combine to create a unique composite identity and people experiences negative outcomes relating to this combined identity that may be worse than the hypothetical sum of its parts (Settles, 2006).

Little research has investigated opioid addiction stigma from an intersectionality perspective. One study did investigate how race/ethnicity and gender intersect with addiction stigma. This study investigated how the portrayal of a White, Black, or Latino/a man or woman who was arrested for heroin possession affected implicit and explicit addiction stigma (Kulesza et al., 2016). Across all conditions, on the implicit measure, participants indicated a preference for punishment compared to helping. Conversely, on the explicit measure participants indicated a preference for helping. Results indicated that participants who saw pictures of a Latino person who was addicted to drugs had higher scores on the implicit addiction stigma measure compared to participants who saw pictures of a White person addicted to drugs. There were no significant differences between the Black condition and the other conditions. No gender differences were observed on the explicit measure. However, the explicit measure of stigma used a vignette that depicted the person addicted to drugs as a criminal, possibly confounding stigma about criminals with drug addiction stigma. More research on the intersection of social characteristics, such as race, social class, and gender, is needed to more thoroughly understand processes, such as stigma, that result in negative outcomes and health

disparities (Rosenthal, 2016). Race, social class, and gender might intersect with opioid addiction stigma, creating even worse outcomes for addicted individuals who also belong to marginalized social categories. Furthermore, characteristics of the observer might also interact with characteristics of opioid users and affect stigma.

Investigating opioid addiction stigma from an intersectional perspective is important because all opioid addicts might not experience stigma in the same way, in part, due to the racial, gender, and social class categories they belong to. Approaching research on opioid addiction stigma from an intersectionality perspective can provide more insight on the variation of opioid addicts' experiences. Intersectionality research has mainly focused on the intersection of race and gender (Remedios & Snyder, 2015); however, incorporating other stigmatized characteristics into research is important to more thoroughly investigate how stigma manifests across other identities (Cole, 2009). Thus, this research investigated stigma toward opioid addicts who possess different combinations of racial, gender, and class characteristics to provide a more complete picture of opioid addiction stigma. Additionally, the race, social class, and gender of participants was also investigated to determine how these characteristics relate to stigma and interact with characteristics of the person addicted to opioids. Theories of stereotypicality and intergroup relations can be used to understand why stigma might differ depending on characteristics of the opioid user relative to participants. The next chapter discusses stereotypes.

Chapter 5 – Stereotypes

Stereotypes are widely held, oversimplified, and often negative beliefs about groups of people (Schneider, 2004). Stereotypes provide people a quick and easy frame of reference to make assumptions and judgments about others (Yzerbyt & Demoulin, 2010). These oversimplified beliefs can become harmful if they are negative and applied to people who are part of that group who may or may not fit these beliefs. Stereotypes result in overgeneralizations, quick, and often inaccurate assumptions about others (Corrigan et al., 2003; Tajfel, 1981). When stereotypes are activated, they produce an affective reaction (e.g., fear, disgust) and a cognitive representation of the group. The affective reaction and cognitive representation affect perceptions of others and behavior toward others (e.g., they are lazy; Fiske & Taylor, 1991).

Stereotype activation is a largely automatic process and stereotypes about a social group can become activated by contextual cues that are related to that group (Blair & Banaji, 1996; Devine, 1989). Contextual cues can include stereotypical traits, objects, media representations, and behaviors (Lemm, Dabady, & Banaji, 2005; Davies, Spencer, & Steele, 2005). When presented with contextual cues that are stereotypical of a group, stereotypes about that group are automatically activated. The extent to which someone or an act is stereotypical (i.e., the extent to which it fits a cognitive representation in people's minds) affects how the person is perceived and treated. When a person belongs to a group in which there are widely held stereotypical beliefs, these stereotypical beliefs are used to form judgments about the person and affects how the person from the stereotyped group is treated (Ryan, Judd, & Park, 1996). A limited amount of research

has investigated outcomes in situations that are stereotype-consistent and not stereotype-consistent.

Stereotypicality and Past Research

Stereotype research often investigates stereotypicality in the context of gender and race. For example, when participants are in stereotype-consistent conditions based on gender and problem solving (women are intuitive and men are logical) they display greater outgroup derogation (Stanciu, 2017). This might indicate that when outgroup members display a stereotypical characteristic they are treated even more harshly than outgroup members who do not display a stereotype-consistent characteristic. Stereotypes about physical appearance also affect how people are treated. For example, members of minority racial groups who look highly stereotypical phenotypically (e.g., Black people with darker skin tones and stereotypical features) experience greater levels of racial bias compared to members who look less stereotypical (Eberhardt, Davies, Purdie-Vaughns, Johnson, 2006).

Stereotypicality research has also examined retributive outcomes (e.g., sentencing and verdict decisions) for negative behaviors that are stereotype-consistent. Certain races are stereotypically associated with certain crimes (referred to as race-crime congruency; McKimmie, Masters, Masser, Schuller, & Terry, 2013; Sunnafrank & Fontes, 1983). For example, participants associated Black people with crimes such as assault and grand theft auto and associated White people with crimes such as child molestation and fraud (Sunnafrank & Fontes, 1983). When the crime a person is accused of is stereotypical of that person's characteristics, the person receives a longer sentence compared to a person

whose characteristics are not stereotypical to the type of crime (Gordon, Bindrim, McNicholas, & Walden, 1988). Attributions mediated the relationship between race-crime congruency and punishment. When the race and crime were congruent (e.g., a Black person charged with robbery or a White person charged with child molestation), internal attributions were made about the cause of the crime. When the race and crime were not congruent (e.g., a Black person charged with embezzlement or a White person charged with grand theft auto), external attributions were made about the cause of the crime and the attributions made related to punishment (Gordon & Anderson, 1995). Other research has examined congruency between religion and type of crime and did not find strong support for stereotypicality of certain religions and crimes (Miller, Maskaly, Green, & Peoples, 2011). However, this might have been because participants desire to correct for bias outweighed the crime-stereotype congruency (Miller et al., 2011).

Other research indicates that when a person (e.g., a rape victim) does *not* act in a stereotypical way, they are blamed more and believed less (Abrams, Viki, Masser, & Bohner, 2003). This might be because people tend to attend to and recall more stereotype-inconsistent information than stereotype-consistent information because it appears abnormal and more memorable (Hastie & Kumar, 1979). Additionally, when women act in stereotype-inconsistent ways they are more likely to be viewed as deserving to be raped (Forbes & Adam-Curtis, 2001). That is, when women act in ways that are not consistent with preexisting cultural gender stereotypes, participants view them as more to blame for an instance of sexual assault. Some research indicates that when a person acts or possesses stereotype-consistent characteristics they are treated worse (e.g., race-crime congruency; gender-stereotype consistency) but other research

indicates that when people act in a stereotype-inconsistent way they are treated worse (e.g., rape victims). Thus, outcomes based on stereotypicality are likely very situation dependent.

Stereotypicality and the Present Study

Stereotypicality might be relevant to stigma and beliefs about how people addicted to opioids should be treated. Just as past research (e.g., Sunnafrank & Fontes, 1983; McKimmie et al., 2013) has found that certain types of people are associated with certain crimes and this association affects outcomes, certain people might be associated with drug user and addiction. How stereotypical a drug user is might affect how that person is perceived and treated.

People tend to have stereotypical beliefs about what kinds of people use drugs (Anderson, Scott, & Kavanaugh, 2015; Klee et al., 2002). These stereotypes have become widespread due to how drug use has been portrayed in the media. Historically, people who use drugs, particularly crack cocaine, have been depicted in the media as poor minorities located in inner city areas (Hartman & Golub, 1999; Reinerman & Levine, 2004; Taylor, 2008). These people have typically been portrayed in the media as problematic, the cause of social problems, being related to crime, and needing to be controlled and feared (Anderson et al., 2015; Beckett, 1997; Taylor, 2008; Reinerman & Levine, 2004). Other beliefs about people who use drugs are that they are criminals, dishonest, dangerous, and lazy and that they choose to continue using drugs and they are of poor moral character (Anderson et al., 2015; Klee et al., 2002). Demographic characteristics, such as low social class, minorities, being from urban areas, associated with drug use might have become the contextual cues that activate stereotypical beliefs

about drug users, such as they are dangerous and criminals. These beliefs shaped the blame, fear, and criminalization response to the crack epidemic (e.g., War on Drugs; Hartman & Golub, 1999).

Conversely, the ways in which the media has portrayed the opioid epidemic does not reflect long established stereotypes about drug users (Netherland & Hansen, 2016). The opioid epidemic has disproportionately affected non-Hispanic White people of higher social classes (Jones et al., 2015) and the media's coverage of the opioid epidemic reflects this change in demographic (e.g., "Heroin in Suburbia: The New Face of Drug Addiction" Lee, 2013). This representation of opioid users does not fit the typical stereotypical representations of people who use drugs and thus, perhaps, typical beliefs about drug users (e.g., criminals, dangerous) have not been applied to this group. People addicted to opioids have been labeled as victims while people addicted to crack cocaine were labeled as criminals. Noticeably, the response to the opioid epidemic has largely focused on sympathy and help for these people compared to fear and punishment when the typical drug user was portrayed as a minority and poor (Netherland & Hansen, 2016). These different labels and responses might be because the demographic representation of typical drug users and the stereotypical beliefs associated with drug users have changed. Because people who use opioids do not fit historical stereotypical representations of people who use drugs (i.e., they look different and are from different backgrounds than the people who are typically represented as being drug users), different beliefs might be applied to them and thus, the reaction to them has been different.

Investigating stigma and other attitudes toward people addicted to opioids through the lens of stereotypicality might help answer questions about why the response to the

opioid epidemic has been different compared to the crack cocaine epidemic. Because the way in which opioid users are portrayed does not fit preexisting stereotypes about who becomes addicted to drugs, the public might be less likely to apply negative beliefs (e.g., drug users are dishonest, dangerous, lazy) typically associated with people who use drugs resulting in different outcomes. When presented with a scenario in which an opioid user is described, it is expected that stereotypes about higher social class White drug users to be activated (e.g., victims, sympathy), instead of stereotypes about poor minority drug users (e.g., criminal, lazy, to blame), and less stigma and more positive attitudes will be reported.

In addition to how stereotypical an opioid user is, whether the opioid user is an ingroup or outgroup member might affect stigma. Theories of intergroup relations can be used to investigate attitudes toward drug users who are considered ingroup or outgroup members. The next chapter discusses intergroup relations and the black sheep effect.

Chapter 6 - Intergroup Relations and the Black Sheep Effect

Intergroup relations might help explain why stigma differs depending on an opioid user's characteristics. Intergroup relations refer to the ways in which different groups and individual members of these different groups think about each other and interact with each other (Hogg & Reid, 2006). For instance, people tend to prefer members of their own ingroup compared to members of their outgroup (Brewer, 1979). In contrast, the black sheep effect posits that ingroup members are treated poorly (compared to outgroup members) when they engage in extreme norm violating behavior. This chapter discusses theories of intergroup relations, how intergroup relations relates to addiction stigma, and describes a competing hypothesis, the black sheep effect.

Intergroup Relations

Social identity theory and self-categorization theory refer to the process by which people categorize others and themselves into social groups (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Race, age, and gender are often used to quickly categorize people because these characteristics are easily accessible to perceivers (Klauer, Holzenbein, Calanchini, & Sherman, 2014). Prototype models have been used to explain how people categorize stimuli into social categories. Prototype models posit that people have cognitive representations of categories that are formed from their experiences with members of that category, creating prototypical representations (Hogg, 2005; Rosch & Mervis, 1975). When categorizing a stimulus, people compare the stimulus to prototypical representations of a category to determine if the stimulus fits into this category (Smith & Zarate, 1990). This categorization process creates ingroup and outgroups. As described above, when people meet the criteria for a

prototypical drug user (e.g., minority, poor, criminal) they are assigned to this category and likely classified as an outgroup member (at least for observers who do not themselves use drugs). Once people are categorized as a member of a particular group, group-based stereotypes are activated (Brewer, 1988; Devine, 1989).

Whether a person is categorized as an ingroup or an outgroup member influences how they are perceived and treated. People tend to evaluate ingroup members more positively compared to outgroup members (Brewer, 1979; Schiller et al., 2014; Tajfel & Turner, 1979). This ingroup favoritism occurs because people derive aspects of their identity from the groups that they belong to. Thus, people are motivated to maintain positive evaluations of the groups they belong to in order to preserve a positive social identity (Tajfel & Turner, 1979).

Whether a target is an ingroup or outgroup member is related to a number of different outcomes and processes. For example, people tend to remember less positive information about outgroup members, engage in less effortful thinking when processing information about outgroup members, and are less trustful of and cooperative with outgroup members (Otten & Moskowitz, 2005; van Bavel, Packer, & Cunningham, 2008). Additionally, people tend to make more internal attributions about outgroup members for negative outcomes and behaviors, while making external attributions about ingroup members (Pettigrew, 1979).

The social groups that opioid users belong to might affect the extent to which participants consider them ingroup or outgroup members and thus, affect the way they are perceived and treated. Opioid users depicted as middle class, White, and “everyday” people might be more likely to be categorized as ingroup members and thus, treated

better. This might be because people see the people depicted as opioid users as more similar to themselves (ingroups) compared to the people depicted as drug users in earlier decades. If people see opioid users who they perceive as similar to themselves become addicted, they might be more likely to believe that they themselves or someone close to them could also be addicted. This might result in more sympathy and more positive treatment.

The response to the opioid epidemic has elicited feelings of sympathy and compassion and focused on medicalization and treatment, while the crack cocaine epidemic elicited feelings of disgust and fear and focused on criminalization (Netherland & Hansen, 2016). This dichotomy might result because the users of the opioid epidemic are typically White and of higher social class, while the crack cocaine epidemic users were portrayed as Black and lower class (Netherland & Hansen, 2016). Theories of intergroup relations can be used to investigate why reactions to drug users portrayed as White and higher social class differ from drug users portrayed as Black and lower class. For example, when drug users are portrayed as poor minorities they might be considered outgroup members by White middle/upper class participants. If these drug users are categorized as outgroup members, negative beliefs and attributions are more likely to be activated and they are more likely to be treated poorly by observers. However, when drug users are portrayed as White middle class people they might be considered ingroup members by White middle/upper class participants and treated better by observers.

As race is central to person perception (Fiske, 1998), much of the research on social categorization has focused on race (Ito & Bartholow, 2009). Less research has examined outgroup bias for other characteristics such as drug addiction. However, some

research has also found outgroup bias for outgroup members with a stigmatized condition (AIDS; e.g., Tarrant, Dazeley, & Cottom, 2009). People generally feel more empathy, are more forgiving, are more helpful, report lower stigma, and are more motivated to address the needs of ingroup members compared to outgroup members (Dovidio et al, 1997; Hornstein, 1976; Lee & An, 2016; Otten, 2009; Sturmer, Snyder, & Omoto, 2005; Tarrant et al., 2009). Thus, it was expected that when opioid users possess characteristics similar to an observer more positive attitudes would be reported.

Contrary to what theories of intergroup relations would predict, lower class individuals do not always prefer ingroup members (i.e., other lower class people). A number of negative stereotypes and beliefs exist about poor people. Negative stereotypes about lower class people include beliefs that they are lazy, uneducated, and cannot delay gratification (Bullock, 1995). Contrary to what ingroup bias would predict, in some instances, lower class people endorse negative stereotypes about other lower class people and hold negative attitudes toward them (Bullock & Limbert, 2003; Shildrick & MacDonald, 2013). This might occur because lower class people hold system-justifying beliefs in order to maintain beliefs about the status quo (Jost, Pelham, Sheldon, & Sullivan, 2003). System-justifying beliefs are beliefs that defend existing social structures and institutions and encourage the favoritism of members of high-status groups (Jost & Banaji, 1994). Studies show lower class people tend to hold system-justifying beliefs, such as people are poor because of character flaws, despite the fact that these beliefs perpetuate inequality and are not advantageous to them (Jost, Ledgewood, & Hardin, 2008). People who belong to disadvantaged groups and endorse system-justifying beliefs display outgroup favoritism (Jost et al., 2003). That is, members of disadvantaged groups

tend to hold more favorable attitudes toward members of more advantaged groups compared to members of their own group (Jost et al., 2003; Jost & Burgess, 2000). In summary, although ingroup bias occurs frequently as described above, this is not always the case (Mackie & Smith, 2002).

Black Sheep Effect

Although theories of intergroup relations predict that outgroup members will be treated more harshly compared to ingroup members (Hogg, 2005), other research indicates the opposite might be true: ingroup members who engage in highly undesirable behavior will be treated more harshly compared to outgroup members (Marques, Yzerbyt, & Leyens, 1988). This is referred to as the black sheep effect. The black sheep effect posits that this occurs because an ingroup member who is acting in a deviant way and against the group's norms is threatening to the ingroup's social identity; thus, ingroup members are motivated to distance themselves from and punish the deviant member (Marques et al., 1988). By evaluating a deviant ingroup member more harshly, groups are able to preserve the positive image of their group and not allow the negative group member to decrease the overall status of the group (Castano, Paladino, Coull, & Yzerbyt, 2002; Marques et al., 1988).

Evidence for the black sheep effect has been found in research on mock jury decision making, race, school attended, career type, and sororities/fraternities (Hutchison & Abrams, 2003; Kerr, Hymes, Anderson, & Weathers, 1995; Lewis & Sherman, 2010). For example, a number of mock jury studies have found that same-race defendants (both

White and Black) were more likely to be found guilty (Sommers & Ellsworth, 2000) but in some research this was only when evidence strength was strong (Kerr et al., 1995). However, other research does not find evidence of the black sheep effect. For example, African Americans recommended less severe punishment for O. J. Simpson compared to Whites (Graham, Weiner, & Zucker, 1997). The black sheep effect can also occur when the infraction being evaluated is less severe than a criminal charge. For example, overweight peers from the same school as the participant (deviant ingroup condition) were judged more harshly compared to overweight peers from a different school (Abrams et al., 2017).

Research has found both instances of the black sheep effect (e.g., Kerr et al., 1995) and ingroup bias (e.g., Graham et al., 1997). It is not totally clear in what situations ingroup bias will occur and in what situations the black sheep effect will occur but there are some factors that can help predict when people will show ingroup bias or the black sheep effect. Whether or not the black sheep effect occurs depends on the severity of the norm violation by an ingroup member and how this violation affects the positive social identity of the group (Abrams, Marques, Brown, & Henson, 2000). This is because people derive positive views of themselves from the groups that they belong to (Tajfel & Turner, 1979). Thus, if an ingroup member engages in behavior that negatively affects the identity of the group, people might be more likely to display the black sheep effect because their own identity can be damaged. However, some research has found that the black sheep effect might only occur for people who place high importance on their membership to the group (Hutchison & Abrams, 2003).

Another factor that affects whether ingroup bias or the black sheep effect will occur is the perceived entitativity of the group (Abelson, Dasgupta, Park, & Banaji, 1998). Perceptions of entitativity refer to perceptions of how unified and clearly defined a group is (Abelson et al., 1998). Highly entitative groups have the potential to pose a greater threat to members' identities compared to more trivial groups (Sherman, Hamilton, & Lewis, 1999). When a member of a highly entitative group engages in extreme norm violation they might bring embarrassment and shame to the group. Thus, other group members might be motivated to punish the deviant member and distance themselves from the deviant member in order to salvage the reputation of the group and their own identities (Abrams et al., 2004). For example, this might occur if a religious leader of a community congregation is accused of sexual misconduct. Since this is a clearly defined and unified group, members of the congregation might be motivated to punish and distance themselves from the deviant member because this type of allegation can bring shame and embarrassment to people who are part of the congregation.

In the current study, ingroup bias or the black sheep effect could occur when White participants are evaluating same or other race opioid users of different races, social classes, and genders. Using and becoming addicted to opioids might be considered deviant and immoral and thus, an extreme norm violation. This might make ingroup opioid users subject to the black sheep effect. Alternatively, becoming addicted to opioids might not be viewed as an extreme norm violation because participants might know people who have become addicted to drugs and it is not the same level of norm violation as other behaviors like murder. Furthermore, groups based on race, social class, and gender are very large and impersonal. That is, groups based on these characteristics lack

unification and entitativity. Thus, members would be less likely to place high importance on group membership and derive a positive sense of self from the group (Sherman et al., 1999). For this reason, it is expected that in the current study participants will display ingroup bias and not the black sheep effect.

Intergroup Relations and the Present Study

The present study uses class race, social class, and gender as characteristics used to categorize people into groups because these characteristics have been central to how drug users have been depicted and might help explain differences in responses to the opioid epidemic compared to past drug epidemics. Furthermore, although race has regularly been used in social psychological research to investigate social categorization and is typically a strong predictor of perceptions and treatment of others (Klauer et al., 2014), less is known about social class and gender and the intersection of these social categories (Weeks & Lupfer, 2004). Social class refers to people's position in society and is often assessed by the type of job one has or family status (Brown-Iannuzzi, Lundberg, & McKee, 2017). Measures of subjective social class, which is used in this study, refer to people's subjective perceptions of their status and place in society and is considered quite accurate (Hout, 2008; Singh-Manoux, Marmot, & Adler, 2003).

Some scholars argue that social class is more important than race when considering intergroup relations and that social class has a greater effect on shaping prejudice and stereotypes compared to race (Wilson, 1978). For example, research has found that positive stereotypes typically assigned to Whites (e.g., ambitious, intelligent) and negative stereotypes typically assigned to Blacks (e.g., lazy) were more often assigned to targets who were upper class and lower class respectively regardless of the

target's race (Klonis & Devine, 2001; Smedley & Bayton, 1978). This might indicate that stereotypes that have typically been associated with different races are actually a function of the social class that people assume is correlated with certain races. Additionally, people tend to have negative attitudes and hold negative stereotypes toward poor and working class people and prefer to interact with others of similar or higher social status (Weeks & Lupfer, 2004). Thus, similarly to race, social class is likely another important characteristic that people use when making judgments about others (Weeks & Lupfer, 2004). Investigating interaction effects between race and social class in the context of stigma and support for medical treatment for people who use drugs can help broadly disentangle the role that race and social class play in the perception and treatment of others, which has largely been ignored in social psychological research.

The present study investigated intergroup bias based on the race, social class, and gender of a fictive vignette character addicted to opioids. Despite the manipulations of the opioid user's race, social class, and gender, it is possible that opioid addiction will be the most salient characteristic of the vignette character and that all participants (who are not addicted themselves) will consider the vignette characters an outgroup member despite their race, social class, and gender. However, research indicates that people consider multiple sources of categorization when forming judgments about others (Crisp & Hewstone, 1999). Social categorization is complex and multiple characteristics used to classify others can be salient and used simultaneously to categorize and form impressions about others (Brewer, Ho, Lee, & Miller, 1987; Crisp, Hewstone, & Cairns, 2001). Outgroup bias can be reduced by re-categorizing an outgroup member based on another shared category (Crisp & Hewstone, 2007). Thus, if participants initially categorize the

vignette characters as outgroup members because they are addicted to drugs, it is possible that other shared characteristics, such as race, social class, or gender might change or reduce this categorization.

The present study used a sample of White participants to investigate if White people display bias toward opioid users based on their race, social class, and gender. Although it would be theoretically interesting to investigate drug addiction stigma and support for public health programs and in the context of intergroup bias for both White and minority participants, the focus of this research is on better understanding an applied question about why the response to the opioid epidemic has been drastically different from drug epidemics in the past. An only White sample was used because this is the population for whose attitudes we are most interested in with regard to the topic of opioid addiction. Although there has been progress towards diversity in many realms (e.g., education, the workplace), White privilege is still evident and people who are White hold much of the power in society (e.g., politics, CEOs, media; Aalbers, 2013; Pulido, 2015). Thus, this group has controlled much of the response to the opioid epidemic. Additionally, although declining in size, White people make up the majority of the U.S. population (U.S. Census Bureau, 2016). Finally, collecting a sample of Black participants posed logistical challenges with a number of drawbacks. From past data collection efforts at the University of Nevada, Reno we knew that we would likely have not gotten enough Black participants necessary to run the proposed analyses from a student sample. Additionally, data collection from enough Black participants on Amazon's Mechanical Turk has also been unsuccessful. Finally, obtaining a sample of Black participants from another university (e.g., Prairie View A&M University in Texas) was considered;

however, having a Black sample from one university and a White sample from a different source introduces a number of confounds that could make the results unreliable. The next chapter discusses attributions and addiction.

Chapter 7 – Attributions

Attribution theories are social cognitive models that have been used to investigate reactions to people who possess a stigmatizing characteristic (Corrigan, 2000). This chapter gives an overview of attributions, discusses the literature on attributions and stigmatized conditions, such as addiction and mental illness, discusses attributions in the context of intergroup relations, and describes how attributions are used in the present study.

People are motivated to understand the causes of events and behavior (Heider, 1958; Weiner, 1993). They do this by assigning attributions about the perceived cause of an event or behavior. Internal and external attributions are two types of attributions that are assigned to behaviors. Internal attributions are assigned when the cause is believed to be something about the person (e.g., willpower, personality, a choice). External attributions are assigned when the cause is believed to be something about the environment (e.g., social structures, life circumstances). The type of attribution, internal or external, that is assigned when making causal inferences about the cause of an event or behavior influences how the target of the attribution is viewed and treated (Moskowitz, 2005; Weiner, 1979; Weiner, 1993). When internal attributions are made about people's behaviors, the people performing the behaviors are perceived to be more responsible, blamed more, treated more harshly, and viewed more negatively compared to when external attributions are made (Heider, 1958; Moskowitz, 2005; Weiner, 1995; Wood & Bartkowski, 2004).

Attributions and Stigmatized Conditions

The types of attributions people make about the causes of drug use and addiction affects their attitudes toward people who are addicted to drugs and relate to the likelihood of wanting to help or to punish them (Corrigan et al., 2003). In particular, past research has found that attributions of controllability and responsibility are related to stigma toward people addicted to drugs (Corrigan et al., 2003). Attributions of controllability refer to the extent to which a condition, such as addiction, is caused by the person or outside forces (Corrigan et al., 2000; Weiner, Perry, & Magnusson, 1988). Examples of high controllability attributions include people's beliefs that addiction is caused by poor lifestyle choices and because someone is of low moral character. Examples of low controllability attributions include people's beliefs that addiction is caused by environmental factors such as growing up in a rough neighborhood or a stressful family situation. The attributions that people make about drug addiction can predict how people might respond to people who are addicted to drugs. Beliefs that a stigmatizing characteristic, such as drug addiction, is under the control of a person are related to increased anger, stigma, prejudice and discrimination toward people who possess the stigmatizing characteristic (Jeong, 2007; Puhl & Brownell, 2003; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003; Towler & Schneider, 2005).

People might make a variety of different attributions about the cause of a person's drug addiction including internal, external, and disease/genetic attributions. Internal attributions about the cause of drug addiction include beliefs that the person has made poor choices or has little willpower. External attributions include beliefs that the drug addiction is caused by unfortunate or stressful life circumstances. Disease/genetic

attributions include beliefs that the drug addiction is an inherited trait or caused by chemical imbalances in the person's brain. These different types of attributions might relate to attitudes toward medicalization and criminalization of addiction. Medicalization and criminalization describe beliefs about drug addiction and what should be done to people who are addicted to drugs.

Medicalization refers to beliefs that addiction is a medical problem (e.g., a disease) that can be treated (Maturro, 2012). As a result of these beliefs, people also tend to believe people addicted to drugs should receive treatment and assistance just as people with heart disease or cancer. A medicalization view of drug addiction can be seen in many public health-oriented programs and policies aimed at helping drug addicts instead of punishing them. Making disease/genetic attributions (e.g., the drug user has a chemical imbalance in his brain) about the cause of addiction might be positively related to beliefs that an opioid user should be medicalized. This is because beliefs that a person's addiction is caused by a disease or genetics are attributions that are low in perceptions of controllability and responsibility. Beliefs that a condition is not the responsibility of the person are related to feelings of pity and facilitate helping behaviors (Jeong, 2007; Weiner, 1991).

However, not all people believe drug addiction is a medical condition, and many people believe that drug addicts should be criminalized. Criminalization refers to beliefs that drug addiction is a moral choice to do wrong that should be illegal. A criminalization view results in drug addicts being punished for their addiction, and often denied help. Making internal attributions (e.g., the drug user made poor choices) about the cause of drug addiction should be positively related to beliefs that an opioid user should be

criminalized. These types of attributions are high in perceptions of controllability and responsibility. Past research has demonstrated that when people perceive attributions of controllability (e.g., people can choose whether they stop using drugs), the targets of the attributions are viewed as more responsible for their addiction and blameworthy and are denied help compared to when people perceive attributions of uncontrollability (e.g., addiction is a disease you are born with; Sattler et al., 2017; Weiner, 1993; Weiner et al., 1988). When people believe that someone is responsible for his condition, they are less likely to help him (Corrigan et al., 2002; Sattler et al., 2017) and less likely to feel empathy (Decety, Echols, & Correll, 2010).

Whether drug addiction is conceptualized as a medical or a criminal problem results in different attitudes towards drug users and policies designed to help them, which can result in vastly different outcomes for people who are addicted. Thus, investigating the attributions people make about opioid addiction is important to understand beliefs about whether drug addicts should be subject to punitive (criminalization) or public health-oriented (medicalization) actions.

It should be noted that research that portrays addiction and mental illness as a disease with a genetic basis does not always support attribution theory. Anti-stigma campaigns and research have attempted to reduce stigma by describing addiction and mental illness as a genetic or biological disease; however, this has backfired (Read & Harre, 2001). Based on attribution theory, it would be expected that when addiction is portrayed as a disease, people would report lower attributions of controllability and responsibility and more positive attitudes. However, some research has found that when a genetic predisposition or a biological cause of addiction or mental illness was described,

negative attitudes and stigma increased (Corrigan, 2003; Pescosolido, 2013; Phelan, 2005; Read & Harre, 2001).

There are a number of reasons this “backfire effect” could have occurred. Phelan (2005) speculated that this might have occurred because genetic and biological causes cause people to think that the condition was permanent. Read and Harre (2001) speculated that this was because a genetic or biological cause further categorically separates people with these conditions from people without these conditions. The description that mental illness is due to brain functioning that deems people with the condition not responsible might increase feelings of fear and unpredictability (Read & Harre, 2001). Additionally, these studies might not have found support for attribution theory because, even though participants in the study were told that addiction or mental illnesses are caused by genetic predispositions or biological causes, participants likely have their own pre-existing beliefs about addiction/mental illness. Simply telling participants in a research setting about addiction/mental illness having genetic and biological causes might not have been enough to change their pre-existing beliefs. Finally, attributions about the causes of drug addiction are complex and people might acknowledge both internal and external attributions about the causes of addiction. For example, in surveys, people agree that people who use drugs come from difficult backgrounds (i.e., making external attributions) but also agree that they are to blame for their addiction (i.e., making internal attributions; Ormston et al., 2009).

Attributions and Intergroup Relations

The attributions that people make about opioid addiction might differ depending on whether prototypical drug users are considered to be ingroup or outgroup members

and might partially explain why responses to middle class White drug users have been different compared to poor minority drug users. The group that a target belongs to influences attributions that are made about the target. People are more likely to make internal attributions about a negative behavior (e.g., drug use) when it is performed by an outgroup member compared to an ingroup member, especially when the behavior is stereotype-consistent (Pettigrew, 1979). Additionally, people are more likely to make external attributions about a positive behavior when it is performed by an outgroup member (e.g., luck; Pettigrew, 1979). This is referred to as the ultimate attribution error. Some support for the ultimate attribution error has been found for research on suicide stigma. Participants reported more stigma when suicide was considered to be controllable (i.e., making internal attributions) and when people who commit suicide were described as being outgroup members compared to the control and ingroup condition (Lee & An, 2016). This study manipulated both attributions and group membership (i.e., by using words such as “us” or “them” when referring to people who are suicidal); in contrast, the proposed study will measure participants’ attributions about drug addiction and categorize participants into ingroups and outgroups based on characteristics of the participant.

In the context of the present study, the ultimate attribution error would predict that if Black opioid users are considered outgroup members by White participants, participants will be more likely to make internal attributions about drug use and addiction and be more likely to blame and hold them responsible. This reflects the attributions that have historically been made about minority and poor drug users (e.g., they are of poor moral character, lazy, live a deviant lifestyle) and the response to these drug users (e.g.,

blame, criminalization). If White drug users are considered ingroup members, participants (all of who are White) will be more likely to make external attributions about drug use and addiction and be more inclined to help. Similarly, participants who are in a condition in which the drug user's social class or gender is the same as the participants' self-reported social class or gender will also be more likely to make external attributions about drug use and addiction and be more inclined to help. This reflects attributions that have been made about modern day opioid drug users (e.g., addiction is a disease, anyone can become addicted) and the response to these drug users (e.g., treatment, decriminalization, policy reform). The proposed study will investigate whether the attributions that people make about a person addicted to opioids differ depending on whether the person who is addicted to drugs is portrayed as a White or Black person, a working or middle class person, and a man or woman.

Attributions and the Present Study

This study measured external attributions (e.g., the vignette character's addiction is caused by the way he was raised), internal attributions (e.g., the vignette character's addiction is caused by his own bad character), and disease/genetic attributions (e.g., the vignette character's addiction is caused by a chemical imbalance in his brain). Based on past research about how demographic characteristics and beliefs have become stereotypically associated with drug users, it was expected that participants would report lower external attributions and disease/genetic attributions and higher internal attributions when the opioid user is Black, working class, and male. However, based on past intergroup relations research it would also be expected that participants who are evaluating a vignette characters with outgroup characteristics would be more likely to

make internal attributions and less likely to make external and disease/genetic attributions about the cause of opioid addiction. Additionally, attributions might mediate the relationships between opioid user's race and social class and stigma.

Chapter 8 - Study Overview and Hypotheses

Opioid addiction is one of the largest social and public health issues the United States is currently facing (Surgeon General Report, 2016). One barrier for tackling the opioid epidemic is stigma (Surgeon General Report, 2016). There is a dearth of empirical literature that investigates opioid addiction stigma (see Corrigan & Nieweglowski, 2018; National Academy of Sciences, 2016). It is important to more thoroughly understand attitudes toward opioid addiction and investigate the underlying social psychological processes that result in stigma in order to reduce addiction stigma (Corrigan & Nieweglowski, 2018).

Thus, the purpose of this study was to go beyond prior research that has found that attitudes toward opioid addiction tend to be negative and that stigma persists (e.g., Barry et al., 2014) and factors that relate to stigma. Using intersectionality, stereotypes, intergroup relations, and attributions theoretical frameworks, the first two results chapters investigate how race, social class, and gender—and their interactions—relate to stigma toward a vignette character and support for punishing and helping. Using the contact hypothesis as a theoretical framework, the third results chapter investigates how familiarity with addiction related to stigma and support for punishing and helping. The fourth and fifth results chapters investigate how stigma, attributions about the cause of opioid addiction, and support for punishing and helping relate to specific public health-oriented policies and programs. The remainder of this chapter outlines the study hypotheses.

Hypotheses

The Intersection of Race, Social Class, and Gender on Stigma, Criminalization, and Medicalization

The first results chapter investigated how the race, social class, and gender of participants and a vignette character who is depicted as an opioid user relate to stigma toward and the desire to criminalize or medicalize the vignette character.

Main effects: Vignette character characteristics

Hypothesis 1, vignette character race: Participants will report more negative attitudes about the vignette character when the vignette character is Black compared to White. This effect is expected given that minority drug users have been associated with negative attitudes and criminalization (Reinarman & Levine, 2004; Taylor, 2008) and that outgroup members tend to be evaluated more negatively compared to ingroup members (Brewer, 1979; Schiller et al., 2014; Tajfel & Turner, 1979)—and the participants are White.

Hypothesis 2, vignette character social class: Participants will report more negative attitudes about the vignette character when the vignette character is in the working class compared to the middle class. This effect is expected given that poorer people are typically evaluated worse compared to people of middle and upper social class (Weeks & Lupfer, 2004).

Hypothesis 3, vignette character gender: Participants will report more negative attitudes when the vignette character is male compared to female. This effect is expected given that men tend to be treated more punitively for drug related crimes (Cano & Spohn, 2012; Davidson & Roskly, 2015) and that past research has found that more sympathy

and interest in helping is expressed for females with substance abuse disorders compared to males with substance abuse disorders (Wirth & Bodenhausen, 2009).

Main effects: Participant characteristics

Hypothesis 4, participant social class: Higher social class participants will report more negative attitudes about the vignette character compared to lower social class participants. This effect was expected given that higher class people tend to attribute social problems as being the individual's fault (Kraus, Piff, & Keltner, 2009) and tend to believe poor people are lazy and lack willpower (Clery, Lee, & Kunz, 2013). Additionally, lower class people tend to score higher on measures of empathy compared to higher class people (Kraus, Cote, & Keltner, 2010).

Hypothesis 5, participant gender: Female participants will report more positive attitudes about the vignette character compared to male participants. This effect was expected given that men tend to have more negative attitudes toward disadvantaged groups (e.g., transgender people) compared to women (Riggs & Sion, 2017; Smith, Shepperd, Miller, & Graber, 2016). Additionally, females are more likely than males to believe drug addiction is caused by biological and environmental factors (Kauffman, Silver, & Poulin, 1997).

Hypothesis 6, system-justifying beliefs: Higher system-justifying beliefs will be related to more negative attitudes toward the vignette character. This effect is expected given that system-justifying beliefs relate to the justification of unequal treatment for low status groups (Jost et al., 2012; Wakslak, Jost, Tyler, & Chen, 2007).

Two-way interactions: Vignette character characteristics

Hypothesis 7, race and social class: There will be an interaction between vignette character's race and social class. Participants in the conditions in which the vignette character is Black and working class will report the most negative attitudes. This interaction is expected given that more negative attitudes are hypothesized for Black opioid users (Schiller et al., 2014; Tajfel & Turner, 1979) and drug users of lower social class (Weeks & Lupfer, 2004); thus, possessing both of these characteristics will likely result in the most negative attitudes.

Hypothesis 8, race and gender: There will be an interaction between vignette character's race and gender. Participants in the conditions in which the vignette character is Black and male will report the most negative attitudes compared to all other conditions. This interaction is expected given that more negative attitudes are hypothesized for Black opioid users (Schiller et al., 2014; Tajfel & Turner, 1979) and males (Cano & Spohn, 2012; Davidson & Roskly, 2015; Wirth & Bodenhausen, 2009); thus, possessing both of these characteristics will likely result in the most negative attitudes.

Hypothesis 9, social class and gender: There will be an interaction between vignette character's social class and gender. Participants in the conditions in which the vignette character is male and working class will report the most negative attitudes compared to all other conditions. This interaction is expected given that more negative attitudes are hypothesized for drug users of lower social class (Weeks & Lupfer, 2004) and males (Cano & Spohn, 2012; Davidson & Roskly, 2015; Wirth & Bodenhausen, 2009); thus, possessing both of these characteristics will likely result in the most negative attitudes.

Two-way interactions: Between vignette character and participant characteristics

Hypothesis 10, social class: There will be an interaction between vignette character's social class and participant's social class. Participants who are in conditions in which the opioid user's social class does *not* match their own social class (e.g., working class opioid user condition and higher social class participant) will report more negative attitudes toward the vignette character compared to participants who are in conditions in which the opioid user's social class matches their own social class (e.g., working class opioid user condition and lower social class participant). This interaction is expected because people tend to be more punitive toward outgroup members (Schiller et al, 2014). However, it is possible that lower social class people will still favor higher social class people (Smith & Mackie, 2002).

Hypothesis 11, gender: There will be an interaction between vignette character's gender and participant's gender. Participants who are in conditions in which the opioid user's gender does not match their own gender (e.g., female opioid user condition and male participant) will report more negative attitudes toward the vignette character compared to participants who are in conditions in which the opioid user's gender matches their own gender (e.g., female opioid user condition and female participant). This interaction is expected because ingroup members tend to be evaluated more positively compared to outgroup members (Brewer, 1979; Schiller et al., 2014; Tajfel & Turner, 1979) and gender is one characteristic that is often used to categorize others into ingroups and outgroups (Klauer et al., 2014).

Three-way interactions: Vignette character characteristics

Hypothesis 12: There will be a three-way interaction between vignette character's race, vignette character's social class, and vignette character's gender.

Attitudes toward the Black, working class, male vignette character will be the most negative and attitudes toward the White, middle class, female vignette character will be the least negative. The remaining conditions will fall in between. This interaction is predicted given that more negative attitudes are hypothesized for Black drug users (Schiller et al., 2014; Tajfel & Turner, 1979), drug users of low social class (Weeks & Lupfer, 2004), and males (Cano & Spohn, 2012; Davidson & Roskly, 2015; Wirth & Bodenhausen, 2009); thus possessing all three of these characteristics will likely result in the most negative attitudes.

Indirect effects: Opioid user race and social class to stigma, criminalization, and medicalization mediated by attributions

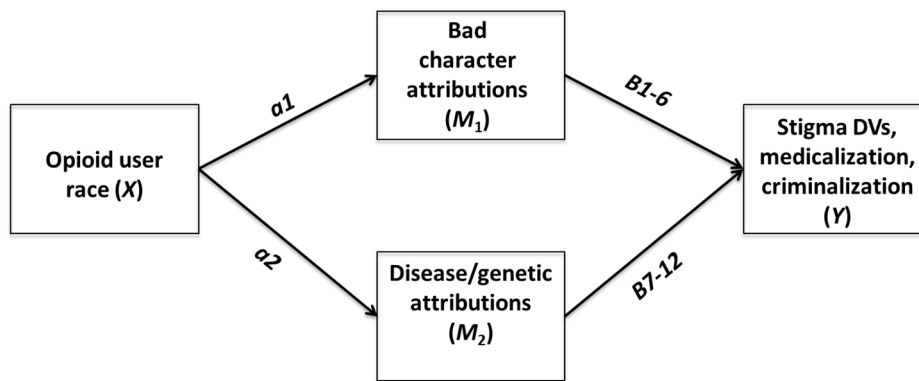
The second results chapter presents analyses investigating if bad character attributions and disease/genetic attributions about the cause of opioid addiction mediate the relationships between opioid user race and the stigma dependent variables (stereotypes, negative feelings, social distance, and discrimination), medicalization, and criminalization and between opioid user social class and these dependent variables.

Hypothesis 13: Opioid user race will be indirectly related to the stigma dependent variables, medicalization, and criminalization through bad character attributions (see Figure 8.1). Participants will be more likely to attribute the vignette character's opioid addiction to bad character when the opioid user is Black (*a1*) and bad character attributions will be positively related to the stigma dependent variables and criminalization and be negatively related to medicalization (*B1-6*).

Hypothesis 14: Opioid user race will be indirectly related to the stigma dependent variables, medicalization, and criminalization through disease/genetic attributions (see

Figure 8.1). Participants will be more likely to attribute the vignette character's opioid addiction to a disease/genetics when the opioid user is White (a_2) and disease/genetic attributions will be negatively related to the stigma dependent variables and criminalization and be positively related to medicalization ($B7-12$).

Figure 8.1. Opioid user race to dependent variables mediated by attributions about the cause of addiction



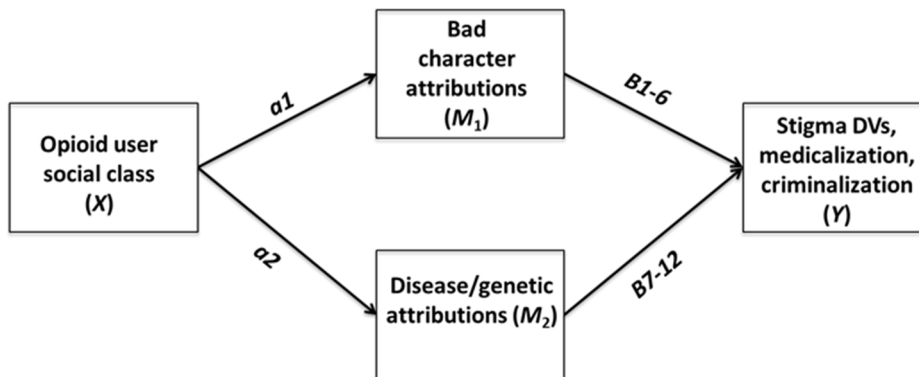
Hypothesis 15: Opioid user social class will be indirectly related to the stigma dependent variables, medicalization, and criminalization through bad character attributions (see Figure 8.2). Participants will be more likely to attribute the vignette character's opioid addiction to bad character when the opioid user is in the working class (a_2) and bad character attributions will be positively related to the stigma dependent variables and criminalization and be negatively related to medicalization ($B1-6$).

Hypothesis 16: Opioid user social class will be indirectly related to the stigma dependent variables, medicalization, and criminalization through disease/genetic attributions.

Figure 8.1. Participants will be more likely to attribute the vignette character's opioid addiction to a disease/genetics when the opioid user is in the middle class (a_2) and

disease/genetic attributions will be negatively related to the stigma dependent variables and criminalization and be positively related to medicalization (*B7-12*).

Figure 8.2. Opioid user social class to dependent variables mediated by attributions about the cause of addiction



Contact and Stigma

The third results chapter investigated how different aspects of contact and familiarity with addiction relate to stigma, criminalization, and medicalization toward a vignette character depicted as being addicted to opioids.

Hypothesis 17, participant social contact with addiction: Participants who know someone close to them affected by addiction will report more positive attitudes about the vignette character. This effect is expected given that past research has shown knowing someone who is a drug user is related to more positive attitudes (Cirakoglu, 2005) and social contact with people with mental illness tends to relate to lower stigmatizing attitudes (Couture & Penn, 2003).

Hypothesis 18, participant addiction: Participants who have been addicted themselves will report more positive attitudes about the vignette character, be more supportive of government aid for people who are addicted, and more supportive of

addiction policies and programs compared to participants who have not been addicted. This is expected given that past substance abuse is related to more positive attitudes toward a vignette character depicted as having a substance abuse disorder (Goodyear et al., 2018; Sattler et al., 2016).

Hypothesis 19, relationship change: Participants who indicated they are now estranged from the addicted person or that their relationship has become weaker because of the person's addiction will report more negative attitudes toward the vignette character compared to participants who indicated their relationship has stayed the same or become stronger. This is expected because a negative outcome, such as the dissolution of a relationship, with an addicted person might result in participants generalizing their negative experience to all opioid users and viewing them in a negative way.

Hypothesis 20, addicted person outcomes: Participants who indicate negative outcomes related to the addicted person, such as being involved in the criminal justice system and still struggling with addiction, will report more negative attitudes toward the vignette character compared to participants who report positive outcomes related to the addicted person such as receiving treatment and being in recovery. This is expected because negative experiences with an addicted person might result in participants generalizing that experience to all addicted people and forming correspondingly negative attitudes towards them. In contrast, positive experiences with an addicted person might result in participants believing that other addicted people can have the same positive outcomes, thereby leading them to view people with addictions more favorably.

Research questions

The effect of the following variable is posed as a research questions as little research has investigated how the nature and characteristics of contact with opioid users affect stigma.

Research question 1, nature of the relationship: Will the nature of the relationship (e.g., romantic partner, parent) between the participants and the addicted person relate to stigma? Which types of relationships will result in the most and least stigma? Participants who have a closer relationship with an addicted person (e.g., a romantic partner) might be more understanding and empathetic about the struggles of addiction (Corrigan, 2000; Corrigan et al., 2003; Penn & Martin, 1998) because they have spent more time with the person and have seen the challenges associated with addiction thus, might report more positive attitudes toward the vignette character compared to participants who are more distant from the addicted person (e.g., an extended family member). On the other hand, being closer to the addicted person and the challenges that accompany addiction might result in more strain and frustration and thus more negative attitudes.

Support for policies and programs

The fourth results chapter presents analyses that first investigate participant characteristics that relate to support for the programs and policies. Then, analyses are presented that investigate how stigma (stereotypes, negative feelings, social distance, and discrimination), bad character attributions, and disease/genetic attributions relate to support for the policies and programs.

Participant characteristics and support for policies and programs

Hypothesis 21: Females will report higher support for the six policies and programs compared to males for the same reasons described in hypothesis five.

Hypothesis 22: Lower social class participants will report higher support for the six policies and programs compared to higher social class participants for the same reasons described in hypothesis four.

Hypothesis 23: Democrats will report the highest support and Republicans will report the lowest support for the six programs and policies. This is expected given that Republicans tend to be less supportive of harm reduction policies (McGinty et al., 2018).

Hypothesis 24: Participants who have been addicted will report higher support for the six policies and programs compared to participants who have not been addicted. This is expected given that contact and familiarity are generally related to more positive attitudes toward stigmatized groups (Addison & Thorpe, 2004; Corrigan et al., 2012).

Hypothesis 25: Participants who know someone close to them who has been addicted will report higher support for the six policies and programs compared to participants who do not know someone who is addicted. This effect is expected for the same reasons described in hypothesis 24.

Hypothesis 26: Higher system-justifying beliefs will be negatively related to support for the six policies and programs for the same reasons described in hypothesis six.

Stigma and attributions predicting support for policies and programs

Hypothesis 27: Stereotype endorsement, negative feelings, social distance, and discrimination will negatively relate to support for the policies and programs. These effects are expected given that stigma is positively related to support for punitive policies

and negatively related to support for public health-oriented (Kennedy-Hendricks et al., 2017).

Hypothesis 28: Bad character attributions will negatively relate to support for the policies and programs. This effect is expected given that attributing a negative behavior to an individual is related to a lower desire to help.

Hypothesis 29: Disease/genetic attributions will positively relate to support for the policies and programs. This effect is expected given that attributing a negative behavior to something outside the control of an individual is related to more pity and sympathy and a greater desire to help.

Relationship between attributions and support for policies/programs mediated by criminalization and medicalization

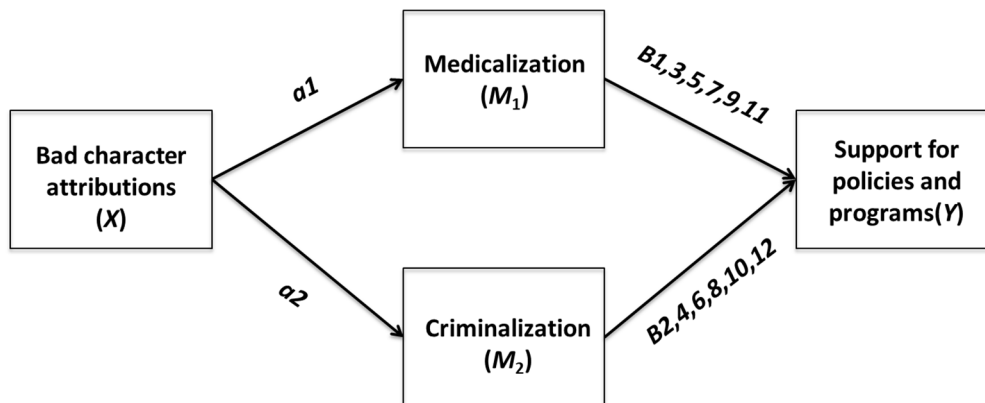
This fifth results chapter investigated if the relationships between attributions about the cause of opioid addiction and support for public health-oriented policies and programs are mediated by criminalization and medicalization.

Hypothesis 30: Bad character attributions will be indirectly related to the six policies and programs through medicalization (see Figure 8.3). Bad character attributions about the cause of addiction will be negatively related to medicalization (a1) and medicalization will be positively related to support for policies and programs (B1,3,5,7,9,11).

Hypothesis 31: Bad character attributions will be indirectly related to the six policies and programs through criminalization (see Figure 8.3). Bad character attributions about the cause of addiction will be positively related to criminalization (a2) and

criminalization will be negatively related to support for policies and programs (B2,4,6,8,10,12).

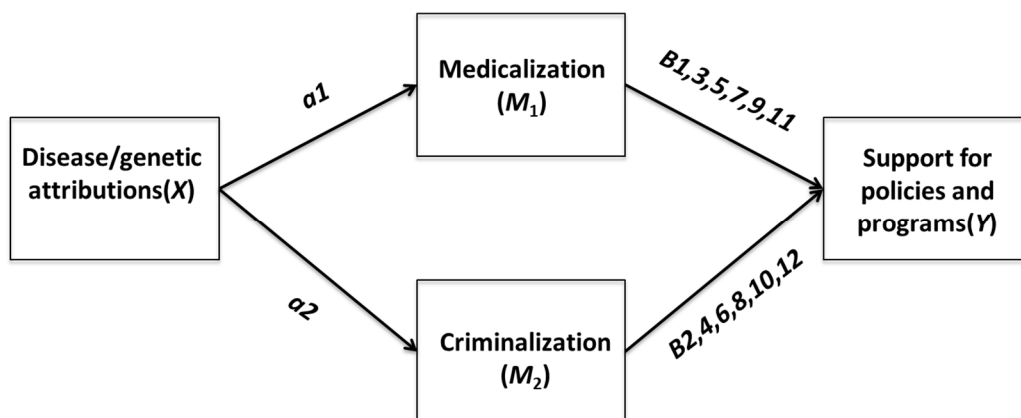
Figure 8.3. Bad character attributions to support for policies and programs mediated by medicalization and criminalization



Hypothesis 32: Disease/genetic attributions will be indirectly related to the six policies and programs through medicalization (see Figure 8.4). Disease/genetic attributions about the cause of addiction will be positively related to medicalization (a_1) and medicalization will be positively related to support for policies and programs (B1,3,5,7,9,11).

Hypothesis 33: Disease/genetic attributions will be indirectly related to the six policies and programs through criminalization (see Figure 8.4). Disease/genetic attributions about the cause of addiction will be negatively related to criminalization (a_2) and criminalization will be negatively related to support for policies and programs (B2,4,6,8,10,12).

Figure 8.4. Disease/genetic attributions about the cause of opioid addiction to support for programs and policies mediated by medicalization and criminalization.



Chapter 9 – Method, Measures, Materials, and Descriptive Statistics

Method

The dissertation study was an online survey hosted on Qualtrics that investigated factors that relate to attitudes toward people who use opioids. This study used a 2 (race of opioid user: White or Black) x 2 (social class of opioid user: working class or middle class) x 2 (gender of opioid user: male or female) between subjects factorial experimental design.

Sampling Strategy and Recruitment

The sampling frame was acquired by making a public records request to obtain the names and email addresses of undergraduate students at the University of Nevada, Reno whose contact information was publicly available (98% of students). With IRB approval, the Office of Student Persistence matched the list of students obtained from the public records request to race/ethnicity and gender data. The retained sampling frame included the names and email addresses of undergraduate UNR students who were classified as male or female and White, based on institutional data. This sampling frame included 12,764 students. The way in which the institutional data were collected allowed for students to select multiple race/ethnicities; thus, a number of students were removed from the sampling frame to only include students who identified as only White. Students who selected Black and White ($n = 231$) or Black and White and Hispanic ($n = 36$) as their race/ethnicity were removed. Students who selected White and Hispanic ($n = 1,175$) and White and 'other' ($n = 804$) were also removed. The final sampling frame included 9,829 students.

An email invitation with information about the study and the link to the survey was emailed to this list of 9,829 students on October 16, 2018. The invitation stated that the study was about attitudes toward individuals who use opioids and that if they completed the study they would be entered to win one of five \$25 Amazon gift cards. Two reminder emails were sent to students who had not completed the survey and the survey closed on October 26, 2018.

A total of 1,703 students (16.44%) clicked on the survey link and there were 1,437 recorded responses (13.88%). The response rate for females ($n = 821$) was 15.3% and the response rate for males ($n = 395$) was 7.8%. Survey response rates tend to be lower for males compared to females (Sax et al., 2003). The final sample contained only White participants bringing the number of cases to 1,096 after removing cases that failed attention and manipulation checks (for more information see below).

Study Procedure

Participants who consented to participate completed an online study hosted on Qualtrics. Participants were instructed to read a short description of a person addicted to opioids and then answer questions about the person they read about in the vignette. Participants were randomly assigned to one of eight vignette conditions that manipulated the opioid user's race, social class, and gender. Participants then answered questions about the opioid user including questions about attributions, criminalization/medicalization, social distance, acceptability of discrimination, stereotypes, beliefs about violence, and feelings toward the opioid user. Participants then completed questions about support for addiction policies and programs and attitudes toward government spending on healthcare for drug addiction and the government's

responsibility to provide healthcare. Participants also completed a system justification measure as well as demographic questions including gender, subjective social class, and experience with drug use and addiction. Finally, participants completed manipulation check questions. Participants who wanted to be entered for a chance to win one of the five \$25 Amazon gift cards were directed to a separate survey to input their name and email address for the drawing. A separate survey was used to ensure that identifiable information was not attached to their survey responses.

Measures and Materials

Photos and vignettes. Participants were randomly assigned to read one of eight vignettes about an opioid user. The vignettes were approximately 70 words long. The vignettes manipulated the vignette character's race (White or Black), gender (male or female), and social class (working class or middle class). The vignette described the opioid user (Deshawn, David, Letisha, or Lisa) as either White or Black and as a man or woman. The vignettes described the opioid user's social class by either describing the character coming from a middle class family (or working class family), graduating from college (or not graduating from high school), and having a job that pays well (or a minimum wage job). These manipulations of social class were chosen because people's position in society is often assessed using measures of income, education, occupation, and family background (Brown-Iannuzzi et al., 2017). Below is the vignette that depicts the Black, male, low socioeconomic status condition. The words that are in bold-face varied between vignettes.

Opioids refer to drugs such as heroin, fentanyl, and oxycodone. Opioid addiction and overdose deaths are increasing in the United States.

***Deshawn** is a 32 year old **African American** man who is addicted to opioids. He comes from a **working class** family and **did not graduate from high school**. Deshawn has a **minimum wage job**. He began taking pain pills such as oxycodone in his mid-twenties and then moved on to injecting heroin. He has been unable to break the cycle of using these drugs.*

To increase the strength of the race and gender manipulations, photos of White and Black males and females were displayed with the vignettes (see Appendix B). The photos are from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). All photos have a plain white background, the subjects are wearing the same grey shirt, and all subjects have a neutral facial expression. The photos have been normed on age and attractiveness to decrease the likelihood that any differences in the dependent variables are due to these characteristics. Raters estimated the age of each individual and rated how attractive they thought the person in the photo was on a scale from 1 = *Not at all attractive* to 7 = *Very attractive*. The Black male was estimated to be an average of 31.5 years old and his average attractiveness rating was 3.3. The Black female was also estimated to be 31.5 years old and her average attractiveness rating was 3.9. The White male was estimated to be 30.0 years old and his attractiveness rating was 3.7. Finally, the White female was estimated to be 32.0 years old and her average attractiveness rating was 3.4.

Attributions. Nine items were used to measure attributions about drug addiction (adapted from the General Social Survey, 1999; Martin, Pescosolido, & Tuch, 2000). Three items assessed beliefs about internal attributions (e.g., *Deshawn's addiction is caused by his bad character*), three items assessed beliefs about external attributions (e.g., *Deshawn's addiction is caused by the way he was raised*), and three items assessed beliefs that addiction is caused by a disease (e.g., *Deshawn's addiction is caused by a chemical imbalance in his brain*). Participants indicated their level of agreement (1 = *Strongly disagree* to 4 = *Strongly agree*) on each item. Scores on the items for each subscale were averaged to create internal, external, and disease/genetic attribution scales.

Criminalization and medicalization. The criminalization and medicalization scale (created by the authors) consists of seven items. Three items assessed participants' beliefs that opioid users should be criminalized (e.g., *Deshawn should be held accountable for breaking the law*) and four items assessed participants' beliefs that opioid addiction should be treated as a medical condition (e.g., *Deshawn should go into a rehab program to treat his addition*). Participants indicated their level of agreement (1 = *Strongly disagree* to 4 = *Strongly agree*) with each statement. Items were averaged to create a measure of beliefs that opioid users should be medicalized and a measure of beliefs that opioid users should be criminalized.

Social distance. The social distance scale (adapted from Martin, Pescosolido, & Tuch, 2000) consists of six items (e.g., *How unwilling or willing would you be to move next door to Deshawn, work with Deshawn etc.*). Participants indicated their willingness (1 = *Not at all willing* to 4 = *Completely willing*) for each statement. Items were reverse-

coded so that higher scores indicate a greater desire for social distance and then averaged to create a measure of social distance.

Acceptability of discrimination. The acceptability of discrimination (toward someone with addiction) scale (adapted from the General Social Survey, 2006) consists of three items (e.g., *Landlords should be able to deny housing to Deshawn*). Participants indicated their level of agreement (*1 = Strongly disagree* to *4 = Strongly agree*) with each statement. Items were averaged to create a measure of acceptability of discrimination.

Stereotypical beliefs. The stereotypical beliefs scale (adapted from van Boekel et al., 2015) consists of seven items (e.g., *Deshawn is trustworthy; Deshawn is a criminal*). Participants indicated their level of agreement (*1 = Strongly disagree* to *4 = Strongly agree*) with each stereotype statement. Items were averaged to create a measure of stereotypical beliefs.

Feelings toward opioid user. The feelings toward people with addiction scale (adapted from Corrigan et al., 2006 Corrigan et al., 2003) consists of four items (e.g., *I feel no pity for Deshawn*). Participants indicated their level of agreement (*1 = Strongly disagree* to *4 = Strongly agree*) with each statement. Items were averaged to create a measure of feelings toward the opioid user.

Support for policies and programs. Support for four policies and programs were assessed by asking participants to indicate their level of support (*1 = Completely do not support* to *4 = Completely support*) for four policies/programs related to opioid addiction (e.g., *Medication-assisted treatment*).

Beliefs about violence. Participants responded to one question about perceptions of violence: *In your opinion, how unlikely or likely is it Deshawn would do something...(1) violent toward other people on a scale from 1 = Very unlikely to 4 = Very likely.*

Government spending on healthcare. One item asked participants to respond to the question *“Please indicate whether you would like to see more or less government spending in the area of treatment for drug addiction”* on a scale from 1 = *Spend much less* to 5 = *Spend much more.*

Government providing healthcare. One item asked participants to respond to the question *“Do you think it should or should not be the government’s responsibility to provide healthcare for persons with opioid addiction?”* on a scale from 1 = *Definitely should not be* to 5 = *Definitely should be.*

System justification. The system justification scale (Kay & Jost, 2003) consists of eight items (e.g., *Everyone has a fair shot at wealth and happiness*). Participants indicated their level of agreement (1 = *Strongly disagree* to 5 = *Strongly agree*) with each statement. Items were averaged to create a measure of system justifying beliefs.

Close others who have been addicted. To assess personal experience with addiction, participants were asked *“Has anyone close to you been affected by addiction?”* (yes or no). Participants who responded yes to this question were then asked *“What is your relationship to the person who has been affected by addiction? If more than one person close to you has been affected by addiction please indicate your relationship to the person you consider closest to you.”* Participants were also asked *“Think of the person closest to you who has been affected by addiction. What is their*

current status? Check all that apply.”, and “*Which of the following best describes how the person's addiction has affected your relationship with him or her?*”.

Personal drug use and addiction. To assess if participants have used drugs and have been affected by addiction, participants were asked if they have ever used illegal drugs (other than marijuana), how recently they have used illegal drugs, if they have ever had an addiction to drugs or alcohol, and if so, what happened as a result of their addiction.

Demographics. Participants were asked a number of demographic questions including their race, gender, subjective social class, political affiliation, geographic characteristics, and age.

Manipulation check questions. Two multiple choice questions asked participants to identify the race/ethnicity and social class of the person that they read about in the vignette.

Attention and Manipulation Checks

Approximately half way through the survey an attention check item was placed among the items in one of the scales in the survey. The attention check item asked participants to “click agree for this question”. Of the 1,347 respondents, 44 did not pass the attention check (i.e., checked the wrong response option) and were removed from the dataset bringing the remaining number of cases to 1,303.

At the end of the survey participants were asked two manipulation check questions. The first question asked participants to identify the race of the opioid user they read about at the beginning of the survey. Fifty-seven participants answered this question incorrectly. The second question asked participants to identify the social class of the

opioid user they read about. Two hundred eighteen participants answered this question incorrectly. Twenty-four participants answered both questions incorrectly. Participants who answer either of the manipulation checks incorrectly were removed from the dataset bringing the remaining number of cases to 1,096.

Participant Characteristics Demographics

See Table 9.1 for a summary of participant demographics. Most of the 1,096 participants were female (67.8%). The mean age of participants was 21.14 ($Md = 20$, $SD = 4.87$, range = 18-71). Most participants indicated they spent most of their life in the Western U.S. (85.7%) followed by the Southwestern U.S. (7.5%). Participants indicated they spent most of their life in Suburban areas (60.2%), urban areas (21.5%), and rural areas (18.2%). Most participants were not in a relationship (52.1%) or in a committed relationship (44.6%). Most participants indicated they were Democrats (37.1%), followed by Republicans (21.9%), and no affiliation (19.4%).

Eighty-one percent of participants indicated they identified with the same social class as their parents. Of these participants, 2.8% indicated their parents are in the lower class, 15.7% in the working class, 75.2% in the middle class, and 6.4% in the upper class. The remaining 19% who said they did not identify as the same social class as their parents were asked what social class they belong to. Of these participants, 22.2% indicated they are in the lower class, 49.1% in the working class, 27.5% in the middle class, and 1.2% in the upper class. These two groups were combined to create one variable of participant's social class. The majority of participants indicated they are part of the middle class (66.3%), followed by the working class (21.9%), the lower class (6.4%), and upper class (5.4%). Participants' social class was recoded to group lower and

working class participants together (28.4%) and middle and upper class participants together (71.7%).

Table 9.1 Participant Demographics

Variable	Percent	Mean	SD
Age		21.14	4.87
Gender			
	Female	67.8%	
	Male	32.2%	
Region			
	Western	85.7%	
	Southwestern	7.5%	
	Midwest	3.3%	
	Northeast	1.9%	
	South	1.5%	
Area size			
	Suburban	60.2%	
	Urban	21.5%	
	Rural	18.2%	
Relationship status			
	Single	52.1%	
	Committed relationship	44.6%	
	Married	3.3%	
Subjective social class			
	Lower	6.4%	
	Working	21.9%	
	Middle	66.3%	
	Upper	5.4%	
Political affiliation			
	Democrat	37.1%	
	Republican	21.9%	
	Independent	16.1%	
	No affiliation	19.4%	
	Other affiliation	5.50%	

Descriptive Statistics and Reliability

Addiction variables. A majority of participants (77.4%) indicated someone close to them has been affected by addiction. Participants who indicated that someone close to them had been affected by addiction were asked to think of the person closest to them who had been addicted and indicate their relationship to that person. Relationships were categorized as an extended family member (36.2%), a parent (27.1%), a close friend (17.1%), romantic partner (7.1%), sibling (6.1%), acquaintance (4.6%), and child (1.7%). Participants were asked to indicate how the person's addiction has affected their relationship with the addicted person. Most (35%) indicated it has made the relationship weaker, 28.8% indicated it has not changed the relationship, 22.7% indicated they were estranged from the person, and 13.1% indicated it has made their relationship stronger. Participants were asked about a variety of outcomes relating to the person closest to them who has been affected by addiction. Most (35.4%) indicated the person has received treatment for their addiction, 29.9% indicated the person is in recovery, 28.1% indicated the person has had trouble with the police/criminal justice system, and 14.5% indicated the person has passed away.

Thirty percent of participants indicated they have used illegal drugs other than marijuana. Of these people, most indicated they had used illegal drugs within the past month (23.4%), between one and six months ago (23.4%), and between one year and three years ago (21.5%). Participants were asked if they had ever been addicted to drugs or alcohol, 8.7% of participants indicated they had. Of the people who indicated they have been addicted, 29.9% indicated they have received treatment and 19.4% indicated they have had trouble with the police/criminal justice system.

Attributions. The attributions scale was divided into three subscales each containing three items (see Table 9.2). The internal attributions scale ($\alpha = .70$) had a mean of 2.13 ($SD = .62$) with higher numbers indicating higher endorsement of the opioid user's bad character being responsible for his/her addiction. The disease/genetic attributions scale ($\alpha = .61$) had a mean of 2.03 ($SD = .64$) with higher numbers indicating higher endorsement of disease/genetics being responsible for the opioid user's addiction. The external attributions subscale ($\alpha = .50$) had a mean of 2.48 ($SD = .79$). Removing items from the external attribution subscale did not increase reliability to acceptable levels; thus, this subscale was excluded from analyses.

Criminalization and Medicalization. The criminalization scale ($\alpha = .78$) had a mean of 2.13 ($SD = .62$) with higher numbers indicating greater endorsement that the opioid user should face criminal penalties. The medicalization scale ($\alpha = .64$) had a mean of 3.50 ($SD = .39$) with higher numbers indicating greater endorsement that the opioid user should receive medical treatment for his/her addiction.

Acceptability of discrimination. The discrimination scale ($\alpha = .76$) had a mean of 2.56 ($SD = .33$) with higher numbers indicating greater endorsement that it is okay to discriminate against the opioid user.

Social distance. The social distance scale ($\alpha = .85$) had a mean of 2.60 ($SD = .57$) with higher numbers indicating a desire for greater distance from the opioid user.

Stereotype endorsement. The stereotype endorsement scale ($\alpha = .67$) had a mean of 2.43 ($SD = .57$) with higher numbers indicating greater endorsement of negative stereotypes about the opioid user.

Feelings toward opioid user. The feelings toward the opioid user scale ($\alpha = .68$) had a mean of 1.98 ($SD = .49$) with higher numbers indicating greater endorsement of negative feelings toward the opioid user.

Violence toward others. The perceptions of violence toward others item has a mean of 2.23 ($SD = .65$) with higher numbers indicating greater perceptions of violence.

Government healthcare and spending. The item that assessed participants' beliefs about if the government should spend more or less in the area of treatment for drug addiction had a mean of 3.60 ($SD = .96$). The item that assessed participants' beliefs about if it should be the government's responsibility to provide healthcare to persons with opioid addiction had a mean of 2.84 ($SD = .92$). Higher numbers indicate greater beliefs that the government should spend more and should be responsible for providing healthcare.

Support for policies. The item that assessed support for supervised injection sites had a mean of 2.63 ($SD = .99$). The item that assessed support for medication-assisted treatment had a mean of 3.14 ($SD = .69$). The item that assessed support for diversion to treatment instead of arrest had a mean of 3.52 ($SD = .63$). The item that assessed support for needle exchange programs had a mean of 2.99 ($SD = .96$). Higher numbers indicate greater support.

System justification. The system justification scale ($\alpha = .85$) had a mean of 2.54 ($SD = .85$) with higher numbers indicating greater system-justifying beliefs.

Table 9.2 Scale Characteristics

	Cronbach's alpha	<i>Mean</i>	<i>SD</i>	Range
Bad character attributions	0.70	2.4	0.59	1-4
Disease/genetic attributions	0.61	2.03	0.64	1-4
External attributions	0.50	2.48	0.79	1-4
Criminalization	0.78	2.13	0.62	1-4
Medicalization	0.64	3.50	0.39	1-4
Social integration	0.70	2.46	0.30	1-4
Discrimination	0.76	2.73	0.33	1-4
Social distance	0.85	2.56	0.57	1-4
Stereotype endorsement	0.67	2.43	0.35	1-4
Feelings toward	0.68	1.98	0.49	1-4
Violent toward others	-	2.24	0.65	1-4
Healthcare gov. resp.	-	2.84	0.92	1-5
Gov. increase spending	-	3.06	0.96	1-5
Supervised injection sites	-	2.63	0.99	1-4
Medication-assisted treatment	-	3.14	0.69	1-4
Diversion to treatment	-	3.52	0.63	1-4
Needle exchange	-	2.99	0.96	1-4

Correlations between Scales

Pearson correlations were calculated between all scales (see Table 9.3). The scales were related to one another as expected, indicating construct validity. The stigma dependent variables (stereotypes, feelings, social distance, and discrimination) were all moderately correlated to each other with Pearson correlations ranging from .52 to .61. The criminalization and medicalization measures were weakly negatively correlated (-.20) indicating that they are not polar opposites but two different constructs. Similarly, bad character attributions and disease/genetic attributions were weakly negatively correlated (-.16).

Table 9.3 Pearson Correlations between Scales

Measures	1	2	3	4	5	6	7	8	9
1. Stereotypes	1								
2. Feelings	.58*	1							
3. Social distance	.55*	.61*	1						
4. Discrimination	.57*	.52*	.61*	1					
5. Violence	.50*	.50*	.41*	.36*	1				
6. Bad char.	.52*	.50*	.51*	.50*	.32*	1			
7. Disease/genetic	-.12*	-.10*	-.13*	-.20*	-0.01	-.16*	1		
8. Criminalization	.50*	.53*	.49*	.49*	.35*	.51*	-.15*	1	
9. Medicalization	-.10*	-0.19	-.22*	-.20*	-.10*	-.21*	.14*	-.20*	1
10. System just.	.22*	.22*	.24*	.32*	.14*	.30*	.13*	.31*	-.19*

* $p < .05$

Chapter 10 –Opioid User Race, Social Class, and Gender and Participant Characteristics

This chapter presents results from the analyses that investigated the intersection of race, social class, and gender. General linear models were used to test the effects of the manipulated factors opioid user's race, opioid user's social class, and opioid user's gender as well as the measured variables participant's social class and participant's gender on stigma toward the vignette character. Next, system-justifying beliefs were added to these general linear models to investigate if the effects of participants' social class can be explained by their system justifying beliefs.

Before full models were tested, a series of one-way between subjects ANOVAs were conducted to individually test the effects of the independent variables, opioid user's race, opioid user's gender, opioid user's social class, participant's gender, and participant's social class on the dependent variables stereotype endorsement, feelings toward opioid user, beliefs about violence, bad character attributions, disease/genetic attributions, acceptability of discrimination, social distance, criminalization, and medicalization. Results from these one-way between subjects ANOVAs are not presented because all individual effects remained significant and in the same direction in both the one-way ANOVAs and the full models or remained non-significant. For all analyses assumptions, including linearity, normality of residuals, and homogeneity of variance, were tested. Violations and corrections are noted where that particular analysis is presented. An a priori power analysis was conducted for sample size estimation using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). Using a conservative effect size of

.15, an alpha of .05, and power of .95 the results of the power analysis indicated that a minimum of 580 participants were necessary.

General Linear Models with Experimental Manipulations and Participant Social Class and Gender

A series of general linear models were conducted to investigate the effects of opioid user race, opioid user social class, opioid user gender, participant social class, and participant gender on the dependent variables. The models contained these five factors as well as two-way interactions between the hypothesized experimental manipulations (opioid user race x opioid user social class, opioid user race x opioid user gender, opioid user social class x opioid user gender) and between the hypothesized experimental manipulations and participant characteristics (opioid user social class x participant social class and opioid user gender x participant gender). The model also contained a three-way interaction between all experimental factors (opioid user race x opioid user social class x opioid user gender). Unless otherwise stated, Levene's test of equality of error variances was not violated. For all post hoc comparisons, Bonferroni corrections were used. Below, the general linear models are presented by each dependent variable.

Negative stereotypes. The overall model was significant $F(11, 882) = 5.48, p < .001, \eta_p^2 = .065$. There was a significant main effect of opioid user race $F(1, 882) = 5.20, p = .023, \eta_p^2 = .006$. Negative stereotype scores were higher for the White opioid user compared to the Black opioid user ($\Delta M = .05, p = .023$). There was a significant main effect of opioid user social class $F(1, 882) = 24.18, p < .001, \eta_p^2 = .03$. Negative stereotype scores were higher for the working-class opioid user compared to the class opioid user ($\Delta M = .13, p < .001$). There was a significant main effect of participant social

class $F(1, 882) = 9.05, p = .003, \eta_p^2 = .01$. Higher social class participants had higher scores on the negative stereotype scale compared to lower social class participants ($\Delta M = .08, p = .003$). There were no significant main effects of opioid user gender and participant gender. None of the interactions were significant.

Negative feelings. The overall model was significant $F(11, 883) = 1.80, p = .05, \eta_p^2 = .02$. The main effect of opioid user race was approaching significance $F(1, 883) = 3.79, p = .052, \eta_p^2 = .004$. Negative feelings were higher for the White opioid user compared to the Black opioid user ($\Delta M = .06, p = .052$). There was a significant main effect of participant social class $F(1, 883) = 9.30, p = .002, \eta_p^2 = .01$. Higher social class participants had higher scores on the negative feelings scale compared to lower social class participants ($\Delta M = .11, p = .002$). There were no significant main effects of opioid user social class or gender or participant gender. None of the interactions were significant.

Violence toward others. Levene's test of homogeneity of variance was violated, $F(31, 850) = 1.64, p = .016$. Thus a generalized linear model with an ordinal link function was conducted. The omnibus test was significant, likelihood ratio Chi-square = 25.07, $p = .009$. There was a significant main effect of opioid user social class, Wald Chi-Square = 6.41, $p = .011$. Participants were more likely to indicate that the working-class opioid user would be violent towards others compared to the middle class opioid user ($\Delta M = .12$). There was a significant main effect of participant gender, Wald Chi-Square = 4.88, $p = .027$. Female participants were more likely to indicate that the opioid user would be violent toward others compared to male participants ($\Delta M = .10$). The main effect of participant social class was approaching significance, Wald Chi-Square = 3.06, $p = .08$.

Higher social class participants rated the opioid user as more likely to be violent compared to lower social class participants ($\Delta M = .08$). None of the other main effects or any of the interactions were significant.

Bad character attributions. The overall model was significant $F(11, 881) = 4.69, p < .001, \eta_p^2 = .04$. There was a significant main effect of opioid user race $F(1, 881) = 10.16, p = .001, \eta_p^2 = .01$. Bad character attributions were more likely to be made about the cause of addiction for the White opioid user compared to the Black opioid user ($\Delta M = .12, p = .001$). There was a significant main effect of opioid user social class $F(1, 881) = 15.46, p < .001, \eta_p^2 = .02$. Bad character attributions were more likely to be made about the cause of addiction for the working-class opioid user compared to the middle class opioid user ($\Delta M = .17, p < .001$). There was a significant main effect of participant social class $F(1, 881) = 5.26, p = .022, \eta_p^2 = .006$. Higher social class participants were more likely to attribute the opioid user's addiction to bad character compared to lower social class participants ($\Delta M = .10, p = .022$). There was also a significant main effect of participant gender $F(1, 881) = 9.14, p = .003, \eta_p^2 = .01$. Male participants were more likely to attribute the opioid user's addiction to bad character compared to female participants ($\Delta M = .13, p = .003$). There were no significant main effects of opioid user gender and none of the interactions were significant.

Disease/genetic attributions. The overall model was significant $F(11, 881) = 3.49, p < .001, \eta_p^2 = .03$. There was a significant main effect of participant gender $F(1, 881) = 23.05, p < .001, \eta_p^2 = .03$. Female participants were more likely to attribute the opioid user's addiction to disease/genetics compared to male participants ($\Delta M = .20, p < .001$). There was also a significant interaction between opioid user social class and opioid

user gender $F(1, 881) = 4.27, p = .039, \eta_p^2 = .005$. Among female opioid users, the middle-class opioid user was more likely to have disease/genetic attributions made compared to the working-class opioid user ($\Delta M = .11, p = .049$). This difference did not emerge among male opioid users (see Figure 10.1). There were no other significant interactions and there were no significant main effects of opioid user race, opioid user social class, opioid user gender, or participant social class.

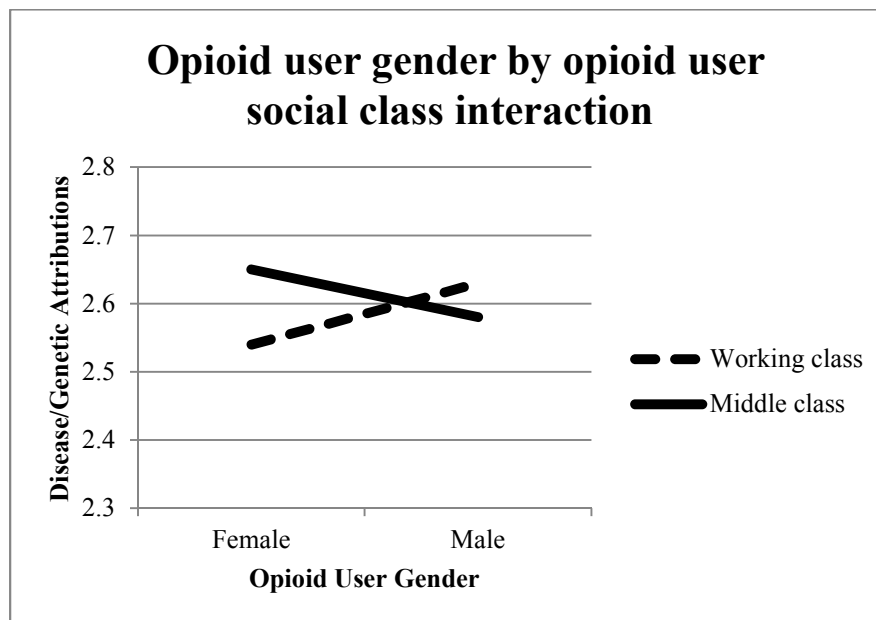


Figure 10.1. Significant interaction between opioid user gender and opioid user social class on the disease/genetic attributions dependent variable.

Social distance. The overall model was significant $F(11, 883) = 2.68, p = .002, \eta_p^2 = .02$. There was a significant main effect of opioid user race $F(1, 883) = 6.21, p = .013, \eta_p^2 = .007$. Desire for social distance was higher for the White opioid user compared to the Black opioid user ($\Delta M = .10, p = .013$). There was a significant main effect of opioid user social class $F(1, 883) = 5.27, p = .022, \eta_p^2 = .006$. Desire for social distance was higher for the working-class opioid user compared to the working class opioid user

($\Delta M = .10, p = .022$). There was a significant main effect of participant social class $F(1, 883) = 13.73, p < .001, \eta_p^2 = .02$. Higher social class participants reported a greater desire for social distance compared to lower social class participants ($\Delta M = .16, p < .001$). The main effect of opioid user gender and participant gender were not significant and none of the interactions were significant.

Discrimination. The overall model was significant $F(11, 882) = 5.03, p < .001, \eta_p^2 = .05$. There was a significant main effect of opioid user race $F(1, 882) = 16.81, p < .001, \eta_p^2 = .02$. Discrimination against the White opioid user was rated as more acceptable compared to the Black opioid user ($\Delta M = .14, p < .001$). There was a significant main effect of participant social class $F(1, 882) = 13.17, p < .001, \eta_p^2 = .02$. Higher social class participants rated discrimination against the opioid user as more acceptable compared to lower social class participants ($\Delta M = .14, p < .001$). There was a significant main effect of participant gender $F(1, 882) = 15.35, p < .001, \eta_p^2 = .02$. Male participants rated discrimination against the opioid user as more acceptable compared to female participants ($\Delta M = .14, p < .001$). The interaction between opioid user race and opioid user social class was significant $F(1, 882) = 5.07, p = .025, \eta_p^2 = .006$. Among White opioid users, discrimination is rated as being more acceptable for working class opioid users compared to middle class opioid users ($\Delta M = .10, p = .041$). This difference did not emerge among Black opioid users (see Figure 10.2). There were no other significant interactions and there were no significant main effects of opioid user social class and opioid user gender.

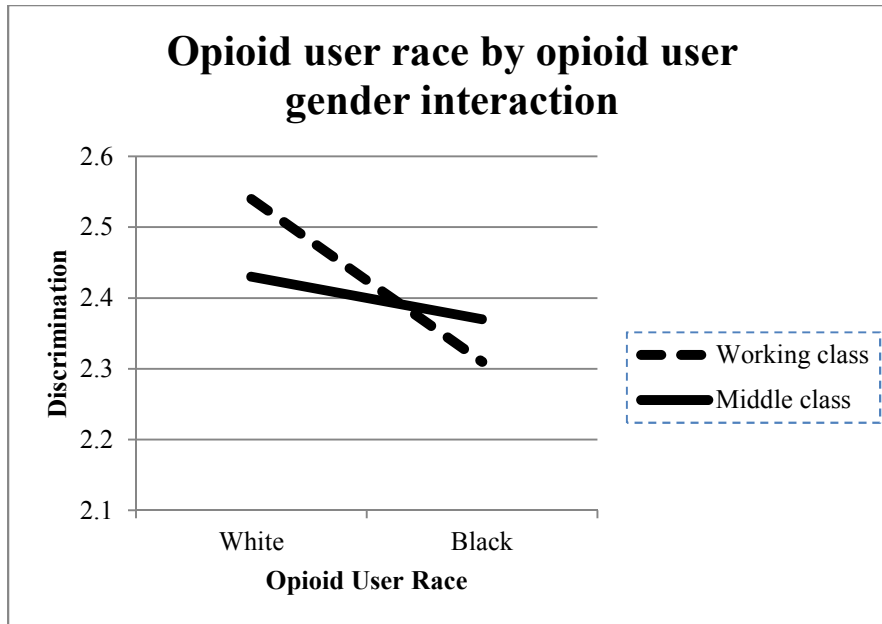


Figure 10.2. Significant interaction between opioid user race and opioid user social class on the acceptability of discrimination dependent variable.

Criminalization. The overall model was significant $F(11, 877) = 4.08, p < .001, \eta_p^2 = .04$. There was a significant main effect of opioid user social class $F(1, 877) = 20.21, p < .001, \eta_p^2 = .02$. The belief that the opioid user should be criminalized was higher for working class opioid users compared to middle class opioid users ($\Delta M = .21, p < .001$). There was a significant main effect of participant social class $F(1, 877) = 13.69, p < .001, \eta_p^2 = .02$. Higher social class participants were more likely to indicate that the opioid user should be criminalized compared to lower social class participants ($\Delta M = .17, p < .001$). There was a significant main effect of participant gender $F(1, 877) = 4.99, p = .026, \eta_p^2 = .006$. Female participants were more likely to indicate the opioid user should be criminalized compared to male participants ($\Delta M = .01, p = .026$). There were no significant main effects of opioid user race or opioid user gender and none of the interactions were significant.

Medicalization. The overall model was significant $F(11, 877) = 1.80, p = .05, \eta_p^2 = .01$. There was a significant main effect of opioid user social class $F(1, 877) = 4.27, p = .039, \eta_p^2 = .005$. Participants were more likely to indicate the middle-class opioid user should be medicalized compared to the working class opioid user ($\Delta M = .06, p = .039$). There was a significant main effect of opioid user gender $F(1, 877) = 6.21, p = .048, \eta_p^2 = .004$. Participants were more likely to indicate the male opioid users should be medicalized compared to the female opioid users ($\Delta M = .06, p = .048$). There was a significant main effect of participant gender $F(1, 877) = 8.55, p = .004, \eta_p^2 = .01$. Female participants were more likely to indicate the opioid user should be medicalized compared to male participants ($\Delta M = .08, p = .004$). There were no significant main effects of opioid user race or participant social class and none of the interactions were significant.

In sum, hypothesis 1 was not supported in that White opioid users were rated more negatively on the stereotypes, negative feelings (nearing significance), bad character attributions, social distance, and discrimination measures compared to Black opioid users. The counterintuitive finding of favoritism toward Black opioid users relative to White opioid users did not extend to the criminalization and medicalization variables. Hypothesis 2 was mostly supported in that working class opioid users were rated more negatively on the stereotypes, violence, social distance, discrimination, criminalization, and medicalization variables compared to middle class opioid users. Hypothesis 3 was not supported in that opioid user gender was not related to any of the dependent variables except participants were more likely to indicate male opioid users should be medicalized compared to females. Hypothesis 4 was mostly supported in that higher social class participants reported more negative attitudes toward the vignette

character on the stereotypes, negative feelings, violence, bad character attributions, social distance, discrimination, criminalization, and medicalization variables compared to lower class participants. Support for hypothesis 5 was mixed. Female participants were more likely to indicate the opioid user should be medicalized and to indicate addiction is caused by a disease/genetics and less likely to indicate addiction is caused by the opioid user's bad character; however, females reported more negative attitudes on the violence and criminalization variables compared to male participants. Hypotheses seven through 12 were not supported.

Table 10.1 Main effects of opioid user and participant characteristics on stigma, criminalization, medicalization, and attributions dependent variables

	White OU		Working Class OU		Female OU		Lower class P		Female P	
	<i>b(se)</i>	<i>ηp2</i>	<i>b(se)</i>	<i>ηp2</i>	<i>b(se)</i>	<i>ηp2</i>	<i>b(se)</i>	<i>ηp2</i>	<i>b(se)</i>	<i>ηp2</i>
Stereotype Negative feelings	.06(.02)*	.01	.14(.02)*	.04	-.15(.02)	.00	-.08(.03)*	.01	-.04(.03)	.00
Social dist.	.07(.03)*	.00	.06(.03)	.00	.02(.03)	.00	-.11(.04)*	.01	.00(.04)	.00
Discrim.	.10(.04)*	.01	.09(.04)*	.01	.01(.04)	.00	-.16(.04)*	.02	-.04(.04)	.00
Violence	.14(.03)*	.02	.03(.03)	.00	.02(.03)	.00	-.14(.04)*	.02	-.15(.04)*	.02
Criminalize	.01(.04)	.00	.13(.04)*	.01	-.02(.04)	.00	-.09(.05)*	.00	.09(.05)*	.01
Medicalize	.05(.04)	.00	.19(.04)*	.03	.03(.04)	.00	-.17(.05)*	.02	.10(.04)*	.01
Bad character	-.01(.03)	.00	-.05(.03)*	.01	-.06(.03)*	.01	-.01(.03)	.00	.08(.03)*	.01
Disease/genetic	.13(.04)*	.01	.16(.04)*	.02	.00(.04)	.00	-.10(.04)*	.01	-.13(.04)	.01
	-.01(.04)	.00	-.06(.04)	.00	.00(.04)	.00	.02(.04)	.00	.21(.04)*	.03

* $p < .05$

General Linear Models Adding System Justifying Beliefs Variable

When controlling for opioid user race, opioid user social class, opioid user gender, participant gender, and participant social class, higher system-justifying beliefs were positively related to stereotypes ($b = .09, p < .001, \eta_p^2 = .04$), negative feelings ($b = .12, p < .001, \eta_p^2 = .04$), violence toward others ($b = .12, p < .001, \eta_p^2 = .02$), bad character attributions ($b = .20, p < .001, \eta_p^2 = .09$), social distance ($b = .15, p < .05, \eta_p^2 = .05$), discrimination ($b = .17, p < .001, \eta_p^2 = .09$), and criminalization ($b = .24, p < .001, \eta_p^2 = .10$) and negatively related to disease/genetic attributions ($b = -.06, p < .05, \eta_p^2 = .01$) and medicalization ($b = .08, p < .001, \eta_p^2 = .04$). When system-justifying beliefs were added to these models, the effect of participant social class became non-significant for the dependent variables stereotypes, negative feelings, and bad character attributions. The effect of participant social class became less significant (but the p value was still less than .05) for the dependent variables social distance, discrimination, and criminalization and remained non-significant for the dependent variables bad character attributions and medicalization.

Discussion

These analyses investigated how the race, social class, and gender of a fictional opioid user, the social class and gender of White participants, and the interactions between opioid user and participant characteristics relate to stigma. The current study is the first we know of to investigate whether and how race, social class, and gender of both an opioid user and of participants relate to opioid addiction stigma. Support for the hypotheses were mixed, as explained below. In addition to the effects of opioid user and

participant characteristics, the effect of system justifying beliefs on stigma was investigated.

In the models containing all independent variables and interactions, but not system-justifying beliefs, opioid user race was significantly related to the stereotypes, negative feelings, bad character attributions, social distance, and discrimination measures. However contrary to the hypotheses related to intergroup relations, White opioid users were rated more negatively compared to Black opioid users. It was expected that White participants would report more negative attitudes toward a Black opioid user compared to a White opioid user; however, we did not find a negative bias toward Black opioid users compared to White opioid users for any of the stigma dependent variables. There are a number of reasons why this may have occurred. First, this might indicate support for the black sheep effect. The black sheep effect predicts that ingroup members are treated more harshly than outgroup members when they engage in norm violating behavior in order to preserve the ingroup's positive social identity (Marques et al., 1988). Opioid addiction and heroin use might have been considered extremely norm violating and thus, White participants reported negative attitudes toward members of their own ingroup. Similar effects have been found for same-race defendants compared to other-race defendants (Sommers & Ellsworth, 2000) and obese people who go to the participant's school or a rival school (Abrams et al., 2017).

Another possible explanation for why White participants did not display a negative bias toward Black opioid users is social desirability and wanting to appear egalitarian (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Explicit measures of stigma, such as the ones used in this study, are subject to social desirability bias in that

participants are easily able to suppress and alter their true attitudes to be more socially acceptable. Using implicit measures of stigma, such as implicit association tasks in which associations, measured by reaction times, between constructs (Dovidio & Fiske, 2012) might be a better way to measure constructs that are likely subject to social desirability bias such as stigma and racism (Greenwald et al., 2009; Nosek et al., 2007). For example, some studies have found that healthcare providers reported low levels of addiction stigma on explicit measures but high levels on implicit measures (Brenner et al., 2007; von Hippel et al., 2008). Additionally, another study found that participants were more likely to associate Latino/a people who inject drugs with punishment instead of help compared to White people who inject drugs. This race/ethnicity bias was not found on the explicit measure of punishment vs help (Kulesza et al., 2016).

As hypothesized, participants reported more negative attitudes toward the working-class opioid user compared to the middle-class opioid user on the stereotypes, violence toward others, bad character attributions, social distance, criminalization, and medicalization measures. These results are in line with research indicating that poor people are typically evaluated more negatively compared to middle and upper class people (Weeks & Lupfer, 2004). Participants were more likely to indicate that the working class opioid users should receive criminal penalties and the middle class opioid users should receive medical treatment for their addiction. This indicates a tendency to view lower class drug users as criminals and a desire to punish them while viewing higher class drug users as victims and supporting medical treatment for them. These associations provides support for the claim that because the opioid epidemic has been depicted, particularly in the media, as affecting middle and upper class people instead of

poor people that the response has been sympathetic instead of punitive (Cadet, 2012; Cohen, 2015). Additionally, these results are consistent with research that finds that negative beliefs and stereotypes about drug users, such as they are dangerous, violent, and of poor character, are more likely to be applied to lower class opioid users compared to higher class opioid users. Applying these negative stereotypes and attributions to lower class opioid users can be particularly harmful and perpetuate inequalities as endorsing negative stereotypes and attributions about a person or group of people can result in being treated more harshly and denied help (Sattler et al., 2016; Weiner, 1993).

Opioid user's gender was not a significant predictor of stigma except for the medicalization dependent variable. Participants were more likely to indicate male opioid users should be medicalized compared to female opioid users. This finding did not support the hypothesis that female opioid users would be evaluated more positively compared to male opioid users. However, the null effects of opioid user gender found for almost all of the stigma dependent variables are in line with past research that found that the gender of a person who injected drugs did not yield differences on explicit and implicit attitude measures (Kulesza et al., 2016). Additionally, no gender differences were found in other studies that used vignettes to describe characters with mental illness and drug users (Jorm, Korten, Jacomb, Christensen, & Henderson, 1999; Link et al., 1999; Pescosolido et al., 1999). Other research has found that male drug users are treated more punitively and participants are report more sympathy and interest in helping female drug users (Cano & Spohn, 2012; Davidson & Roskly, 2015; Wirth & Bodenhausen, 2009). More research on gender and stigma is needed to further investigate these mixed results.

As expected, higher social class participants reported more negative attitudes toward opioid users compared to lower social class participants on the stereotypes, negative feelings, violence toward others, bad character attributions, social distance, discrimination, and criminalization measures. This effect was expected given that that higher social class people tend to attribute social problems as being the individual's fault (Kraus, Piff, & Keltner, 2009) and tend to believe poor people are lazy and lack willpower (Clery, Lee, & Kunz, 2013). Additionally, lower class people tend to score higher on measures of empathy compared to higher class people (Kraus, Cote, & Keltner, 2010).

As hypothesized, male participants reported more negative attitudes toward the opioid user on the bad character attributions, disease/genetic attributions, discrimination, and medicalization measures. This is in line with past research that indicates men tend to have more negative attitudes toward stigmatized groups and less empathy compared to women (e.g., people with mental illness, transgender people; Riggs & Sion, 2016; Smith et al., 2016). Additionally, females tend to be more likely to believe that drug addiction is caused by biological and environmental factors (Kauffman, Silver, & Poulin, 1997). However, contrary to the hypothesis, females were more likely to indicate the opioid user should be criminalized compared to males, this might be because females feel more threatened by people addicted to drugs and thus, might have a tendency to think they should be criminalized.

Two and three-way interactions between the opioid user characteristics of race, social class, and gender were tested as it was expected that possessing multiple marginalized characteristics would result in more negative attitudes compared to other

conditions. In this way addiction stigma might be compounded with other forms of bias, such as racism, classism, and sexism, resulting in even more negative outcomes for people with different combinations of social identities (Kulesza et al., 2016; Rosenthal, 2016). Overall, the results of the present study did not support these hypotheses indicating that disadvantages associated with particular social statuses are not interactive when it comes to measuring stigma towards the conveyer of those statuses. Double jeopardy perspectives, which posit that belonging to multiple stigmatized groups compounds negative outcomes associated with belonging to those stigmatized groups, are not supported in these results (King, 1988). Instead, these results indicate that the negative effects of belonging to disadvantaged groups are additive and independent of one another.

This research investigated how observers viewed opioid users with multiple intersecting identities; future research should investigate how people who are addicted to opioids to determine if their racial, class, and gender identities relate to how they experience stigma. For the dependent variable of acceptability of discrimination there was a significant opioid user race by opioid user social class interaction. Participants rated discrimination as more acceptable for White working-class opioid users compared to White middle class opioid users but did not distinguish between social classes among Black opioid users. This might indicate that other-race drug users are more likely to be lumped together, despite details of differences, while participants distinguished class differences among same-race drug users. That is, there might be an outgroup homogeneity effect in which outgroup members are viewed as being more similar to one another compared to ingroup members (Haslam, Oakes, Turner, & McGarty, 1996).

Additionally, for the dependent variable disease/genetic attributions there was a significant opioid user social class and opioid user gender interaction. Participants were more likely to make disease/genetic attributions about female middle-class opioid users compared to female working class opioid users. This difference did not emerge for male opioid users. Perhaps, because female drug addicts do not fit peoples' stereotypical representations of drug addicts, participants were more likely to attend to details, such as social class, about the female opioid user but not the male opioid user. More research is needed to investigate what information is attended to and matters most in stereotype-consistent and inconsistent situations.

To investigate the effects of intergroup relations in the context of opioid addiction stigma, interactions between opioid user characteristics and participant characteristics were tested. Specifically, interactions between opioid user social class and participant social class and between opioid user gender and participant gender were tested to create conditions in which participants matched the opioid user on certain characteristics (ingroup conditions) and did not match on others (outgroup conditions). No support for these hypotheses was found. Although demographic characteristics such as race, class, and gender are often used to quickly categorize people in social groups (Klauer et al., 2014) and individuals tend to prefer ingroup members (Brewer, 1979), ingroup bias and outgroup derogation effects might not have emerged because being an user might have been the most salient characteristic of the vignette character and thus, the other characteristics were not used to categorize the vignette character as an ingroup or outgroup member.

These findings expand the literature on opioid addiction stigma and the literature on the intersectionality of multiple social identities. Taken together results indicate that working class opioid users are viewed more negatively compared to middle class opioid users and higher-class participants report more negative attitudes toward opioid users compared to lower class participants. This is important for healthcare providers and policy makers to be cognizant of as lower-class people already experience many disadvantages and negative outcomes such as poorer health and fewer employment opportunities. Additionally, just as the way in which the media portrayed people affected by the crack cocaine epidemic affected the public's views and policy responses, this research provides some evidence that the types of people who are portrayed as being affected by the opioid epidemic might shape response. How vignette characters addicted to opioids were portrayed, particularly variations in their social class and race, affected responses such as desire for social distance and acceptability of discrimination. Thus, the media and other public entities should be cognizant of how they portray epidemics and crises.

There was minimal evidence suggesting effects of opioid user's gender and participant gender. The effects of opioid user race could have been due to social desirability bias; thus, they should be replicated with implicit measures of stigma to obtain a better gauge of White people's attitudes on race. As there are many factors related to opioid use and addiction, future research should investigate how other characteristics of the user (e.g., sexual orientation, other races/ethnicities) and characteristics of the addiction (e.g., how the person started, what types of opioids they use) relate to stigma.

Next, the variable system justification was added to the models to investigate if the effects of participant social class could, in part, be explained by system-justifying beliefs. System-justifying beliefs were positively related to stereotype endorsement, negative feelings, violence toward others, bad character attributions, social distance, acceptability of discrimination, and criminalization. System justifying beliefs were negatively related to disease/genetic attributions and medicalization. Furthermore, when the variable system justifying beliefs was added to the models, the effect of participant social class became non-significant for the dependent variables stereotypes, negative feelings, and bad character attributions. The effect of participant social class became less significant (but the p value was still less than .05) for the dependent variables social distance, discrimination, and criminalization.

This comports with past research that indicates that system-justifying ideologies are used to justify and perpetuate the unequal treatment of lower status groups in order to maintain social hierarchies (Jost & van der Toorn, 2012). Thus, it makes sense that participants who hold higher system-justifying beliefs are more likely to indicate a desire for social distance from an opioid user, believe that discrimination against an opioid user is okay, are more likely to believe the opioid user should be criminalized and less likely to believe he or she should be medicalized. Behavioral reactions to opioid users such as social distance and discrimination as well as the desire to criminalize result in stigmatized groups remaining disadvantaged and low in social hierarchies. Past research (Corrigan et al., 2003; Jost & van der Toorn, 2012) has posited that negative stereotypes about groups serve the function of justifying negative treatment towards members of those groups. For example, stereotypes that opioid users are criminals or bad people, can be used to justify

negative views and poor treatment towards opioid users. This research found that system-justifying beliefs were related to negative stereotypes about opioid users, providing some support for these claims.

The results of this study indicated that system-justifying beliefs explain some of the effects of social class and was a strong predictor of stigmatizing attitudes. Future research that investigates social class, both the social class of a target and/or the social class of participants, should also include the variable social justification. Additionally, investigating ways to reduce system-justifying beliefs might be one way to try to reduce stigma toward marginalized groups such as people addicted to opioids.

Chapter 11 – The Mediating Role of Attributions about the Cause of Addiction

Mediation Analyses

Parallel mediation model analyses were conducted using the SPSS PROCESS macro (Hayes, 2018; Hayes, Preacher, & Myers, 2011) to test whether opioid user race and opioid user social class are indirectly related to the stigma dependent variables (i.e., stereotypes, negative feelings, social distance, and discrimination) and the medicalization and criminalization dependent variables through their relationship to attributions about the cause of addiction (i.e., addiction is caused by bad character and addiction is caused by a disease/genetics). Model 4 was used to test all mediation analyses except for the dependent variable discrimination. Because there was a significant interaction between opioid user race and opioid user social class on the discrimination dependent variable (see previous chapter), this interaction was included in the mediation analysis using model 5. Parallel mediation models allow for correlation between the mediators (bad character attributions and disease/genetic attributions) but do not allow for them to causally influence each other (Hayes, 2018). All indirect effects were tested using 95% bias-corrected confidence intervals based on 10,000 bootstrap samples. Indirect effects are considered significant if the 95% confidence intervals do not contain zero. For all models, the percent of the total effect account for by the indirect pathway was calculated by dividing the indirect effect by the sum of the absolute values of the indirect and direct effects (MacKinnon, Fairchild, & Fritz, 2007). It was hypothesized that bad character attributions and disease/genetic attributions would mediate the relationships between opioid user race and the dependent variables and between opioid user social class and the dependent variables.

Opioid User Race to Dependent Variables Mediated by Attributions about the Cause of Addiction

Opioid user race was indirectly related to stereotypes, negative feelings, social distance, discrimination, criminalization, and medicalization through bad character attributions. Participants in the White opioid user condition reported higher scores on the bad character attributions measure compared to the Black opioid user condition. Making bad character attributions was subsequently related to higher scores on the stereotypes, negative feelings, social distance, discrimination, and criminalization measures and lower scores on the medicalization measure. Disease/genetic attributions did not mediate any of the relationships between opioid user race and the dependent variables. See Table 11.1 for a summary of significant indirect pathways.

Stereotypes. Opioid user race was indirectly related to negative stereotypes through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.14, p < .001$) and bad character attributions was subsequently related to endorsing negative stereotypes ($b_1 = .31, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.04$), holding disease/genetic attributions constant, was entirely below zero (-.07, -.02). The indirect pathway accounted for 72.9% of the total effect of opioid user race on negative stereotypes.

Negative feelings. Opioid user race was indirectly related to negative feelings through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.14, p < .001$) and bad character attributions was subsequently related to negative feelings about the opioid user ($b_1 = .41, p < .001$). A

95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.06$), holding disease/genetic attributions constant, was entirely below zero (-.09, -.03). The indirect pathway accounted for 94.4% of the total effect of opioid user race on negative feelings.

Social Distance. Opioid user race was indirectly related to social distance through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.13, p < .001$) and bad character attributions was subsequently related to the desire for social distance ($b_1 = .48, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.06$), holding disease/genetic attributions constant, was entirely below zero (-.10, -.03). The indirect pathway accounted for 62.2% of the total effect of opioid user race on the desire for social distance.

Discrimination. Opioid user race was indirectly related to acceptability of discrimination through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.14, p < .001$) and bad character attributions was subsequently related to acceptability of discrimination toward the opioid user ($b_1 = .41, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.06$), holding disease/genetic attributions constant, was entirely below zero (-.09, -.03). Opioid user social class was not significantly related to discrimination and the interaction between opioid user race and opioid user social class was not significant. The conditional direct effects of opioid user race on discrimination at different values of the moderator opioid user social class indicated that the Black working class opioid user condition was

significantly and negatively related to discrimination ($b = -.13, p < .001$). However, the Black middle class opioid user condition was not significantly related to discrimination. The indirect pathway accounted for 39.6% of the total effect of opioid user race on negative stereotypes.

Medicalization. Opioid user race was indirectly related to medicalization through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.13, p < .001$) and bad character attributions was subsequently negatively related to medicalization ($b_1 = -.13, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = .02$), holding disease/genetic attributions constant, was entirely above zero (.001, .03). The indirect pathway accounted for 55.8% of the total effect of opioid user race on negative stereotypes.

Criminalization. Opioid user race was indirectly related to criminalization through bad character attributions. When the opioid user was Black participants reported less bad character attributions ($a_1 = -.13, p < .001$) and bad character attributions was subsequently positively related to criminalization ($b_1 = .53, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.07$), holding disease/genetic attributions constant, was entirely below zero (-.11, -.03). The indirect pathway accounted for 71.7% of the total effect of opioid user race on negative stereotypes.

Table 11.1 Significant indirect pathways from opioid user race to dependent variables

IV	<i>a1</i>	Mediator	<i>b1- b6</i>	DV	<i>ab</i>	CI
Black OU	-0.14	Bad char.	0.31	Ster.	-0.04	(-.07, -.02)
Black OU	-0.14	Bad char.	0.41	Neg. feel.	-0.06	(-.09, -.03)
Black OU	-0.13	Bad char.	0.48	Social dist.	-0.06	(-.10, -.03)
Black OU	-0.14	Bad char.	0.41	Discrim.	-0.06	(-.09, -.02)
Black OU	-0.13	Bad char.	-0.14	Medicalize.	0.02	(.001, .03)
Black OU	-0.13	Bad char.	0.53	Criminalize	-0.07	(-.11, -.03)

Opioid User Social Class to Dependent Variables Mediated by Attributions about the Cause of Addiction

Opioid user social class was indirectly related to stereotypes, negative feelings, social distance, discrimination, criminalization, and medicalization through bad character attributions. Participants in the working class opioid user condition reported higher scores on the bad character attributions measure compared to the middle class opioid user condition. Making bad character attributions was subsequently related to higher scores on the stereotypes, negative feelings, social distance, discrimination, and criminalization measures and lower scores on the medicalization measure. Disease/genetic attributions did not mediate any of the relations between opioid user social class and any of the dependent variables. System justification was included as a covariate in all models because of the findings described in the previous chapter. See Table 11.2 for a summary of significant indirect pathways.

Stereotypes. Opioid user social class was indirectly related to negative stereotypes through bad character attributions. When the opioid user was in the working

class participants reported more bad character attributions ($a_1 = .16, p < .001$) and bad character attributions was subsequently related to endorsing negative stereotypes ($b_1 = .29, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.05$), holding disease/genetic attributions constant, was entirely below zero ($-.07, -.03$). The indirect pathway accounted for 36.4% of the total effect of opioid user social class on negative stereotypes. The covariate system justification was positively related to endorsing negative stereotypes ($b = .03, p = .015$).

Negative feelings. Opioid user social class was indirectly related to negative feelings through bad character attributions. When the opioid user was in the working class participants reported more bad character attributions ($a_1 = .16, p < .001$) and bad character attributions was subsequently related to negative feelings about the opioid user ($b_1 = .42, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.07$), holding disease/genetic attributions constant, was entirely below zero ($-.10, -.04$). The indirect pathway accounted for 83.7% of the total effect of opioid user social class on negative feelings. System justification was positively related to negative feelings ($b = .04, p = .017$).

Social Distance. Opioid user social class was indirectly related to the desire for social distance through bad character attributions. When the opioid user was in the working class participants reported more bad character attributions ($a_1 = .17, p < .001$) and bad character attributions was subsequently related to the desire for social distance ($b_1 = .48, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.08$), holding disease/genetic attributions

constant, was entirely below zero (-.11, -.04). The indirect pathway accounted for 81.3% of the total effect of opioid user social class on negative stereotypes. System justification was positively related to social distance ($b = .06, p = .002$).

Discrimination. Opioid user social class was indirectly related to acceptability of discrimination through bad character attributions. When the opioid user was in the working class participants reported more bad character attributions ($a_1 = .17, p < .001$) and bad character attributions was subsequently related to acceptability of discrimination ($b_1 = .38, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.06$), holding disease/genetic attributions constant, was entirely below zero (-.09, -.04). The indirect pathway accounted for 64% of the total effect of opioid user social class on negative stereotypes. System justification was positively related to discrimination ($b = .10, p < .001$).

Medicalization. Opioid user social class was indirectly related to medicalization through bad character attributions. When the opioid user was in the working class participants reported more bad character attributions ($a_1 = .17, p < .001$) and bad character attributions was subsequently negatively related to medicalization ($b_1 = -.10, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.02$), holding disease/genetic attributions constant, was entirely above zero (.01, .04). The indirect pathway accounted for 34.1% of the total effect of opioid user social class on negative stereotypes. System justification was negatively related to medicalization ($b = -.06, p < .001$).

Criminalization. Opioid user social class was indirectly related to criminalization through bad character attributions. When the opioid user was in the working class

participants reported more bad character attributions ($a_1 = .16, p < .001$) and bad character attributions was subsequently related to criminalization ($b_1 = .47, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through bad character attributions ($a_1b_1 = -.08$), holding disease/genetic attributions constant, was entirely below zero (-.12, -.04). The indirect pathway accounted for 42.5% of the total effect of opioid user social class on negative stereotypes. System justification was positively related to criminalization ($b = .12, p < .001$).

Table 11.2 Significant indirect pathways from opioid user social class to dependent variables

IV	a_1	Mediator	b_1 - b_6	DV	ab	CI
Working class OU	0.16	Bad char.	0.29	Ster.	-0.05	(-.07, -.02)
Working class OU	0.16	Bad char.	0.42	Neg. feel	-0.07	(-.09, -.03)
Working class OU	0.17	Bad char.	0.48	Social dist.	-0.08	(-.10, -.03)
Working class OU	0.17	Bad char.	0.38	Discrim.	-0.06	(-.09, -.02)
Working class OU	0.17	Bad char.	-0.1	Medicalize	0.02	(.001, .03)
Working class OU	0.16	Bad char.	0.47	Criminalize	-0.08	(-.11, -.03)

In sum, hypothesis 13 was supported in that opioid user race was indirectly related to the stigma dependent variables, medicalization, and criminalization through bad character attributions. However, opioid user race was not indirectly related to the dependent variables through disease/genetic attributions; thus, hypothesis 14 was not supported. Opioid user social class was indirectly related to the dependent variables through bad character attributions, supporting hypothesis 15. Hypothesis 16 was not supported in that opioid user social class was not indirectly related to the dependent variables through disease/genetic attributions.

Discussion

These analyses tested if bad character attributions and disease/genetic attributions mediated the relationships between opioid user race and stigma, medicalization, and criminalization and between opioid user social class and these dependent variables. The attributions that people make about opioid users belonging to different racial and social class categories might in part explain stigmatizing attitudes. Opioid user race was both directly related to stereotypes, social distance, and discrimination and indirectly related to these dependent variables through bad character attributions. Although opioid user race was not directly related to negative feelings, medicalization, and criminalization, opioid user race was indirectly related to these dependent variables through bad character attributions. In this way, attributing someone's opioid addiction to the person's bad character can help explain stigmatizing attitudes toward the person.

The attributions that people make about a person affect how they are treated (Moskowitz, 2005; Weiner, 1993). Specifically, when an event or behavior, in this case opioid addiction, is believed to be caused by something about the person (e.g., poor choices, lack of willpower) the person is treated more harshly and viewed more negatively (Heider, 1958; Moskowitz, 2005; Winer, 1995; Wood & Bartkowski, 2004). Thus, as expected attributing a person's opioid addiction to bad character (e.g., poor decisions) was related to more stigmatizing attitudes toward the person and beliefs that the person should be criminalized and not medicalized.

It is well established that people addicted to drugs are highly stigmatized (Corrigan et al., 2009; Sorsdahl et al., 2012). These findings help explain why opioid addicts are highly stigmatized and thus, illuminate an opportunity to reduce stigma. Drug

addicts are blamed more for their condition compared to people with mental illnesses and other stigmatizing conditions and individual blame (i.e., bad character attributions) is related to stigmatizing attitudes and a tendency to punish instead of provide medical care for an opioid addict. Thus, finding ways to interrupt the association between opioid addiction and beliefs that addiction is caused by something about the person might be one way to reduce stigmatizing attitudes.

Unexpectedly, participants were more likely to make bad character attributions about the White opioid user compared to the Black opioid user, which subsequently related to the dependent variables. It was expected that White participants would be more likely to blame Black opioid users for their addiction because people tend to make more internal attributions and blame outgroup members more than ingroup members, referred to as the ultimate attribution error (Pettigrew, 1979); however, in this study this was not the case. The black sheep effect might explain why White participants were more likely to attribute the White opioid user's addiction to his or her own bad character.

When ingroup members engage in highly undesirable behavior they are sometimes treated more harshly compared to outgroup members (Marques et al., 1988). This occurs because the ingroup member's behavior reflects poorly on the rest of the group and people are motivated to preserve the status and positive image of their own groups (Castano et al., 2002; Marques et al., 1988). Opioid addiction is likely considered an undesirable behavior and thus, when a White person is depicted as an opioid user other White people might be motivated to distance themselves from the person. One way to do this, while maintaining the overall status of White people, might be to blame the user for their condition so it is not a reflection of White people in general. Another possible

explanation is that being White is often associated with social, economic, and health advantages (Kware & Goodman, 2014). White participants might believe Black people face more challenges and hardships in their lives that make drug addiction more understandable; thus, when faced with a White opioid user, White participants might have been more likely to reason that the addiction must be the addict's fault. Future research should investigate the attributions non-White people make about same and other race opioid users. Additionally, this study assessed attributions about a fictional opioid addict's addiction. Future research should investigate the attributions that people make about people who they know who are addicted.

Similar to opioid user race, opioid user social class was directly related to stereotypes, social distance, medicalization, and criminalization and also indirectly related to these dependent variables through bad character attributions. Although opioid user social class was not directly related to negative feelings and discrimination, opioid user social class was indirectly related to these dependent variables through bad character attributions. As expected, participants were more likely to make bad character attributions about working class opioid users compared to middle class opioid users. This indicates that stigma and a tendency to want to punish lower class opioid addicts can in part be explained by attributing the opioid user's addiction to his or her own bad character.

These findings can help explain why when drug users are portrayed as poor people (e.g., during the crack cocaine epidemic) society's response tends to be punitive. Additionally, attributing a lower class opioid addict's addiction to character flaws comports with past research that has found that poor people are often associated with

negative stereotypes such as being lazy and unable to delay gratification (Bullock, 1995). Lower class opioid users don't only experience stigma and negative outcomes because they possess the stigmatizing characteristic opioid addiction but seem to experience more stigma and negative outcomes relative to higher class opioid users because they are also poor. This also indicates an opportunity to reduce stigma by breaking the association between lower class people (specifically lower class opioid addicts) and beliefs that their situation is due to their own character. For example, the news media could make an effort to tell a more complete story about someone's life circumstances instead of just depicting them as poor or destitute. This might increase sympathy and empathy which is related to less punitive attitudes (Feshbach & Feshbach, 1986).

Contrary to the hypotheses, disease/genetic attributions did not mediate the relationships between opioid user race and social class and any of the dependent variables. Interestingly, disease/genetic causes for addiction tended to be applied uniformly across opioid users of different races and social classes. Participants did not make disease/genetic attributions about the cause of addiction differently across White or Black nor working class or middle class opioid users. However, as discussed above and in previous sections bad character attributions about the cause of addiction differed depending on the race and social class of the opioid user. This might be because diseases and genetics are perceived to be uncontrollable and thus are less likely to differ based on someone's race or social class. Conversely, a person's character and decisions are perceived to be controllable and thus, might not be uniform across all types of people. Furthermore, it appears that attributing addiction to someone's bad character is a stronger predictor of stigma compared to attribution addiction to a disease/the person's genetics.

Bad character attributions were more highly correlated with the stigma, medicalization, and criminalization dependent variables (correlations ranging from .21 to .52) compared to disease/genetic attributions (correlations ranging from .10 to .18). This can provide important information to anyone interested in reducing opioid addiction stigma. The results of this research indicate that stigma initiatives aimed at reducing beliefs that opioid addiction is caused by a person's bad character might be more fruitful compared to trying to get people to adopt disease/genetic attributions. Additionally, although it was not found in the present study, past research on mental illness stigma has found that attributing mental illness to a disease can actually increase stigma (Read & Harre, 2001).

Chapter 12 –Contact and Familiarity with Addiction

A large proportion (77.4%) of the sample indicated that someone close to them has been affected by addiction to drugs or alcohol. A nationally representative survey of 18-34 year olds only found that 54% of White respondents indicated they personally know someone who has dealt with an opioid addiction (NBC News GenForward, 2018). However, the dissertation survey asked about addiction in general and the latter survey asked specifically about opioid addiction potentially explaining the discrepancy. This chapter first presents analyses using the full sample to investigate if participants who have been addicted themselves or who know someone who is addicted report different attitudes on the dependent variables than participants with relatively little contact with addiction. Next, analyses were conducted on a subsample of participants who indicated that someone close to them has been affected by addiction ($n = 695$) to investigate how relationship to the person who is addicted, changes to that relationship as a result of the addiction, and what happened to the addicted person (e.g., involvement in the criminal justice system, treatment) relate to the dependent variables.

All but four participants who indicated they have struggled with addiction themselves also indicated that someone close to them has been affected by addiction; thus, the variable ‘participant has been addicted’ will be included as a control variable in all analyses. Additionally, only 1.7% and 4.6% of participants indicated their relationship to the addicted person closest to them was a child or acquaintance; thus, these participants were omitted from these analyses ($n = 44$).

Data regarding contact with addiction was collected after exposing participants to the experimental condition, but the contact measures did not vary by experimental

condition (opioid user race, social class, and gender); thus, the experimental manipulation variables were not included as controls in the general linear models. However, there was a difference in contact according to participant social class. Lower class participants were significantly more likely to know someone who was addicted compared to higher-class participants. That is, participant social class was significantly correlated with knowing someone who is addicted ($r = .14, p < .01$). However, including participant social class as a control variable in the general linear models does not change the nature of the results. Thus, the results that are presented do not include the control variable participant social class in favor of presenting a more parsimonious model.

One-Way ANOVAs Addiction Variables

A series of one-way between subjects ANOVAs were conducted to individually test the effects of the independent variables relationship to the addicted person, if and how the relationship between participants and addicted persons has changed as a result of the addiction, and the status of the current addicted person on the dependent variables stereotype endorsement, feelings toward opioid user, beliefs about violence, bad character attributions, disease/genetic attributions, acceptability of discrimination, social distance, criminalization, medicalization, government provide healthcare, government spending on health care, and support for programs and policies.

Close other addicted. Scores on the disease/genetic attributions, social distance, criminalization, and medicalization measures significantly differed as a function of participants knowing someone close to them who has been affected by addiction (see Table 12.1).

Participants who indicated someone close to them has been addicted were more likely to make disease/genetic attributions about the cause of addiction $F(1, 895) = 6.60$, $p = .01$; $\Delta M = .12$. Discrimination scores did not differ as a function of knowing someone who is addicted $F(1, 896) = 2.00$, $p = .16$. Participants who were close to someone who is addicted reported lower social distance scores compared to those who did not know someone who was addicted $F(1, 897) = 7.06$, $p = .008$; $\Delta M = .13$. Participants who knew someone who was addicted were less likely to indicate the opioid user should be criminalized $F(1, 891) = 5.67$, $p = .017$; $\Delta M = .12$ and more likely to think they should be medicalized $F(1, 891) = 4.38$, $p = .037$; $\Delta M = .07$ compared to participants who do not know someone who is addicted.

Participant addicted themselves. Scores on the feelings toward the opioid user, violence against others, bad character attributions, discrimination, social distance, criminalization, government providing healthcare, and government increasing spending on healthcare measures significantly differed as a function of the participant being addicted themselves to drugs or alcohol (see Table 12.1).

Participants who had not been addicted expressed greater negative feelings toward the opioid user compared to participants who have been addicted $F(1, 884) = 26.96$, $p < .001$; $\Delta M = .30$. Participants who had not been addicted themselves were more likely to indicate that the opioid user would likely be violent towards other people $F(1, 882) = 3.89$, $p = .049$; $\Delta M = .16$. Participants who had not been addicted themselves were also more likely to attribute the opioid user's addiction to bad character $F(1, 882) = 10.20$, $p = .001$. Participants who had not been addicted themselves had higher scores on the acceptability of discrimination measure $F(1, 883) = 11.35$, $p = .001$; $\Delta M = .20$.

Participants who had been addicted themselves reported lower social distance scores compared to those who had not $F(1, 884) = 19.05, p < .001; \Delta M = .29$. Participants who had been addicted were less likely to indicate the opioid user should be criminalized $F(1, 878) = 18.39, p < .001; \Delta M = .31$.

Table 12.1 One-Way ANOVA results for participant addicted and knowing someone addicted

	P addicted		Oth addicted	
	<i>b(se)</i>	<i>ηp2</i>	<i>b(se)</i>	<i>ηp2</i>
Stereotype endorsement	-.07(.04)	.00	-.00(.03)	.00
Negative feelings	-.30(.06)*	.03	-.05(.04)	.00
Social distance	-.30(.07)*	.02	-.12(.05)*	.01
Acceptability of discrimination	-.20(.06)*	.01	-.06(.04)	.00
Violence toward others	-.15(.08)	.01	.03(.05)	.00
Criminalization	-.32(.07)*	.02	-.12(.05)*	.01
Medicalization	.07(.05)	.00	.07(.03)*	.01
Bad character att.	-.22(.07)	.01	-.01(.05)	.00
Disease/genetic att.	.13(.07)	.00	.12(.05)*	.01

* $p < .05$

Relationship to addicted person. Scores on the criminalization measure significantly differed as a function of the participant's relationship with the addicted person.

Scores on the criminalization measure differed as a function of the participant's relationship to the addicted person $F(4, 641) = 1.87, p = .001$. Participants who indicated the addicted person they knew was an extended family member were more likely to indicate the vignette character should be criminalized compared to participants who indicated the addicted person was their romantic partner ($\Delta M = .39, p < .001$).

Relationship change between participant and addicted person. Scores on the stereotype endorsement, negative feelings, violence toward others, bad character

attributions, disease/genetic attributions, social distance, and discrimination measures significantly differed as a function of how the participant's relationship to the addicted person changed as a result of the addiction.

Scores on the stereotype endorsement measure differed as a function of how the participant's relationship to the addicted person changed $F(3, 581) = 6.32, p < .001$. Participants who indicated the addiction has made their relationship stronger were less likely to endorse negative stereotypes about the vignette character compared to participants who indicated they are estranged from the addicted person ($\Delta M = .21, p < .001$), it has made their relationship weaker ($\Delta M = .12, p = .002$), and it had not changed their relationship ($\Delta M = .14, p = .022$).

Scores on the negative feelings measure differed as a function of how the participant's relationship to the addicted person changed $F(3, 583) = 4.95, p = .002$. Participants who indicated the addiction has made their relationship stronger were less likely to hold negative feelings about the vignette character compared to participants who indicated they were estranged from the addicted person ($\Delta M = .25, p = .002$), it has made their relationship weaker ($\Delta M = .22, p = .005$), and it had not changed their relationship ($\Delta M = .22, p = .007$).

Scores on violence toward others question differed as a function of how the participant's relationship to the addicted person changed $F(3, 581) = 3.31, p = .02$. Participants who indicated the addiction has made their relationship stronger were less likely to believe the vignette character would likely be violent toward other people compared to participants who indicated it has made their relationship weaker ($\Delta M = .26,$

$p = .024$) and they are estranged from the addicted person; however, this difference was not significant at the .05 level ($\Delta M = .24, p = .062$).

Scores on the bad character attributions measure differed as a function of how the participant's relationship to the addicted person changed $F(3, 582) = 3.06, p = .028$.

Participants who indicated the addiction has made their relationship stronger were less likely to attribute the vignette character's addiction to bad character compared to participants who indicated it has not changed their relationship ($\Delta M = .25, p = .017$) and it has made their relationship weaker; though, this difference was not significant at the .05 level ($\Delta M = .19, p = .1$).

Scores on the disease/genetic attributions measure differed as a function of how the participant's relationship to the addicted person changed $F(3, 582) = 4.33, p = .005$. Participants who indicated the addiction has made their relationship stronger were more likely to attribute the vignette character's addiction to disease/genetics compared to participants who indicated it has not changed their relationship ($\Delta M = .28, p = .002$) and it has made their relationship weaker; though, this difference was not significant at the .05 level ($\Delta M = .20, p = .06$).

Scores on the social distance measure differed as a function of how the participant's relationship to the addicted person changed, $F(3, 583) = 8.19, p < .001$. Participants who indicated the addiction has made their relationship stronger had lower social distance scores compared to participants who indicated they are estranged from the addicted person ($\Delta M = .39, p > .001$), it has made their relationship weaker ($\Delta M = .30, p < .001$), and it had not changed their relationship ($\Delta M = .28, p = .002$).

Scores on the discrimination measure differed as a function of how the participant's relationship to the addicted person changed, $F(3, 583) = 8.84, p < .001$. Participants who indicated the addiction has made their relationship stronger were less likely to think discriminating against the vignette character was okay compared to participants who indicated they are estranged from the addicted person ($\Delta M = .36, p > .001$), it has made their relationship weaker ($\Delta M = .18, p = .042$), and it had not changed their relationship ($\Delta M = .22, p = .006$). Additionally, participants who indicated they are estranged from the addicted person were more likely to indicate discrimination against the vignette character is okay compared to participants who indicated it has made their relationship weaker ($\Delta M = .18, p = .008$).

Addicted person involved with criminal justice system. Only scores on the stereotype endorsement measure significantly differed as a function of whether the addicted person has been involved in the criminal justice system, $F(1, 692) = 4.35, p = .037$. Participants who indicated the addiction person has been involved in the criminal justice system were less likely to endorse negative stereotypes about the vignette character compared to participants who indicated the addicted person has not been involved in the criminal justice system ($\Delta M = .07$).

Addicted person passed away. None of the dependent variables significantly differed as a function of if the addicted person has passed away.

Addicted person received treatment. Only scores on the criminalization measure significantly differed as a function of whether the addicted person received treatment $F(1, 689) = 5.8, p = .016$. Participants who indicated the addicted person has received treatment were less likely to indicate that the vignette character should be

criminalized compared to participants who did not indicate the addicted person has received treatment ($\Delta M = .13$). Participants who indicated the addicted person has received treatment were more likely to make disease/genetic attributions about the vignette character compared to participants who did not indicate the addicted person has received treatment; however this difference was not significant at the .05 level, $F(1, 693) = 3.14, p = .07, \Delta M = .09$.

Addicted person in recovery. Only scores on the discrimination measure significantly differed as a function of whether the addicted person is in recovery, $F(1, 694) = 5.81, p = .016$. Participants who indicated the addicted person was in recovery were more likely to indicate discrimination toward the vignette character was okay compared to participants who did not indicate the addicted person was in recovery ($\Delta M = .11$).

General Linear Models with all Addiction Variables

Next, a series of general linear models were conducted to determine if the effects found above held in models including all of the contact variables. The general linear models included the variables relationship to the addicted person, how the relationship has changed, if the addicted person is in treatment, has been involved in the criminal justice system, is in recovery, or has passed away, as well as if the participant has been addicted on all stigma dependent variables. Note that the following analyses are only conducted with the subsample of participants who indicated that they know someone close to them who is addicted.

Stereotype endorsement. For the dependent variable stereotype endorsement the overall model was significant $F(12,539) = 1.98, p = .024, \eta_p^2 = .05$. There were significant

main effects of relationship change $F(3,539) = 5.19, p = .002, \eta_p^2 = .03$ and the addicted person has been involved in the criminal justice system $F(1,539) = 4.01, p = .044, \eta_p^2 = .01$. Participants who indicated their relationship with the addicted person has become stronger had significantly lower negative stereotype scores compared to participants who are estranged from the addicted person ($\Delta M = .21; p < .001$), whose relationship with the addicted person has become weaker ($\Delta M = .16; p = .001$), and whose relationship has not changed ($\Delta M = .14; p = .005$). Participants who indicated the addicted person has been involved with the criminal justice system reported lower scores on the negative stereotype measure ($\Delta M = .08; p = .04$).

Negative feelings. For the dependent variable negative feelings toward the opioid user the overall model was significant $F(13,540) = 2.31, p = .006, \eta_p^2 = .05$. There were significant main effects of relationship change $F(3,540) = 2.65, p = .048, \eta_p^2 = .02$ and participant being addicted $F(1,540) = 10.04, p = .002, \eta_p^2 = .02$. Participants who indicated their relationship with the addicted person has become stronger had significantly lower negative feeling scores compared to participants who are estranged from the addicted person ($\Delta M = .19; p = .011$), whose relationship with the addicted person has become weaker ($\Delta M = .17; p = .015$), and whose relationship has not changed ($\Delta M = .17; p = .014$). Participants who have not been addicted had higher negative feeling scores compared to participants who have been addicted ($\Delta M = .22; p = .002$).

Violence toward others and disease/genetic attributions. For the violence against others and disease/genetic attributions dependent variables the overall models were not significant $F(13,539) = 1.25, p = .242$ and $F(13,540) = 1.31, p = .202$ respectively.

Bad character attributions. Levene's test of homogeneity of variance was violated, thus a generalized linear model with an ordinal link function was run. The omnibus test was significant likelihood ratio Chi-square = 26.76, $p = .013$. There was a significant main effect of the person they know who is addicted is still struggling with addiction Wald Chi-Square = 4.20, $p = .041$. Participants who indicated the person is still struggling with addiction reported lower discrimination scores compared to participants who did not indicate the person was still struggling ($\Delta M = .14$). The main effect of relationship change was approaching significance Wald Chi-Square = 7.75, $p = .051$. Participants who indicated that the addiction has made the relationship stronger were the least likely to attribute the vignette characters addiction to bad character ($mean = 2.05$) compared to participants who are estranged from the addicted person ($mean = 2.21$), participants who indicated the relationship is weaker ($mean = 2.24$), and the relationship has not changed ($mean = 2.27$). The main effect of participant addiction was also approaching significance Wald Chi-Square = 3.57, $p = .059$. Participants who indicated they have been addicted were less likely to attribute the vignette characters addiction to bad character compared to participant who had not been addiction ($\Delta M = .16$).

Social distance. For the social distance dependent variable the overall model was significant $F(13,540) = 3.24$, $p = .001$, $\eta_p^2 = .07$. There were significant main effects of relationship change $F(4,552) = 6.45$, $p < .001$, $\eta_p^2 = .04$ and participant being addicted $F(1,540) = 6.29$, $p = .012$, $\eta_p^2 = .01$. Participants who indicated their relationship with the addicted person has become stronger reported less social distance compared to participants who are estranged from the addicted person ($\Delta M = .36$; $p < .001$), whose relationship with the addicted person has become weaker ($\Delta M = .26$; $p = .001$), and

whose relationship has not changed ($\Delta M = .26$; $p = .001$). Participants who indicated they are estranged from the addicted person reported greater desire for social distance compared to participants whose relationship had not changed ($\Delta M = .14$; $p = .045$). Participants who have not been addicted reported greater social distance compared to participants who have been addicted ($\Delta M = .20$; $p = .012$).

Discrimination. Levene's test of homogeneity of variance was violated, thus a generalized linear model with an ordinal link function was run. The omnibus test was significant likelihood ratio Chi-square = 39.20, $p < .001$. There was a significant main effect of relationship change Wald Chi-Square = 21.00, $p < .001$. Participants who indicated they are estranged from the addicted person had the highest mean discrimination ratings ($mean = 2.52$) followed by participants who indicated the relationship has not changed ($mean = 2.39$), the relationship became weaker ($mean = 2.35$), and the relationship became stronger ($mean = 2.19$). There was also a significant main effect of participant being addicted Wald Chi-Square = 5.86, $p = .016$. Participants who have not been addicted were more likely to indicate that discrimination against the vignette character was acceptable ($\Delta M = .18$).

Criminalization and Medicalization. For the criminalization dependent variable the overall model was significant $F(13,536) = 2.41$, $p = .004$, $\eta_p^2 = .06$. There were significant main effects of relationship to the person addicted $F(4,536) = 2.96$, $p = .02$, $\eta_p^2 = .02$ and participant being addicted $F(1,536) = 4.54$, $p = .034$, $\eta_p^2 = .01$. Participants who indicated the addicted person was their romantic partner were less likely to believe the opioid user should be criminalized compared to participants who indicated the addicted person was a parent ($\Delta M = .22$; $p = .044$), close friend ($\Delta M = .25$; $p = .026$), or

an extended family member ($\Delta M = .35$; $p = .001$). Participants who have not been addicted were more likely to believe the opioid user should be criminalized compared to participants who have been addicted ($\Delta M = .19$; $p = .034$).

The overall model was not significant for the medicalization dependent variable $F(13,536) = 1.16$, $p = .303$.

Discussion

This set of analyses investigated how contact relates to opioid addiction stigma. Past research on mental illness stigma has indicated that, in general, contact tends to reduce stigma (National Academy of Sciences, 2016). However, there has been less research on addiction stigma and what research there is has produced mixed results (Goodyear et al., 2018; Sorsdahl et al., 2012).

These analyses investigated how knowing a close other who is or has been addicted and personal experience with addiction relate to stigma, criminalization, and medicalization. Since past research on contact and addiction stigma has been mixed and rarely has gone beyond measuring basic contact, this research also investigated aspects of the nature and quality of contact to further parse apart the relationship between contact and stigma. These analyses more thoroughly investigated how contact relates to stigma by investigating how relationship to the addicted person, how/if the relationship between the participant and the addicted person changed because of the addiction, and what happened to the addicted person (e.g., received treatment, involved in the criminal justice system) relate to stigma.

As hypothesized, participants who indicated someone close to them is/has been addicted to drugs or alcohol (referred to as contact) were more likely to indicate the

vignette character should be medicalized and less likely to indicate the vignette character should be criminalized compared to participants who did not know someone who is/has been addicted. Additionally, participants who indicated someone close to them is/has been addicted had a lower desire for social distance and were more likely to make disease/genetic attributions about the cause of addiction compared to participants with no contact with addiction. This is similar to past research that found that contact relates to less fear, avoidance, anger, disappointment and more sympathy (Goodyear et al., 2016; Sattler et al., 2016). This research did not find that contact was related to negative attitudes as other research has (e.g., Kennedy-Hendricks et al., 2017); however, it did not find evidence that contact was related to stereotypes, negative feelings, perceptions of violence, bad character attributions, and discrimination.

The results of the present research indicate that contact is related to support for medical treatment instead for opioid users instead of of punishment. Thus, contact-based approaches might be a particularly promising strategy to encourage support for public health-oriented policies and dissuade people from punitive policies. Additionally, contact was related to a lower desire for social distance from someone addicted to opioids. Contact-based approaches might be helpful to improve the quality of care people addicted to opioids receive as healthcare providers and pharmacists tend to hold highly stigmatizing attitudes toward people addicted to drugs (Brenner et al., 2007; von Hippel et al., 2008) and some are unwilling to provide treatment and services (Goodin et al., 2018). Finally, contact was related to attributing a person's addiction to disease/genetic causes. Using contact to increase perceptions that addiction is caused by disease/genetics could potentially be positive; however, more research on addiction and disease/genetic

attributions is needed as attributing mental illness to a disease in some cases has backfired and resulted in more negative attitudes (Read & Harre, 2001).

This research also examined how personal experience with addiction relates to stigma. As expected, participants who indicated they have been addicted had lower scores on the criminalization, discrimination, social distance, bad character attributions, perceptions of violence toward others, and negative feelings measures compared to participants who had not been addicted. Participants who had been addicted were also more likely to attribute addiction to disease/genetics. This comports with past research that participants who self-reported alcohol and/or cocaine addiction reported less blame and avoidance toward an addicted vignette character (Sattler et al., 2016). Participants who have experienced addiction themselves might be more empathetic toward others who are struggling with addiction and empathy is related to prosocial behaviors such as helping (Carlo & Randall, 2002). Participants who have been addicted might also consider others who are addicted to be ingroup members. People tend to hold more positive attitudes (Brewer, 1979; Schiller et al., 2014; Tajfel & Turner, 1979) and make more external attributions (e.g., disease/genetics) about ingroup members (Pettigrew, 1979).

As noted, past research has investigated how contact and personal experience with addiction related to stigma; however, we are not aware of research that has investigated how the nature and quality of contact relates to stigma. Thus, in the present study we asked participants who indicated someone close to them is/has been addicted what their relationship to the addicted person is, how that relationship has changed as a result of the person's addiction, and if the addicted person has received treatment, recovered, been

involved in the criminal justice system, passed away, or if the addiction is still a problem for the person.

Relationship to the addicted person was only significantly related to the criminalization measure. When the addicted person was a romantic partner, participants were less likely to indicate the vignette character should be criminalized compared to when the addicted person was a parent, close friend, or extended family member. This might be because the closer someone is to you the more disruptive and difficult it would be to have the addicted person be involved in the criminal justice system. It appears that, in this research, how the relationship between the participant and the addicted person has changed is more important than the nature of the relationship to the addicted person. The ways in which the relationship between the participant and the close other who is addicted has changed was related to the stereotypes, negative feelings, and social distance measures. Participants who indicated the relationship has become stronger reported lower stereotype, negative feelings, and social distance scores compared to participants who indicated they are estranged from the person or who indicated the relationship has become weaker or hasn't changed. Participants whose relationship with an addicted person became worse or stayed the same as a result of the person's addiction reported higher levels of stigma compared to participants whose relationship improved. Understanding more about the quality of the contact, and about how addiction affects social relationships in general, might help explain the relationship between contact and stigma. Much of the research on contact and addiction stigma has only measured contact by asking if participants know someone with addiction (e.g., Goodyear et al., 2018);

however, a more in-depth investigation into the intricacies related to contact might illuminate differences in how it relates to stigma.

Different outcomes related to the addicted person might also affect how contact relates to stigma. Participants who indicated the addicted person had received treatment were less likely to indicate the vignette character should be criminalized and were more likely to make disease/genetic attributions. This might be because these participants have seen the positive effects of treatment and thus, don't believe criminalizing people addicted to opioids would be effective or helpful for the addicted person. This might indicate that positive stories about people who are addicted receiving treatment can help increase positive attitudes. Evaluations of campaigns aimed at reducing mental illness stigma have found that success stories about treatment and recovery were the most effective at reducing stigma (Knaak, Modgill, & Patten, 2014). An experiment using vignettes depicting a heroin user found that people reported lower stigmatizing attitudes when the heroin use was described as receiving treatment and in recovery compared to still using heroin (Luty, Rao, Arokiadass, Easow, & Sarkel, 2008). Additionally, participants who are familiar with addiction treatment might be more well versed in the biological and medical aspects of addiction and thus, more likely to make disease/genetic attributions about the cause of addiction.

Participants who indicated the addicted person has been involved in the criminal justice system had lower stereotype scores. This might be because participants who have seen a close other who is addicted be involved in the criminal justice system have seen how harmful negative stereotypes can be. These conclusions are very tentative and much

more research is needed to more thoroughly understand the relationships between contact, addicted persons' outcomes, and stigma.

This research investigated how personal experience with addiction and how details of contact, such as relationship to the addicted person, relationship change, and outcomes, relate to stigma, criminalization, and medicalization. Generally, as other research has found, contact and personal experience relate to more positive attitudes. Thus, contact-based interventions and education might be a promising avenue to reduce opioid addiction stigma; however, more research is needed to investigate if contact and what kind of contact is most effective. We do not know of any research that has investigated how details of the contact affect stigma. Results from this initial research indicate that how addiction has affected the relationship between participants and the addicted person might be important in understanding if contact increases or decreases stigma and other negative attitudes. A person's experience with an addicted person might affect their attitudes toward opioid addicts as whole. Participants who indicated that their relationship with the addicted person has become worse because of the addiction might be indicative of negative experiences with the addicted person, which transferred over into negative attitudes toward opioid addicts as a whole. More research is needed to further investigate how the addicted person's status affects attitudes.

Chapter 13 – Attitudes toward Public-Health Oriented Policies and Programs

This chapter investigated support for public health-oriented policies and programs aimed at helping people with opioid addiction. Additionally, factors related to support for these policies were investigated. Participants were asked about their support for the following six policies and programs: (1) increased government spending for drug addiction treatment, (2) if it should be the government's responsibility to provide healthcare for people with opioid addiction, (3) supervised injection sites, (4) medication-assisted treatment, (5) diversion to treatment instead of arrest, and (6) needle exchange programs. For the latter four, participants were given the option to select *I don't know what this is*.

First, attitudes toward the six policies and programs are examined by presenting descriptive statistics for support for these policies and programs. Next, analyses that investigated how participant characteristics relate to support for the policies and programs are presented. Finally, analyses that investigated how the stigma measures (stereotypes, negative feelings, social distance, and discrimination) and the attributions measures (bad character attributions and disease/genetic attributions) relate to support for the policies and programs are presented.

Support for Policies and Programs

The majority of participants (62%) indicated that the government *should spend much more* or *spend more* on treatment for drug addiction. Similarly, 65% of participants indicated it *probably should be* or *definitely should be* the government's responsibility to provide healthcare for people with opioid addiction.

A substantial proportion of participants indicated that they do not know what needle exchange programs (32%), supervised injection sites (31%), and medication-assisted treatment (15%) are. Even when restricting the sample to only participants who indicated someone close to them is/has been addicted, the proportions of people who indicated they do not know what the program is remain almost identical (32%, 31%, and 16% respectively). To calculate support and opposition to these four policies and programs, participants who indicated they did not know what the policy or program was were excluded. Support was calculated by adding together responses to the *completely support* and *support* response options and opposition was calculated by adding together responses to the *completely do not support* or *do not support* response options. These were collapsed to gauge support vs opposition to the policies. Fifty-eight percent of participants supported supervised injection sites; however, 42% opposed them. Support for needle exchange programs was higher with 75% of participants supporting them and only 25% opposing them. Support for diversion to treatment instead of arrest and medication-assisted treatment was very high (95% and 86% respectively).

Participant Characteristics Predicting Support for Policies and Programs

The next set of analyses investigated how contact, personal addiction, participant gender, participant social class, system-justifying beliefs, and political affiliation relate to support for the six policies.

Government providing healthcare. The model predicting support for the government providing healthcare for people who are addicted was significant $F(8,795) = 10.64, p < .001, \eta_p^2 = .22$. There was a main effect of political affiliation $F(3,795) = 28.24, p < .001, \eta_p^2 = .09$. Republicans were significantly less likely than Democrats (ΔM

= .77, $p < .001$), Independents ($\Delta M = .42$, $p < .001$), and people with no affiliation ($\Delta M = .44$, $p < .001$) to support the government providing healthcare. Democrats were also more likely than Independents ($\Delta M = .34$, $p < .001$) and people with no affiliation ($\Delta M = .32$, $p < .001$) to support the government providing healthcare. There was a main effect of system-justifying beliefs $b = -.21$, $F(1,795) = 27.07$, $p < .001$, $\eta_p^2 = .04$. Higher system-justifying beliefs was related to less support for the government providing healthcare for people who are addicted to opioids.

Increased government funding. The model predicting support for increased government spending on addiction treatment was significant $F(8,796) = 26.94$, $p < .001$, $\eta_p^2 = .21$. There was a main effect of political affiliation $F(3,796) = 27.21$, $p < .001$, $\eta_p^2 = .08$. Republicans were significantly less likely than Democrats ($\Delta M = .81$, $p < .001$), Independents ($\Delta M = .50$, $p < .001$), and people with no affiliation ($\Delta M = .46$, $p < .001$) to support the government providing healthcare. Democrats were also more likely than Independents ($\Delta M = .31$, $p < .001$) and people with no affiliation ($\Delta M = .35$, $p < .001$) to support the government providing healthcare. There was a main effect of system-justifying beliefs $b = -.22$, $F(1,796) = 26.85$, $p < .001$, $\eta_p^2 = .04$. Higher system-justifying beliefs was related to less support for government spending on opioid addiction treatment.

Supervised injection sites. The model that predicted support for supervised injection sites was significant $F(8,546) = 10.37$, $p < .001$, $\eta_p^2 = .14$. There was a main effect of political affiliation $F(3,546) = 4.82$, $p = .003$, $\eta_p^2 = .02$. Republicans were significantly less likely to support supervised injection sites compared to Democrats ($\Delta M = .39$, $p = .001$), Independents ($\Delta M = .42$, $p = .001$), and people with no affiliation ($\Delta M =$

.38, $p = .003$). There was also a main effect of system-justifying beliefs $b = -.27$, $F(1,546) = 24.41$, $p < .001$, $\eta_p^2 = .06$. Higher system-justifying beliefs were related to less support for supervised injection sites.

Medication-assisted treatment. The model predicting support for medication-assisted treatment was significant $F(8,675) = 4.75$, $p < .001$, $\eta_p^2 = .06$. There was a main effect of system justifying beliefs $b = -.12$, $F(1,675) = 10.99$, $p = .001$, $\eta_p^2 = .02$. Higher system-justifying beliefs was related to less support for medication-assisted treatment. The main effect of political affiliation was approaching significance $F(3,675) = 2.39$, $p = .067$. Republicans were less likely than Democrats to support medication-assisted treatment ($\Delta M = .20$, $p = .01$).

Treatment instead of arrest. The model predicting support for diversion to treatment instead of arrest was significant $F(8,777) = 11.46$, $p < .001$, $\eta_p^2 = .10$. The main effect of political affiliation was significant $F(3,777) = 11.46$, $p < .001$, $\eta_p^2 = .04$. Republicans were significantly less likely than Democrats ($\Delta M = .36$, $p < .001$), Independents ($\Delta M = .27$, $p < .001$), and people with no affiliation ($\Delta M = .24$, $p = .001$) to support diversion to treatment instead of arrest. People with no affiliation were significantly less likely to support diversion to treatment instead of arrest compared to Democrats ($\Delta M = .12$, $p = .043$). There was also a main effect of system justifying beliefs $b = -.10$, $F(1,777) = 10.39$, $p = .001$, $\eta_p^2 = .02$. Higher system-justifying beliefs was related to less support for diversion to treatment instead of arrest.

Needle exchange programs. The model predicting support for needle exchange programs was significant $F(8,536) = 10.64$, $p < .001$, $\eta_p^2 = .15$. There was a main effect of political affiliation $F(3,536) = 6.15$, $p < .001$, $\eta_p^2 = .03$. Republicans were significantly

less likely than Democrats ($\Delta M = .50, p < .001$), Independents ($\Delta M = .31, p = .017$), and people with no affiliation ($\Delta M = .32, p = .013$) to support needle exchange programs. There was also a main effect of system-justifying beliefs $b = -.22, F(1,536) = 16.30, p < .001, \eta_p^2 = .04$. Higher system-justifying beliefs was related to less support for needle exchange programs.

In sum, hypotheses 19 and 20 were not supported as male and female participants and higher and lower social class participants did not significantly differ in their support for the six policies. Hypothesis 21 was mostly supported in that Democrats reported the highest support on all policies and programs except medication-assisted treatment. Knowing someone who is addicted or being addicted themselves was not related to support thus, hypotheses 22 and 23 were not supported. System-justifying beliefs were negatively related to support for the policies and programs supporting hypothesis 24.

Stigma and Attributions Predicting Support for Policies and Programs

These analyses investigated if and how the stigma variables (stereotype endorsement, negative feelings, social distance, and acceptability of discrimination), bad character attributions, and disease/genetic attributions relate to support for the six policies and programs. The experimental variables were tested to see if they predicted support for policies and programs because those data were collected after the experimental manipulation. The experimental variables opioid user race, opioid user social class, and opioid user gender were significantly related to the government providing healthcare and government increasing spending for addiction treatment variables and thus were included as control variables in these analyses.

Government providing healthcare. The model that predicted agreement that the government should be responsible for providing healthcare for people who are addicted to opioids was significant $F(0,921) = 38.38, p < .001, \eta_p^2 = .23$. There were significant main effects of social distance ($b = -.26, p < .001, \eta_p^2 = .02$), discrimination ($b = -.28, p < .001, \eta_p^2 = .02$), bad character attributions ($b = -.25, p < .001, \eta_p^2 = .02$), and disease/genetic attributions ($b = .17, p < .001, \eta_p^2 = .01$). Reporting a desire for social distance from the opioid user, that discrimination against the opioid user was okay, and attributing addiction to the opioid user's bad character were related to less agreement that the government should be responsible for providing healthcare for people who are addicted. Attributing addiction to a disease/genetics related to higher agreement that the government should be responsible for providing healthcare. The control variables opioid user race, social class, and gender were also significant. Participants in the condition in which the opioid user was Black ($\Delta M = .21, p < .001, \eta_p^2 = .02$), in the middle class ($\Delta M = .17, p = .002, \eta_p^2 = .01$), or male ($\Delta M = .15, p = .005, \eta_p^2 = .01$) were more likely to indicate the government should provide healthcare.

Increased government spending on addiction treatment. The model that predicted agreement that the government should increase spending for addiction treatment was significant $F(9,925) = 33.32, p < .001, \eta_p^2 = .25$. There were significant main effects of social distance ($b = -.25, p = .001, \eta_p^2 = .01$), discrimination ($b = -.31, p < .001, \eta_p^2 = .02$), bad character attributions ($b = -.25, p = .004, \eta_p^2 = .02$) and disease/genetic attributions ($b = .12, p = .001, \eta_p^2 = .01$). Reporting a desire for social distance from the opioid user, that discrimination against the opioid user was okay, and attributing addiction to the opioid user's bad character were related to less agreement that

the government should increase funding for addiction treatment. Attributing addiction to a disease/genetics related to higher agreement that the government should increase funding. The control variables opioid user race, social class, and gender were also significant. Participants in the condition in which the opioid user was White ($\Delta M = .38, p < .001, \eta_p^2 = .06$), in the lower class ($\Delta M = .42, p < .001, \eta_p^2 = .05$), or male ($\Delta M = .36, p < .001, \eta_p^2 = .04$) were more likely to indicate the government should increase funding for addiction treatment.

Supervised injection sites. The model that predicted support for supervised injection sites was significant $F(6,641) = 16.81, p < .001, \eta_p^2 = .14$. There were significant main effects of negative feelings ($b = -.27, p = .011, \eta_p^2 = .01$), discrimination ($b = -.26, p = .01, \eta_p^2 = .01$), and bad character attributions ($b = -.20, p = .008, \eta_p^2 = .011$). Reporting negative feelings about the opioid user, that discrimination toward the opioid user is acceptable, and attributing addiction to bad character attributions related to less support for supervised injection sites.

Medication-assisted treatment. The model that predicted support for medication-assisted treatment was significant $F(6,784) = 13.02, p < .001, \eta_p^2 = .09$. There were significant main effects of negative feelings ($b = -.20, p = .003, \eta_p^2 = .011$), bad character attributions ($b = -.11, p = .033, \eta_p^2 = .006$), and disease/genetic attributions ($b = .10, p = .021, \eta_p^2 = .007$). Reporting negative feelings about the opioid user and attributing addiction to bad character attributions related to less support for medication-assisted treatment. Attributing addiction to a disease/genetics related to more support for medication-assisted treatment.

Diversion to treatment instead of arrest. The model that predicted support for diversion to treatment instead of arrest was significant $F(6,903) = 30.82, p < .001, \eta_p^2 = .17$. There were significant main effects of negative feelings ($b = -.32, p < .001, \eta_p^2 = .036$), discrimination ($b = -.20, p < .001, \eta_p^2 = .016$), and disease/genetic attributions ($b = .14, p < .001, \eta_p^2 = .02$). Reporting negative feelings about the opioid user and that discrimination against the opioid user was okay were related to less support for diversion to treatment instead of arrest. Attributing addiction to a disease/genetics related to more support for diversion to treatment instead of arrest.

Needle exchange programs. The model that predicted support for needle exchange programs was significant $F(6,632) = 17.93, p < .001, \eta_p^2 = .15$. There were significant main effects of negative feelings ($b = -.41, p < .001, \eta_p^2 = .026$), discrimination ($b = -.36, p < .001, \eta_p^2 = .022$), bad character attributions ($b = -.17, p = .025, \eta_p^2 = .008$) and disease/genetic attributions ($b = .14, p = .021, \eta_p^2 = .008$). Reporting negative feelings about the opioid user, that discrimination against the opioid user was okay, and attributing addiction to the opioid user's bad character were related to less support for needle exchange programs. Attributing addiction to a disease/genetics related to more support for needle exchange programs.

In sum, hypothesis 25 was partially supported in that social distance and discrimination were negatively related to support for the government providing healthcare and increasing spending. Negative feelings was negatively related to support for supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. Discrimination was negatively related to support for supervised injection sites, treatment instead of arrest, and needle exchange programs.

Hypothesis 26 was mostly supported in that bad character attributions were negatively related to support to all the policies and programs except treatment instead of arrest.

Hypothesis 27 was also mostly supported in that disease/genetic attributions were positively related to support for all of the programs and policies except supervised injection sites.

Table 13.1 Significant main effects of attributions and stigma on support for policies and programs

	Bad char.		Disease/genetic		Stereotype		Neg. feelings		Social distance		Discrim.	
	<i>b(se)</i>	η^2	<i>b(se)</i>	η^2	<i>b(se)</i>	η^2	<i>b(se)</i>	η^2	<i>b(se)</i>	η^2	<i>b(se)</i>	η^2
Gov. provide	-.28(.06)*	.03	.17(.05)*	.02	-.16(.10)	.00	-.04(.08)	.00	-.26(.07)*	.02	-.28(.07)*	.02
Gov. spending	-.18(.06)*	.01	.11(.05)*	.01	.20(.12)	.00	-.08(.08)	.00	-.24(.07)*	.01	-.33(.08)*	.02
Supervised injection sites	-.20(.08)*	.01	.11(.07)	.01	-.16(.14)	.00	-.27(.10)*	.01	.01(.09)*	.00	-.26(.10)*	.01
Med.-assisted treatment	-.11(.05)*	.01	.10(.04)*	.01	.03(.09)	.00	-.20(.07)*	.01	-.07(.06)	.00	-.09(.06)	.00
Treatment not arrest	-.06(.04)	.00	.14(.03)*	.02	.13(.08)	.00	-.32(.06)*	.04	-.05(.05)*	.00	-.20(.05)*	.02
Needle exchange	-.17(.07)*	.01	.14(.06)*	.01	.03(.14)	.00	-.41(.10)*	.03	.12(.09)*	.00	-.36(.10)*	.02

* $p < .05$

Discussion

These analyses assessed support for six public health-oriented programs and policies as well as investigated factors related to support for these policies. Although it is promising that for each of the six policy items a majority of participants (between 58% and 95%) supported them, there are still a substantial proportion that oppose them (up to 42%). Support for diversion to treatment instead of arrest was highest (95%), followed by medication-assisted treatment (86%), needle exchange programs (75%), and supervised injection sites (58%). Interestingly, support for needle exchange programs was substantially higher than support for supervised injection sites. This indicates that participants are more comfortable with opioid users getting clean syringes and using them to inject drugs on their own time but are not as comfortable with opioid users injecting drugs at a designated site. This might be because participants feel that supervised injection sites are going too far in condoning and supporting injection drug user. Nearly all participants supported diversion to treatment instead of arrest. This indicates a societal shift from the War on Drugs response to the crack cocaine epidemic to a desire for a more public health-oriented response. However, this highlights a need for more treatment options to be available and accessible to people as in many areas, especially rural areas, there is a shortage of treatment availability and options (Pullen & Oser, 2014).

A substantial proportion of the sample (up to 32%) indicated that they do not know what needle exchange programs, supervised injection sites, and medication-assisted treatment are. This finding illuminates an opportunity to increase the public's awareness and education about these public health strategies used to reduce harm associated with

opioid use and addiction. This might be especially important for people who know someone close to them who is addicted to opioids.

There might also be an opportunity to convert people who do not know what these programs are to supporters of these programs. Providing accurate and compelling information and education about these types of programs that comes from reputable organizations might garner more supporters for these programs, as misinformation (e.g., medication-assisted treatment just replaces one addiction with another) may be one reason people hold negative attitudes toward these types of programs (Volkow et al., 2014). Additionally, as described in the previous chapter, providing information and education about these programs by highlighting success stories of people addicted to opioids utilizing these programs might be effective for increasing support. Since many people know someone who struggles with addiction (over three-quarters in this sample), increasing awareness about these types of programs might be particularly important so that people can urge and support the addicted person to utilize these programs.

Past research has shown that opposition to policies aimed at helping people with addiction is relatively high and significantly higher than opposition for the same policies aimed at helping people with mental illness (Barry et al., 2014). Understanding individual differences that relate to lower or higher support might help provide information about how to lower opposition to these policies and programs. Thus, this research also investigated if and how participant gender, social class, political affiliation, personal experience with addiction, contact with addiction, and system-justifying beliefs relate to support for the six policies and programs. Across all six policies and programs Republicans reported less support than Democrats, Independents, and people with no

affiliation. This comports with past research that Republicans tend to be more punitive and are less supportive of government funding and programs (McGinty et al., 2018). Additionally, for all six policies and programs higher system-justifying beliefs were related to lower support. Unsurprisingly, people who endorse beliefs that society is fair and people tend to get what they deserve are less supportive of policies and programs aimed at helping people who are addicted to opioids. Challenging individuals' system-justifying beliefs, especially in relation to opioid addiction, might be one mechanism to lower opposition to policies and programs aimed at helping people addicted to opioids. For example, information about how doctors and pharmaceutical companies are, in part, to blame for many people becoming addicted to opioids might challenge system-justifying beliefs.

One, of the many, reasons why stigmatizing beliefs are so harmful is because these beliefs relate to reduced support for programs and policies that could have lifesaving implications for people who use opioids. Stigmatizing beliefs are related to less empathy and a lower desire to help (Carlo & Randall, 2002); thus, it makes sense individuals who tend to hold stigmatizing beliefs about opioid users are less likely to support policies and programs aimed at helping opioids users. The desire for social distance and believing that discrimination against the opioid user was acceptable were related to decreased agreement that it should be the government's responsibility to provide healthcare for people who are addicted and agreement that there should be increased government spending for addiction treatment. Negative feelings about the opioid user were related to less support for supervised injection sites, medication-assisted treatment, diversion to treatment instead of arrest, and needle exchange programs.

Acceptability of discrimination was also related to less support for supervised injection sites, diversion to treatment instead of arrest, and needle exchange programs. These results highlight just one reason why decreasing the stigma of opioid addiction is so important. Reducing stigma could be one way to help increase support for public health-oriented policies and programs.

Attributions about the cause of opioid addiction were also related to support for the policies and programs. Bad character attributions were related to decreased agreement that it should be the government's responsibility to provide healthcare for people who are addicted and agreement that there should be increased government spending for addiction treatment. Bad character attributions were also related to less support for supervised injection sites, medication-assisted treatment, and needle exchange programs. When individuals attribute a negative behavior, such as opioid addiction, to be caused by something about the individual they blame the person more, feel less sympathy, and are less likely to help (Sattler et al., 2017; Weiner, 1993; Weiner et al., 1988). Thus, it makes sense that individuals who attributed opioid users' addiction to their own bad character were less likely to support policies and programs aimed at helping the opioid user. Campaigns and education aimed at reducing beliefs that all people addicted to opioids are addicted because of character flaws and poor decisions might help increase support for public health policies and programs. This might include information about how many people become addicted after legally being prescribed opioids from a doctor for things such as chronic pain or an injury.

Disease/genetic attributions were related to increased agreement that it should be the government's responsibility to provide healthcare for people who are addicted and

agreement that there should be increased government spending for addiction treatment. Disease/genetic attributions were also related to increased support for medication-assisted treatment, diversion to treatment instead of arrest, and needle exchange programs. It makes sense that beliefs that opioid addiction is caused by a disease and/or genetics is related to support for medical treatment for people who are addicted to opioids. Just as bad character attributions reduced support for programs and policies, disease/genetic attributions increased support. Thus, education about the influence that genetics has on addiction and the disease model of addiction might be beneficial in increasing support for public health policies and programs.

Bad character attributions were related to both increased stigma (see Chapter 11) and decreased support for the policies and programs. Interestingly, disease/genetic attributions were related to increased support for most of the programs and policies but not related to decreased stigma (see mediation results in Chapter 11 and correlations presented in Table 9.1). It appears that making attributions that opioid addiction is caused by a disease/genetics is related to support for policies that promote opioid addiction treatment but stigma toward opioid users does not differ for people who are more or less likely to make disease/genetic attributions. This might be because people tend to desire consistency (Festinger, 1957) and if they believe addiction caused by a disease it also makes sense that they also support and believe that people who are addicted to opioids should be treated medically. However, attributing addiction to a disease/genetics does not seem to reduce negative attitudes such as negative stereotypes and the desire for social distance. This research indicates that the disease model of addiction might be beneficial for increasing support for public health oriented policies and programs but might not be

as useful for decreasing stigma. The relationship between disease/genetic attributions, support for policies and programs, and stigma is complicated and warrants further investigation.

Chapter 14 – The Mediating Role of Medicalization, and Criminalization

Mediation Analyses

Parallel mediation model analyses were conducted using model 4 of the SPSS PROCESS macro (Hayes, 2018; Hayes, Preacher, & Myers, 2011) to test whether bad character attributions and disease/genetic attributions are indirectly related to support for programs and policies (i.e., government providing healthcare to people who are addicted, increased government funding for addiction treatment, support for supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs) through their relationship to medicalization and criminalization. Parallel mediation models allow for correlation between the mediators (medicalization and criminalization) but does not allow for them to causally influence each other (Hayes, 2018). All indirect effects were tested using 95% bias-corrected confidence intervals based on 10,000 bootstrap samples. Indirect effects are considered significant if the 95% confidence intervals do not contain zero. For all models, the percent of the total effect account for by the indirect pathway was calculated by dividing the indirect effect by the sum of the absolute values of the indirect and direct effects (MacKinnon et al., 2007). It was hypothesized that criminalization and medicalization would mediate the relationships between bad character attributions and the dependent variables and between disease/genetic attributions and the dependent variables. The experimental variables (opioid user race, social class, and gender) were significantly related to the dependent variables: increased government spending for addiction treatment and government responsibility to provide healthcare (see previous chapter). Thus, preliminary mediation analyses using these two dependent variables included these experimental variables as

control variables. However, the results did not differ so the more parsimonious models are presented.

Bad Character Attributions to Support for Policies/Programs Mediated by Medicalization and Criminalization

Bad character attributions were indirectly related to support for the government providing health care for people who are addicted and increased government spending for addiction treatment as well as support for supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs through medicalization and criminalization. Attributing the opioid user's addiction to bad character was negatively related to medicalization and positively related to criminalization. Lower beliefs that the opioid user should be medicalized was subsequently related to less support for government providing healthcare, government spending, supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. Greater beliefs that the opioid user should be criminalized was subsequently related to less support for government providing healthcare, government spending, supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. See Table 14.1 for an overview of significant indirect pathways.

Government providing healthcare. Bad character attributions were indirectly related to agreement that the government should be responsible for providing healthcare to people who are addicted through medicalization and criminalization. Bad character attributions was negatively related to medicalization ($a_1 = -.14, p < .001$) and medicalization was subsequently related to agreement that the government should

provide health care ($b_1 = .39, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_1 = -.04$), holding criminalization constant, was entirely below zero ($-.07, -.02$). The indirect pathway accounted for 12% of the total effect of bad character attributions on agreement that the government should provide healthcare for addicted individuals.

Bad character attributions were positively related to criminalization ($a_2 = .54, p < .001$) and criminalization was subsequently negatively related to agreement that the government should provide health care ($b_2 = -.36, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_2 = -.20$), holding medicalization constant, was entirely below zero ($-.26, -.14$). The indirect pathway accounted for 44% of the total effect of bad character attributions on agreement that the government should provide healthcare for addicted individuals.

Increased government spending for addiction treatment. Bad character attributions were indirectly related to agreement that the increase funding for addiction treatment through medicalization and criminalization. Bad character attributions was negatively related to medicalization ($a_1 = -.14, p < .001$) and medicalization was subsequently related to agreement that the government increase spending ($b_3 = .39, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_3 = -.05$), holding criminalization constant, was entirely below zero ($-.08, -.03$). The indirect pathway accounted for 27.6% of the total effect of bad character attributions on agreement that the government increase spending for addiction treatment.

Bad character attributions were positively related to criminalization ($a_2 = .54, p < .001$) and criminalization was subsequently negatively related to agreement that the

government should provide health care ($b_4 = -.31, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_4 = -.17$), holding medicalization constant, was entirely below zero (-.24, -.10). The indirect pathway accounted for 55% of the total effect of bad character attributions on agreement that the government should increase spending for addiction treatment.

Supervised injection sites. Bad character attributions were indirectly related to support for supervised injection sites through medicalization and criminalization. Bad character attributions was negatively related to medicalization ($a_1 = -.16, p < .001$) and medicalization was subsequently related to support for supervised injection sites ($b_5 = .22, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_5 = -.04$), holding criminalization constant, was entirely below zero (-.07, -.003). The indirect pathway accounted for 20.6% of the total effect of bad character attributions on support for supervised injection sites.

Bad character attributions were positively related to criminalization ($a_2 = .54, p < .001$) and criminalization was subsequently related to support for supervised injection sites ($b_6 = -.31, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_6 = -.23$), holding medicalization constant, was entirely below zero (-.32, -.16). The indirect pathway accounted for 63.5% of the total effect of bad character attributions on support for supervised injection sites.

Medication-assisted treatment. Bad character attributions were indirectly related to support for medication-assisted treatment through medicalization and criminalization. Bad character attributions was negatively related to medicalization ($a_1 = -.16, p < .001$) and medicalization was subsequently related to support for medication-assisted treatment

($b_7 = .39, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_7 = -.07$), holding criminalization constant, was entirely below zero (-.09, -.04). The indirect pathway accounted for 41.6% of the total effect of bad character attributions on support for medication-assisted treatment.

Bad character attributions were positively related to criminalization ($a_2 = .51, p < .001$) and criminalization was subsequently related to support for medication-assisted treatment ($b_8 = -.18, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_8 = -.09$), holding medicalization constant, was entirely below zero (-.14, -.04). The indirect pathway accounted for 49.5% of the total effect of bad character attributions on support for medication-assisted treatment.

Treatment instead of arrest. Bad character attributions were indirectly related to support for treatment instead of arrest through medicalization and criminalization. Bad character attributions was negatively related to medicalization ($a_1 = -.14, p < .001$) and medicalization was subsequently related to support for treatment instead of arrest ($b_9 = .32, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_9 = -.05$), holding criminalization constant, was entirely below zero (-.07, -.03). The indirect pathway accounted for 67.8% of the total effect of bad character attributions on support for treatment instead of arrest.

Bad character attributions were positively related to criminalization ($a_2 = .54, p < .001$) and criminalization was subsequently negatively related to support for treatment instead of arrest ($b_{10} = -.40, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_{10} = -.21$), holding medicalization constant, was entirely below zero (-.26, -.17). The indirect pathway

accounted for 92.9% of the total effect of bad character attributions on support for treatment instead of arrest.

Needle exchange programs. Bad character attributions were indirectly related to support for needle exchange programs. Bad character attributions was negatively related to medicalization ($a_1 = -.17, p < .001$) and medicalization was subsequently related to support for needle exchange programs ($b_{11} = .23, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_{11} = -.04$), holding criminalization constant, was entirely below zero (-.07, -.01). The indirect pathway accounted for 26.5% of the total effect of bad character attributions on support needle exchange programs.

Bad character attributions were positively related to criminalization ($a_2 = .54, p < .001$) and criminalization was subsequently negatively related to support for needle exchange programs ($b_{12} = -.23, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_{12} = -.23$), holding medicalization constant, was entirely below zero (-.31, -.15). The indirect pathway accounted for 68% of the total effect of bad character attributions on support for needle exchange programs

Table 14.1 Significant indirect pathways from bad character attributions to support for programs and policies

IV	<i>a1, a2</i>	Mediator	<i>b1-12</i>	DV	<i>b</i>	<i>CI</i>
Bad char.	-0.14	Medicalize	0.39	Gov. prov.	-0.04	(-.07, -.02)
Bad char.	-0.14	Medicalize	0.39	Gov spending	-0.05	(-.08, -.03)
Bad char.	-0.16	Medicalize	0.22	Supervised injection sites	-0.04	(-.07, -.003)
Bad char.	-0.16	Medicalize	0.39	Med.-assisted treatment	-0.07	(-.09, -.04)
Bad char.	-0.14	Medicalize	0.32	Treatment not arrest	-0.05	(-.07, -.03)
Bad char.	-0.17	Medicalize	0.23	Needle exchange prog.	-0.04	(-.07, -.01)
Bad char.	0.54	Criminalize	-0.36	Gov. prov.	-0.20	(-.26, -.14)
Bad char.	0.54	Criminalize	-0.31	Gov spending	-0.17	(-.24, -.10)
Bad char.	0.54	Criminalize	-0.31	Supervised injection sites	-0.23	(-.32, -.16)
Bad char.	0.51	Criminalize	-0.18	Med.-assisted treatment	-0.09	(-.14, -.04)
Bad char.	0.54	Criminalize	-0.4	Treatment not arrest	-0.21	(-.26, -.17)
Bad char.	0.54	Criminalize	-0.23	Needle exchange prog.	-0.23	(-.31, -.15)

Disease/Genetic Attributions to Support for Policies/Programs Mediated by Medicalization and Criminalization

Disease/genetic attributions were indirectly related to support for the government providing health care for people who are addicted and increased government spending for addiction treatment as well as support for supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs through medicalization and criminalization. Attributing the opioid user's addiction to a disease/genetics was positively related to medicalization and negatively related to criminalization. Greater beliefs that the opioid user should be medicalized was subsequently related to more support for the government providing healthcare, government spending, supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. Greater beliefs that the opioid user should be criminalized was subsequently related to less support for the government providing healthcare, government spending, supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. See Table 14.2 for an overview of significant indirect pathways.

Government providing healthcare. Disease/genetic attributions were indirectly related to agreement that the government should be responsible for providing healthcare to people who are addicted through medicalization and criminalization. Disease/genetic attributions was positively related to medicalization ($a_1 = .09, p < .001$) and medicalization was subsequently related to agreement that the government should provide health care ($b_1 = .31, p < .001$). A 95% bias-corrected confidence interval

indicated that the indirect effect through medicalization ($a_1b_1 = .03$), holding criminalization constant, was entirely above zero (.01, .05). The indirect pathway accounted for 12.7% of the total effect of disease/genetic attributions on agreement that the government should provide healthcare for addicted individuals.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.16$, $p < .001$) and criminalization was subsequently negatively related to agreement that the government should provide health care ($b_2 = -.52$, $p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_2 = .08$), holding medicalization constant, was entirely above zero (.04, .13). The indirect pathway accounted for 29.6% of the total effect of disease/genetic attributions on agreement that the government should provide healthcare for addicted individuals.

Increased government spending for addiction treatment. Disease/genetic attributions were indirectly related to agreement that the increase funding for addiction treatment through medicalization and criminalization. Disease/genetic attributions was positively related to medicalization ($a_1 = .09$, $p < .001$) and medicalization was subsequently related to agreement that the government increase spending ($b_3 = .38$, $p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_3 = .03$), holding criminalization constant, was entirely above zero (.02, .06). The indirect pathway accounted for 21.7% of the total effect of disease/genetic attributions on agreement that the government increase spending for addiction treatment.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.16$, $p < .001$) and criminalization was subsequently negatively related to agreement that the government should provide health care ($b_4 = -.39$, $p < .001$). A 95% bias-corrected

confidence interval indicated that the indirect effect through criminalization ($a_2b_4 = .06$), holding medicalization constant, was entirely above zero (.03, .10). The indirect pathway accounted for 33.1% of the total effect of disease/genetic attributions on agreement that the government should increase spending for addiction treatment.

Supervised injection sites. Disease/genetic attributions were indirectly related to support for supervised injection sites through medicalization and criminalization.

Disease/genetic attributions was positively related to medicalization ($a_1 = .10, p < .001$) and medicalization was subsequently related to support for supervised injection sites ($b_5 = .25, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_5 = .03$), holding criminalization constant, was entirely above zero (.004, .05). The indirect pathway accounted for 17.1% of the total effect of disease/genetic attributions on support for supervised injection sites.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.15, p < .001$) and criminalization was subsequently negatively related to support for supervised injection sites ($b_6 = -.53, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_6 = .08$), holding medicalization constant, was entirely above zero (.03, .13). The indirect pathway accounted for 39.3% of the total effect of disease/genetic attributions on support for supervised injection sites.

Medication-assisted treatment. Disease/genetic attributions were indirectly related to support for medication-assisted treatment through medicalization and criminalization. Disease/genetic attributions was positively related to medicalization ($a_1 = .09, p < .001$) and medicalization was subsequently related to support for medication-

assisted treatment ($b_7 = .42, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_7 = .04$), holding criminalization constant, was entirely above zero (.02, .06). The indirect pathway accounted for 33.2% of the total effect of disease/genetic attributions on support for medication-assisted treatment.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.14, p < .001$) and criminalization was subsequently negatively related to support for medication-assisted treatment ($b_8 = -.23, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_8 = .03$), holding medicalization constant, was entirely above zero (.01, .05). The indirect pathway accounted for 28.4% of the total effect of disease/genetic attributions on support for medication-assisted treatment.

Treatment instead of arrest. Disease/genetic attributions were indirectly related to support for treatment instead of arrest through medicalization and criminalization. Disease/genetic attributions was positively related to medicalization ($a_1 = .09, p < .001$) and medicalization was subsequently related to support for treatment instead of arrest ($b_9 = .31, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_9 = .03$), holding criminalization constant, was entirely above zero (.01, .05). The indirect pathway accounted for 20.1% of the total effect of disease/genetic attributions on support for treatment instead of arrest.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.15, p < .001$) and criminalization was subsequently negatively related to support for treatment instead of arrest ($b_{10} = -.39, p < .001$). A 95% bias-corrected confidence

interval indicated that the indirect effect through criminalization ($a_2b_{10} = .06$), holding medicalization constant, was entirely above zero (.03, .09). The indirect pathway accounted for 34.4% of the total effect of disease/genetic attributions on support for treatment instead of arrest.

Needle exchange programs. Disease/genetic attributions were indirectly related to support for needle exchange programs. Disease/genetic attributions was positively related to medicalization ($a_1 = .13, p < .001$) and medicalization was subsequently related to support for needle exchange programs ($b_{11} = .25, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through medicalization ($a_1b_{11} = .03$), holding criminalization constant, was entirely above zero (.01, .06). The indirect pathway accounted for 19.6% of the total effect of disease/genetic attributions on support needle exchange programs.

Disease/genetic attributions were negatively related to criminalization ($a_2 = -.15, p < .001$) and criminalization was subsequently negatively related to support for needle exchange programs ($b_{12} = -.49, p < .001$). A 95% bias-corrected confidence interval indicated that the indirect effect through criminalization ($a_2b_{12} = .07$), holding medicalization constant, was entirely above zero (.03, .12). The indirect pathway accounted for 36.1% of the total effect of disease/genetic attributions on support for needle exchange programs

Table 14.2 Significant indirect pathways from disease/genetic attributions to support for programs and policies

IV	a1, a2	Mediator	b1-12	DV	<i>b</i>	CI
Disease/genetic	0.09	Medicalize	0.31	Gov. prov.	0.03	(.01, .05)
Disease/genetic	0.09	Medicalize	0.38	Gov spending	0.03	(.02, .06)
Disease/genetic	0.1	Medicalize	0.25	Sup. injection sites	0.03	(.004, .05)
Disease/genetic	0.09	Medicalize	0.42	Med.-assisted treatment	0.04	(.02, .06)
Disease/genetic	0.09	Medicalize	0.31	Treatment not arrest	0.03	(.01, .05)
Disease/genetic	0.13	Medicalize	0.25	Needle exchange prog.	0.03	(.01, .06)
Disease/genetic	-0.16	Criminalize	-0.52	Gov. prov.	0.08	(.04, .13)
Disease/genetic	-0.16	Criminalize	-0.39	Gov spending	0.06	(.03, .10)
Disease/genetic	-0.15	Criminalize	-0.53	Sup. injection sites	0.08	(.03, .13)
Disease/genetic	-0.14	Criminalize	-0.23	Med.-assisted treatment	0.03	(.01, .05)
Disease/genetic	-0.15	Criminalize	-0.39	Treatment not arrest	0.06	(.03, .09)
Disease/genetic	-0.15	Criminalize	-0.49	Needle exchange prog.	0.07	(.03, .12)

In sum, hypotheses 28 through 31 were supported. Bad character attributions were indirectly related to support for the six policies and programs through medicalization and criminalization. Disease/genetic attributions were indirectly related to support for the six policies and programs through medicalization and criminalization.

Discussion

It was hypothesized that the types of attributions that participants made about addiction would relate to a desire to medicalize or criminalize the opioid user and that these beliefs about medicalization and criminalization would relate to support for programs and policies. This set of analyses investigated if medicalization mediated the relationship between bad character attributions and support for programs and policies and between disease/genetic attributions and support for programs and policies. Additionally, these analyses investigated if criminalization mediated the relationship between bad character attributions and support for programs and policies and between disease/genetic attributions and support for programs and policies.

Bad character attributions were indirectly related to support for policies and programs through medicalization and criminalization. As expected, attributing addiction to the opioid user's bad character was negatively related to medicalization and lower beliefs that the opioid user should be medicalized were related to lower support for public health-oriented programs and policies. Bad character attributions were positively related to criminalization and beliefs that the opioid user should be criminalized were related to lower support for programs and policies. In this way, whether addiction is attributed to an opioid user's character relates to support for public health-oriented policies through

beliefs that the opioid user should be helped and treated (medicalization) or punished (criminalization).

Similarly, disease/genetic attributions were indirectly related to support for programs and policies through criminalization and medicalization. Attributing an opioid user's addiction to disease/genetics was positively related to medicalization and medicalization was related to greater support for public health oriented policies and programs. Disease/genetic attributions were negatively related to criminalization and lower beliefs that the opioid user should be criminalized were related to greater support for policies and programs. That is, whether addiction is attributed to disease/genetics affects beliefs about whether an opioid user should be medicalized or criminalized which in turn relates to support for policies and programs.

The attributions made about an opioid user's addiction relate to a desire to punish or support for medical treatment. People who are more likely to attribute opioid addiction to a person's bad character are more likely to believe the person should be criminalized (i.e., punished via the criminal justice system) and less likely to believe they should be medicalized (i.e., receive help via treatment).

This comports with past research that indicates that when internal attributions are made about a person's negative behavior the person is treated more harshly (Heider, 1958; Moskowitz, 2005; Weiner, 1995; Wood & Bartkowski, 2004) and when external attributions are made the person is more likely to be helped (Jeong, 2007; Weiner, 1991).

Beliefs about whether an opioid user should be criminalized or medicalized then related to level of support for six public health-oriented policies and programs. Beliefs that an opioid user should be medicalized were related to higher support for the programs

and policies and beliefs that the opioid user should be criminalized were related to lower support for the programs and policies. This makes sense that people who believe the opioid user should be helped via medical treatment are more likely to support policies aimed at mitigating harm to opioid users. Conversely, people who believe the opioid user should be punished via the criminal justice system are less likely to support policies aimed at helping opioid users.

The largest indirect effect coefficients were for the indirect effects of bad character attributions on support for policies through criminalization (coefficients ranging from $-.11$ to $-.26$) and for disease/genetic attributions on support for policies through criminalization. Changing attributions that opioid addiction is due to individuals' bad character and thus, reducing beliefs that opioid users should be punished for their addiction might be one way to reduce opposition to public health-oriented policies. Although smaller indirect coefficients were observed, reducing attributions that opioid addiction is caused by individuals' bad character can also be used to increase beliefs that opioid users should be helped via medical treatment which is related to higher support for public health-oriented programs and policies.

Again, smaller indirect coefficients were observed for the indirect effects of disease/genetic attributions on support for policies through criminalization (coefficients ranging from $.04$ to $.09$) and for the indirect effects of disease/genetic attributions on support for policies through medicalization (coefficients ranging from $.04$ to $.05$). However, increasing beliefs that addiction is, at least in part, attributable to a disease or a person's genetics can increase beliefs that opioid users should be helped via medical

treatment and decrease beliefs that they should be punished via the criminal justice system which in turn increases support for public health policies and programs.

These results indicate that changing attributions about the cause of opioid addiction, particularly about addiction being caused by the person's bad character, affect beliefs about whether opioid users should be medicalized or criminalized which in turn relates to support for public health-oriented policies and programs. Understanding the mechanisms that relate to support for these policies and programs can provide information about how to increase support and acceptance of these policies and programs while decreasing opposition. Future research should investigate the most effective way to change attributions about the causes of opioid addiction. Future research should also investigate other mechanisms that relate to support and opposition to policies and programs to better identify targets for change.

Chapter 15—General Discussion, Limitations, Future Directions, and Conclusion

Opioid addiction is one of the largest social and public health issues the United States is currently facing. The scope of the problem is so large that deaths from opioid addiction contributed to a decreased life expectancy in the United States (Dowell et al., 2017). Adding to the problem, drug addiction is one of the most stigmatized conditions in the Western world (Corrigan et al., 2009; Sorsdahl et al., 2012) and stigma is a barrier to combatting the opioid epidemic (Surgeon General Report, 2016). Understanding, and ultimately reducing, opioid addiction stigma is important because experiencing stigma causes additional harm in addition to the direct effects of opioid use and addiction.

The purpose of this dissertation was to investigate opioid addiction stigma and attitudes toward public health-oriented policies and programs. This research first investigated how characteristics of an opioid user intersect and interact with participant characteristics to predict stigma. The mediating effects of attributions about the perceived causes of opioid addiction and how these attributions relate to stigma were also examined. Next, the relationship between contact and stigma was investigated. Characteristics of a subset of participants who indicated someone close to them has been addicted were analyzed to investigate how relationship to an addicted person, quality of the relationship, and outcomes related to the addicted person relate to stigmatizing attitudes. Finally, support for six public health-oriented policies and programs were investigated. This research investigated how participant characteristics, stigma, and attributions about the cause of addiction relate to support. The mediating role of support for criminalizing or medicalizing an opioid user was investigated to explain the relationship between attributions about the cause of addiction and support for policies and

programs. The remainder of this chapter reviews the major findings for each section, discusses these findings and their policy implications, and describes directions for future research and limitations of the present research. Major findings and their accompanying discussion are first presented for the analyses that investigated the effects of race, social class, and gender on stigma, criminalization, and medicalization followed by a discussion of the mediating role of attributions. Second, factors that relate to support for public health-oriented policies and presented and discussed. Finally, the analyses related to contact are discussed.

Race, Social Class, and Gender

This study manipulated the race, social class, and gender of fictive opioid addicts to see if these characteristics were related to participant reactions to those characters. Unexpectedly, participants rated the White opioid user more negatively relative to the Black opioid user on the stereotypes, negative feelings, bad character attributions, social distance, and discrimination measures. As expected, participants rated the working class opioid user more negatively relative to the middle class opioid user on the stereotypes, violence, bad character attributions, social distance, criminalization, and medicalization measures. The gender of the opioid user did not relate to responses except that medicalization scores were higher for the male opioid user compared to the female opioid user.

With regard to participant characteristics, higher-class participants rated the opioid user more negatively compared to lower class participants on the stereotypes, negative feelings, violence, bad character attributions, social distance, discrimination, and criminalization measures. Results regarding participant gender were mixed. Female

participants rated the opioid user more negatively on the violence and criminalization measures while male participants rated the opioid user more negatively on the bad character attributions, disease/genetic attributions, discrimination, and medicalization measures.

Findings did not support intergroup relations hypotheses. Contrary to what outgroup bias would predict, White participants reported more stigma and lower support for treatment for White opioid users compared to Black opioid users. Instead of outgroup bias, the black sheep effect might have occurred because being addicted to opioids might be viewed as an extreme violation of group norms and thus, ingroup members were actually evaluated more harshly than outgroup members. Participants also could have been motivated to appear egalitarian rather than racist and thus, tried to respond in a socially desirable way.

This study also tested whether the relationship between participant characteristics and their reaction to the fictive opioid user was contingent on the opioid addict's social class or gender. However, there were no interactions between opioid user social class and participant social class or between opioid user gender and participant gender, indicating no ingroup and outgroup effects based on participant social class and gender. This may be because participants were not categorizing the vignette character as an ingroup or outgroup member based on these characteristics. Being addicted to opioids might have been the most salient characteristic and thus, participants might not have attended to similarities between themselves and the vignette character on social class membership and gender.

Overall, participants did display a bias toward working class opioid users relative to middle class opioid users. This comports with past research that found a lower class pregnant woman addiction to opioids was evaluated more negatively compared to a higher-class pregnant woman (Kennedy-Hendricks, McGinty, & Barry, 2016). Participants reported more negative stereotypes about the working class opioid user and were more likely to attribute the working class opioid user's addiction to their bad character. This suggests that stereotypes about the poor, such as they are lazy and lack moral character, carry over to attributions about drug use and addiction. Participants also had a greater desire for social distance from the working class opioid user and were more likely to indicate the working class opioid user should be criminalized and less likely to indicate they should be medicalized. Again, this reflects stereotypes that lower-class drug users are criminals and should be punished but higher-class drug users are deserving of help.

Interestingly, attributions that opioid addiction is caused by a disease and/or genetics did not differ by race or class of the opioid user. Although participants were more likely to attribute opioid addiction to the person's bad character when they were White and working class, disease/genetic attributions were applied at the same rate regardless of the characteristics of the opioid user. This provides some evidence that the disease model of addiction might be applied universally across opioid users from different backgrounds. However, as described above participants were more likely to indicate that middle class opioid users should receive help via medical treatment for their addiction compared to working class opioid users. In other words, participants agreed that addiction is a medical problem regardless of the race, social class, and gender of the

opioid user, but they were more likely to support medical treatment when the opioid user was middle class. This demonstrates a bias toward lower class people in that participants are less likely to agree that these people are deserving of medical assistance.

Additionally, the social class of the participant was related to attitudes and beliefs about the opioid user. Higher-class participants tended to hold more stigmatizing attitudes, and report higher agreement that the opioid user should be punished and lower agreement that the opioid user should be helped compared to lower-class participants. Lower-class people might be more tolerant and feel more empathy for marginalized groups because they themselves might have experienced bias and stigma due to their class membership. Because higher-class people tend to report more stigma toward opioid users, higher-class people might need to be targeted to reduce stigma. It is particularly concerning that higher class participants had higher agreement that the opioid user should be punished via the criminal justice system and lower agreement that the opioid user should be helped via medical treatment because higher-class people tend to hold positions of power in society and be more likely to be making these decisions with regard to policy.

Participants who held system-justifying beliefs also reported more stigma and a greater desire to punish the opioid user and lower support for medical treatment for the opioid user, and in some cases this effect reduced or eliminated the effects of participant social class. System justification was also related to lower support for all six of the public health oriented policies and programs measured in this research (see below section on policies). Other research has found that system justification is negatively related to willingness to engage in actions against instances of disadvantage, for example

willingness to protest the Wall Street bailout (Jost, Chaikalis-Petritis, Sidanius, van der Toorn, & Bratt, 2011).

System-justifying beliefs seem to reduce feelings of anger, frustration, and moral outrage, such as not being angered or finding a moral problem with the extreme income inequality or the poor treatment of low status groups. Moreover, anger mediates the association between system-justifying beliefs and non-disruptive protests. That is, people who hold system-justifying beliefs may be less likely to participate in non-disruptive forms of protest (e.g., petitions, writing letters to congressman, volunteering for a cause) because they are less angry about the issue being protested (e.g., teachers jobs, bank bailout; Jost et al., 2011). Eliciting anger in the public or powerful groups, particularly people high in system-justifying beliefs, about the external causes of the opioid epidemic such as the role of pharmaceutical companies (discussed more below might be one strategy to reduce stigma and inspire constructive change. Anger did not mediate the relationship between system justification and disruptive forms of protest (e.g., riots, strikes); thus, strategies to evoke anger might be more effective when trying to mobilize people to support laws and policies aimed at helping opioid users, volunteering for campaigns, or writing to congressman.

As demonstrated by the present research and other research, system-justifying beliefs are not conducive to fighting for equality, better treatment for marginalized groups, or changes to the status quo; however, system-justifying beliefs have psychological benefits (Jost & Hunyady, 2002). People tend to hold system-justifying beliefs because these beliefs reduce feelings of uncertainty, guilt, and lack of control and system-justifying beliefs are generally related to psychological wellbeing for both low

and high status groups (Jost & Hunyady, 2002; Vargas-Salfate, Paez, Khan, Liu, & Gil de Zunga, 2018). Furthermore, system-justifying beliefs result in certainty about social hierarchies, perceptions of reduced threats, and a common understanding with others (Hennes, Nam, Stern, & Jost, 2012). As uncertainty, guilt, and lack of control tend to be uncomfortable and negative feelings, people are motivated to maintain these beliefs in order to suppress these negative and uncomfortable feelings. Thus, motivating people to change their system-justifying beliefs is challenging because these beliefs serve a protective and self-serving purpose. Furthermore, system-justifying beliefs are largely automatic and non-conscious (Jost et al., 2004). Despite these challenges, a number of strategies might be successful at permanently or temporarily reducing system-justifying beliefs, at least in regard to the plight of opioid addict, and in turn reducing stigma and increasing support for public health oriented policies and programs.

Research indicates system-justifying beliefs can be reduced when people think about and criticize aspects of the social system. One study experimentally manipulated system-rejection beliefs by asking participants in the experimental group to write criticisms about political, social, and legal aspects of the U.K. This manipulation resulted in lower system-justifying beliefs, increased anger, and increased willingness to engage in non-disruptive and disruptive forms of protest (Jost et al., 2004). This indicates that system-justifying beliefs can be altered, at least temporarily. With regard to opioid addiction stigma, anti-stigma campaigns and interventions (e.g., presentations in schools or police stations, commercials) might benefit from first getting spectators to think about negative aspects of the system, such as pharmaceutical companies and greed or unequal access to medical care. This might be one short-term strategy to help reduce system-

justifying beliefs and help people understand the harms of opioid addiction stigma and the need for public health oriented programs and policies to combat the opioid epidemic.

A true reduction or abolishment of system-justifying beliefs is more difficult to achieve. Jost and colleagues (2011) argue that this will not occur until the deep-rooted psychological motivations for system justification are diminished. This might occur when the status quo is no longer stable or supported and enough people believe that a new way of operating is inevitable. We perhaps have seen glimpses of this, with increasing support and acceptance of once “radical ideas” such as universal healthcare and a livable minimum wage and exposure of the magnitude of the inequality between the United States’ wealthiest individuals and everyone else.

Race, Social Class, and the Mediating Role of Attributions

Attributing the opioid user’s addiction to his or her bad character partially mediated the relationship between opioid user race and the stigma dependent variables, medicalization, and criminalization. Participants were more likely to attribute addiction to bad character when the opioid user was White compared to Black and making bad character attributions about addiction was related to more stigma, greater agreement the opioid user should be criminalized, and lower agreement the opioid user should be medicalized. Bad character attributions also partially mediated the relationship between opioid user social class and the stigma dependent variables, medicalization, and criminalization. Participants were more likely to attribute addiction to bad character when the opioid user was in the working class compared to the middle class and making bad character attributions was related to more stigma, a greater desire to criminalize, and a lower desire to medicalize. The indirect pathways through bad character attributions

accounted for a substantial proportion of the total effect of opioid user race on the dependent variables (between 40% and 94%) and the total effect of opioid user social class on the dependent variables (between 34% and 84%). In contrast, attributing the cause of addiction to disease/genetics did not mediate the relationships between opioid user race and social class and the dependent variables.

The opioid epidemic has been portrayed in the media as affecting middle class White people and the response to the opioid epidemic has been more focused on harm reduction and treating people affected by opioids as victims compared to past drug epidemics (Netherland & Hansen, 2016). Conversely, the crack cocaine epidemic was portrayed in the media as affecting poor minorities and the response focused on criminalization and control of people who used crack cocaine. Some have indicated that the type of people who are affected by these drug epidemics and how they are portrayed in the media have resulted in different responses (Golub & Hartman, 1999; Netherland & Hansen, 2016). This dissertation research provides some support for this claim and helps explain why drug users displaying different social characteristics are treated differently. The results of this research indicate that the way in which an opioid user is portrayed affects stigmatizing attitudes, support for medical treatment, and the desire to punish the person. In line with this claim, middle class opioid users were evaluated more positively, and participants reported greater support for medical treatment, and a lower desire to punish relative to working class opioid users. However, this research found that White opioid users were evaluated more negatively compared to Black opioid users. The reason for this effect is unclear. As described above this might have occurred because of the black sheep effect or social desirability bias or both; however, future research should

further investigate how the race of an opioid user and the race of participants affects stigma. Nonetheless this research did find that opioid users are evaluated differently depending on other social characteristics they possess. This indicates that the way opioid users are portrayed in the media can affect public opinion and policy (Hartman, & Golub, 1999; Morone, 1997).

All people who are addicted to opioids likely experience stigma to some degree; however, the results of this research indicate that people who belong to certain social groups might experience more stigma than others. The intersectionality framework posits that belonging to different social categories shapes individuals' life experiences (Remedios & Snyder, 2015). Different social groups might experience opioid addiction stigma at different rates. That is, the experience of opioid addiction stigma is not universal and might affect people differently depending on other characteristics they possess. For example, this research indicates that people who are addicted to opioids who are also in the working class will experience more stigma relative to people who are addicted to opioids and in the middle class. This might be because negative depictions of people who belong to low social classes are often presented in the media in tandem with substance abuse (Bullock, Wyche, & Williams, 2001; Singer & Page, 2014).

The non-universal experience of opioid addiction stigma might further perpetuate disparities for marginalized groups and some marginalized groups might feel the burden of opioid addiction stigma more than others. News and entertainment media should be cognizant of how they are depicting people addicted to opioids as the content and amount of media coverage on an issue shapes the public's attitudes (Blendon & Young, 1998). The media might have even more influence on people's attitudes who are not familiar

with or knowledgeable about opioid addiction as this might be their only or primary source of information about people addicted to opioids. The way in which news and popular media depicts people addicted to opioids and shapes peoples' attitudes is also important because public attitudes are related to policy support and adoption (Burstein, 2013). Additionally, future research should not assume stigma is the same for all opioid users and further investigate how different social groups experience opioid addiction stigma.

The results of these mediation analyses help explain why people respond differently to opioid users depending on their race and social class. Modeling the indirect effects of opioid user race and social class on stigma and the desire to punish or help are beneficial to better understand *why* opioid users are treated differently depending on the social characteristics that they possess. A substantial proportion of this effect was explained by the attributions about the cause of the person's addiction. It appears that different races and social classes relate to different rates of agreement about attributions about the cause of a person's opioid addiction and these attributions relate to stigma, support for medical treatment, and the desire to punish. The opioid users' addictions was more likely to be attributed to their own bad character when they were White or working class and attributing the cause of addiction to bad character was related to increased stigma, higher agreement that the opioid user should be punished, and lower agreement that the opioid user should be helped. These results can help explain why poor people tend to be treated more harshly. However, surprisingly, White participants were also more likely to blame White opioid users for their addiction compared to Black opioid users, partially explaining the more negative attitudes reported towards the White opioid

user relative to the Black opioid user. This research cannot determine why White participants were more likely to make bad character attributions about the White opioid user compared to the Black opioid user. It may have been due to the Black Sheep Effect or socially desirability bias. Future research should further investigate the relationships between race of an opioid user and attributions about the cause of addiction.

The results of this dissertation research comport with past research on attributions. When people believe that an individual is responsible for and in control of something bad that is happening in their lives, such as opioid addiction, they are more likely to react with anger, blame that individual for their situation, and believe they should be punished (Dooley, 1995; Graham et al., 1997; Weiner, 1993). However, when people believe that an individual has no control over their negative circumstances, they are more likely to pity the individual and want to help them (Weiner et al., 1988). Research on mental illness has found that when people attribute mental illness to uncontrollable factors (e.g., a head injury), they are more likely to offer help such as emotional support (e.g., being a good friend) and tangible support (e.g., driving someone to treatment; Schwarzer & Weiner, 1991). Thus, the results of this research support attribution theory in that when participants believe a person's opioid addiction is due to poor decisions or a weak character, they reported more negative attitudes, higher agreement that the person should be punished, and lower agreement that the person should be helped. Understanding the relationships between attributions about addiction and attitudes towards people who are addicted has implications for how to reduce opioid addiction stigma as discussed in the next section.

The results of this dissertation suggest that attributing opioid addiction to disease/genetics does not reduce stigma or the desire to medicalize or criminalize. Thus, emphasizing to the public that addiction is a disease might not be the best approach to reduce stigma. This research found a null effect of making disease/genetic attributions on stigma but other research on mental illness stigma has found that connecting mental illness to a disease can actually increase stigma (Read & Harre, 2001). Thus, more research is needed to investigate how the disease model of opioid addiction relates to stigma and in the meantime individuals should be careful about using it as a tool to reduce stigma. Reframing addiction or mental illness as a disease with neurobiological causes might not be effective at reducing stigma because the focus is still on individual causes. Pushing a narrative that people who are addicted or have a mental illness have something wrong with their brain, despite it being out of their control, might still lead people to locate cause in the individual for the addiction or mental illness. Internal attributions about the cause of addiction or mental illness, in turn, are related to more blame and a lower desire to help (Heider, 1958; Moskowitz, 2005; Weiner, 1995; Wood & Bartkowski, 2004). In sum, this research provides further support that a disease model might not reduce stigma and should not be used by stigma reduction campaigns.

The relationship between external attributions (e.g., stressful life circumstances, structural factors) and stigma, support for medical treatment, and the desire to punish could not be examined in the current research due to problems with measurement. However, highlighting the role of external factors in creating and perpetuating addiction, such as pharmaceutical company practices, physician prescribing practices, and negative life circumstances, might be one way to reduce stigma, discussed more below.

Support for Policies and Programs

Support for the six policies and programs designed to treat opioid addiction tended to be high among the participants in this study. However, recall that a large proportion of the sample indicated they know someone who is addicted thus, the rate of support in this sample might be higher than in a representative sample. Additionally, substantial proportions of participants indicated they did not know what supervised injection sites, needle exchange programs, and medication-assisted treatment were. This illuminates a gap in knowledge about these important lifesaving policies and programs. Education, public outreach initiatives, and public service announcements could be used to better inform people about these types of programs and policies. This might be especially important for the growing and substantial proportion of the population who know someone close to them who is addicted to opioids.

Two participant characteristics were consistently related to support for the policies and programs: political affiliation and system justifying beliefs. Participants who identified as Republicans reported the lowest support, participants who identified as Democrats reported the highest support, and Independents and people with no affiliation fell in the middle. Higher agreement with system justifying beliefs was related to lower support for all policies and programs. People who hold beliefs that social systems and structures are fair rationalize that peoples' place in society is justified (Jost et al., 2003). Thus, it makes sense that people who hold such beliefs do not support policies and programs that would help opioid addicts because they are more likely to believe that people who are addicted to opioids deserve their low social status and are not deserving of help in order to maintain the status quo. Supporting programs and policies aimed at

helping people addicted to opioids would counter these beliefs that opioid users deserve their low status in society, possibly resulting in cognitive discomfort. As described above, system-justifying beliefs serve positive psychological motives; however, they negatively relate to moral outrage or anger towards inequality and the continued marginalization of stigmatized groups. This lack of anger and moral outrage might help explain why people high in system-justifying beliefs do not support policies and programs to help opioid users. Thus, as described above education and stigma campaigns might benefit from engaging their target audience in system-rejection ideas to reduce system-justifying beliefs.

This research also investigated how stigma and attributions related to support for public health-oriented policies and programs. The desire for social distance, indicating that discrimination toward the opioid user was acceptable, and making bad character attributions about the cause of addiction was related to less agreement that the government should provide healthcare for people who are addicted and that the government should increase spending for addiction treatment. Making disease/genetic attributions about the cause of addiction was related to increased agreement that the government should provide healthcare for people who are addicted and that the government should increase spending for addiction treatment. Negative feelings toward the opioid users were related to less support for supervised injection sites, medication-assisted treatment, treatment instead of arrest, and needle exchange programs. The desire for social distance was related to less support for treatment instead of arrest and needle exchange programs. Indicating that discrimination toward the opioid user was acceptable was related to less support for supervised injection sites, treatment instead of arrest, and

needle exchange programs. Attributing the opioid user's addiction to bad character was related to less support for supervised injection sites, medication-assisted treatment, and needle exchange programs. Finally, attributing the opioid user's addiction to a disease/genetics was related to increased support for medication-assisted treatment, treatment instead of arrest, and needle exchange programs.

Stigma is harmful in many ways, and this research demonstrates yet another reason why reducing opioid addiction stigma is so important: stigmatizing beliefs are related to decreased support for important policies and programs aimed at helping people addicted to opioids. Reducing public stigma in general and increasing the public's support for public health oriented policies and programs is important but stigma reducing initiatives targeted at people in power, such as police departments, law makers, community leaders, and physicians might be particularly useful to increase support, enactment, and use of these types of programs. Targeting specific and smaller groups of people (e.g., a police department, a doctor's office, a senator and staff) with opioid addiction stigma education and training sessions might actually be easier and more effective than wide spread public campaigns. Other recent research (Kennedy-Hendricks et al., 2017) also found that higher stigma is related to decreased support for public health oriented policies. This research included policies that were not assessed in the present research, such as expanding Medicaid benefits to cover opioid addiction treatment and Good Samaritan laws, as well as policies that were assessed in the present research such as increased spending for substance use treatment. Additionally, Kennedy-Hendricks and colleagues (2017) found that higher stigma was related to increased support for punitive policies such as arresting people for obtaining multiple prescriptions.

As described above, reducing stigma toward people addicted to opioids, particularly among groups who hold power in society, might be one way to encourage support for life saving programs and policies. Changing attributions about the causes of opioid addiction might be one avenue to reduce stigma and thus also increase support for programs and policies, which is discussed below. Although not measured in the present study, it appears that stigma also increases support for punitive and criminal justice related policies. Thus, reducing stigma is also important to discourage the use of punitive policies toward people addicted to opioids. However, as Kennedy-Hendricks and colleagues (2017) note, it is unclear if stigma causes punitive criminal justice-oriented policies or punitive policies increase stigma. Policies that categorize people addicted to opioids as criminals might perpetuate stigma because there is also a stigma attached to being a criminal as well as feelings that generally accompany this label such as fear and dangerousness. Decreasing stigma might not only increase support and the possible adoption of public health oriented policies and programs but reduce the use of punitive policies and programs.

Attributions about the cause of opioid addiction were also related to support for public health oriented policies and programs. Attributing the cause of opioid addiction to a person's bad character decreased support and attributing the cause to disease/genetics increased support. Efforts to decrease attributions that opioid addiction is caused by individual causes, such as a person's bad character, might not only help decrease stigma, as described in previous sections, but also garner support for public health-oriented policies and programs. This makes sense as attributing opioid addiction to things such as a person's poor decisions or weak moral character are related to less pity and a lower

desire to help (Weiner et al., 1988); thus, it is not surprising that participants who made these kinds of attributions were less likely to support policies and programs aimed at helping opioid users. Attributing the cause of addiction to disease/genetics was related to higher support for the programs and policies. Many of the policies were centered around medical help, such as medication-assisted treatment, treatment instead of arrest, and increased government funding for treatment; thus, it makes sense that participants who believe addiction is a disease or due to genetic causes would be more likely to support policies and programs that use medical treatment to combat opioid addiction.

Interestingly, disease/genetic attributions were not related to stigmatizing attitudes but were related to support for five out of the six policies and programs. This is important information for anyone working to reduce opioid addiction stigma and reduce the harm of the opioid epidemic. Although it would be expected that attributing addiction to disease/genetics would reduce stigma because perceptions of controllability, blame, and responsibility would be lower this is not always the case. The present research found null effects of disease/genetic attributions on stigma, though in the present study attributions were measured and not manipulated. Additionally, disease models (i.e., describing mental illness or addiction is a genetic or biological disease) have been used in the past to try to reduce stigma but findings indicate in some cases stigma actually increased (Read & Harre, 2001). This might be because people are more likely to think a condition is permanent or that a genetic or biological disease further separates stigmatized individuals from people who do not possess the stigmatizing characteristics (Phelan, 2005; Read & Harre, 2001). Thus, attempts to decrease stigma by increasing disease/genetics attributions about the cause of opioid addiction should proceed with caution and more

research is needed to further understand the relationship between believing addiction is a disease and stigma.

Attributions, Medicalization, Criminalization, and Support for Programs and Policies

The relationships between attributions about the cause of addiction and support for policies and programs were further explored by examining the mediating role of the desire to medicalize and criminalize an opioid user. Bad character attributions were indirectly related to support for the six public health-oriented policies and programs through medicalization and criminalization. Disease/genetic attributions were also indirectly related to support for the policies and programs through medicalization and criminalization. Attributing opioid addiction to the person's bad character was positively related to criminalization, which was in turn negatively related to support for the policies and programs. Attributing opioid addiction to the person's bad character was negatively related to medicalization, which was in turn positively related to support for the policies and programs. Attributing opioid addiction to disease/genetics was negatively related to criminalization, which was in turn negatively related to support for the policies and programs. Attributing opioid addiction to disease/genetics was positively related to medicalization, which was in turn positively related to support for the policies and programs.

Investigating the indirect effects of attributions on support for public health policies and programs helps explain why different attributions about the cause of opioid addiction relate to support or opposition toward these policies. Attributions about the cause of opioid addiction relate to feelings about whether the opioid user should be

helped or punished which in turn relates to support for policies aimed at helping the opioid user. When the cause of addiction is attributed to the opioid user's own bad character, individuals are less likely to indicate the opioid user should receive help via medical treatment and more likely to indicate the opioid user should be punished via the criminal justice system. In turn, supporting medical treatment relates to support for public health-oriented policies and a desire to punish relates to lower support for these policies. The indirect pathways between bad character attributions and support for policies and programs through medicalization and criminalization accounted for a substantial proportion of the total effect (12%-68% through medicalization and 27%-93% through criminalization).

When the cause of addiction is attributed to disease/genetics, individuals are more likely to indicate the opioid user should receive help via medical treatment and less likely to indicate the opioid user should be punished via the criminal justice system. In turn, support for medical treatment relates to support for public health-oriented policies and a desire to punish relates to lower support for these policies. The indirect pathways between disease/genetic attributions and support for policies and programs through medicalization and criminalization accounted for a substantial proportion of the total effect (13%-33% through medicalization and 28%-39% through criminalization). These findings indicate that attributions about the cause of opioid addiction relate to support for policies and programs because the attributions people make, in part, determine whether they want to help or punish opioid users. The indirect pathways between bad character attributions and support for policies and programs through criminalization had the largest indirect effects. Thus, investigating ways to reduce attributions that opioid addiction is

due to someone's bad character, a number of which are described below, might be particularly helpful to break the association between opioid users and the desire to punish and criminalize.

Changing Attributions to Reducing Stigma and Increase Support for Policies and Programs

As described in the sections above, bad character attributions were related to increased stigma and decreased support for public-health programs and policies and disease/genetic attributions were related to increased support for programs and policies. Thus, this research indicates that changing attributions about addiction might be one strategy to reduce stigma and increase support for policies and programs. This section describes a number of possible ways to educate the public about the external causes of opioid addiction with the goal of reducing attributions that opioid addiction is due to a person's bad character, in turn reducing stigma and increasing support for public health policies and programs.

Attributing addiction to something about the individual, such as poor decisions or a weak moral character, was related to increased stigma and decreased support for public health-oriented policies and programs. This research was with White undergraduate students; however, other research has found that a large proportion of physicians (between 69% and 90%) endorsed individual-oriented causes of opioid addiction while a significantly smaller amount (between 45% and 55%) endorsed pharmaceutical industry-oriented causes (Kennedy-Hendricks et al., 2016). Decreasing these types of attributions (referred to in this research as bad character attributions) and the connection between substance use and immorality (Husak, 2005) might be one mechanism to decrease stigma

and increase support for public health-oriented policies and programs. In order to decrease perceptions that individual, or bad character, oriented causes are responsible for people becoming addicted to opioids, increasing education and public awareness about external causes might be beneficial to reduce stigma and increase support for public health oriented policies. This research was not able to examine the effects of external attributions about the cause of addiction on stigma but past research on reducing mental illness and HIV stigma has found that emphasizing environmental and external factors helps reduce public stigma (Jansen, Croonen, & de Stadler, 2005; Rusch, Kanter, & Brondino, 2009).

The pharmaceutical industry is one external cause that has played a significant role in the increased use of opioids contributing to the opioid epidemic. The pharmaceutical industry was a significant influence in changing prescribing practices of opioids in the 1990s, which lead to opioids being prescribed more frequently to more people (Van Zee, 2009). Specifically, marketing efforts by Purdue, the company who created the opioid OxyContin, drastically misrepresented and misinformed many about the risk of addiction to increase the number of drugs prescribed, in turn increasing their revenue (Van Zee, 2009). When the number of people who were becoming addicted to OxyContin and the harm it was causing surfaced, the company plotted to transfer the blame to others saying “We have to hammer on abusers in every possible way. They are the culprits and the problem. They are reckless criminals.” (The New York Times, 2019).

Emphasizing the culpability of the pharmaceutical industry in the opioid epidemic might be particularly important because prescription opioids play a substantial role in the opioid epidemic. In part, due to the aggressive marketing and misrepresented

claims about the risk of addiction, opioids are prescribed at high rates in the United States. In 2017 there were more than 191 million prescriptions for opioids obtained by patients in the United States (CDC, 2018). Most of these patients were not looking to use or abuse drugs but might have ended up with a prescription for opioids from a doctor for things such as a work or recreation related accident, chronic pain, or surgery. A substantial proportion of people first became addiction to opioids through legal prescriptions such as OxyContin. Approximately 25% of people prescribed opioids for pain misuse the drugs and between 8-12% develop and opioid use disorder. In 2017 over 1.7 million people in the United States had a substance use disorder related to prescription opioids (CDC, 2018; Center for Behavioral Health Statistics and Quality, 2018). Prescription opioid misuse is also a risk factor for heroin use, with 80% of people who use heroin first used prescription opioids (Muhuri, Gfroerer, & Davies, 2017). In addition to prescription opioids contributing to people becoming addicted to opioids, prescription opioids were a factor in 35% of all opioid overdose deaths in 2017 (Scholl et al., 2018).

Increasing education and public awareness about the pharmaceutical industry's role in the opioid epidemic, particularly related to prescription opioids, might be one way to increase external attributions about the cause of opioid addiction and decrease attributions that addiction is due to individuals' bad character. As described above, even relatively low proportions of physicians indicated that pharmaceutical-oriented causes were responsible for opioid use disorder (Kennedy-Hendricks et al., 2016). The authors speculate that physicians may be unaware of the role pharmaceutical companies played. If a relatively low numbers of physicians are aware of and endorse pharmaceutical-

oriented causes of opioid addiction, it is likely that the public's knowledge is even less. Thus, efforts to counter beliefs that blame individuals for opioid addiction by highlighting the role that pharmaceutical companies have played might be one way to change attributions, decrease stigma, and increase support for policies and programs.

In addition to understanding misconduct on the part of pharmaceutical companies, education about the powerful addictive properties of opioids might help reduce internal attributions about the cause of addiction and reduce stigma and increase support for public-health policies and programs. The chemicals in opioids interact with receptors in the brain and the nervous system that are responsible for emotions and reward activation (Merriner, Becker, Befort, & Kieffer, 2009; National Institute of Drug Abuse, 2015). Not only do opioids reduce pain (what they are prescribed for) but they also produce positive feelings such as euphoria and relaxation. In part, because of these intensely positive sensations, people are motivated to continue using opioids creating a positive reward feedback loop between the drugs and the brain. Over time the chemistry of the brain changes and people develop a tolerance to the drug, requiring a higher dose to achieve the same feelings. Opioid dependence occurs when people experience negative psychological and physiological withdrawal symptoms when they stop taking the drug. Thus, people are motivated to continue using opioids to feel the positive euphoric feelings as well as to stop the negative withdrawal symptoms. Continued use of opioids results in changes in the brain that affect things such as judgment and decision-making, learning, and behavior. Addiction occurs when people feel a compulsive urge to use the drugs to pursue reward and relief despite harmful consequences. The compulsion to use opioids is

so strong and powerful that it often becomes the sole focus of their life (American Psychiatry Association, 2018).

The combination of highlighting the addictive properties of opioids, how anyone's brain could possibly become addicted and how many people do not start out taking the drugs recreationally might help change attitudes. Importantly, attributions about addiction being a disease or due to genetics did not reduce stigma and in other research on mental illness actually increased stigma (Read & Harre, 2001). This might be because attributing addiction to a disease or genetics still results in people seeing the person as defective or to blame for addiction. However, emphasizing the addictive properties of the opioids and how easily some people can become addicted might be more effective at reducing stigma than emphasizing the person having a disease.

Finally, awareness about other external factors that might reduce stigma and increase support for policies and programs might include life stressors. Stressful and negative life events are related to an increased risk of abusing and becoming addicted to drugs as well as relapse (Sinha, 2001). Individuals who reported a stressful life event, such as job loss, financial hardship, or death of a loved one, in the past year were about 20% more likely to have used drugs in the past year (McCabe, Cranford, & Boyd, 2016). Additionally, the number of stressful life events was related to the severity of drug use and abuse. Drug use and abuse is used to cope with stress and self-medicate (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004). Everyone experiences stress and negative life events at some point in their lives and not all people become addicted to opioids, but the combination of exposure to negative life events and the availability of opioids likely increases the risk of addiction over and above individual-level factors.

Due to rising healthcare costs, college debt, stagnant wages and other factors, many lower and middle class people face mounting social and economic stressors and, as stated above, stress is related to drug use and abuse. Although people from all areas of the country experience stressful life events, people in rural areas of the United States might be particularly at risk. Many rural areas of the United States, such as rural areas in the Midwest, Appalachia, and New England, have been hit particularly hard by the opioid epidemic with overdose deaths increasing at a higher rate in rural compared to urban areas (Monnat & Rigg, 2018). Chronic economic stress might have contributed to this (Keyes, Cerda, Brady, Havens, & Galea, 2014). Rural areas did not recover from the 2008 recession as quickly as other areas and job opportunities tend to be limited especially with the automation of many jobs once typically found in rural areas such as manufacturing plants and factories (Slack, 2014). In rural areas, once people become addicted treatment options are often non-existent or very difficult to access (Dombrowski, Crawford, Khan, & Tyler, 2016). Education and public awareness about the social and economic burdens individuals face as well as the connection between stress and drug use might help reduce attributing the cause of opioid addiction to individuals' bad character. Highlighting the social structural factors that contribute to the opioid epidemic might help reduce stigma and help people addicted to opioids (Dasgupta, Beletsky, & Ciccarone, 2018).

Knowledge and understanding of external factors such as the influence of the pharmaceutical industry, the powerful addictive properties of opioids, and negative life events, that might contribute to opioid addiction might help reduce stigma and increase support for public-health policies and programs. Highlighting external factors about

various stigmatizing conditions has been successful in past research. Narratives that have highlighted external factors that affect an individual with obesity have increased perceptions that obesity is caused by structural factors (Niederdeppe et al., 2014). Similarly, narratives that described external factors that made it difficult for a pregnant woman addicted to opioids to seek treatment increased support for public-health oriented policies (Kennedy-Hendricks et al., 2016).

Messages that use narratives to communicate public health messages might be more effective than other types of messages (e.g., statistical, factual, fear) at changing attitudes or behaviors (De Graaf, Sanders, & Hoeken, 2016). This is because narratives can illicit emotional reactions such as empathy (Busselle & Bilandzic, 2009). Narratives that evoke feelings of sympathy and pity for a pregnant opioid user were related to reduced blame and reduced support for punitive policies (Kennedy-Hendricks et al., 2016). Thus, what also might be effective are narratives that direct anger toward pharmaceutical companies and away from the individuals who are addicted to opioids. Narratives that counter stereotypes about typical drug addicts, such as a woman with a good job and a nice house can become addicted to opioids, helped shift blame away from the individual and reduce support for punitive policies (Kennedy-Hendricks et al., 2016).

The results of this dissertation research as well as past research on stigma reduction indicate that one strategy to reduce stigma and increase support for public-health policies and programs is education and campaigns that use narratives about people addicted to opioids, highlighting the external influence of pharmaceutical companies, the addictiveness of opioids, and life circumstances. As described above, education and stigma reduction strategies targeted at groups in power such as police departments,

lawmakers, and physicians might be one way to change attitudes in a community.

Narratives or storytelling by people who have experienced and recovered from addiction could be used in sessions with these groups to effectively reduce stigma and increase feelings of sympathy and empathy.

Although one strategy to reduce stigma and increase support for public health-oriented policies and programs is to increase awareness and education about external factors that relate to addiction, the extent to which individual responsibility for opioid addiction should be acknowledged is unclear. It is possible that portraying opioid addicts as completely blameless will dissuade people, and especially people who have extensive contact with addiction, from accepting other explanations of opioid addiction. Research has shown that when a person acknowledges some responsibility for a situation, people tend to be more forgiving. For example, when doctors acknowledge and apologize for a medical error, people report less blame and anger and the likelihood of a medical malpractice lawsuit is reduced (Robbenholt, 2009).

Past research has investigated the effectiveness of different ways to change attitudes about mental health and substance abuse stigma. Common strategies that have been used and evaluated include education, protest, and contact (Corrigan et al., 2001). Education strategies typically seek to replace stigmatizing attitudes and stereotypes about a substance use disorder with more accurate and complete information. Protest strategies seek to confront and suppress the expression and depiction of stigmatizing attitudes such as in news and popular media (Rusch et al., 2005). Finally, contact refers to different types of interactions with a member of the stigmatized group. The effectiveness of these intervention strategies are mixed. Education strategies tend to have a smaller effect but in

some cases, especially when tailored to a target population and utilizing multiple strategies, can help change attitudes (Heijnders & Van Der Meij, 2006). Protest strategies with regard to mental illness have generally been ineffective at directly changing attitudes (Rusch et al., 2005). However, reducing the frequency and intensity of negative portrayals of stigmatized individuals in the news and popular media might still have other positive effects such as reducing the availability of negative stereotypes. Positive contact tends to be the most effective at reducing stigmatizing attitudes (Corrigan et al., 2001; Couture & Penn, 2003).

A recent review of the effectiveness of different stigma interventions related to substance use disorders can help inform future opioid addiction stigma reduction strategies. This review (Livingston et al., 2011) found that educational strategies did not reduce stigma in the general public; however, stories and positive depictions of people with substance use disorders reduces stigma towards people with heroin and alcohol dependence. The combination of education and exposure to people with substance abuse disorders decreased stigmatizing attitudes and increased comfort with interacting with people with substance use disorders among medical students. Finally, education and interactive training resulted in a lower desire for social distance for police officers. These insights from past research on the effectiveness and ineffectiveness of different strategies can help inform future stigma reduction campaigns.

Contact and Stigma

This dissertation research also investigated the relationship between contact and stigma. A large proportion of the sample (77.4%) indicated that someone close to them has been affected by addiction. The results from this research comport with past research

that contact generally tends to decrease stigma (Link & Cullen, 1986). Participants who indicated they have ever been addicted themselves reported more positive attitudes on the negative feelings, social distance, discrimination, violence, disease/genetic attributions and criminalization measures. Knowing someone who is addicted was also related to more positive attitudes on the social distance, disease/genetic attributions, medicalization, and criminalization measures. Participants who indicated they have been addicted themselves also reported more positive attitudes on the negative feelings, social distance, discrimination, violence, disease/genetic attributions and criminalization measures. Most of the research on contact and stigma only investigates the relationships mentioned above. However, contact is likely more nuanced than simply knowing someone or experiencing addiction oneself. This study expanded research on contact and stigma by examining elements of the nature and quality of the contact.

The nature of one's relationship to a person with an opioid addiction was only related to the criminalization variable. Participants who indicated that the user they knew was their romantic partner were less likely to indicate the vignette character should be criminalized compared to participants who knew an extended family member who was addicted. This effect might have only emerged for the criminalization dependent variable because a romantic partner being criminalized would likely have a larger effect on the individual compared to having an extended family member or acquaintance criminalized. Direct implications of a romantic partner being criminalized might include the partner being away in jail or prison resulting in loss of emotional and financial support. Additionally, a person whose romantic partner is involved in the criminal justice system

or in prison might experience stigma by association and also be subject to prejudice and discrimination (Phelan, Bromet, & Link, 1998).

What seemed to matter more than relationship to the opioid user was how, if at all, the relationship between the participant and the addicted person they knew had changed as a result of the addiction. Participants who indicated that they were now estranged from the addicted person, that the relationship had become weaker because of the addiction, and that the relationship had not changed, reported more negative attitudes compared to participants who indicated the relationship has become stronger because of the addiction. Being associated with someone who is addicted can be challenging and stressful and cause strain on relationships (Shafer, 2011). Thus, it makes sense participants' own experiences of knowing someone who is addicted, such as experiencing relationship challenges, stress, and strain, are related to how they view someone else who is addicted to opioids. Additionally, participants who indicated that they are estranged from the person or their relationship has become weaker likely had some sort of very negative experience with the person they know who is addicted. One very negative experience with a person who is addicted to opioids might make these people have negative attitudes toward all people addicted to opioids and it might be more difficult to change these people's attitudes. Participants who indicated that their relationship with the addicted person has become stronger might have indicated that something substantial, such as nearly surviving an overdose or being in recovery, occurred that caused the relationship to change in a positive way. Thus, the measure of relationship change might have also unintentionally measured outcomes related to the addicted person but this cannot be parsed apart.

The results of this research indicated that in addition to contact with someone addicted to opioids, the nature and quality of the relationship also affect stigma. As the number of people who use and are addicted to opioids grows, so does the number of people who know someone addicted to opioids and thus, are indirectly affected by the opioid epidemic. Overall, both knowing someone who has been addicted and being addicted oneself was related to decreased stigma. As with other research on stigma, contact might be one avenue to reduce stigmatizing attitudes. However, the nuances of contact should be further investigated as not all contact will likely lead to reduced stigma. For example, how the relationship between the participant and the addicted person changed as a result of the addiction was generally related to stigma, with worse relationship outcomes being related to greater stigma. Having a negative experience with someone addicted to opioids might lead a person to have negative attitudes toward all people addicted to opioids, making reducing stigma challenging among this population of people. In this research participants who had a negative relationship outcome with someone close to them addicted to opioids reported more negative attitudes toward a fictional vignette character, indicating carry over from individual experiences to attitudes in general. Narratives about people addicted to opioids who have recovered or mended relationships with family and friends might be one strategy to reduce generalization of negative attitudes from a personal bad experience with an opioid user to all opioid users.

As more and more people are indirectly affected by opioid addiction, attention should be given to the impact that the opioid epidemic is having on people who are indirectly affected such as romantic partners, parents, children, and friends of people who are addicted to opioids. These people's experiences with opioid users shape their attitudes

toward opioid users in general as well as affect their relationship with the addicted person and their own wellbeing.

Limitations

This research has a number of limitations that should be considered. First, data were only collected from undergraduate students at a western university and is not representative of all undergraduate students, let alone of the larger U.S. population. There might have also been selection effects in that students who know someone who is addicted to opioids might have been more likely to participate in this research because they have more exposure to and interest in the opioid epidemic. Thus, this sample may over represent people who have had personal contact with opioid addiction. People who know someone addicted to opioids tend to have different attitudes (see section on contact) and thus, results might differ from the rest of the population. Additionally, this research only examined the attitudes of White students. To better investigate the findings related to intergroup relations future research should include minority participants. Stigmatizing attitudes might differ depending on participants' background and life experiences. Thus, a more comprehensive understanding of opioid addiction stigma can be obtained by utilizing a more diverse participant pool.

A second limitation was the question used to measure contact with people addicted to opioids. Participants were asked if anyone close to them has ever been addicted, in general, but not specifically to opioids. Thus, it cannot be determined whether contact with people who have any type of addiction (e.g., alcohol, drugs other than opioids) relates to opioid addiction in the same way as experience with opioid addiction specifically. Contact with someone who has been addicted to opioids might

have a different influence on attitudes because this type of contact likely results in a more nuanced understanding and greater exposure to the power of opioids. However, there are likely similarities across addictions that results in people knowing someone addicted, to any type of drug or alcohol, having similar experiences such as relationship strain, lying and stealing, relapse, and reluctance to seek treatment.

Third, only explicit self-reported attitudes towards opioid users were measured in this study. Participants might have been reluctant to report negative attitudes on explicit measures, and may have revealed greater negativity had measures of implicit attitudes toward the vignette character been employed. Prior research found a bias toward Latino opioid users on internal measures but not on external measures (Kulesza et al., 2016). Thus, when investigating sensitive topics such as attitudes toward race and class it might be beneficial to also include implicit measures to avoid social desirability bias. Implicit attitudes can be measured using implicit associations tasks that test the speed of associating between positive and negative words and a given stimulus (Dovidio & Fiske, 2012). For example, faster associations between negative words (e.g., dangerous, violent, unworthy) and a Black opioid user relative to a White opioid user would indicate an implicit bias toward Black opioids users.

Fourth, analyses could not be conducted with the measure of external attributions about the cause of addiction due to poor reliability of the scale used. Thus, although this research indicated that making bad character attributions about the cause of addiction was related to more stigma and a greater desire to punish and a lower support for medical treatment it would be useful to understand statistically how and if external attributions relate to the dependent variables. For example, investigating how agreement with

external attributions, such as the role the pharmaceutical industry or doctors' prescribing practices, relate to stigma.

Fifth, stigma is complex and this research could not investigate all factors that relate to stigma, support for medical treatment, and the desire to punish as well as support for a wide array of other policies and programs. Future research should investigate other factors that might relate to stigma such as how the person became addicted and if they sought treatment. How an individual became addicted might affect perceptions of blame and responsibility and attributions about the cause of addiction, which is related to stigma. For example, people might attribute less blame and responsibility to someone who started taking prescription opioids legally under the guidance of a doctor for a work-related accident compared to someone who started experimenting with prescription opioids recreationally. Additionally, stigma might differ depending on the type of opioid used. For example, people might express more stigma toward people who inject heroin compared to people who take prescription opioids. This might go back to that heroin and injection drugs tend to be associated with urban and poor minorities while prescription opioids might be associated with middle and upper class White people (Netherland & Hansen, 2016). Just as opioid addiction stigma is not universal for all types of people, opioid addiction stigma likely varies according to a number of factors relating to opioid use and addiction, all of which could not be investigated in the present research.

Finally, this research assessed stigma by having participants respond to a fictional vignette character, limiting external validity. Responses might be different when responding in real life to an actual person who is addicted to opioids. Participants, particularly those who have not had personal contact with someone addicted to opioids,

might respond differently to a fictional vignette compared to encountering someone in real life because the experience might be different. For example, participants might not imagine being fearful toward an opioid user they read about but might end up reporting more fear if encountering an opioid user on the street. Participants might also report less social distance toward a fictional vignette character but when faced with a real situation of an opioid user moving next door to them or marrying into their family they may then report a desire for more social distance.

Conclusion

This study investigated factors relating to opioid addiction stigma and support for public health-oriented policies and programs. As opioid addiction continues to be a serious and harmful problem, understanding opioid addiction stigma is crucial. As described above, opioid addiction stigma is pervasive and has direct and indirect negative effects on people addicted to opioids. Social psychological research can be used to design and test strategies to reduce stigma and increase support for public health-oriented policies and programs.

Findings from this research indicated that stigmatizing attitude, support for medical treatment, and the desire to punish varied by the race and social class of the opioid user. This indicates that opioid addiction stigma is not universal but interacts with different characteristics of the user possibly resulting in different experiences for opioid users from different backgrounds. Opioid addiction stigma was also related to decreased support for public health-oriented policies and programs, highlighting another reason why stigma is so harmful. This research indicated that attributions about the cause of addiction were related to stigma, support for medical treatment, the desire punish, and

support for policies and programs. This indicates that changing the public's perception about the cause of addiction might be one mechanism to reduce stigma. Much more research is needed to further understand opioid addiction stigma, particularly ways to reduce stigma; however, this research helped expand our understanding of opioid addiction stigma and provided some possible mechanisms to reduce stigma and increase support for public health-oriented policies.

References

- Aalbers, M. B. (2013). Neoliberalism is dead... long live neoliberalism! *International Journal of Urban and Regional Research*, 37(3), 1083-1090.
<https://doi.org/10.1111/1468-2427.12065>
- Abbasi, J. (2017). CDC says more needle exchange programs needed to prevent HIV. *Jama*, 317(4), 350-350. doi:10.1001/jama.2016.19452
- Abelson, R. P., Dasgupta, N., Jaihyun, P., & Banaji, M. R. (1998). Perceptions of the collective other. *Personality & Social Psychology Review*, 2(4), 243-250.
https://doi.org/10.1207/s15327957pspr0204_2
- Abouyanni, G., Stevens, L. J., Harris, M. F., Wickes, W. A., Ramakrishna, S. S., Ta, E., & Knowlden, S. M. (2000). GP attitudes to managing drug-and alcohol-dependent patients: a reluctant role. *Drug and Alcohol Review*, 19(2), 165-170.
<https://doi.org/10.1080/713659318>
- Abrams, D., Marques, J. M., de Moura, G. R., Hutchison, P., & Bown, N. J. (2004). *The maintenance of entitativity. The psychology of group perception: Perceived variability, entitativity, and essentialism*, 361-378.
<https://core.ac.uk/download/pdf/322315.pdf>
- Abrams, D., Viki, G. T., Masser, B., & Bohner, G. (2003). Perceptions of stranger and acquaintance rape: The role of benevolent and hostile sexism in victim blame and rape proclivity. *Journal of Personality and Social Psychology*, 84(1), 111-125.
<http://dx.doi.org/10.1037/0022-3514.84.1.111>

- Addison, S. J., & Thorpe, S. J. (2004). Factors involved in the formation of attitudes towards those who are mentally ill. *Social Psychiatry and Psychiatric Epidemiology*, 39(3), 228-234. doi: 10.1007/s00127-004-0723-y
- Ahern, J., Stuber, J., & Galea, S. (2007). Stigma, discrimination and the health of illicit drug users. *Drug & Alcohol Dependence*, 88(2), 188-196. doi: <https://doi.org/10.1016/j.drugalcdep.2006.10.014>
- Almquist, E. M. (1975). Untangling the effects of race and sex: The disadvantaged status of Black women. *Social Science Quarterly*, 129-142. <https://www.jstor.org/stable/42859476>
- Amato, L., Davoli, M., Perucci, C. A., Ferri, M., Faggiano, F., & Mattick, R. P. (2005). An overview of systematic reviews of the effectiveness of opiate maintenance therapies: available evidence to inform clinical practice and research. *Journal of substance abuse treatment*, 28(4), 321-329. <https://doi.org/10.1016/j.jsat.2005.02.007>
- American Psychiatric Association. (2018). Nearly one in three people know someone addicted to opioids; more than half of millennials believe it is easy to get illegal opioids. Retrieved from <https://www.psychiatry.org/newsroom/news-releases/nearly-one-in-three-people-know-someone-addicted-to-opioids-more-than-half-of-millennials-believe-it-is-easy-to-get-illegal-opioids>
- Anderson, T. L., Scott, B. L., & Kavanaugh, P. R. (2015). Race, inequality and the medicalization of drug addiction: An analysis of documentary films. *Journal of Substance Use*, 20(5), 319-332. <https://doi.org/10.3109/14659891.2014.920052>

- Arria, A. M., & DuPont, R. L. (2010). Nonmedical prescription stimulant use among college students: why we need to do something and what we need to do. *Journal of addictive diseases, 29*(4), 417-426.
<https://doi.org/10.1080/10550887.2010.509273>
- Baker, T. B., Piper, M. E., McCarthy, D. E., Majeskie, M. R., & Fiore, M. C. (2004). Addiction motivation reformulated: An affective processing model of negative reinforcement. *Psychological review, 111*(1), 33. DOI: 10.1037/0033-295X.111.1.33
- Barry, C. L., Brescoll, V. L., Brownell, K. D., & Schlesinger, M. (2009). Obesity metaphors: How beliefs about the causes of obesity affect support for public policy. *The Milbank Quarterly, 87*(1), 7-47. <https://doi.org/10.1111/j.1468-0009.2009.00546.x>
- Barry, C. L., McGinty, E. E., Pescosolido, B. A., & Goldman, H. H. (2014). Stigma, discrimination, treatment effectiveness, and policy: Public views about drug addiction and mental illness. *Psychiatric Services, 65*(10), 1269-1272.
doi: 10.1176/appi.ps.201400140
- Beckett, K. (1997). *Crime and Drugs in Contemporary American Politics*. New York: Oxford University Press.
- Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of personality and social psychology, 70*(6), 1142-1163. doi: 10.1037/0022-3514.70.6.1142
- Blendon, R. J., & Young, J.T. (1998). The public and the war on illicit drugs. *JAMA, 279*(11), 827-832. doi: 10.1001/jama.279.11.827

- Bonner, L. (2016). Naloxone access: more states look to pharmacists to increase naloxone access. *Pharmacy Today*, 22(2), 57. Retrieved from [http://www.pharmacytoday.org/article/S1042-0991\(16\)30802-7/abstract](http://www.pharmacytoday.org/article/S1042-0991(16)30802-7/abstract)
- Brener, L., von Hippel, W., & Kippax, S. Prejudice among healthcare workers toward injecting drug users with Hepatitis C: Does greater contact lead to less prejudice? *International Journal Drug Policy*, 18(5), 381–387. <https://doi.org/10.1016/j.drugpo.2007.01.006>
- Brener, L., von Hippel, W., von Hippel, C., Resnick, I., & Treloar, C. (2010). Perceptions of discriminatory treatment by staff as predictors of drug treatment completion: Utility of a mixed methods approach. *Drug and Alcohol Review*, 29(5), 491-497. doi: <https://doi.org/10.1111/j.1465-3362.2010.00173.x>
- Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological bulletin*, 86(2), 307. doi: <http://dx.doi.org/10.1037/0033-2909.86.2.307>
- Brewer, M. B., Ho, H. K., Lee, J. Y., & Miller, N. (1987). Social identity and social distance among Hong Kong schoolchildren. *Personality and Social Psychology Bulletin*, 13(2), 156-165. <https://doi-org.unr.idm.oclc.org/10.1177/0146167287132002>
- Brown-Iannuzzi, J. L., Lundberg, K. B., & McKee, S. (2017). The politics of socioeconomic status: How socioeconomic status may influence political attitudes and engagement. *Current opinion in psychology*, 18, 11-14. <https://doi.org/10.1016/j.copsyc.2017.06.018>

- Bullock, H. E. (1995). Class acts: Middle-class responses to the poor. In B. Lott & D. Maluso (Eds.), *The social psychology of interpersonal discrimination* (pp. 118-159). New York, NY, US: Guilford Press.
- Bullock, H. E., Williams, W. R., & Limbert, W. M. (2003). Predicting support for welfare policies: The impact of attributions and beliefs about inequality. *Journal of Poverty*, 7(3), 35-56. https://doi.org/10.1300/J134v07n03_03
- Cano, M. V., & Spohn, C. (2012). Circumventing the penalty for offenders facing mandatory minimums: Revisiting the dynamics of “sympathetic” and “salvageable” offenders. *Criminal Justice and Behavior*, 39(3), 308-332. <https://doi.org/10.1177/0093854811431419>
- Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of youth and adolescence*, 31(1), 31-44. <https://doi.org/10.1023/A:1014033032440>
- Castano, E., Paladino, M. P., Coull, A., & Yzerbyt, V. Y. (2002). Protecting the ingroup stereotype: Ingroup identification and the management of deviant ingroup members. *British Journal of Social Psychology*, 41(3), 365-385. <https://doi.org/10.1348/014466602760344269>
- Center for Behavioral Health Statistics and Quality (CBHSQ). *2017 National Survey on Drug Use and Health: Detailed Tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2018.

- Centers for Disease Control and Prevention (2018). Drug overdose deaths. Retrieved from <https://www.cdc.gov/drugoverdose/data/statedeaths.html>
- Centers for Disease Control and Prevention (2018). Annual Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report 2. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Published August 31, 2018
- Cicero, T. J., Ellis, M. S., Surratt, H. L., & Kurtz, S. P. (2014). The changing face of heroin use in the United States: A retrospective analysis of the past 50 years. *JAMA Psychiatry, 71*(7), 821-826. doi:10.1001/jamapsychiatry.2014.366
- Çirakoğlu, O. C., & Işın, G. (2005). Perception of drug addiction among Turkish university students: Causes, cures, and attitudes. *Addictive Behaviors, 30*(1), 1-8. <https://doi.org/10.1016/j.addbeh.2004.04.003>
- Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N.,... & Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine, 45*(1), 11-27. <https://doi.org/10.1017/S0033291714000129>
- Clery, E., Lee, L., & Kunz, S. (2013). Public attitudes to poverty and welfare 1983-2011: Analysis using British Social Attitudes data. *London: National Centre for Social Research.*
- Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist, 64*(3), 170-180. <http://dx.doi.org/10.1037/a0014564>

- Compton, W. M., Jones, C. M., & Baldwin, G. T. (2016). Relationship between nonmedical prescription-opioid use and heroin use. *New England Journal of Medicine*, *374*(2), 154-163. doi: 10.1056/NEJMra1508490
- Conner, K. O., & Rosen, D. (2008). "You're nothing but a junkie": Multiple experiences of stigma in an aging methadone maintenance population. *Journal of social work practice in the Addictions*, *8*(2), 244-264.
<https://doi.org/10.1080/15332560802157065>
- Conner, M., & Sparks, P. (2002). Ambivalence and attitudes. *European Review of Social Psychology*, *12*(1), 37-70. <https://doi.org/10.1080/14792772143000012>
- Consensus Statement from the American Academy of Pain Medicine and the American Pain Society (1998). The use of opioids for the treatment of chronic pain. *Journal of Pharmaceutical Care in Pain & Symptom Control*, *6*(1), 97-102. doi: 10.1300/J088v06n01_08
- Corrigan, P. W. (2000). Mental health stigma as social attribution: Implications for research methods and attitude change. *Clinical Psychology: Science and Practice*, *7*(1), 48-67. <https://doi.org/10.1093/clipsy.7.1.48>
- Corrigan, P. W. (2011). Best practices: Strategic stigma change (SSC): Five principles for social marketing campaigns to reduce stigma. *Psychiatric Services*, *62*(8), 824-826. <https://doi.org/10.1176/ps.62.8.pss62080824>
- Corrigan, P. W., & Kosyluk, K. A. (2014). Mental illness stigma: Types, constructs, and vehicles for change. In P. W. Corrigan (Ed.), *The stigma of disease and disability: Understanding causes and overcoming injustices* (pp. 35-56). Washington, DC, US: American Psychological Association. <http://dx.doi.org/10.1037/14297-003>

- Corrigan, P. W., Kuwabara, S. A., & O'Shaughnessy, J. (2009). The public stigma of mental illness and drug addiction: Findings from a stratified random sample. *Journal of Social Work, 9*(2), 139-147. doi: 10.1177/1468017308101818
- Corrigan, P., Markowitz, F. E., Watson, A., Rowan, D., & Kubiak, M. A. (2003). An attribution model of public discrimination towards persons with mental illness. *Journal of health and Social Behavior, 162*-179. doi: 10.2307/1519806
- Corrigan, P. W., & Nieweglowski, K. (2018). Stigma and the public health agenda for the opioid crisis in America. *International Journal of Drug Policy, 59*, 44-49. <https://doi.org/10.1016/j.drugpo.2018.06.015>
- Corrigan, P. W., River, L. P., Lundin, R., Wasowski, K. U., Campion, J., Mathisen, J., et al. (1999). Predictors of participation in campaigns against mental illness stigma. *Journal of Nervous & Mental Disease, 187*(6), 378-380. doi: 00005053-199906000-00008
- Corrigan, P., Schomerus, G., & Smelson, D. (2017). Are some of the stigmas of addictions culturally sanctioned?. *The British Journal of Psychiatry, 210*(3), 180-181. <https://doi.org/10.1192/bjp.bp.116.185421>
- Corrigan, P. W., & Shapiro, J. R. (2010). Measuring the impact of programs that challenge the public stigma of mental illness. *Clinical Psychology Review, 30*(8), 907-922. <https://doi.org/10.1016/j.cpr.2010.06.004>
- Corrigan, P. W., & Wassel, A. (2008). Understanding and influencing the stigma of mental illness. *Journal of Psychosocial Nursing and Mental Health Services, 46*(1), 42-48. doi: <https://doi.org/10.3928/02793695-20080101-04>

- Couture, S., & Penn, D. (2003). Interpersonal contact and the stigma of mental illness: A review of the literature. *Journal of mental health, 12*(3), 291-305.
<https://doi.org/10.1080/09638231000118276>
- Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatization of people with mental illnesses. *The British Journal of Psychiatry, 177*(1), 4-7. doi: <https://doi.org/10.1192/bjp.177.1.4>
- Crisp, R. J., & Hewstone, M. (1999). Differential evaluation of crossed category groups: Patterns, processes, and reducing intergroup bias. *Group Processes & Intergroup Relations, 2*(4), 307-333. Retrieved from:
<http://journals.sagepub.com.unr.idm.oclc.org/doi/pdf/10.1177/1368430299024001>
- Crisp, R. J., & Hewstone, M. (2007). Multiple social categorization. *Advances in Experimental Social Psychology, 39*, 163-254. [https://doi.org/10.1016/S0065-2601\(06\)39004-1](https://doi.org/10.1016/S0065-2601(06)39004-1)
- Crisp, R. J., Hewstone, M., & Cairns, E. (2001). Multiple identities in Northern Ireland: Hierarchical ordering in the representation of group membership. *British Journal of Social Psychology, 40*(4), 501-514. <https://doi.org/10.1348/014466601164948>
- Cummings, J. R., Wen, H., Ko, M., & Druss, B. G. (2014). Race/ethnicity and geographic access to Medicaid substance use disorder treatment facilities in the United States. *JAMA Psychiatry, 71*(2), 190-196. doi:10.1001/jamapsychiatry.2013.3575
- Curry, T. R., & Corral-Camacho, G. (2008). Sentencing young minority males for drug offenses: Testing for conditional effects between race/ethnicity, gender and age during the US war on drugs. *Punishment & Society, 10*(3), 253-276. doi: 10.1177/1462474508090231

- Dasgupta, N., Beletsky, L., & Ciccarone, D. (2018). Opioid crisis: no easy fix to its social and economic determinants. *American Journal of Public Health, 108*(2), 182-186. Retrieved from <https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2017.304187>
- Dattalo, P. (2013). *Analysis of multiple dependent variables*. Oxford University Press.
- Davies, P. G., Spencer, S. J., & Steele, C. M. (2005). Clearing the air: identity safety moderates the effects of stereotype threat on women's leadership aspirations. *Journal of Personality and Social Psychology, 88*(2), 276-287. <http://dx.doi.org/10.1037/0022-3514.88.2.276>
- Davidson, M. L., & Rosky, J. W. (2015). Dangerousness or diminished capacity? Exploring the association of gender and mental illness with violent offense sentence length. *American Journal of Criminal Justice, 40*(2), 353-376. <https://doi.org/10.1007/s12103-014-9267-1>
- Davis, C., Webb, D., & Burris, S. (2013). Changing law from barrier to facilitator of opioid overdose prevention. *The Journal of Law, Medicine & Ethics, 41*(s1), 33-36. Retrieved from http://www.aslme.org/media/downloadable/files/links/j/l/jlme-41_1-davis-suppl.pdf
- Decety, J., Echols, S., & Correll, J. (2010). The blame game: The effect of responsibility and social stigma on empathy for pain. *Journal of Cognitive Neuroscience, 22*(5), 985-997. <https://doi.org/10.1162/jocn.2009.21266>
- Jarlais, D. C. D., Nugent, A., Solberg, A., Feelemyer, J., Mermin, J., & Holtzman, D. (2015). Syringe service programs for persons who inject drugs in urban, suburban,

- and rural areas—United States, 2013. *Morbidity and Mortality Weekly Report*, 64(48), 1337-1341. Retrieved from <https://www.jstor.org/stable/24856925>
- De Graaf, A., Sanders, J., & Hoeken, H. (2016). Characteristics of narrative interventions and health effects: A review of the content, form, and context of narratives in health-related narrative persuasion research. *Review of Communication Research*, 4, 88-131. doi:10.12840/issn.2255-4165.2016.04.01.011
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56(1), 5. Retrieved from https://www.unimuenster.de/imperia/md/content/psyifp/aeechterhoff/sommersemester2012/sozialekognition/devine_automcontrprejudice_jpsp1989.pdf
- Dew, B., Elifson, K., & Dozier, M. (2007). Social and environmental factors and their influence on drug use vulnerability and resiliency in rural populations. *The Journal of Rural Health*, 23(s1), 16-21. <https://doi.org/10.1111/j.1748-0361.2007.00119.x>
- Dombrowski, K., Crawford, D., Khan, B., & Tyler, K. (2016). Current rural drug use in the US Midwest. *Journal of Drug Abuse*, 2(3). Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5119476/>
- Dooley, J., Asbridge, M., Fraser, J., & Kirkland, S. (2012). Physicians' attitudes towards office-based delivery of methadone maintenance therapy: Results from a cross-sectional survey of Nova Scotia primary-care physicians. *Harm Reduction Journal*, 9(1), 20. doi: <https://doi.org/10.1186/1477-7517-9-20>

- Dovidio, J. F., & Fiske, S. T. (2012). Under the radar: How unexamined biases in decision-making processes in clinical interactions can contribute to health care disparities. *American Journal of Public Health, 102*(5), 945-952. Retrieved from <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2011.300601>
- Dovidio, J. F., Gaertner, S. L., Validzic, A., Matoka, K., Johnson, B., & Frazier, S. (1997). Extending the benefits of recategorization: Evaluations, self-disclosure, and helping. *Journal of Experimental Social Psychology, 33*(4), 401-420. doi: <https://doi.org/10.1006/jesp.1997.1327>
- Dowell, D., Arias, E., Kochanek, K., Anderson, R., Guy, G. P., Losby, J. L., & Baldwin, G. (2017). Contribution of opioid-involved poisoning to the change in life expectancy in the United States, 2000-2015. *Jama, 318*(11), 1065-1067. doi:10.1001/jama.2017.9308
- Duffy, M. K., Aquino, K., Tepper, B. J., Reed, A., & O'Leary-Kelly, A. M. (2005). Moral disengagement and social identification: When does being similar result in harm doing. *Annual Meeting of the Academy of Management, Honolulu, HI.*
- Druss, B.G., Bradford, D. W., Rosenheck R. A., Radford M. J, & Krumholz., H. M. (2000). Mental disorders and the use of cardiovascular procedures after myocardial infarction. *J. Am. Med. Assoc. 283*(4), 506–11. doi:10.1001/jama.283.4.506
- DuPont, R. L. (1971). Profile of a heroin-addiction epidemic. *New England Journal of Medicine, 285*(6), 320-324. doi: 10.1056/NEJM197108052850605
- Earnshaw, V., Smith, L., & Copenhaver, M. (2013). Drug addiction stigma in the context of methadone maintenance therapy: An investigation into understudied sources of

stigma. *International Journal of Mental Health and Addiction*, 11(1), 110-122.

<https://doi.org/10.1007/s11469-012-9402-5>

Eberhardt, J. L., Davies, P. G., Purdie-Vaughns, V. J., & Johnson, S. L. (2006). Looking deathworthy: Perceived stereotypicality of Black defendants predicts capital-sentencing outcomes. *Psychological Science*, 17(5), 383-386.

<https://doi.org/10.1111/j.1467-9280.2006.01716.x>

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. Retrieved from

<https://link.springer.com/article/10.3758/BF03193146>

Feshbach, S., & Feshbach, N. D. (1986). Aggression and altruism: A personality perspective. In C. Zahn-Waxier, E. M. Cummings, & R. Iannotti (Eds.), *Altruism and aggression: Biological and Social origins* (pp.189-217). Cambridge, England: Cambridge University Press. Retrieved from:

https://www.researchgate.net/publication/19867384_The_Relation_of_Empathy_to_Aggressive_and_ExternalizingAntisocial_Behavior

Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Fielding-Miller, R., Davidson, P., & Raj, A. (2016). Blacks face higher risk of drug arrests in White neighborhoods. *International Journal of Drug Policy*, 32, 100-103. <https://doi.org/10.1016/j.drugpo.2016.03.008>

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*, 2nd. NY: McGraw-Hill, 16-15.

- Forbes, G. Adam-Curtis, L. (2001): Experiences with sexual coercion in college males and females. *Journal of Interpersonal Violence*, 16(9), 865-889. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/088626001016009002>
- Ford, R., Bammer, G., & Becker, N. (2008). The determinants of nurses' therapeutic attitude to patients who use illicit drugs and implications for workforce development. *Journal of Clinical Nursing*, 17(18), 2452-2462. doi: 10.1111/j.1365-2702.2007.02266.x
- Ford, J. A., & Watkins, W. C. (2012). Adolescent nonmedical prescription drug use. *Prevention Researcher*, 19(1), 3-6. <https://doi.org/10.1111/j.1365-2702.2007.02266.x>
- Gardner, P. L. (1987). Measuring ambivalence to science. *Journal of Research in Science Teaching*, 24(3), 241-247. <https://doi.org/10.1002/tea.3660240305>
- Gilchrist, G., Moskalewicz, J., Slezakova, S., Okruhlica, L., Torrens, M., Vajd, R., Baldacchino, A., 2011. Staff regard towards working with substance users: a European multi-centre study. *Addiction*, 106, 1114–1125. doi: 10.1111/j.1360-0443.2011.03407.x
- Gladden, R. M., Martinez, P., & Seth, P. (2016). Fentanyl law enforcement submissions and increases in synthetic opioid-involved overdose deaths — 27 states, 2013–2014. *MMWR Morb Mortal Weekly Report*, 65, 837–843. doi: <http://dx.doi.org/10.15585/mmwr.mm6533a2>
- Goffman, E. (1963). Stigma: Notes on a spoiled identity. *Jenkins, JH & Carpenter*.

- Godek, J., & Murray, K. B. (2008). Willingness to pay for advice: The role of rational and experiential processing. *Organizational Behavior and Human Decision Processes, 106*(1), 77-87. <https://doi.org/10.1016/j.obhdp.2007.10.002>
- Goodin, A., Fallin-Bennett, A., Green, T., & Freeman, P. R. (2018). Pharmacists' role in harm reduction: A survey assessment of Kentucky community pharmacists' willingness to participate in syringe/needle exchange. *Harm Reduction Journal, 15*(4), 4. doi: <https://doi.org/10.1186/s12954-018-0211-4>
- Goodyear, K., Haass-Koffler, C. L., & Chavanne, D. (2018). Opioid use and stigma: The role of gender, language and precipitating events. *Drug and Alcohol Dependence, 185*, 339-346. <https://doi.org/10.1016/j.drugalcdep.2017.12.037>
- Gordon, R. A., & Anderson, K. S. (1995). Perceptions of race-stereotypic and race-nons stereotypic crimes: The impact of response-time instructions on attributions and judgments. *Basic and Applied Social Psychology, 16*(4), 455-470. https://doi.org/10.1207/s15324834basp1604_4
- Gordon, R. A., Bindrim, T. A., McNicholas, M. L., & Walden, T. L. (1988). Perceptions of blue-collar and white-collar crime: The effect of defendant race on simulated juror decisions. *The Journal of Social Psychology, 128*(2), 191-197. <https://doi.org/10.1080/00224545.1988.9711362>
- Graham, S., Weiner, B., & Zucker, G. S. (1997). An attributional analysis of punishment goals and public reactions to OJ Simpson. *Personality and Social Psychology Bulletin, 23*(4), 331-346. Retrieved from: <http://journals.sagepub.com/doi/pdf/10.1177/0146167297234001>

- Greene, M. H. (1974). An epidemiologic assessment of heroin use. *American Journal of Public Health*, 64(12), 1-10. Retrieved from http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.64.12_Suppl.1
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, 97(1), 17-41. doi: 10.1037/a0015575
- Hastie, R., & Kumar, P. A. (1979). Person memory: Personality traits as organizing principles in memory for behaviors. *Journal of Personality and Social Psychology*, 37(1), 25-38. <http://dx.doi.org/10.1037/0022-3514.37.1.25>
- Hartman, D. M., & Golub, A. (1999). The social construction of the crack epidemic in the print media. *Journal of Psychoactive drugs*, 31(4), 423-433. Retrieved from <http://unr.idm.oclc.org/login?url=https://search.proquest.com/docview/207959610?accountid=452>
- Haslam, S. A., Oakes, P. J., McGarty, C., Turner, J. C., Reynolds, K. J., & Eggins, R. A. (1996). Stereotyping and social influence: The mediation of stereotype applicability and sharedness by the views of in-group and out-group members. *British Journal of Social Psychology*, 35(3), 369-397. <https://doi.org/10.1111/j.2044-8309.1996.tb01103.x>
- Havens, J. R., Young, A. M., & Havens, C. E. (2011). Nonmedical prescription drug use in a nationally representative sample of adolescents: Evidence of greater use

among rural adolescents. *Archives of Pediatrics & Adolescent Medicine*, 165(3), 250-255. doi:10.1001/archpediatrics.2010.217

- Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis second edition: A regression-based approach. Guilford Publications.
- Hayes, A. F., Preacher, K. J., & Myers, T. A. (2011). Mediation and the estimation of indirect effects in political communication research. *Sourcebook for political communication research: Methods, measures, and analytical techniques*, 23, 434-465.
- Hedegaard, H., Chen, L. H., & Warner, M. (2015). Drug-poisoning deaths involving heroin: United States, 2000-2013. NCHS Data Brief, No 190. Retrieved from https://www.researchgate.net/profile/Margaret_Warner3/publication/297438742_Rates_of_Drug_Poisoning_Deaths_Involving_Heroin_by_Selected_Age_and_RacialEthnic_Groups_-_United_States_2002_and_2011/links/570ba13308aea660813b0a09/Rates-of-Drug-Poisoning-Deaths-Involving-Heroin-by-Selected-Age-and-Racial-Ethnic-Groups-United-States-2002-and-2011.pdf
- Hedegaard, H. B., Warner, M., & Minino, A. M. (2017). Drug Overdose Deaths in the United States, 1999-2016. *NCHS data brief*, 294, 1-8. Retrieved from https://pdfs.semanticscholar.org/f55a/8d54b15da78c6d5e2b6734fb9722bda28494.pdf?_ga=2.106304515.1618032144.1552165745-468158566.1552165745
- Heider, F., 1958. *The Psychology of Interpersonal Relations*. Wiley, New York
- Herek, G. M., & Capitano, J. P. (1996). "Some of my best friends" intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and

- lesbians. *Personality and Social Psychology Bulletin*, 22(4), 412-424. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/0146167296224007>
- Hilton, J. L., & Von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology*, 47(1), 237-271. Retrieved from <https://www.annualreviews.org/doi/full/10.1146/annurev.psych.47.1.237>
- Hoban, B. (2017). The far-reaching effects of the US opioid crisis. Retrieved from <https://www.brookings.edu/blog/brookings-now/2017/10/25/the-far-reaching-effects-of-the-us-opioid-crisis/>
- Hogg, M. A., & Reid, S. A. (2006). Social identity, Self-Categorization, and the communication of group norms. *Communication Theory*, 16(1), 7-30. doi:10.1111/j.1468-2885.2006.00003.x
- Hogg, M. A. (2005). The social identity perspective. *The Handbook of Group Research and Practice*, 133-57. Sage.
- Hornstein, H. A. (1976). *Cruelty and Kindness: A New Look at Aggression and Altruism*. Englewood Cliffs, NJ: Prentice Hall.
- Hout, M. (2008). How class works: Objective and subjective aspects of class since the 1970s. *Social class: How does it work*, 25-64.
- Hutchison, P., & Abrams, D. (2003). Ingroup identification moderates stereotype change in reaction to ingroup deviance. *European Journal of Social Psychology*, 33(4), 497-506. <https://doi.org/10.1002/ejsp.157>
- Ito, T. A., & Bartholow, B. D. (2009). The neural correlates of race. *Trends in Cognitive Sciences*, 13(12), 524-531. <https://doi.org/10.1016/j.tics.2009.10.002>

- Jansen, C. J. M., Croonen, M., & de Stadler, L. G. (2005). Take John, for instance'. Effects of exemplars in public information documents on HIV/AIDS in South Africa. Retrieved from <https://repository.ubn.ru.nl/bitstream/handle/2066/41649/41649.pdf>
- Janulis, P. (2012). Pharmacy nonprescription syringe distribution and HIV/AIDS: A review. *Journal of the American Pharmacists Association*, 52(6), 787-797. <https://doi.org/10.1331/JAPhA.2012.11136>
- Jeong, S. H. (2007). Effects of news about genetics and obesity on controllability attribution and helping behavior. *Health Communication*, 22(3), 221-228. <https://doi.org/10.1080/10410230701626877>
- Jones, C. M., Logan, J., Gladden, R. M., & Bohm, M. K. (2015). Vital signs: demographic and substance use trends among heroin users-United States, 2002-2013. *MMWR. Morbidity and Mortality Weekly Report*, 64(26), 719-725. Retrieved from: <http://europepmc.org/articles/pmc4584844>
- Joranson, D. E., Ryan, K. M., Gilson, A. M., & Dahl, J. L. (2000). Trends in medical use and abuse of opioid analgesics. *Jama*, 283(13), 1710-1714. doi:10.1001/jama.283.13.1710
- Jorm, A. F., Korten, A. E., Jacomb, P. A., Christensen, H., & Henderson, S. (1999). Attitudes towards people with a mental disorder: A survey of the Australian public and health professionals. *Australian and New Zealand Journal of Psychiatry*, 33(1), 77-83. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1046/j.1440-1614.1999.00513.x>

- Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology, 33*(1), 1-27.
<https://doi.org/10.1111/j.2044-8309.1994.tb01008.x>
- Jost, J. T., & Burgess, D. (2000). Attitudinal ambivalence and the conflict between group and system justification motives in low status groups. *Personality and Social Psychology Bulletin, 26*(3), 293-305. Retrieved from
<https://journals.sagepub.com/doi/pdf/10.1177/0146167200265003>
- Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science, 14*(5), 260-265.
<https://doi.org/10.1111/j.0963-7214.2005.00377.x>
- Jost, J. T., Ledgerwood, A., & Hardin, C. D. (2008). Shared reality, system justification, and the relational basis of ideological beliefs. *Social and Personality Psychology Compass, 2*, 171–186. doi:10.1111/j.1751-9004.2007.00056.x
- Jost, J., Liviatan, I., van der Toorn, J., Ledgerwood, A., Mandisodza, A., & Nosek, B. A. (2011). System justification: How do we know it's motivated. In *The Psychology of Justice and Legitimacy* (pp. 173-204). Taylor and Francis. <https://doi.org/10.4324/9780203837658>
- Jost, J. T., Pelham, B. W., Sheldon, O., & Ni Sullivan, B. (2003). Social inequality and the reduction of ideological dissonance on behalf of the system: Evidence of enhanced system justification among the disadvantaged. *European Journal of Social Psychology, 33*(1), 13-36. <https://doi.org/10.1002/ejsp.127>

- Jost, J. T., van der Toorn, J., Van Lange, P. A., Kruglanski, A. W., & Higgins, E. T. (2012). Handbook of Theories of Social Psychology.
- Kauffman, S. E., Silver, P., & Poulin, J. (1997). Gender differences in attitudes toward alcohol, tobacco, and other drugs. *Social Work, 42*(3), 231-241.
<https://doi.org/10.1093/sw/42.3.231>
- Kay, A. C., & Jost, J. T. (2003). Complementary justice: Effects of "poor but happy" and "poor but honest" stereotype exemplars on system justification and implicit activation of the justice motive. *Journal of Personality and Social Psychology, 85*(5), 823-837. doi: 10.1037/0022-3514.85.5.823
- Kennedy-Hendricks, A., Barry, C. L., Gollust, S. E., Ensminger, M. E., Chisolm, M. S., & McGinty, E. E. (2017). Social stigma toward persons with prescription opioid use disorder: associations with public support for punitive and public health-oriented policies. *Psychiatric Services, 68*(5), 462-469. doi:
<https://doi.org/10.1176/appi.ps.201600056>
- Kerr, N. L., Hymes, R. W., Anderson, A. B., & Weathers, J. E. (1995). Defendant-juror similarity and mock juror judgments. *Law and Human Behavior, 19*(6), 545-567. Retrieved from <https://link.springer.com/content/pdf/10.1007/BF01499374.pdf>
- Keyes, K. M., Cerdá, M., Brady, J. E., Havens, J. R., & Galea, S. (2014). Understanding the rural-urban differences in nonmedical prescription opioid use and abuse in the United States. *American Journal of Public Health, 104*(2), e52-e59. Retrieved from <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2013.301709>
- Klauer, K. C., Hölzenbein, F., Calanchini, J., & Sherman, J. W. (2014). How malleable is categorization by race? Evidence for competitive category use in social

- categorization. *Journal of Personality and Social Psychology*, 107(1), 21-40. doi: 10.1037/a0036609
- Klee, H. (2002). Women, family and drugs. *Drug Misuse and Motherhood*, 3-14.
- Klonis, S. C., & Devine, P. G. (2001). Measurement of racial and socioeconomic subgroups. Paper presented at the 3rd annual meeting of the Society for Personality and Social Psychology, Savannah, GA.
- Knaak, S., Modgill, G., & Patten, S. B. (2014). Key ingredients of anti-stigma programs for health care providers: A data synthesis of evaluative studies. *The Canadian Journal of Psychiatry*, 59(1_suppl), 19-26.
<https://doi.org/10.1177/070674371405901S06>
- Kral, A. H., & Davidson, P. J. (2017). Addressing the Nation's opioid epidemic: Lessons from an unsanctioned supervised injection site in the US. *American Journal of Preventive Medicine*, 53(6), 919-922. doi: <https://doi.org/10.1016/j.amepre.2017.06.010>
- Kraus, M. W., Côté, S., & Keltner, D. (2010). Social class, contextualism, and empathic accuracy. *Psychological Science*, 21(11), 1716-1723. doi: 10.1177/0956797610387613
- Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation. *Journal of Personality and Social Psychology*, 97(6), 992. doi: 10.1037/a0016357
- Kulesza, M., Matsuda, M., Ramirez, J. J., Werntz, A. J., Teachman, B. A., & Lindgren, K. P. (2016). Towards greater understanding of addiction stigma: Intersectionality

with race/ethnicity and gender. *Drug & Alcohol Dependence*, 169, 85-91.

<https://doi.org/10.1016/j.drugalcdep.2016.10.020>

Kwate, N. O. A., & Goodman, M. S. (2014). An empirical analysis of White privilege, social position and health. *Social Science & Medicine*, 116, 150-160.

<https://doi.org/10.1016/j.socscimed.2014.05.041>

Lankenau, S. E., Teti, M., Silva, K., Bloom, J. J., Harocopos, A., & Treese, M. (2012).

Patterns of prescription drug misuse among young injection drug users. *Journal of Urban Health*, 89(6), 1004-1016. doi: 10.1007/s11524-012-9691-9

Lee, J. "The New Face of Drug Addiction. [May 7, 2015]; Fox News July

19. 2013 <http://fox40.com/2013/07/19/new-face-of-drug-addiction/>

Lemm, K. M., Dabady, M., & Banaji, M. R. (2005). Gender picture priming: It works with denotative and connotative primes. *Social Cognition*, 23(3), 218-241.

<https://doi.org/10.1521/soco.2005.23.3.218>

Leidner, B., Castano, E., Zaiser, E., & Giner-Sorolla, R. (2010): Ingroup glorification, moral disengagement, and justice in the context of collective violence.

Personality and Social Psychology Bulletin, 36, 1115-1129

<http://dx.doi.org/10.1177/0146167210376391>

Lewis, A. C., & Sherman, S. J. (2010). Perceived entitativity and the black-sheep effect:

When will we denigrate negative ingroup members? *The Journal of Social*

Psychology, 150(2), 211-225. <https://doi.org/10.1080/00224540903366388>

Link, B. G., & Cullen, F. T. (1986). Contact with the mentally ill and perceptions of how dangerous they are. *Journal of Health and Social Behavior*, 27(4), 289-302.

<https://www.jstor.org/stable/2136945>

- Linnemann, T., & Kurtz, D. L. (2014). Beyond the ghetto: Police power, methamphetamine and the rural war on drugs. *Critical Criminology*, 22(3), 339-355. DOI 10.1007/s10612-013-9218-z
- Link, B. G. (1987). Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *American Sociological Review*, 52(1), 96-112. doi: 10.2307/2095395
- Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, 27(1), 363-385. Retrieved from <https://www.annualreviews.org/doi/pdf/10.1146/annurev.soc.27.1.363>
- Luoma, J. B., Twohig, M. P., Waltz, T., Hayes, S. C., Roget, N., Padilla, M., & Fisher, G. (2007). An investigation of stigma in individuals receiving treatment for substance abuse. *Addictive behaviors*, 32(7), 1331-1346. <https://doi.org/10.1016/j.addbeh.2006.09.008>
- Luty, J., Rao, H., Arokiadass, S. M. R., Easow, J. M., & Sarkhel, A. (2008). The repentant sinner: Methods to reduce stigmatized attitudes towards mental illness. *Psychiatric Bulletin*, 32(9), 327-332. <https://doi.org/10.1192/pb.bp.107.018457>
- Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior Research Methods*, 47(4), 1122-1135. <https://doi.org/10.3758/s13428-014-0532-5>.
- Mack, K. A., Jones, C. M., & Ballesteros, M. F. (2017). Illicit drug use, illicit drug use disorders, and drug overdose deaths in metropolitan and nonmetropolitan areas—

- United States. *American Journal of Transplantation*, 17(12), 3241-3252. doi:
<https://doi.org/10.1111/ajt.14555>
- Mackie, D. M., & Smith, E. R. (2002). Intergroup emotions and the social self: Prejudice reconceptualized as differentiated reactions to outgroups. *The Social Self: Cognitive, Interpersonal, and Intergroup Perspectives*, 309-326.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593-614.
doi: 10.1146/annurev.psych.58.110405.085542
- Mahajan, A. P., Sayles, J. N., Patel, V. A., Remien, R. H., Ortiz, D., Szekeres, G., & Coates, T. J. (2008). Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward. *AIDS (London, England)*, 22(Suppl 2), S67. doi:10.1097/01.aids.0000327438.13291.62
- Marques, J. M., Yzerbyt, V. Y., & Leyens, J. P. (1988). The “black sheep effect”: Extremity of judgments towards ingroup members as a function of group identification. *European Journal of Social Psychology*, 18(1), 1-16.
<https://doi.org/10.1002/ejsp.2420180102>
- Maas, M., & Van den Bos, K. (2009). An affective-experiential perspective on reactions to fair and unfair events: Individual differences in affect intensity moderated by experiential mindsets. *Journal of Experimental Social Psychology*, 45(4), 667-675. <https://doi.org/10.1016/j.jesp.2009.02.014>
- Marie, D., & Miles, B. (2008). Social distance and perceived dangerousness across four diagnostic categories of mental disorder. *Australian & New Zealand Journal of Psychiatry*, 42(2), 126-133. <https://doi.org/10.1080/00048670701787545>

- Martin, J. K., Pescosolido, B. A., & Tuch, S. A. (2000). Of fear and loathing: The role of disturbing behavior labels, and causal attributions in shaping public attitudes toward people with mental illness. *Journal of Health and Social Behavior, 41*(2), 208-223. doi: 10.2307/2676306
- Maturo, A. (2012). Medicalization: current concept and future directions in a bionic society. *Mens Sana Monographs, 10*(1), 122-133. doi: 10.4103/0973-1229.91587
- Maxwell, J. C. (2011). The prescription drug epidemic in the United States: a perfect storm. *Drug and Alcohol Review, 30*(3), 264-270. doi: <https://doi.org/10.1111/j.1465-3362.2011.00291.x>
- McAuley, A., Aucott, L., & Matheson, C. (2015). Exploring the life-saving potential of naloxone: A systematic review and descriptive meta-analysis of take home naloxone (THN) programmes for opioid users. *International Journal of Drug Policy, 26*(12), 1183-1188. <https://doi.org/10.1016/j.drugpo.2015.09.011>
- McCabe, S. E., Cranford, J. A., & Boyd, C. J. (2016). Stressful events and other predictors of remission from drug dependence in the United States: longitudinal results from a national survey. *Journal of Substance Abuse Treatment, 71*, 41-47. <https://doi.org/10.1016/j.jsat.2016.08.008>
- McGinty, E. E., Barry, C. L., Stone, E. M., Niederdeppe, J., Kennedy-Hendricks, A., Linden, S., & Sherman, S. G. (2018). Public support for safe consumption sites and syringe services programs to combat the opioid epidemic. *Preventive Medicine, 111*, 73-77. doi: <https://doi.org/10.1016/j.ypmed.2018.02.026>

- McKeown, A., Matheson, C., & Bond, C. (2003). A qualitative study of GPs' attitudes to drug misusers and drug misuse services in primary care. *Family Practice, 20*(2), 120-125. <https://doi.org/10.1093/fampra/20.2.120>
- McKimmie, B. M., Masters, J. M., Masser, B. M., Schuller, R. A., & Terry, D. J. (2013). Stereotypical and counterstereotypical defendants: Who is he and what was the case against her? *Psychology, Public Policy, and Law, 19*(3), 343. <http://dx.doi.org/10.1037/a0030505>
- McLaughlin, D., McKenna, H., Leslie, J., Moore, K., & Robinson, J. (2006). Illicit drug users in Northern Ireland: Perceptions and experiences of health and social care professionals. *Journal of Psychiatric and Mental Health Nursing, 13*(6), 682-686. <https://doi.org/10.1111/j.1365-2850.2006.01015.x>
- Merrer, J. L., Becker, J. A., Befort, K., & Kieffer, B. L. (2009). Reward processing by the opioid system in the brain. *Physiological Review, 89*(4), 1379-1412. doi: 10.1152/physrev.00005.2009
- Miller, M. K., Maskaly, J., Green, M., & Peoples, C. D. (2011). The effects of deliberations and religious identity on mock jurors' verdicts. *Group Processes & Intergroup Relations, 14*(4), 517-532. doi: 10.1177/1368430210377458
- Mitchell, O., & Caudy, M. S. (2015). Examining racial disparities in drug arrests. *Justice Quarterly, 32*(2), 288-313. <https://doi.org/10.1080/07418825.2012.761721>
- Monnat, S. M., & Rigg, K. K. (2018). The opioid crisis in rural and small town America. Retrieved from <https://scholars.unh.edu/carsey/343/>

- Morone, J. A. (1997). Enemies of the people: the moral dimension to public health. *Journal of Health Politics, Policy and Law*, 22(4), 993-1020. doi: <https://doi.org/10.1215/03616878-22-4-993>
- Moskowitz, G. B. (2005). *Social cognition: Understanding self and others*. Guilford Press.
- Muhuri P. K., Gfroerer J. C., & Davies M .C. (2013). Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States. *CBHSQ Data Rev.*
- Murakawa, N. (2011). Toothless: the methamphetamine epidemic, “meth mouth,” and the racial construction of drug scares. *Du Bois Review: Social Science Research on Race*, 8(1), 219-228. <https://doi.org/10.1017/S1742058X11000208>
- Myers, B., Fakier, N., & Louw, J. (2009). Stigma, treatment beliefs, and substance abuse treatment use in historically disadvantaged communities. *African Journal of Psychiatry*, 12(3). <http://dx.doi.org/10.4314/ajpsy.v12i3.48497>
- National Academies of Sciences, Engineering, and Medicine. 2016. Ending Discrimination Against People with Mental and Substance Use Disorders: The Evidence for Stigma Change. Washington, DC: The National Academies Press. <https://doi.org/10.17226/23442>.
- National Institute on Drug Abuse. (2015). Drugs of Abuse: Opioids. Bethesda, MD: National Institute on Drug Abuse. Available at <http://www.drugabuse.gov/drugs-abuse/opioids>.
- NBC News. (2018). Millennial poll: 42 percent know someone who has dealt with opioid addiction. Retrieved from <https://www.nbcnews.com/politics/politics-news/millennial-poll-42-percent-know-someone-who-has-dealt-opioid-n883366>

- Netherland, J., & Hansen, H. B. (2016). The war on drugs that wasn't: Wasted whiteness, "dirty doctors," and race in media coverage of prescription opioid misuse. *Culture, Medicine, and Psychiatry*, 40(4), 664-686. doi: <https://doi.org/10.1007/s11013-016-9496-5>
- Netherland, J., & Hansen, H. (2017). White opioids: Pharmaceutical race and the war on drugs that wasn't. *BioSocieties*, 12(2), 217-238. <https://doi.org/10.1057/biosoc.2015.46>
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A.,... & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18(1), 36-88. doi: 10.1080/10463280701489053
- Nosyk, B., Anglin, M. D., Brissette, S., Kerr, T., Marsh, D. C., Schackman, B. R., ... & Montaner, J. S. (2013). A call for evidence-based medical treatment of opioid dependence in the United States and Canada. *Health Affairs*, 32(8), 1462-1469. <https://doi.org/10.1377/hlthaff.2012.0846>
- Novak, S., Nemeth, W. C., & Lawson, K. A. (2004). Trends in medical use and abuse of sustained-release opioid analgesics: a revisit. *Pain Medicine*, 5(1), 59-65. doi: <https://doi.org/10.1111/j.1526-4637.2004.04001.x>
- Nunnally, J. C., & Bernstein, I. H. (1978). Psychometric theory.
- Olsen, J. A., Richardson, J., Dolan, P., & Menzel, P. (2003). The moral relevance of personal characteristics in setting health care priorities. *Social Science & Medicine*, 57(7), 1163-1172. [https://doi.org/10.1016/S0277-9536\(02\)00492-6](https://doi.org/10.1016/S0277-9536(02)00492-6)

- Ormston, R., Bradshaw, P., & Anderson, S. (2009). Scottish social attitudes survey 2009: Public attitudes to drugs and drug use in Scotland. Scottish Government Social Research, Edinburgh.
- Osofsky, M. J., Bandura, A., & Zimbardo, P. G. (2005). The role of moral disengagement in the execution process. *Law and Human Behavior*, 29(4), 371. doi: 10.1007/s10979-005-4930-1
- Ostrove, J. M., & Cole, E. R. (2003). Privileging class: Toward a critical psychology of social class in the context of education. *Journal of Social Issues*, 59(4), 677-692. <https://doi.org/10.1046/j.0022-4537.2003.00084.x>
- Otten, S. (2009). Social categorization, intergroup emotions and aggressive interactions. *Intergroup Relations: The role of Motivation and Emotion*, 162-181.
- Paulozzi, L. J., Budnitz, D. S., & Xi, Y. (2006). Increasing deaths from opioid analgesics in the United States. *Pharmacoepidemiology and Drug Safety*, 15(9), 618-627. doi: <https://doi.org/10.1002/pds.1276>
- Peckover, S., & Chidlaw, R. G. (2007). Too frightened to care? Accounts by district nurses working with clients who misuse substances. *Health & Social Care in the Community*, 15(3), 238-245. <https://doi.org/10.1111/j.1365-2524.2006.00683.x>
- Penn, D. L., & Martin, J. (1998). The stigma of severe mental illness: Some potential solutions for a recalcitrant problem. *Psychiatric Quarterly*, 69(3), 235-247. <https://doi.org/10.1023/A:1022153327316>

- Pescosolido, B. A. (2013). The public stigma of mental illness: What do we think; what do we know; what can we prove? *Journal of Health and Social Behavior*, 54(1), 1-21. <https://doi.org/10.1177/0022146512471197>
- Pescosolido, B. A., Monahan, J., Link, B. G., Stueve, A., & Kikuzawa, S. (1999). The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *American Journal of Public Health*, 89(9), 1339–1345. Retrieved from <https://ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.89.9.1339>
- Perlick, D. A., Rosenheck, R. A., Clarkin, J. F., Sirey, J. A., Salahi, J., Struening, E. L., & Link, B. G. (2001). Stigma as a barrier to recovery: adverse effects of perceived stigma on social adaptation of persons diagnosed with bipolar affective disorder. *Psychiatric services*, 52(12), 1627-1632. <https://doi.org/10.1176/appi.ps.52.12.1627>
- Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport's cognitive analysis of prejudice. *Personality and Social Psychology Bulletin*, 5(4), 461-476. Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/014616727900500407>
- Phelan, J. C. (2005). Geneticization of deviant behavior and consequences for stigma: the case of mental illness. *Journal of Health and Social Behavior*, 46(4), 307-322. <https://doi.org/10.1177/002214650504600401>
- Pollini, R. A., Banta-Green, C. J., Cuevas-Mota, J., Metzner, M., Teshale, E., & Garfein, R. S. (2011). Problematic use of prescription-type opioids prior to heroin use

among young heroin injectors. *Substance abuse and rehabilitation*, 2, 173-180.
doi: 10.2147/SAR.S24800

Puhl, R. M., & Brownell, K. D. (2003). Psychosocial origins of obesity stigma: toward changing a powerful and pervasive bias. *Obesity Reviews*, 4(4), 213-227.
<https://doi.org/10.1046/j.1467-789X.2003.00122.x>

Pulido, L. (2015). Geographies of race and ethnicity 1: White supremacy vs white privilege in environmental racism research. *Progress in Human Geography*, 39(6), 809-817. <https://doi.org/10.1177/0309132514563008>

Pugh, T., Hatzenbuehler, M., & Link, B. (2015). Structural stigma and mental illness. *Commissioned Paper for Committee on the Science of Changing Behavioral Health Social Norms, Mailman School of Public, Columbia University (August 2015)*. Retrieved from
https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_170045.pdf

Pullen, E., & Oser, C. (2014). Barriers to substance abuse treatment in rural and urban communities: Counselor perspectives. *Substance Use & Misuse*, 49(7), 891-901.
doi: 10.3109/10826084.2014.891615

Read, J., & Harre, N. (2001). The role of biological and genetic causal beliefs in the stigmatization of 'mental patients'. *Journal of Mental Health*, 10(2), 223-235. doi: 10.1080/09638230123129

Reinarman, C., & Levine, H. G. (2004). Crack in the rearview mirror: Deconstructing drug war mythology. *Social Justice*, 31, 182-199. Retrieved from
<http://www.jstor.org/stable/29768248>

- Remedios, J. D., & Snyder, S. H. (2015). Where do we go from here? Toward an inclusive and intersectional literature of multiple stigmatization. *Sex Roles, 73*(9-10), 408-413. <https://doi.org/10.1007/s11199-015-0543-4>
- Rigg, K. K., & Monnat, S. M. (2015). Comparing characteristics of prescription painkiller misusers and heroin users in the United States. *Addictive behaviors, 51*, 106-112. <https://doi.org/10.1016/j.addbeh.2015.07.013>
- Rivera, A. V., DeCuir, J., Crawford, N. D., Amesty, S., & Lewis, C. F. (2014). Internalized stigma and sterile syringe use among people who inject drugs in New York City, 2010–2012. *Drug & Alcohol Dependence, 144*, 259-264. <https://doi.org/10.1016/j.drugalcdep.2014.09.778>
- Rosch, E., & Mervis, C. B. (1975). Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology, 7*(4), 573-605. [https://doi.org/10.1016/0010-0285\(75\)90024-9](https://doi.org/10.1016/0010-0285(75)90024-9)
- Rosenfield, S. (2012). Triple jeopardy? Mental health at the intersection of gender, race, and class. *Social Science & Medicine, 74*(11), 1791-1801. doi: 10.1016/j.socscimed.2011.11.010
- Rosenthal, L. (2016). Incorporating intersectionality into psychology: An opportunity to promote social justice and equity. *American Psychologist, 71*(6), 474-485. doi:10.1037/a0040323
- Livingston, R. W., Rosette, A. S., & Washington, E. F. (2012). Can an agentic Black woman get ahead? The impact of race and interpersonal dominance on perceptions of female leaders. *Psychological science, 23*(4), 354-358. <https://doi.org/10.1177/0956797611428079>

- Riggs, D. W., & Sion, R. (2017). Gender differences in cisgender psychologists' and trainees' attitudes toward transgender people. *Psychology of Men & Masculinity, 18*(2), 187. <http://dx.doi.org/10.1037/men0000047>
- Rudd, R. A., Aleshire, N., Zibbell, J. E., & Matthew Gladden, R. (2016). Increases in drug and opioid overdose deaths—United States, 2000–2014. *American Journal of Transplantation, 16*(4), 1323-1327. <https://doi.org/10.1111/ajt.13776>
- Rudd, R.A., Seth, P., David, F., & Scholl, L. (2016). Increases in drug and opioid-involved overdose deaths — United States, 2010–2015. *MMWR Morb Mortal Wkly Report, 65*, 1445–1452. <http://dx.doi.org/10.15585/mmwr.mm655051e1>
- Rusch, L. C., Kanter, J. W., & Brondino, M. J. (2009). A comparison of contextual and biomedical models of stigma reduction for depression with a nonclinical undergraduate sample. *The Journal of Nervous and Mental Disease, 197*(2), 104-110. doi: 10.1097/NMD.0b013e318192416f
- Ryan, C. S., Judd, C. M., & Park, B. (1996). Effects of racial stereotypes on judgments of individuals: The moderating role of perceived group variability. *Journal of Experimental Social Psychology, 32*(1), 71-103. <https://doi.org/10.1006/jesp.1996.0004>
- Sattler, S., Escande, A., Racine, E., & Göritz, A. S. (2017). Public stigma toward people with drug addiction: A factorial survey. *Journal of Studies on Alcohol and Drugs, 78*(3), 415-425. <https://doi.org/10.15288/jsad.2017.78.415>
- Schäfer, G. (2011). Family functioning in families with alcohol and other drug addiction. *Social Policy Journal of New Zealand, 37*(2), 135-151. Retrieved from

<https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj37/10-schaefer.pdf>

- Schiller, B., Baumgartner, T., & Knoch, D. (2014). Intergroup bias in third-party punishment stems from both ingroup favoritism and outgroup discrimination. *Evolution and Human Behavior, 35*(3), 169-175. doi: <https://doi.org/10.1016/j.evolhumbehav.2013.12.006>
- Schilling, R., Dornig, K., & Lungren, L. (2006). Treatment of heroin dependence: effectiveness, costs, and benefits of methadone maintenance. *Research on Social Work Practice, 16*(1), 48-56. Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/1049731505277059>
- Schneider, D. J. (2004). *The psychology of stereotypes*. New York: Guilford Press.
- Scholl, L., Seth, P., Kariisa, M., Wilson, N., & Baldwin, G. (2019). Drug and opioid-involved overdose deaths—United States, 2013–2017. *Morbidity and Mortality Weekly Report, 67*(5152), 1419. doi: 10.15585/mmwr.mm675152e1
- Schomerus, G., Corrigan, P. W., Klauer, T., Kuwert, P., Freyberger, H. J., & Lucht, M. (2011). Self-stigma in alcohol dependence: consequences for drinking-refusal self-efficacy. *Drug & Alcohol Dependence, 114*(1), 12-17. doi: 10.1016/j.drugalcdep.2010.08.013
- Schomerus, G., Lucht, M., Holzinger, A., Matschinger, H., Carta, M. G., & Angermeyer, M. C. (2010). The stigma of alcohol dependence compared with other mental disorders: A review of population studies. *Alcohol and Alcoholism, 46*(2), 105-112. doi: <https://doi.org/10.1093/alcalc/agq089>

- Schroedel, J. R., & Fiber, P. (2001). Punitive versus public health oriented responses to drug use by pregnant women. Retrieved from <https://heinonline.org/HOL/LandingPage?handle=hein.journals/yjhple1&div=18&id=&page=>
- Schwarzer, R., & Weiner, B. (1991). Stigma controllability and coping as predictors of emotions and social support. *Journal of Social and Personal Relationships*, 8(1), 133-140. <https://doi.org/10.1177/0265407591081007>
- Sherman, S. J., Hamilton, D. L., & Lewis, A. C. (1999). Perceived entitativity and the social identity value of group memberships. In D. Abrams & M. A. Hogg (Eds), *Social Identity and Social Cognition* (pp80-110). Malden, Blackwell Publishing.
- Shildrick, T., & MacDonald, R. (2013). Poverty talk: how people experiencing poverty deny their poverty and why they blame 'the poor'. *The Sociological Review*, 61(2), 285-303. <https://doi.org/10.1111/1467-954X.12018>
- Settles, I. H. (2006). Use of an intersectional framework to understand Black women's racial and gender identities. *Sex Roles*, 54(9-10), 589-601. <https://doi.org/10.1007/s11199-006-9029-8>
- Singh-Manoux, A., Adler, N. E., & Marmot, M. G. (2003). Subjective social status: its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science and Medicine*, 56(6), 1321-1333. [https://doi.org/10.1016/S0277-9536\(02\)00131-4](https://doi.org/10.1016/S0277-9536(02)00131-4)
- Sinha, R. (2001). How does stress increase risk of drug abuse and relapse? *Psychopharmacology*, 158(4), 343-359. <https://doi.org/10.1007/s002130100917>

- Slack, T. (2014). Work in rural America in the era of globalization. In: Bailey C, Jensen L, Ransom E, editors. Rural America in a globalizing world: Problems and prospects for the 2010s. Morgantown, WV: West Virginia University Press. pp. 573–590
- Smedley, J. W., & Bayton, J. A. (1978). Evaluative race–class stereotypes by race and perceived class of subjects. *Journal of Personality and Social Psychology*, 36(5), 530. <http://dx.doi.org/10.1037/0022-3514.36.5.530>
- Smith, C. T., Shepperd, J. A., Miller, W. A., & Graber, J. A. (2016). Perspective taking explains gender differences in late adolescents' attitudes toward disadvantaged groups. *Journal of Youth and Adolescence*, 45(7), 1283-1293. <https://doi.org/10.1007/s10964-015-0376-z>
- Smith, E. R., & Zarate, M. A. (1990). Exemplar and prototype use in social categorization. *Social Cognition*, 8(3), 243-262. doi: 10.1521/soco.1990.8.3.243
- Sommers, S. R., & Ellsworth, P. C. (2000). Race in the courtroom: Perceptions of guilt and dispositional attributions. *Personality and Social Psychology Bulletin*, 26(11), 1367-1379. Retrieved from: <http://journals.sagepub.com/doi/pdf/10.1177/0146167200263005>
- Sorsdahl, K. R., Kakuma, R., Wilson, Z., & Stein, D. J. (2012). The internalized stigma experienced by members of a mental health advocacy group in South Africa. *International Journal of Social Psychiatry*, 58(1), 55-61. doi: 10.1177/0020764010387058

- Sorsdahl, K. R., Mall, S., Stein, D. J., & Joska, J. A. (2010). Perspectives towards mental illness in people living with HIV/AIDS in South Africa. *Aids Care*, 22(11), 1418-1427. doi: <https://doi.org/10.1080/09540121003758655>
- Stuart, T. (2008). Outside the outsiders: Media representations of drug use. *Journal of Community and Criminal Justice*, 55(4), 369-287. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/0264550508096493>
- Stürmer, S., Snyder, M., & Omoto, A. M. (2005). Prosocial emotions and helping: The moderating role of group membership. *Journal of Personality and Social Psychology*, 88(3), 532. doi: 10.1037/0022-3514.88.3.532
- Substance Abuse and Mental Health Services Administration. (2018). Key substance use and mental health indicators in the United States: Results from the 2017 National Survey on Drug Use and Health (HHS Publication No. SMA 18-5068, NSDUH Series H-53). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
- Sunnafrank, M., & Fontes, N. E. (1983). General and crime related racial stereotypes and influence on juridic decisions. *Cornell Journal of Social Relations*, 17(1), 1-15. Retrieved from <https://psycnet.apa.org/record/1984-20492-001>
- Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*. CUP Archive.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. *The social psychology of intergroup relations*, 33(47), 74.

- Tarrant, M., Dazeley, S., & Cottom, T. (2009). Social categorization and empathy for outgroup members. *British Journal of Social Psychology, 48*(3), 427-446. doi: <https://doi.org/10.1348/014466608X373589>
- Taylor, S. (2008). Outside the outsiders: Media representations of drug use. *Probation Journal, 55*(4), 369-387. DOI: 10.1177/0264550508096493
- Teachman, B. A., Gapinski, K. D., Brownell, K. D., Rawlins, M., & Jeyaram, S. (2003). Demonstrations of implicit anti-fat bias: the impact of providing causal information and evoking empathy. *Health Psychology, 22*(1), 68. <http://dx.doi.org/10.1037/0278-6133.22.1.68>
- Terplan, M., Ramanadhan, S., Locke, A., Longinaker, N., & Lui, S. (2015). Psychosocial interventions for pregnant women in outpatient illicit drug treatment programs compared to other interventions. *Cochrane Database of Systematic Reviews, 4*. Retrieved from <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006037.pub3/abstract>
- Thornicroft, G. (2008). Stigma and discrimination limit access to mental health care. *Epidemiology and Psychiatric Sciences, 17*(1), 14-19. doi: <https://doi.org/10.1017/S1121189X00002621>
- Towler, A. J., & Schneider, D. J. (2005). Distinctions among stigmatized groups. *Journal of Applied Social Psychology, 35*(1), 1-14. <https://doi.org/10.1111/j.1559-1816.2005.tb02090.x>

- Turner, John C., Hogg, Michael A., Oakes, Penelope J., Reicher, Stephen D., & Wetherell, Margaret S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.
- UK Drug Policy Division. (2010). Getting serious about stigma: The problem with stigmatizing drug users. Retrieved from https://www.ukdpc.org.uk/wp-content/uploads/Policy%20report%20-%20Getting%20serious%20about%20stigma_%20the%20problem%20with%20stigmatising%20drug%20users.pdf
- United Nations Office of Drugs and Crime. (2016). World drug report. Retrieved from https://www.unodc.org/doc/wdr2016/WORLD_DRUG_REPORT_2016_web.pdf
- US Department of Health and Human Services. (2016). Facing addiction in America: The Surgeon General's report on alcohol, drugs, and health. *Washington, DC: HHS*, 6. Retrieved from <https://addiction.surgeongeneral.gov/sites/default/files/surgeon-generals-report.pdf>
- Van Bavel, J. J., Packer, D. J., & Cunningham, W. A. (2008). The neural substrates of in-group bias: a functional magnetic resonance imaging investigation. *Psychological Science*, *19*(11), 1131-1139. Retrieved from: <http://journals.sagepub.com/doi/pdf/10.1111/j.1467-9280.2008.02214.x>
- Van Boekel, L. C., Brouwers, E. P., Van Weeghel, J., & Garretsen, H. F. (2013). Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: systematic review. *Drug & Alcohol Dependence*, *131*(1), 23-35. doi: <https://doi.org/10.1016/j.drugalcdep.2013.02.018>

- Van Zee, A. (2009). The promotion and marketing of oxycontin: Commercial triumph, public health tragedy. *American Journal of Public Health, 99*(2), 221-227.
Retrieved from
<https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2007.131714>
- Velleman, R. (1992) “‘Oh my drinking doesn’t affect them’: Families of problem drinkers”
Clinical Psychology Forum, 48, 6–10.
- Volkow, N. D., Frieden, T. R., Hyde, P. S., & Cha, S. S. (2014). Medication-assisted therapies—tackling the opioid-overdose epidemic. *New England Journal of Medicine, 370*(22), 2063-2066. doi: 10.1056/NEJMp1402780
- Von Hippel, W., Brener, L., & von Hippel, C. (2008). Implicit prejudice towards IDUs predicts intentions to change jobs among drug and alcohol nurses. *Psychological Science, 19*, 7–12. Retrieved from
<https://journals.sagepub.com/doi/pdf/10.1111/j.1467-9280.2008.02037.x>
- Watson, A. C., Ottati, V., & Corrigan, P. (2003). From whence comes mental illness stigma? *International Journal of Social Psychiatry, 49*(2), 142-157.
<https://doi.org/10.1177/0020764003049002007>
- Wakslak, C. J., Jost, J. T., Tyler, T. R., & Chen, E. S. (2007). Moral outrage mediates the dampening effect of system justification on support for redistributive social policies. *Psychological Science, 18*(3), 267-274. <https://doi.org/10.1111/j.1467-9280.2007.01887.x>

- Weeks, M., & Lupfer, M. B. (2004). Complicating race: The relationship between prejudice, race, and social class categorizations. *Personality and Social Psychology Bulletin*, 30(8), 972-984. doi: 10.1177/0146167204264751
- Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71(1), 3. <http://dx.doi.org/10.1037/0022-0663.71.1.3>
- Weiner, B. (1993). On sin versus sickness: A theory of perceived responsibility and social motivation. *American Psychologist*, 48(9), 957. doi : <http://dx.doi.org/10.1037/0003-066X.48.9.957>
- Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigma. *Journal of Personality and Social Psychology*, 55(5), 738-748. <http://dx.doi.org/10.1037/0022-3514.55.5.738>
- Williams, W. R. (2009). Struggling with poverty: Implications for theory and policy of increasing research on social class-based stigma. *Analyses of Social Issues and Public Policy*, 9(1), 37-56. <https://doi.org/10.1111/j.1530-2415.2009.01184.x>
- Wilsnack, R. W., Vogeltanz, N. D., Wilsnack, S. C., & Harris, T. R. (2000). Gender differences in alcohol consumption and adverse drinking consequences: cross-cultural patterns. *Addiction*, 95(2), 251-265. <https://doi.org/10.1046/j.1360-0443.2000.95225112.x>
- Wilson, W. J. (1978). The declining significance of race. *Society*, 15(2), 56-62. Retrieved from: <https://link.springer.com/article/10.1007%2F03181003>
- Wirth, J. H., & Bodenhausen, G. V. (2009). The role of gender in mental-illness stigma: A national experiment. *Psychological Science*, 20(2), 169-173. <https://doi.org/10.1111/j.1467-9280.2009.02282.x>

- Wood, P. B., & Bartkowski, J. P. (2004). Attribution style and public policy attitudes toward gay rights. *Social Science Quarterly*, 85(1), 58-74. doi: <https://doi.org/10.1111/j.0038-4941.2004.08501005.x>
- Wu, L. T., Blazer, D. G., Swartz, M. S., Burchett, B., & Brady, K. T. (2013). Illicit and nonmedical drug use among Asian Americans, Native Hawaiians/Pacific Islanders, and mixed-race individuals. *Drug & Alcohol Dependence*, 133(2), 360-367. <https://doi.org/10.1016/j.drugalcdep.2013.06.008>
- Wunsch, M. J., Nakamoto, K., Behonick, G., & Massello, W. (2009). Opioid deaths in rural Virginia: a description of the high prevalence of accidental fatalities involving prescribed medications. *The American Journal on Addictions*, 18(1), 5-14. doi: 10.1080/10550490802544938
- Yzerbyt, V., & Demoulin, S. (2010). Intergroup relations. *Handbook of social psychology*.

Appendix A: Vignette and Photos

Opioids refer to drugs such as heroin, fentanyl, and oxycodone. Opioid addiction and overdose deaths are increasing in the United States.

Deshawn (David, Lethisa, Lisa) is a 32 year old African American (White) man (woman) who is addicted to opioids. He (she) comes from a working (middle) class family and did not graduate from high school (graduated from college). Deshawn (David, Letisha, Lisa) has a minimum wage job (job that pays well). He began taking pain pills such as oxycodone in his mid-twenties and then moved on to injecting heroin. He has been unable to break the cycle of using these drugs.



Appendix B: Measures

Attributions Scale (adapted from GSS, 1996)

Please indicate how unlikely or likely the following statements are on a scale from 1 = Very unlikely to 4 = Very likely.

How unlikely or likely is it that Deshawn's (David, Letisha, Lisa) addiction is caused by...

- ...his (her) own bad character
- ...a chemical imbalance in his (her) brain
- ...the way he (she) was raised
- ...a genetic problem
- ...making poor decisions
- ...stressful circumstances in his (her) life
- ...being a weak person
- ...a disease
- ...traumatic life events

Criminalization and Medicalization (created by authors)

Please indicate the extent to which you disagree or agree with the following statements on a scale from 1 = Completely disagree to 4 = Completely agree.

- Deshawn (David, Letisha, Lisa) should be held accountable for breaking the law
- Deshawn (David, Letisha, Lisa) should go into a rehab program to treat his (her) addiction
- Deshawn (David, Letisha, Lisa) should serve jail time for using illegal drugs
- Drug rehab programs cannot help people like Deshawn
- Deshawn (David, Letisha, Lisa) should receive medical care to treat his (her) addiction
- Deshawn (David, Letisha, Lisa) should be locked up to protect society
- Treatment will not help Deshawn (David, Letisha, Lisa)

Social Distance Scale (adapted from Martin, Pescosolido, & Tuch, 2000).

Please indicate your willingness to engage in the following activities on a scale from 1 = Completely unwilling to 4 = Completely willing.

How unwilling or willing would you be to...

How willing would you be to..

- Move next door to Deshawn (*David, Letisha, Lisa*)
- Make friends with Deshawn (*David, Letisha, Lisa*)
- Spend an evening socializing with Deshawn (*David, Letisha, Lisa*)
- Start working closely with Deshawn on the job (*David, Letisha, Lisa*)

Have an addiction treatment center for people like Deshawn (*David, Letisha, Lisa*) opened in your neighborhood
 Have Deshawn (*David, Letisha, Lisa*) marry into your family

Acceptability of Discrimination toward People with Addiction (adapted from the General Social Survey, 2006).

Please indicate the extent to which you disagree or agree with the following statements on a scale from 1 = Completely disagree to 4 = Completely agree.

Discrimination against people like Deshawn (*David, Letisha, Lisa*) is a serious problem
 People like Deshawn (*David, Letisha, Lisa*) are treated unfairly
 Employers should be allowed to deny employment to Deshawn (*David, Letisha, Lisa*)
 Landlords should be able to deny renting/housing to Deshawn (*David, Letisha, Lisa*)
 Family members should not feel bad about cutting ties with Deshawn (*David, Letisha, Lisa*)
 Deshawn's (*David, Letisha, Lisa*) romantic partners should feel free to end their relationship with him

Stereotypical Beliefs about People with Drug Addiction Scale (adapted from van Boekel et al., 2015).

Please indicate the extent to which you disagree or agree with the following statements on a scale from 1 = Completely disagree to 4 = Completely agree.

Deshawn (*David, Letisha, Lisa*) is...

... is intelligent
 ... is trustworthy
 ... is aggressive
 ... is able to maintain a regular job
 ... is someone who tends to cause disturbances
 ... is self-neglecting
 ... is a criminal

Feelings toward People with Addiction (adapted from Corrigan et al., 2006 Corrigan et al., 2003).

Please indicate the extent to which you disagree or agree with the following statements on a scale from 1 = Completely disagree to 4 = Completely agree.

I feel no pity for Deshawn (*David, Letisha, Lisa*)
 Deshawn (*David, Letisha, Lisa*) is likely dangerous
 I would feel scared of someone like Deshawn (*David, Letisha, Lisa*)

I feel angry toward Deshawn (*David, Letisha, Lisa*)

Perceived Dangerousness (General Social Survey, 1996)

Please indicate how unlikely or likely the following statements are on a scale from 1 = Very unlikely to 4 = Very likely.

In your opinion, how unlikely or likely is it Deshawn would do something...

...violent toward other people?

...violent toward himself?

Who is responsible for treatment? (GSS, 1996)

In your opinion, who should be most responsible for paying the cost of Deshawn's (David's, Lethisha's, Lisa's) medical care?

The government

Health insurance

Deshawn (David, Letisha, Lisa)

Private charity

No one, medical treatment will not help him (her)

Support for policies and programs

Please indicate the extent to which you do or do not support the following policies and programs on a scale from 1 = Completely do not support to 4 = Completely support.

Supervised injection sites

Medication-assisted treatment (e.g., methadone)

Diversion to treatment instead of arrest

Needle exchange programs

Support for government spending (General Social Survey, 1996)

Please indicate whether you would like to see more or less government spending in the area of treatment for drug addiction. Remember that if you say "much more," it might require a tax increase to pay for it.

Spend much more

Spend more

Spend same as now

Spend less

Spend much less

Government's responsibility for treatment (General Social Survey, 1996)

Do you think it should or should not be the government's responsibility to provide healthcare for persons with opioid addiction?

- Definitely should be
- Probably should be
- Probably should not be
- Definitely should not be

System Justification (Kay and Jost, 2003)

Please indicate the extent to which you disagree or agree with the following items on a scale from 1 = Strongly disagree to 5 = Strongly agree.

- In general, you find society to be fair
- In general, the American political system operates as it should
- American society needs to be radically restructured
- The U.S. is the best country in the world to live in
- Most policies serve the greater good
- Everyone has a fair shot at wealth and happiness
- Our society is getting worse every year
- Society is set up so that people usually get what they deserve

Social Contact with Addiction

Has anyone close to you been affected by addiction (drug or alcohol)?

- Yes
- No

If yes, who?

- Romantic partner
- Child
- Parent
- Close friend
- Acquaintance
- Extended family member (e.g., aunt, cousin, nephew)
- Other

Think of the person closest to you who has been affected by addiction. What is their current status? Check all that apply.

- They have received treatment for their addiction
- They have had trouble with the police or the criminal justice system
- They are in recovery
- They passed away
- Other

Which of the following best describes how the person's addiction has affected your relationship with him or her?

- It has not changed our relationship
- I am estranged from them
- It has made our relationship stronger
- It has made our relationship weaker
- Other

Personal Experience with Drug Use and Addiction

Have you ever used illegal drugs (other than marijuana)?

- Yes
- No

If yes, how recently have you used illegal drugs (other than marijuana)?

- Within the past month
- Between 1 and 6 months ago
- Between 6 months and 1 year ago
- Between 1 year and 3 years ago
- More than 3 years ago

Have you ever had an addiction to drugs or alcohol?

- Yes
- No

If yes, which of the following has happened to you because of addiction?

- I have received treatment for my addiction
- I have had trouble with the police or the criminal justice system
- None of these

Social class, Race, and Gender

Do you identify with the same social class as your parents?

- Yes
- No

If yes, what is your parents' social class?

Lower class
Working class
Middle class
Upper class

If no, what is your social class?

Lower class
Working class
Middle class
Upper class

Please indicate the extent to which being in the lower class (working, middle, upper) is important to your identity.

Not at all important
Somewhat important
Moderately important
Very important

What is your gender?

Male
Female
Other

Please indicate the extent to which being a man (woman) is important to your identity?

Not at all important
Somewhat important
Moderately important
Very important

What is your racial/ethnic background?

White
Black
Other

Please indicate the extent to which being Black or African American (White) is important to your identity?

Not at all important

Somewhat important
 Moderately important
 Very important

Mastery (Pearlin & Schooler, 1978)

Please indicate the extent to which you disagree or agree with the following items on a scale from 1 = Strongly disagree to 4 = Strongly agree.

There is really no way I can solve some of the problems I have;
 Sometimes I feel that I'm being pushed around in life;
 I have little control over the things that happen to me;
 I can do just about anything I really set my mind to;
 I often feel helpless in dealing with the problems of life;
 What happens to me in the future mostly depends on me; and
 There is little I can do to change many of the important things in my life.

Geographic Questions

What region of the United States did you spend most of your life in?

Northeast
 South
 Southwest
 Midwest
 West
 I do not reside in the United States

Which of the following best describes the area that you spent most of your life in?

Urban
 Suburban
 Rural

What is your age?

How would you categorize your political affiliation?

Democrat
 Republican
 Independent
 Other affiliation
 No affiliation

With regard to social issues how conservative or liberal are you?

Very conservative
Conservative
Moderate
Liberal
Very liberal

With regard to fiscal issues how conservative or liberal are you?

Very conservative
Conservative
Moderate
Liberal
Very liberal

What is your relationship status?

Not in a committed relationship
In a committed relationship
Married

Manipulation Checks

What race/ethnicity was the person in the scenario at the beginning of the survey?

White
Black
Latino
Asian

What social class do you think the person in the scenario belongs to?

Working class
Middle class