

It Matters What You Say:  
The Effects of Stigmatizing Language on Attitudes  
Toward Harm Reduction and People Who Use Heroin  
Honors in Psychology Project and Honors Program Capstone  
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### **Abstract**

Heroin use disorder is highly stigmatized but more prevalent than ever in our region, and practices that could reduce heroin-related harm (e.g., syringe services programs) face frequent opposition. Stigmatizing attitudes may stem, in part, from the language used when discussing heroin use and harm reduction programs. We conducted a study with 201 undergraduate students to test the effects of stigmatizing language on attitudes toward harm reduction and people who use heroin. Participants were randomly assigned to read one of two heroin recovery stories or a control story about recovery from an injury. The language used in the two heroin recovery stories was either stigmatizing (e.g., heroin addict) or less stigmatizing (e.g., person with a heroin use disorder). Participants completed measures of attitudes toward people who use heroin, overdose prevention, syringe service programs, and medication-assisted treatment, as well as dispositional measures of social value orientation, empathy, perceived dangerousness, and essentialism. Our primary hypothesis was not confirmed; there were no significant attitude differences between the two heroin descriptions. However, compared with the control condition, participants in both heroin conditions exhibited significantly more positive attitudes toward people who use heroin and medication-assisted treatment, indicating that an optimistic heroin recovery story has a positive significant impact on some heroin-related attitudes.

## It Matters What You Say:

### The Effects of Stigmatizing Language on Attitudes

#### Toward Harm Reduction and People Who Use Heroin

Heroin use is growing exponentially in the United States. In just 12 years, deaths as a result of heroin overdose have increased five-fold (National Institute on Drug Abuse, 2015). This trend can be seen clearly in the Northern Kentucky area, as Kentucky ranks third in the nation for heroin overdose deaths (Levy, Segal, & Miller, 2013), 72 of which occurred in Northern Kentucky in 2013 (Kentucky Office of Drug Control Policy, 2014). Such high statistics have led the region to be dubbed “ground zero” in the heroin epidemic (DeMio, 2013).

As a result of these high rates of heroin use and associated unsafe injecting procedures, infectious diseases such as Hepatitis C and HIV/AIDS are spreading rapidly. Rates of Hepatitis C are skyrocketing, and Northern Kentucky’s rates are reported to be 24 times higher than the national rate (DeMio, 2014). This disease can lead to liver failure, cancer, and death; treatment can result in costs as high as \$600,000 (with liver transplant; C. Everett Koop Institute, 2014). Other blood-borne diseases associated with unsafe injecting practices, such as HIV/AIDS and endocarditis, can lead to very similar treatment costs, and they can be fatal (Wodak & Cooney, 2006).

There are several ways to respond to this outbreak, including the implementation of harm reduction programs. Examples of harm reduction programs include overdose prevention, needle exchange programs, and medication-assisted treatment. These three specific programs represent a realistic journey to recovery for many people with heroin use disorder. Overdose prevention saves people who use heroin with a safe and cheap medication, naloxone, in the event that they overdose (Beletsky, Burris, & Kral, 2009). Naloxone reverses a heroin overdose long enough to

get the victim to the hospital. It can be injected or administered via a nasal spray when breathing has stopped or slowed to dangerous levels. Community health professionals distribute naloxone kits to people who currently or formerly used heroin and their families, with the hope that they may be able to prevent overdose deaths. A harm reduction program that takes the recovery process to the next level is needle exchange programs (also called syringe service programs), which promote safer injection and reduce the spread of blood-borne viruses such as HIV/AIDS and Hepatitis C (AmFAR, 2013). These programs collect used syringes, disposing of them safely and reducing the danger of accidental needle sticks from syringes discarded in parking lots, trashcans, or public parks. Finally, medication-assisted treatment (MAT) helps people who use heroin break the cycle of their disorder and regain control of their health and lives. In MAT, medications like Suboxone or methadone are used to prevent the withdrawal symptoms (like pain, nausea, and diarrhea) that occur when people stop using heroin (Center for Substance Abuse Treatment, 2012). In many cases, Suboxone or methadone are decreased gradually over a period of weeks or months until they are no longer needed and the person who once had a heroin use disorder achieves abstinence. In some cases, though, the medications may be prescribed on a long-term basis, as long as the MAT clients are testing negative for heroin.

Despite the severity of the heroin epidemic and the effectiveness of harm reduction as a response, people with heroin use disorder are underserved. According to the annual National Survey of Drug Use and Health (Substance Abuse and Mental Health Services Administration, 2013), only about 10% of Americans who meet the criteria for substance use disorder receive treatment, and stigma is thought to be one of the most important obstacles to getting help (Kelly, Wakeman, & Saitz, 2015). Livingston, Milne, Fang, and Amari (2012) showed that stigmatizing attitudes toward people with substance use disorders held by the public, treatment providers, and

even among those with the disorders themselves affect access to treatment. Volkow, Frieden, Hyde, and Cha (2014) asserted that negative attitudes among the public, treatment providers, and patients are an important barrier to MAT specifically. People who use heroin suffer from a stereotype held by society that people who have a substance use disorder are criminals or burdens on society (Livingston et al., 2012).

One of the many ways that stigma establishes itself toward addiction is in the language we use (Wakeman, 2013). Professionals describing patients as “substance abusers” or “addicts” communicate that they deserve moral condemnation rather than professional care (Cortina, 2013). Kelly, Wakeman, and Saitz (2015) hypothesized that the use of terms such as “abuser” invokes an implicit cognitive bias toward punishment rather than compassion. These researchers also noted that such derogatory terms are not used in other aspects of mental and physical health; for example, individuals with eating-related problems are said to have an eating disorder, rather than being called “food abusers” (p. 9). Drug addiction is more heavily stigmatized than other mental or physical illnesses, as seen in a survey conducted by Crisp, Gelder, Goddard, and Meltzer (2005). When asked opinions about seven mental illnesses, respondents were more negative toward drug addiction than any other disorder.

Concerns about the association between negative value-laden language and the effects of stigma have led to calls for reform. For example, the director of the Office of National Drug Control Policy (“drug czar” Michael Botticelli; Ferner, 2015) and the editorial board of the journal *Substance Abuse* (Broyles et al., 2014) have urged addiction professionals to choose terms such as “person with a substance use disorder” in place of “substance abuser” or “addict.” This initiative is consistent with the concept of framing, in that “consumers respond more

favorably to positive attribute frames than to negative attribute frames” (Janiszewski, Silk, & Cooke, 2003, p. 311).

Despite the frequent assertions about the harmful effects of stigmatizing language, however, few empirical studies have been conducted to look for such effects. In fact, to date only three published experiments have examined the impact of negatively framed language on attitudes toward addiction-relevant policies or people. In the most influential paper, Kelly and Westerhoff (2010) randomly assigned doctoral level mental health counselors to read vignettes that described a person as being “a substance abuser” or “having a substance use disorder” (p. 202). Those in the “abuser” condition were significantly more likely to say the individual was responsible for his or her situation and deserved the punishment. Kelly, Dow, and Westerhoff (2010) surveyed people in an online convenience sample recruited through a large Boston hospital and asked them to directly compare a “substance abuser” with a person who “has a substance abuse disorder” (p.809). When juxtaposed, the “substance abuser” was more likely to be seen as a threat and responsible for his or her condition. In contrast, the problems of the person with the “substance use disorder” were more likely to be seen as biological and outside his control. The “abuser” was more likely to receive a recommendation of punishment, whereas the person with the substance use disorder was likely to receive a treatment recommendation. Although the study’s findings are consistent with the results of Kelly and Westerhoff (2010), the within-subjects research design was vulnerable to demand characteristics. Finally, Hopwood, Brener, Frankland, and Treloar (2010) showed that framing heroin use as problematic (using words such as “disease,” “dangerous,” and “die”) led to significantly less support for harm reduction options than a more neutrally framed description focused on factual information about how needle exchange and methadone maintenance programs work.

With this, we conducted a direct test of the influence of stigmatizing language on attitudes toward people who use heroin and policies designed to help them. We hypothesized that using stigmatizing language to describe the efforts of a person to overcome a heroin use disorder would lead to more negative attitudes toward similar individuals and less support for overdose prevention, needle exchange programs, and medication-assisted treatment.

One factor that may create a barrier between society and people who use heroin is the accusation of blame. As previously noted, phrases such as “drug addict” elicit first impressions of disorientation, behavioral problems, and low social class (Cortina, 2013). The use of noun labels equates people with their disorders and contributes to the sense of blame, as it holds the individuals (noun) accountable for their actions (using the drugs; Howell, Ulan, & Powell, 2014). The syntax we are exposed to influences our overall understanding. The use of stigmatizing language leads society to believe that addiction is a choice, drugs make people dangerous, and “addicts” are to blame for their lifestyles (Kelly & Westerhoff, 2010). We hypothesized that stigmatizing language will lead respondents to blame heroin users for their disorder.

Cortina (2013) also asserted that language such as “drug addict” leads to impressions of dangerousness. Terms such as “junkie” are associated with an identity tied to criminality. Some people who use heroin avoid seeking help due to the stigma that drug treatment is only for junkies, and that getting treatment may not eliminate others’ perceptions of their dangerousness (Radcliffe & Stevens, 2008). Thus, we hypothesized that stigmatizing language would provoke a higher perceived level of dangerousness.

Van Lange, De Bruin, Otten, and Joireman (1997) have shown that most individuals think about decisions in one of two ways – either in terms of their personal benefit, or through the lens of the effect their decisions will have on others, ultimately resulting in a pro-self versus

pro-social value orientation, respectively. For example, an individual with a pro-social view would value needle exchange programs because people who inject heroin receive sterile injection equipment, training on safer injection, overdose management, health access, and referrals to other health and social services (Cortina, 2013). In contrast, a pro-self social value orientation would likely lead to negative attitudes toward needle exchange programs unless the benefits to non-users (e.g., reductions in public drug use and accidental needle sticks) were made salient. Therefore, we hypothesized that the negatively framed, stigmatizing language would provoke individuals to adopt a pro-self, rather than pro-social, value orientation.

Our fifth hypothesis involved the possible link between stigmatizing language and empathy for heroin users. Gilin, Maddux, Carpenter, and Galinsky (2013) define empathy as “the affective capacity to emotionally connect with others and experience sympathy and concern for others” (p. 3). No previous studies have explored the direct relationship between empathy and stigmatizing language. However, Davis (1983) found that feelings of empathy led to altruistic responses, but people experiencing high levels of another emotional state, such as personal distress, do not exert the same amount of helping. We hypothesized that the experience of negative emotional states, such as perceptions of dangerousness and pro-self value orientation would be influenced by stigmatizing language, resulting in lower levels of empathy.

People who use drugs often report feeling judged or stereotyped when they interact with people who do not use drugs (Howell et al., 2014). From the user’s standpoint, “much of stigma occurs in the intersubjective space between people at the level of words, gestures, meanings, feelings, etc. during engagement” (p. 33). This space may be especially evident when interacting with individuals with essentialist beliefs. Essentialism is the tendency to “ascribe a fixed, underlying nature to members of a category, which is understood to determine their identity,



explain their observable properties, render them functionally alike, and allow many inferences to be drawn about them” (Haslam, Bastian, Bain, & Kashima, 2006, p. 64). Lower essentialism scores have been associated with greater preference for possessive phrasing (“Brad has a heroin use disorder”) over noun labels (Howell & Woolgar, 2013). Following statements such as “Brad is a heroin addict,” essentialism evokes preconceived notions about the addict stereotype. Also, Howell, Weikum, and Dyck (2011) found that “the Essentialism Index was significantly correlated with all stigma measures, such that higher essentialism beliefs were associated with more stigmatizing attitudes” (p. 97). Therefore, our last hypothesis was that stigmatizing language would lead to more essentialist views.

Each of these hypotheses was tested with fictitious accounts of a 27-year-old man named Brad and how he overcame a troubling situation in his life. This description was chosen to correspond with the most common characteristics of people who use heroin in Northern Kentucky. In two of the three versions of the story, Brad was described as struggling with heroin addiction. There were two forms of the heroin addiction story: One version used stigmatizing language typically found in popular press accounts (e.g., “heroin addict,” “junkie”), and the other version used less stigmatizing language (e.g., “person with a heroin use disorder”). The third version constituted a control condition and told about Brad’s physical therapy for a broken leg, with no mention of drug addiction. After reading one of these stories (assigned at random), all participants completed measures of their attitudes toward people who use heroin and the harm reduction programs designed to help them, and a measure of attributions of responsibility for addiction. A manipulation check verified that participants understood the content of the account they read; it was followed by measures of perceived dangerousness, social value orientation, empathy, and essentialist beliefs about people who use heroin.

In sum, we predicted that, compared to the less stigmatizing language condition, the stigmatizing language condition would lead to more negative attitudes toward people who use heroin and harm reduction programs, greater blame and attributions of responsibility for heroin use, higher ratings of perceived dangerousness, more pro-self social value orientation, less empathy for people who use heroin, and more essentialist judgments toward them. The responses of the participants in the control condition allowed us to assess attitudes and judgments among our participant sample in the absence of any direct information about heroin use or harm reduction.

## **Method**

### **Participants**

Undergraduate students enrolled at Northern Kentucky University were recruited through Sona, an online subject pool that manages research participation, and received course credit or extra credit for their participation in the “Social Issues Survey” study. A total of 221 students participated in this study; however, 20 participants were excluded from the analyses (see Results section for rationale). Of the 201 participants included in the analyses, 23% were male, 77% were female, 80% were freshmen, and 82% were White; the mean age of the sample was 18.99 ( $SD = 3.25$ ). Chi-square analyses confirmed that there were no significant differences among conditions in distributions of gender, classification, or race.

### **Materials**

Participants were first asked to read and sign a consent form (see Appendix A) to indicate their voluntary participation. Participants were then randomly assigned to one of two heroin conditions or the control condition. The two heroin conditions involved a fictional account of an individual struggling with heroin use disorder and the harm reduction programs available to help

him. However, one account used stigmatizing language (Appendix B) and the other used less stigmatizing language (Appendix C). The control condition account was a fictional account of a person recovering from a serious car accident, with no mention of any substance use disorder (Appendix D). After reading their assigned material, participants completed a series of scales. Items included in specific scales and corresponding measures of internal consistency (Cronbach's alpha) can be found in the relevant appendices.

The first measure was a compilation of questions about attitudes toward heroin use, people who use heroin, and harm reduction responses to heroin use (see Appendix E). This Heroin and Response Priority Attitudes Scale (HRPAS) was developed by Goddard, Sharpe, and Holt (2014). Questions included "Syringe services programs send a message that it's acceptable to use heroin" and "Heroin use makes me feel disgusted." From these items, four individual scales were created to assess attitudes toward: Attitudes toward Heroin Users, Overdose Prevention Attitudes, Medication-Assisted Treatment Attitudes, and Syringe Services Programs Attitudes.

The second measure, found in Appendix F, was the Assessment of Attributes of Responsibility and Blame for Heroin Use, developed by Sharpe (2015). Questions such as "People with a heroin use disorder are responsible for their condition" and "Heroin use is a disease" measured the amount of control participants believe people who use heroin have over their use, or how much blame is associated with that use.

Participants then completed a manipulation check (Appendix G), designed to test their level of understanding of the information presented in the account (stigmatizing, less stigmatizing, or control) they were assigned to read. The 20 items included in the manipulation check were measured on 5-point Likert scales with response options ranging from 1 (*Sure this is*

*NOT true*) to 5 (*Sure this IS true*). For true items, responses of 4 and 5 were coded as correct; false items were reverse-coded; all other responses were considered incorrect.

The Social Value Orientation (SVO) Scale, developed by Van Lange et al. (1997), measured pro-self versus pro-social attitudes (Appendix H). This was a series of “decomposed games which involve making choices among combinations of outcomes for oneself and for another person” (Van Lange et al., 1997, p. 736). Participants were considered pro-social if they made six or more choices that benefited themselves and others equally, or pro-self if they made six or more choices benefitting themselves more than others. Pro-self can be broken up into two categories: competitive and individualistic. The competitive choice produces the greatest outcomes for the self in comparison to the other and the individualistic choice produces the greatest absolute outcomes for the self.

Empathy was measured with empathic concern and perspective-taking subscales of the Interpersonal Reactivity Index (IRI; Davis, 1980; see Appendix I). Questions included “I feel sad when I see a lonely stranger in a group” and “Seeing warm, emotional scenes melts my heart and makes me teary-eyed.”

Next, participants completed the Essentialist Beliefs Scale (EBS; Bastian & Haslam, 2006; Appendix J) to measure the extent to which they espouse essentialist views. Examples of questions include “No matter what qualities a person has, those qualities are always indefinite and hard to define” (reverse scored) and “People can behave in ways that seem ambiguous, but the central aspects of their character are clear-cut.”

The next scale was the Perceived Dangerousness of Heroin Users (PDHU) scale, adapted from Link, Cullen, Frank, and Wozniak (1987). This scale assessed participants’ perceptions of how dangerous people are who currently or formerly had heroin use disorder, through questions

such as “The main purpose of inpatient drug treatment facilities should be to protect the public from people with substance use disorders” (see Appendix K).

Participants then recorded answers to several demographic questions (Appendix L), including age, gender, academic classification, race, and political identity (1 = *Strongly Liberal*, 2 = *Strongly Conservative*).

At the conclusion of the questions, participants were asked to describe what they believed the purpose of the study was (Appendix M). This allowed us to probe for suspicion and identify participants who guessed one or more of the study’s hypotheses (any mention of the wording of the heroin stories and the heroin-related attitude items was grounds for exclusion).

## **Procedure**

This study was posted online via Northern Kentucky University’s Sona research participant management system. Undergraduate students signed up for the live study through this program for course credit or extra credit via Sona participation points. When arriving for the study, participants were first asked to read and sign a detailed consent form to ensure their voluntary participation. Consent forms were collected and kept completely separate from all other materials, thereby ensuring participants’ anonymity. Next, they read one of the accounts to which they were randomly assigned. All participants were then asked to respond to the items in the measures described above. When participants were finished with the survey, they were given a written debriefing (see Appendix N).

## **Results**

### **Preliminary Analyses**

The scoring of the manipulation check resulted in removing 19 participants (9 from the less stigmatizing group, 4 from the stigmatizing group, and 4 from the control group) for failure

to get a “passing grade” of at least 67% correct for each version on the manipulation check (a Chi-square analysis confirmed that the proportion of participants excluded did not differ significantly as a function of their assigned condition). One additional participant was removed for accurately detecting the nature of the independent variable manipulation, as indicated in the suspicion probe. After these participants were removed from the sample, we had 201 participants to include in the analysis (66 in the stigmatizing condition, 64 in the less stigmatizing condition, and 71 in the control condition).

### **Effects of Language on Heroin-Relevant Attitudes and Dispositional Variables**

To test Hypothesis 1 (that using stigmatizing language will lead to more negative attitudes toward individuals who use heroin and less support for overdose prevention, needle exchange programs, and medication-assisted treatment), a one-way analysis of variance (ANOVA) was conducted to compare the means of each group on each of four dependent variables: attitudes toward people who use heroin, overdose prevention, syringe service programs, and medication assisted treatment. There were no significant differences between the stigmatizing and less stigmatizing groups in any of the analyses. However, participants in both heroin conditions had significantly more favorable attitudes toward heroin users than participants in the control condition,  $F(2, 198) = 5.51, p = .005$  (see Table 1 for cell means, standard deviations, and results of Tukey HSD post hoc tests). This pattern of results was also found for attitudes toward medication-assisted treatment,  $F(2, 198) = 11.98, p = <.001$ . A similar pattern was found in attitudes toward overdose prevention, but the results fell short of significance, and revealed a nonsignificant trend,  $F(2, 198) = 2.47, p = .088$ . There was no significant difference in attitudes toward syringe service programs,  $F(2, 198) = 0.10, p = .830$ .

Next, we tested the effects the independent variables had on each of the dispositional variables in a series of one-way ANOVAs. All comparisons were non-significant; all  $F$  values were less than 2.01, and all  $p$  values were greater than .137. Thus, the experimental manipulation had no discernible impact on any of the dispositional variables.

### **Regression Analyses**

In a series of exploratory regression analyses, we examined the extent to which the dispositional measures predicted each of the heroin-relevant attitude measures. Together, the dispositional variables and political identity predicted attitudes toward people who use heroin,  $R^2 = .31$ ,  $F(5, 175) = 15.90$ ,  $p < .001$ . Significant independent contributions were made by social value orientation and perceived dangerousness ( $p < .001$ ). A similar pattern of results was found when harm reduction programs were used as the criterion (see Table 2 for the series of regression analyses).

### **Analysis of Gender Effects**

In an additional exploratory analysis, a  $t$  test was conducted to examine differences between gender groups. There were no significant differences among attitudes toward heroin users, harm reduction programs, perceived control, belief in a biological cause, empathy, essentialism, or perceived dangerousness between males and females.

## **Discussion**

Our primary hypothesis was not supported, in that the language used to describe people who use heroin did not have a significant impact on attitudes toward such people, nor toward harm reduction programs. There was, however, a significant difference between the two heroin conditions and the control condition, in that those exposed to either of the two heroin conditions reported more positive attitudes toward people who use heroin and harm reduction programs.

Ultimately, the results indicate that being exposed to a recovery story has a positive impact on attitudes, compared with not being exposed to heroin-relevant a story, led participants to have less stigmatizing, more positive heroin-relevant attitudes. Moreover, the positive impact of the heroin stories is likely not attributable to mere positive mood, given that the control story also ended on a hopeful note.

The absence of significant results to support our main hypothesis is consistent with previous findings. Kelly and Westerhoff (2010) found stigmatizing language had a statistically significant but small effect on mental health professionals' judgments. Even with a large sample pool, the researchers were only able to find a significant effect on one of their three dependent variables. Kelly, Dow, and Westerhoff (2010) did find that "substance abuser" was more likely to be seen as a threat and responsible for his/her condition when compared to "a person who has a substance abuse disorder," but this study's within-subjects design made the hypothesis completely transparent, ultimately calling the results into question.

We have identified a design limitation in our study that could have had an impact on the results. There was only one version of the questionnaire measuring heroin-related attitudes, and it used the less stigmatizing language. This could have been impactful in that participants' answers could have been influenced by the wording of the questions themselves. The hypothesized effects of the language of the stigmatizing version could have been washed out by the wording of the less stigmatizing questions. A future study will explore this possible alternative explanation more directly. Participants will not be exposed to any information about heroin use or harm reduction, but will simply respond to one of two versions of the attitude scale, using either more or less stigmatizing wording.



The effects of the positively framed heroin narratives, although not different from one another, were significant in their impact relative to the control narrative. This finding is consistent with Hopwood et al.'s (2010) finding that framing heroin use as problematic led to less support for harm reduction programs. There is also consistency with the general concept of framing, demonstrated by Janiszewski et al. (2003), in that positive attribute frames result in more favorable responses.

The experimental manipulation had no significant impact on any of the dispositional variables. This is not surprising, given that dispositions should not typically change as a function of a situational manipulation.

Some of the dispositional variables were successful in predicting each of the heroin-relevant attitude measures, as shown in the regression analyses. Significant independent contributions were consistently made by social value orientation and perceived dangerousness. Social value orientation has never before been studied in the context of attitudes toward people who use drugs, but it remains a promising concept that should be further explored in future research. Political identity also made a significant contribution when predicting attitudes toward syringe service programs. Future research should focus on identify persuasive techniques that will impact conservatives with respect to support for harm reduction, especially syringe service programs.

The overall findings that having a positively framed recovery story about heroin use contribute to more positive attitudes toward people who use heroin and harm reduction programs are important when talking about the epidemic as well as marketing for change. It is essential to reduce the associated stigma to instill hope within the public, to get more support for having these programs in their communities, and to get individuals the help they deserve.

## References

- AmFAR, the Foundation for AIDS Research. (2013, March). Federal funding for syringe services programs: Saving money, promoting public safety, and improving public health. Retrieved from <http://www.amfar.org/>
- Bastian, B., & Haslam, N. (2006). Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology, 42*, 228-235. doi: 10/1016/j.jesp.2005.03.003
- Beletsky, L., Burris, S., & Kral, A. (2009). Closing death's door: Action steps to facilitate emergency opioid drug overdose reversal in the United States. Retrieved from <http://papers.ssrn.com/sol3/papers.cfm?abstract-id=1437163>
- Broyles, L. M., Binswanger, I. A., Jenkins, J. A., Finnell, D. S., Faseru, B., Cavaola, A., & ... Gordon, A. J. (2014). Confronting inadvertent stigma and pejorative language in addiction scholarship: A recognition and response. *Substance Abuse, 35*, 217-221. doi:10.1080/08897077.2014.930372
- C. Everett Koop Institute, Dartmouth Medical School. (2014). Hepatitis C: An epidemic for everyone. Retrieved from <http://www.epidemic.org/thefacts/theepidemic/USHealthCareCosts/>
- Center for Substance Abuse Treatment. (2012). *Medication-assisted treatment for opioid addiction in opioid treatment programs* (Treatment Improvement Protocol Series 43, HHS Publication No. [SMA] 12-4214). Rockville, Maryland: Substance Abuse and Mental Health Services Administration. Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK64164/pdf/TOC.pdf>

- Cortina, S. C. (2013). Stigmatizing harm reduction through language: A case study into the use of 'addict' and opposition to supervised injection sites in Canada. *Journal of Addictions Nursing, 24*, 102-107. doi: 10.1097/JAN.0b013e3182929466
- Crisp, A., Gelder, M., Goddard, E., & Meltzer, H. (2005). Stigmatization of people with mental illnesses: A follow-up study within the Changing Minds campaign of the Royal College of Psychiatrists. *Research Report, 16-113*.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology, 10*, 1-19.
- Davis, M. H. (1983). The effects of dispositional empathy on emotional reactions and helping: A multidimensional approach. *Journal of Personality, 51*, 167-184. doi: 10.1111/j.1467-6494.1983.tb00860.x
- DeMio, T. (2013, March 25). Special report: Northern Kentucky is heroin ground zero. *Cincinnati Enquirer*. Retrieved from <http://archive.cincinnati.com/article/20130325/NEWS1006/303250003/SPECIAL-REPORT-Northern-Kentucky-heroin-ground-zero>
- DeMio, T. (2014, June 18). Hepatitis C testing continues as NKY rate soars. *Cincinnati Enquirer*. Retrieved from <http://www.cincinnati.com/story/news/2014/06/18/northern-kentucky-health-department-heptatis-c/10793927/>
- Ferner, M. (2015). Here's one simple way we can change the conversation about drug abuse. *Huffington Post*. Retrieved from [http://www.huffingtonpost.com/2015/03/03/drug-addiction-language\\_n\\_6773246.html](http://www.huffingtonpost.com/2015/03/03/drug-addiction-language_n_6773246.html)
- Gilin, D., Maddux, W. W., Carpenter, J., & Galinsky, A. D. (2013). When to use your head and when to use your heart: The differential value of perspective-taking versus empathy in

- competitive interactions. *Personality and Social Psychology Bulletin*, 39, 3-16. doi: 10.1177/0146167212465320
- Goddard, P., Sharpe, S., & Holt, L. (2014, October). *Overdose prevention is fine, but I'm not so sure about needle exchange: Factors related to support for specific heroin-related harm reduction programs*. Poster presented at the 10<sup>th</sup> annual National Harm Reduction Conference, Baltimore, Maryland.
- Haslam, N., Bastian, B., Bain, P., & Kashima, Y. (2006). Psychological essentialism, implicit theories, and intergroup relations. *Group Processes and intergroup Relations*, 9, 63-76. doi: 10.1177/1368430206059861
- Hopwood, M., Brener, L., Frankland, A., & Treloar, C. (2010). Assessing community support for harm reduction services: Comparing two measures. *Drug and Alcohol Review*, 29, 385-391. doi: 10.1111/j.1465-3362.2009.00151.x
- Howell, A. J., Ulan, J. A., & Powell, R. A. (2014). Essentialist beliefs, stigmatizing attitudes, and low empathy predict greater endorsement of noun labels applied to people with mental disorders. *Personality and Individual Differences*, 66, 33-38. doi: 10.1016/j.paid.2014.03.008
- Howell, A. J., Weikum, B. A., & Dyck, H. L. (2011). Psychological essentialism and its association with stigmatization. *Personality and Individual Differences*, 50, 95-111. doi: 10.1016/j.paid.2010.09.006
- Howell, A. J., & Woolgar, S. R. (2013). Essentialism and compassion: Predicting preference for noun labels applied to people with mental disorders. *Personality and Individual Differences*, 54, 87-91. doi: 10.1016/j.paid.2012.08.013
- Janiszewski, C., Silk, T., & Cooke, A. J. (2003). Different scales for different frames: The role of

- subjective scales and experience in explaining attribute-framing effects. *Journal of Consumer Research*, 30, 311-325. doi: 10.1086/378612
- Kelly, J. F., Dow, S. J., & Westerhoff, C. M. (2010). Does our choice of substance-related terms influence perceptions of treatment need? An empirical investigation with two commonly used terms. *Journal of Drug Issues*, 40, 805-818. doi: 10.1177/00220426100400403
- Kelly, J. F., Wakeman, S. E., & Saitz, R. (2015). Stop talking 'dirty': Clinicians, language, and quality of care for the leading cause of preventable death in the United States. *American Journal of Medicine*, 128, 8-9. doi: 10.1016/j.amjmed.2014.07.043
- Kelly, J. F., & Westerhoff, C. M. (2010). Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms. *International Journal of Drug Policy*, 21, 202-201. doi: 10.1016/j.drugpo.2009.10.010
- Kentucky Office of Drug Control Policy. (2014). 2013 overdose fatality report. Retrieved from <http://odcp.ky.gov/Reports/>
- Levy, J., Segal, L., & Miller, A. F. (2013, October). *Prescription drug abuse: Strategies to stop the epidemic, 2013*. Trust for America's Health Issue Report. Retrieved from <http://healthyamericans.org/>
- Link, B. G., Cullen, F. T., Frank, J., & Wozniak, J. F. (1987). The social rejection of former mental patients: Understanding why labels matter. *American Journal of Sociology* 92, 1461-1500.
- Livingston, J. D., Milne, T., Fang, M. L., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: A systematic review. *Addiction* 107, 39-50. doi: 10.1111/j.1360-0443.2011.03601.x
- National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. (2015, February).

Overdose death rates. Retrieved from <http://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

Radcliffe, P., & Stevens, A. (2008). Are drug treatment services only for ‘thieving junkie scumbags’? Drug users and the management of stigmatized identities. *Social Science & Medicine*, 67, 1065-1073. doi: 10.1016/j.socscimed.2008.06.004

Sharpe, S. (2015). *This is your brain on drugs: Effects of a biological explanation on attitudes toward heroin users and responses to heroin addiction*. (Unpublished Honors in Psychology project). Northern Kentucky University, Highland Heights, Kentucky.

Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2012 National Survey on Drug Use and Health: Summary of national findings* (NSDUH Series H-46, HHS Publication No. 13-4795). Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUHresults2012/NSDUHresults2012.pdf>

Van Lange, P. A. M., Bekkers, R., Schuyt, T. N. M., Van Vugt, M. (2007). From games to giving: Social value orientation predicts donations to noble causes. *Basic and Applied Social Psychology*, 29, 375-384. doi: 10.1080/01973530701665223

Van Lange, P. M., De Bruin, E. N. Otten, W., & Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology*, 73, 733-746. doi: 10.1037/0022-3514.73.4.733

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, 2063-2066. doi: 10.1056/NEJMp1402780

Wakeman, S. E. (2013). Language and addiction: Choosing words wisely. *American Journal of Public Health, 103*, e1-e2. doi: 10.2105/AJPH.2012.301191

Wodak, A., & Cooney, A. (2006). Do needle syringe programs reduce HIV infection among injecting drug users: A comprehensive review of the international evidence. *Substance Use and Misuse, 41*, 777-813. doi:10.1080/10826080600669579

Table 1.

*Effects of Stigmatizing or Less Stigmatizing Heroin Narrative Language or Control Narrative on Attitudes toward People Who Use Heroin and Heroin-related Harm Reduction Practices*

Dependent Measure	Stigmatizing Language	Less Stigmatizing Language	Control Condition
Attitude Toward People Who Use Heroin	3.63 <sub>a</sub> (.51)	3.62 <sub>a</sub> (.51)	3.37 <sub>b</sub> (.54)
Overdose Prevention Attitude	3.83 (.60)	3.76 (.69)	3.58 (.72)
MAT Attitude	3.68 <sub>a</sub> (.63)	3.63 <sub>a</sub> (.62)	3.19 <sub>b</sub> (.70)
Syringe Services Attitudes	3.04 (.69)	3.12 (.76)	3.10 (.73)

*Note:* Cell means (standard deviations). Higher means indicate more positive attitudes toward people who use heroin and harm reduction practices. For each row, different subscripts indicate significant difference on the Tukey post-hoc test ( $p < .05$ ).



Table 2.

*Multiple regression analyses (N = 201) conducted to predict attitudes toward heroin users and support for overdose prevention, medication-assisted treatment, and syringe services programs.*

<b>Variable</b>	<b>B</b>	<b>SE B</b>	<b><math>\beta</math></b>	<b>t</b>	<b>p</b>
<i>Criterion: Attitudes toward</i>					
<i>People Who Use Heroin</i>					
Social Value Orientation	.20	.05	.26	3.40	<.001
Empathy	.11	.06	.11	1.67	.098
Essentialism	-.04	.07	-.04	-.69	.505
Perceived Dangerousness	-.26	.04	-.42	-6.34	<.001
Political Identity	-.02	.02	-.06	-.99	.323
<i>Criterion: Attitudes toward</i>					
<i>Overdose Prevention</i>					
Social Value Orientation	.30	.07	.32	4.47	<.001
Empathy	.06	.09	.05	.73	.465
Essentialism	-.07	.09	-.05	-.76	.451
Perceived Dangerousness	-.20	.06	-.26	-3.66	<.001
Political Identity	-.02	.03	-.05	-.74	.459
<i>Criterion: Attitudes toward</i>					
<i>Medication-Assisted Treatment</i>					
Social Value Orientation	.20	.07	.21	2.88	.005
Empathy	.09	.09	.07	.99	.323
Essentialism	-.20	.09	-.16	-2.23	.027
Perceived Dangerousness	-.27	.06	-.34	-4.79	<.001
Political Identity	.001	.03	.002	.03	.976
<i>Criterion: Attitudes toward</i>					
<i>Syringe Services Programs</i>					
Social Value Orientation	.21	.07	.20	2.87	.005
Empathy	.06	.09	.04	.63	.528
Essentialism	-.16	.09	-.08	-1.22	.225
Perceived Dangerousness	-.30	.06	-.36	-5.17	<.001
Political Identity	-.07	.03	-.14	-2.04	.043

*Notes:*

Criterion: Attitudes toward Heroin Users

Predictors: SVO, Empathy, Essentialism, Perceived Dangerousness, Political Identity,  $R^2 = .31$ ,  $p < .001$

Criterion: Attitudes toward Overdose Prevention

Predictors: SVO, Empathy, Essentialism, Perceived Dangerousness, Political Identity,  $R^2 = .21$ ,  $p < .001$

Criterion: Attitudes toward Medication-Assisted Treatment

Predictors: SVO, Empathy, Essentialism, Perceived Dangerousness, Political Identity,  $R^2 = .19$ ,  $p < .001$

Criterion: Attitudes toward Syringe Services Programs

Predictors: SVO, Empathy, Essentialism, Perceived Dangerousness, Political Identity,  $R^2 = .23$ ,  $p < .001$

## Appendix A: Research Participation Informed Consent

Principal Investigator: Stefanie Kozlowski ([kozlowskis2@nku.edu](mailto:kozlowskis2@nku.edu))

Co-Principal Investigator: Perilou Goddard, Ph.D. ([goddard@nku.edu](mailto:goddard@nku.edu)), 859-572-5463

Department: Psychological Science

Title of Research Study: Social Issue Survey

This research study is designed to assess attitudes toward a current social issue relevant to our region. The researchers are interested in factors that may affect individuals' attitudes toward this topic. A full description of the research will be provided at the completion of the study. If you agree to participate in this study, you will read some information and complete several questionnaires. The expected length of time to participate is 45 minutes or less.

We do not anticipate that there are any serious risks associated with your participation. Your responses are ANONYMOUS. It is possible that you may experience some emotional distress when thinking about the social issue addressed in the study, but you will not read any graphic descriptions nor view any graphic depictions. We expect that if you experience any distress, it will be temporary and mild. If you feel distressed at any point during the study, you are free to stop your participation without any penalty. Again, we emphasize that the responses you provide are absolutely ANONYMOUS and cannot be traced to you by anyone, not even the researchers themselves. Demographic questions (e.g., age, gender, race/ethnicity) cannot be used to identify you as an individual. However, you are free to omit this information if you feel you have unique demographic characteristics that could make you identifiable. Only aggregate (group) data will be used; no individual responses of any kind will ever be used in presentations or publications of this research. We recommend that you keep your responses covered so other people will not see them.

You will earn 9 Sona research credits for participating.

This study is ANONYMOUS and no one (not even the researchers themselves) can match your responses with your name or any other individually identifying information about you. The surveys will be stored in a locked filing cabinet in a Dr. Goddard's locked faculty office. Once the data are entered into a computer file, they will be stored securely on a password-protected server. Data will be kept for a minimum of 5 years but no more than 10 years.

Your participation is voluntary, refusing to participate involves no penalty, and you may stop participating at any time without penalty or loss of benefits.

If you have any questions, comments, or concerns regarding this project, feel free to contact the co-principal investigator, Dr. Perilou Goddard (contact information above). If you have questions about your rights as a research participant, please contact the chair of the Institutional Review Board (Philip J. Moberg, Ph.D., 859-572-1913, [mobergp1@nku.edu](mailto:mobergp1@nku.edu)).

Thank you for your participation.

Your signature below indicates that you have read this information and are willing to participate.

Name (please PRINT clearly): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

If you'd like a copy of this consent form for your records, just ask the researcher when you turn it in.

**Appendix B: Heroin Description Condition--Stigmatizing Language Version**

Brad is 27 years old. He's a son, a brother, a boyfriend, and a soon-to-be father. He also happens to be a heroin addict. He currently works as a server in a local restaurant, but has had trouble keeping a job for an extended period of time. Brad's problem started a couple of years ago when he was in a bad car accident. His right leg was crushed and needed multiple surgeries and months of physical therapy to repair the damage. His doctor prescribed strong painkillers for Brad's pain for several months, but the doctor eventually stopped renewing the prescription. To his surprise, Brad discovered that he felt terrible without the prescription painkillers, so he sought relief from another opioid drug: heroin. He became so addicted that he would do nearly anything to get his next fix. He found himself pawning family possessions and breaking into cars in search for anything to sell quickly to get money to support his drug habit.

One day, Brad's heroin dealer gave him a much stronger dose of heroin without Brad knowing it. Hours after injecting, Brad woke up in the hospital to realize that he nearly lost his life to an overdose. He quickly realized he could no longer live the life of a junkie. It was not worth losing his life to a heroin habit when he knew he would soon need to be a role model for his child. Brad knew he had to make a change in his life, and fast, but knew he couldn't do it on his own so he began to explore ways to get clean.

When consulting with his family physician, Brad first learned about overdose prevention. Essentially, this saves heroin addicts with a safe and cheap medication, naloxone, in the event that they overdose. After learning about it, Brad remembered this was what saved his life when he overdosed. Naloxone reverses a heroin overdose long enough to get the addict to a hospital. It can be injected or administered via a nasal spray when breathing has stopped or slowed to dangerous levels. Community health professionals distribute naloxone kits to former addicts and families of current heroin abusers and their families, with hope that they may be able to prevent overdose deaths among junkies.

Second, Brad learned about needle exchange programs, which allow for safer injection by reducing the spread of blood-borne viruses such as HIV/AIDS and Hepatitis C. These programs can be found in some parts of the United States, but are common in most industrialized countries like Canada, Australia, and most European countries. Needle exchange programs save lives by preventing the spread of dangerous diseases among heroin addicts and their sexual partners. The

programs collect dirty syringes, disposing of them safely and reducing the danger of accidental needle sticks from syringes discarded in parking lots, trashcans, or public parks. These programs also reach out to heroin addicts, helping them get into treatment quickly when they are ready to get clean, like Brad.

Last, Brad learned about medication-assisted treatment (MAT), which helps heroin junkies break the cycle of addiction and regain control of their health and lives. In MAT, medications like Suboxone or methadone are used to prevent the withdrawal symptoms (like pain, nausea, and diarrhea) that occur when addicts stop abusing heroin. In many cases, Suboxone or methadone are decreased gradually over a period of weeks or months until they are no longer needed and the former addict gets clean. In some cases, though, the medications may be prescribed on a long-term basis, as long as the MAT clients are testing clean for heroin.

After receiving this information from his doctor, Brad decided to start taking steps toward getting clean. The next morning, he went to a local needle exchange program, where he felt very welcomed and accepted. He was told how to inject more safely and how to dispose of his dirty syringes so that no one else could accidentally get stuck by them. He received a naloxone kit in case he sees a fellow addict overdose, and he learned how to teach his friends and family to use the kit if he accidentally overdoses. The staff members at the needle exchange made Brad feel like he mattered, and he quickly came to trust them. After a few weeks, when he was ready to make the next step, they took him to a nearby methadone maintenance clinic. After a thorough intake interview and physical examination, the clinic's physician prescribed Brad a personalized daily dose of methadone to help him reduce his addiction to heroin and move toward getting clean. Brad now visits the clinic each morning to receive his medication, and he has frequent random urine tests to make sure he is staying clean. He also meets with a counselor at the clinic at least once a week to help him achieve his ultimate goal of a clean, heroin-free life.

Thanks to all the help he's gotten from the needle exchange program and the methadone clinic, Brad has been able to keep a steady job and is better able to support his family. He couldn't be happier to be able to be there physically, mentally, and emotionally for his girlfriend and soon-to-be-born daughter.

**Appendix C: Heroin Description Condition--Less Stigmatizing Language Version**

Brad is 27 years old. He's a son, a brother, a boyfriend, and a soon-to-be father. He also happens to be a person with a heroin use disorder. He currently works as a server in a local restaurant, but has had trouble keeping a job for an extended period of time. Brad's problem started a couple of years ago when he was in a bad car accident. His right leg was crushed and needed multiple surgeries and months of physical therapy to repair the damage. His doctor prescribed strong painkillers for Brad's pain for several months, but the doctor eventually stopped renewing the prescription. To his surprise, Brad discovered that he felt terrible without the prescription painkillers, so he sought relief from another opioid drug: heroin. His heroin use disorder became so serious that he would do nearly anything to get his next dose. He found himself pawning family possessions and breaking into cars in search for anything to sell quickly to get money to support his heroin use disorder.

One day, the man who usually supplied Brad's heroin gave him a much stronger dose of heroin without Brad knowing it. Hours after injecting, Brad woke up in the hospital to realize that he nearly lost his life to an overdose. He quickly realized he could no longer live with his serious heroin use disorder. It was not worth losing his life to regular heroin use when he knew he would soon need to be a role model for his child. Brad knew he had to make a change in his life, and fast, but knew he couldn't do it on his own so he began to explore paths to recovery.

When consulting with his family physician, Brad first learned about overdose prevention. Essentially, this saves people who use heroin with a safe and cheap medication, naloxone, in the event that they overdose. After learning about it, Brad remembered this was what saved his life when he overdosed. Naloxone reverses a heroin overdose long enough to get the victim to a hospital. It can be injected or administered via a nasal spray when breathing has stopped or slowed to dangerous levels. Community health professionals distribute naloxone kits to people who currently or formerly used heroin and their families, with hope that they may be able to prevent overdose deaths.

Second, Brad learned about needle exchange programs, which allow for safer injection by reducing the spread of blood-borne viruses such as HIV/AIDS and Hepatitis C. These programs can be found in some parts of the United States, but are common in most industrialized countries like Canada, Australia, and most European countries. Needle exchange programs save lives by

preventing the spread of dangerous diseases among people who use heroin and their sexual partners. The programs collect used syringes, disposing of them safely and reducing the danger of accidental needle sticks from syringes discarded in parking lots, trashcans, or public parks. These programs also reach out to people who use heroin, helping them get into treatment quickly when they are ready to seek treatment, like Brad.

Last, Brad learned about medication-assisted treatment (MAT), which helps people who use heroin break the cycle of their disorder and regain control of their health and lives. In MAT, medications like Suboxone or methadone are used to prevent the withdrawal symptoms (like pain, nausea, and diarrhea) that occur when people who use heroin stop. In many cases, Suboxone or methadone are decreased gradually over a period of weeks or months until they are no longer needed and the person who once had a heroin use disorder achieves abstinence. In some cases, though, the medications may be prescribed on a long-term basis, as long as the MAT clients are testing negative for heroin.

After receiving this information from his doctor, Brad decided to start taking steps toward recovery. The next morning, he went to a local needle exchange program, where he felt very welcomed and accepted. He was told how to inject more safely and how to dispose of his used syringes so that no one else could accidentally get stuck by them. He received a naloxone kit in case he sees a friend overdose, and he learned how to teach his friends and family to use the kit if he accidentally overdoses. The staff members at the needle exchange made Brad feel like he mattered, and he quickly came to trust them. After a few weeks, when he was ready to make the next step, they took him to a nearby methadone maintenance clinic. After a thorough intake interview and physical examination, the clinic's physician prescribed Brad a personalized daily dose of methadone to help him reduce his heroin use disorder and move toward abstinence. Brad now visits the clinic each morning to receive his medication, and he has frequent random urine tests to make sure he is not using drugs other than his prescribed methadone. He also meets with a counselor at the clinic at least once a week to help him achieve his ultimate goal of long-term abstinence.

Thanks to all the help he's gotten from the needle exchange program and the methadone clinic, Brad has been able to keep a steady job and is better able to support his family. He couldn't be happier to be able to be there physically, mentally, and emotionally for his girlfriend and soon-to-be-born daughter.

**Appendix D: Control Condition**

Brad is 27 years old. He's a son, a brother, a boyfriend, and a soon-to-be father. He also happens to be someone who has worked very hard to get back to normal after having a serious medical challenge. Brad's problem started a couple of years ago when he was in a bad car accident. His right leg was crushed; he spent three weeks in the hospital and then had to endure months of physical therapy to repair the damage. His doctor prescribed strong painkillers for his post-surgical pain, but to his surprise, Brad discovered that he needed the medications less and less as he rebuilt his strength through physical therapy. But when he first woke up in the hospital after the accident, he never would have imagined that a full recovery was even possible.

Brad had fractured both his femur (thigh bone) and tibia (shin bone); as a result, his orthopedic surgeon had to use multiple metal plates and screws to mend the breaks and put his entire leg in a cast. Within a few hours of his surgery, though, a physical therapist came to his hospital room to show him how to get in and out of bed (with help, of course). The next day, the therapist showed him how to use crutches to get around and had him walk up and down the hospital hallways to build strength. When Brad was ready to leave the hospital, he worried about how he was going to manage to get up and down the stairs in his house, but the physical therapist showed him how to use the crutches on stairs and had him practice several times in the hospital before he was discharged.

Even though he was out of the hospital, Brad's long road to recovery had just begun. At first, he had outpatient physical therapy only once a week. His therapist, Suzie, started by carefully assessing his balance and the strength of his left leg, which would have to do much more work until his cast was removed. She also assessed his upper-body strength, since he would need his upper body to get around on crutches. Suzie was happy to find that Brad was in good shape, apart from his right leg, so she focused on basic exercises that would help him get along until the cast was removed.

Finally, after several weeks, Brad's cast was removed. He then started having physical therapy three times a week for up to two hours at a time. Even though his surgeon confirmed that his broken bones were healing well, Suzie discovered that muscle injuries from the accident, combined with weeks of not using his leg, had led to significant muscle weakness. She started



him on a program of gradual muscle strengthening, first using very light weights and eventually working up to heavier weights. In addition, even though his right knee was not injured in the accident, the weeks of being in the cast had caused his knee joint to become stiff and painful. Therefore, Suzie helped him work on regaining flexibility and a full range of motion in that knee. One exercise that helped was to gradually increase the amount of time he was able to peddle a stationary bicycle. At first he could only stand it for about a minute, but gradually he built up to 10 minutes at a time.

Brad's ability to walk smoothly and without limping was understandably impaired by the accident. After the cast was removed, Suzie concentrated on helping him transition from using crutches to using a cane, and eventually walking unaided. Some of the exercises he had to do, like stepping slowly over a series of little traffic cones placed on the floor, seemed silly to Brad, but he soon realized that they helped him move with less pain and more confidence. Within two months of having his cast removed, he was able to walk on a treadmill at a slow speed for 15 minutes without stopping. He also worked with Suzie on regaining his balance; exercises for this included standing on a balance board that moved every time his weight shifted, and standing on his right leg with his left foot off the ground for increasing periods of time (up to 60 seconds).

At the beginning and end of each session, Suzie asked Brad to rate his current pain on a scale from 0 (no pain at all) to 10 (worst pain imaginable). Although his pain was usually worse at the end of his sessions, over time his initial pain ratings decreased as he built up his strength. Suzie also measured how swollen his leg was at least once a week; he was happy when the swelling slowly decreased. Brad had never had physical therapy before, so he hadn't realized that other patients with a variety of injuries would also be having physical therapy sessions at the same time as him. He and several of the other patients developed a sense of camaraderie, joking and encouraging each other through the difficult exercises. Brad was surprised to find that he made friends with a high school soccer player, a 65-year-old man who'd had a hip replacement, and a recently retired pro football player who was recovering from his fourth knee surgery.

Thanks to all the help he's gotten from physical therapy, Brad has finally been able to get back to a steady job and is better able to support his family. He couldn't be happier to be able to be there physically, mentally, and emotionally for his girlfriend and soon-to-be-born daughter.

**Appendix E: Heroin and Response Priority Attitudes Scale (HRPAS)**

For each of the following statements, choose the number that corresponds to your personal attitude or opinion:

	1	2	3	4	5
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. People seeking help for a serious heroin use disorder should be able to get medication-assisted treatment with drugs like Suboxone or methadone.	1	2	3	4	5
*2. I wouldn't want a drug treatment clinic in my community.	1	2	3	4	5
3. Overdose prevention kits should be available to friends and family members of people who use heroin.	1	2	3	4	5
*4. Syringe services programs send a message that it's acceptable to use heroin.	1	2	3	4	5
5. If people with a serious heroin use disorder receive medication-assisted treatment, they will commit fewer crimes.	1	2	3	4	5
*6. Abstinence (being completely drug free) is the only acceptable treatment option for people who have a serious heroin use disorder.	1	2	3	4	5
*7. People who use heroin should suffer the consequences if they overdose.	1	2	3	4	5
8. People have a moral right to use heroin if they choose to do so.	1	2	3	4	5
9. Syringe services programs should be available to people who inject heroin.	1	2	3	4	5
*10. Medication-assisted treatment is just trading one substance use disorder for another.	1	2	3	4	5
*11. If people with a serious heroin use disorder have access to overdose prevention kits, they won't be motivated to quit using heroin.	1	2	3	4	5
*12. The costs of medication-assisted treatment (MAT) outweigh the benefits.	1	2	3	4	5
*13. If people have a serious heroin use disorder, they deserve the bad things that happen to them.	1	2	3	4	5
14. I approve of using overdose kits to save the lives of people who use heroin.	1	2	3	4	5
15. Heroin use disorder should be treated as a public health or medical issue, rather than as a criminal issue.	1	2	3	4	5

For each of the following statements, choose the number that corresponds to your personal attitude or opinion:

	1	2	3	4	5
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
*16. Having a syringe services program in my community would lead to more people who use or sell heroin hanging out in my neighborhood.	1	2	3	4	5
17. Medication-assisted treatment (MAT) should be widely available for people with a heroin use disorder.	1	2	3	4	5
18. Having a syringe services program in a community will not harm local businesses.	1	2	3	4	5
*19. If people who use heroin get HIV/AIDS or Hepatitis C as a result of injecting drugs, that's the price that they have to pay.	1	2	3	4	5
20. Using an overdose prevention kit to save the life of someone who uses heroin may ultimately lead that person to stop using heroin.	1	2	3	4	5
21. Heroin use makes me feel angry.	1	2	3	4	5
22. Heroin use makes me feel disgusted.	1	2	3	4	5
23. People who use heroin are just like other people.	1	2	3	4	5

### Internal Consistency Analyses on HHRAS-R (Goddard et al., 2014)

Cronbach's alpha for Attitudes toward Heroin Issues (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20) = .880

Cronbach's alpha for Attitudes toward People Who Use Heroin items (1, 2, 3, 5, 7, 8, 11, 13, 14, 16, 17, 19, 20, 23) = .810

Cronbach's alpha for Overdose Prevention Attitude items (3, 7, 11, 14, 20) = .691

Cronbach's alpha for Medication-Assisted Treatment Attitude items (1, 5, 6, 10, 12, 17) = .766

Cronbach's alpha for Syringe Services Programs Attitude items (4, 9, 16, 18, 19) = .710

“\*” indicates reverse-coded items

**Appendix F: Assessment of Attributions of Responsibility and Blame for Heroin Use**

For each of the following statements, choose the number that corresponds to your personal attitude or opinion:

	1	2	3	4	5
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
*1. People with a heroin use disorder are responsible for their condition.	1	2	3	4	5
2. Heroin use disorder is caused by biological changes in the brain.	1	2	3	4	5
*3. Having a heroin use disorder is under the individual's control.	1	2	3	4	5
4. Heroin use disorder is a biological disorder.	1	2	3	4	5
*5. If people develop a heroin use disorder, it's their own fault.	1	2	3	4	5
*6. Heroin use disorder is a moral weakness.	1	2	3	4	5
7. Heroin use disorder is a disease.	1	2	3	4	5
*8. People who have a heroin use disorder can just quit using the drug if they really want to.	1	2	3	4	5
9. People who have a heroin use disorder are to not blame for their disorder.	1	2	3	4	5
10. Heroin use disorder is a brain disease.	1	2	3	4	5
*11. To recover from heroin use disorder, people just need to pull themselves together.	1	2	3	4	5
*12. People with a heroin use disorder have only themselves to blame.	1	2	3	4	5

**Internal Consistency Analyses on Assessment of Attributions of Responsibility and Blame for Heroin Use**

Cronbach's alpha for Perceived Control items (1, 3, 5, 6, 8, 9, 11, 12) = .853

Cronbach's alpha for Biological Cause items (2, 4, 7, 10) = .668

“\*” indicates reverse-coded items

**Appendix G: Manipulation Check**

For each of the following items, choose the number that corresponds to your belief about the statement, based on your memory of Brad's story. Please do NOT look back at Brad's story when answering these questions.

1	2	3	4	5
Sure this is NOT true		Not sure whether this is true or not		Sure this IS true
<hr/>				
*1.	Brad suffered a badly broken leg in a rock climbing accident.			
1	2	3	4	5
*2.	The medications in the term "medication-assisted treatment" are drugs like Vicodin or Oxy-Contin.			
1	2	3	4	5
3.	Overdose prevention kits may be given to friends or family members of people who currently use heroin.			
1	2	3	4	5
4.	Brad goes to a methadone clinic each morning.			
1	2	3	4	5
5.	Needle exchange programs help keep people who use heroin from getting infections like HIV/AIDS and Hepatitis C.			
1	2	3	4	5
6.	Brad's physical therapy included learning to walk with a cane.			
1	2	3	4	5
7.	Naloxone helps people who use heroin start breathing again if they have stopped.			
1	2	3	4	5
8.	Needle exchange programs are common in Canada, Australia, and most European countries.			
1	2	3	4	5
*9.	Brad and his girlfriend have a 2-year-old son.			
1	2	3	4	5
*10.	The supplier of Brad's heroin was a retired pro football player.			
1	2	3	4	5
*11.	Brad's heroin use disorder started when he began using heroin for fun, just to get high.			
1	2	3	4	5

**Manipulation Check Scale Items (False Items were recoded prior to scoring)**

Control Condition Test (total correct across Items 1, 6, 9)

Heroin Condition Test (total correct across Items 2, 3, 4, 5, 7, 8, 9, 10, 11)

“\*” indicates reverse-coded items

**Appendix H: Social Value Orientation (SVO) Scale (Van Lange et al., 1997)**

In this task, we ask you to imagine that you have been randomly paired with another person, whom we will refer to simply as the “Other.” This other person is someone you do not know and that you will not knowingly meet in the future. Both you and the Other person will be making choices by circling either the letter A, B, or C. Your own choices will produce points for both yourself and the Other person. Likewise, the Other’s choice will produce points for him/her and for you. Every point has value: The more points you receive, the better for you, and more points the Other receives, the better for him/her.

Here’s an example of how this task works:

	A	B	C
You get	500	500	550
Other gets	100	500	300

In this example, if you chose A, you would receive 500 points and the Other would receive 100 points; if you chose B, you would receive 500 points and the Other would also get 500; and if you chose C, you would receive 550 and the Other would get 300. So you see that your choice influences both the number of points you receive and the number of points the other receives.

Before you begin making choices, please keep in mind that there are no right or wrong answers—choose the option that you, for whatever reason, prefer most. Also, remember that the points have value: The more of them you accumulate, the better for you. Likewise, from the Other’s points of view, the more points s/he accumulates, the better for him/her.

For each of the nine choice situations, circle A, B, or C, depending on which column you prefer most:

(1)		A	B	C
	You get	480	540	480
	Other gets	80	280	480
(2)		A	B	C
	You get	560	500	500
	Other gets	300	500	100
(3)		A	B	C
	You get	520	520	580
	Other gets	520	120	320
(4)		A	B	C
	You get	500	560	490
	Other gets	100	300	490

		A	B	C
(5)	You get	560	500	490
	Other gets	300	500	90
		A	B	C
(6)	You get	500	500	570
	Other gets	500	100	300
		A	B	C
(7)	You get	510	560	510
	Other gets	510	300	110
		A	B	C
(8)	You get	550	500	500
	Other gets	300	100	500
		A	B	C
(9)	You get	480	490	540
	Other gets	100	490	300

“An example of a decomposed game is the choice among three options:

(1) Option A: 480 points for self and 80 points for other; (2) Option B: 540 points for self and 280 points for other; and (3) Option C: 480 points for self and 480 points for other.

In this example, Option A represents the competitive choice, because it yields the greatest outcomes for self relative to the other ( $480 - 80 = 400$  points); Option B represents the individualistic choice, because it yields the greatest absolute outcomes for self (540 points), and Option C represents the prosocial choice because it yields the greatest joint outcomes ( $480 + 480 = 960$ ) as well as the smallest absolute difference between outcomes for self and other ( $480 - 480 = 0$  points)” (Van Lange et al., 2007, p. 377).

In our sample, there were 27 “competitive” participants, 35 “individualistic” participants, and 133 “prosocial” participants (5 participants failed to show a consistent pattern reflecting any of the SVO categories and were excluded from analyses involving this variable).

**Appendix I: Interpersonal Reactivity Index (IRI; Davis, 1980)**

For each of the following statements, choose the number that corresponds to the extent to which that statement does or does not describe you.

	1	2	3	4	5
	Does Not Describe Me Well			Describes Me Very Well	
1. When someone gets hurt in my presence, I feel sad and want to help them.	1	2	3	4	5
2. When a friend tells me about his good fortune, I feel genuinely happy for him.	1	2	3	4	5
3. I feel sad when I see a lonely stranger in a group.	1	2	3	4	5
4. Before criticizing somebody, I try to imagine how I would feel if I were in their place.	1	2	3	4	5
5. I care for my friends a great deal.	1	2	3	4	5
6. When I see someone being taken advantage of, I feel kind of protective toward them.	1	2	3	4	5
*7. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	1	2	3	4	5
8. Seeing warm, emotional scenes melts my heart and makes me teary-eyed.	1	2	3	4	5
9. I sometimes try to understand my friends better by imagining how things look from their perspective.	1	2	3	4	5
*10. Occasionally I am not very sympathetic to my friends when they are depressed.	1	2	3	4	5
11. It's rare that some issue is ever black and white—usually the truth is somewhere in between.	1	2	3	4	5
12. When I watch a sad, "tear-jerker" movie, I almost always have warm, compassionate feelings for the characters.	1	2	3	4	5
13. I believe that there are two sides to every question and try to look at them both.	1	2	3	4	5
*14. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	1	2	3	4	5
15. I often have tender, concerned feelings for people less fortunate than me.	1	2	3	4	5
*16. It's often harmful to spend lots of time trying to get everyone's point of view—some decisions have to be made quickly.	1	2	3	4	5



For each of the following statements, choose the number that corresponds to the extent to which that statement does or does not describe you.

	1	2	3	4	5
	Does Not Describe Me Well			Describes Me Very Well	
*17. I sometimes find it difficult to see things from the “other guy’s” point of view.	1	2	3	4	5
18. I would describe myself as a pretty soft-hearted person.	1	2	3	4	5
*19. Sometimes I don’t feel sorry for other people when they are having problems.	1	2	3	4	5
20. I try to look at everybody’s side of a disagreement before I make a decision.	1	2	3	4	5
*21. Usually I am not extremely concerned when I see someone else in trouble.	1	2	3	4	5
22. When I’m upset at someone, I usually try to “put myself in his shoes” for a while.	1	2	3	4	5
23. I am often quite touched by things that I see happen.	1	2	3	4	5

### **Internal Consistency Analyses on Interpersonal Reactivity Index (IRI; Davis, 1980)**

Cronbach’s alpha for Empathy items (all scale items) = .867

“\*” indicates reverse-coded items

**Appendix J: Essentialist Beliefs Scale (EBS; Bastian & Haslam, 2006)**

For each of the following statements, choose the number that corresponds to the extent to which you agree or disagree with it.

- |   | 1                 | 2 | 3 | 4 | 5 | 6                    |
|---|-------------------|---|---|---|---|----------------------|
|   | Strongly<br>Agree |   |   |   |   | Strongly<br>Disagree |
| <hr/>   |                   |   |   |   |   |                      |
| *1. No matter what qualities a person has, those qualities are always indefinite and hard to define.  | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 2. Whether someone is one kind of person or another is determined by their biological make-up.  | 1                 | 2 | 3 | 4 | 5 | 6                    |
| *3. A person's basic qualities exist in varying degrees and are never easily categorized.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 4. The kind of person someone is, is clearly defined; they either are a certain kind of person or they are not.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| *5. It is never possible to judge how someone will react in new social situations.  | 1                 | 2 | 3 | 4 | 5 | 6                    |
| *6. Very few traits that people exhibit can be traced back to their biology.  | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 7. It is possible to know about many aspects of a person once you become familiar with a few of their basic traits.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 8. People can behave in ways that seem ambiguous, but the central aspects of their character are clear-cut.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 9. There are different types of people and with enough scientific knowledge, these different types can be traced back to genetic causes.                        | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 10. There are different types of people and it is possible to know what type of person someone is relatively quickly.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 11. The kind of person someone is can be largely attributed to their genetic inheritance.   | 1                 | 2 | 3 | 4 | 5 | 6                    |
| *12. A person's basic character is never easily defined.  | 1                 | 2 | 3 | 4 | 5 | 6                    |
| 13. With enough scientific knowledge, the basic qualities that a person has could be traced back to, and explained by, their biological make-up.                | 1                 | 2 | 3 | 4 | 5 | 6                    |
| *14. Although a person may have some basic identifiable traits, it is never easy to make accurate judgments about how they will behave in different situations. | 1                 | 2 | 3 | 4 | 5 | 6                    |

For each of the following statements, choose the number that corresponds to the extent to which you agree or disagree with it.

- |  | 1        | 2 | 3 | 4 | 5 | 6        |
|--|----------|---|---|---|---|----------|
|  | Strongly |   |   |   |   | Strongly |
|  | Agree    |   |   |   |   | Disagree |
| *15. A person's behavior in a select number of contexts can never tell you a lot about the kind of person they are.                          | 1        | 2 | 3 | 4 | 5 | 6        |
| *16. A person's attributes are something that can't be attributed to their biology.  | 1        | 2 | 3 | 4 | 5 | 6        |
| *17. People can have many attributes and are never completely defined by any particular one.   | 1        | 2 | 3 | 4 | 5 | 6        |
| 18. A person either has a certain attribute or they do not.  | 1        | 2 | 3 | 4 | 5 | 6        |
| 19. Everyone is either a certain type of person or they are not.   | 1        | 2 | 3 | 4 | 5 | 6        |
| *20. I think that genetic predispositions have little influence on the kind of person someone is.  | 1        | 2 | 3 | 4 | 5 | 6        |
| 21. When getting to know a person, it is possible to get a picture of the kind of person they are very quickly.                              | 1        | 2 | 3 | 4 | 5 | 6        |
| *22. A person's traits are never determined by their genes.  | 1        | 2 | 3 | 4 | 5 | 6        |
| 23. Generally speaking, once you know someone in one or two contexts, it is possible to predict how they will behave in most other contexts. | 1        | 2 | 3 | 4 | 5 | 6        |

**Internal Consistency Analyses on Essentialist Beliefs Scale (EBS; Bastian & Haslam, 2006)**

Cronbach's alpha for Essentialism items (all scale items) = .766

“\*” indicates reverse-coded items

**Appendix K: Perceived Dangerousness of Heroin Users (PDHU), adapted from Link et al. (1987)**

For each of the following statements, choose the number that corresponds to the extent to which you agree or disagree with it.

- | 1                 | 2     | 3                                 | 4                                    | 5        | 6                    |
|-------------------|-------|-----------------------------------|--------------------------------------|----------|----------------------|
| Strongly<br>Agree | Agree | Not Sure But<br>Probably<br>Agree | Not Sure But<br>Probably<br>Disagree | Disagree | Strongly<br>Disagree |
- 
- \*1. If a group of people who used to use heroin lived nearby, I would not allow my children to go to the movie theatre alone.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
2. If a person who once had a heroin use disorder applied for a teaching position at a grade school and was qualified for the job, I would recommend hiring him or her.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
- \*3. One important thing about people with heroin use disorder is that you cannot tell what they will do from one minute to the next.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
- \*4. If I know a person has had a heroin use disorder, I will be less likely to trust him.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
- \*5. The main purpose of inpatient drug treatment facilities should be to protect the public from people with substance use disorders.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
6. If a person who used to have a heroin use disorder lived nearby, I would not hesitate to allow young children under my care to play on the sidewalk.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
- \*7. Although some people with heroin use disorder may seem all right, it is dangerous to forget for a moment that they have heroin use disorder.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
- \*8. There should be a law forbidding a person who once had a heroin use disorder from getting a hunting license.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

**Internal Consistency Analyses on Perceived Dangerousness of Heroin Users (PDHU), adapted from Link et al. (1987)**

Cronbach's alpha for Perceived Dangerousness items (all scale items) = .814

“\*” indicates reverse-coded items

**Appendix L: Demographic Questions**

This study is anonymous, but your answers to demographic questions may reveal your identity if you have unique identifiers (e.g., you are an 89-year-old Asian male). Please feel free to skip any questions you do not feel comfortable answering or that you believe may compromise your anonymity.

1. Age \_\_\_\_\_
2. Gender (check one)     Male         Female
3. Classification (check one)  
 Freshman  
 Sophomore  
 Junior  
 Senior  
 Non-degree seeking  
 Post-baccalaureate
4. Race (check one)  
 African American, Non-Hispanic  
 Hispanic/Latino  
 White, Non-Hispanic  
 Asian/Pacific Islander  
 American Indian/Native Alaskan  
 Other
5. Which of the following best describes your political identity? (check one)  
 Strongly liberal  
 Moderately liberal  
 Slightly liberal  
 Neutral (moderate)  
 Slightly conservative  
 Moderately conservative  
 Strongly conservative
6. Are you a native English speaker? (check one)  
 Yes         No

**Appendix M: Suspicion Probe**

Please briefly describe what you think the purpose of this study was. What do you think the researchers were trying to find out?

**When you are finished responding to the questions, please drop your survey in the box at the front of the room and get a debriefing form from the researcher. After you've read the debriefing, you are free to do anything you want at your seat as long as you don't disturb the other participants. You'll be dismissed when everyone has finished or when 45 minutes has passed (whichever comes first).**

**Appendix N: Debriefing****"Social Issue Survey" Research Study**

Thank you for participating in the "Social Issue Survey" research study, designed by NKU psychology major Stefanie Kozlowski and Dr. Perilou Goddard. The study was an experiment; we are investigating the possibility that the language used to describe heroin use and addiction will influence attitudes about heroin use and programs to help people who use it.

There were three conditions in the study, and you were randomly assigned to one of them. Everyone read a fictional story about Brad and his broken leg. If you were assigned to the Stigma condition, Brad's struggle was described using the typical words associated with heroin use (for example, he was described as an "addict" or "junkie" and he struggled to "get clean"). If you were assigned to the Anti-Stigma condition, Brad's struggle was described in words that are thought to be less stigmatizing (for example, he was consistently referred to as a "person with a heroin use disorder" who was struggling to "recover"). If you were assigned to the Control condition, you read about Brad's course of physical therapy and heroin wasn't mentioned at all.

The description of Brad is completely fictional and does not depict any actual person or event. However, the information about overdose prevention, needle exchange programs, and medication-assisted treatment is accurate.

Our main hypothesis is that participants exposed to typical stigmatizing language about heroin use will have more negative attitudes toward people who use heroin and will be less likely to support policies to help such people.

We also assessed the extent to which you (a) believe heroin use disorder is biologically caused, (b) have a prosocial (cooperative) or competitive orientation, (c) feel empathy toward others, (d) believe that other people's traits are fixed or variable, (e) believe people who use (or have used) heroin are dangerous, and (f) identify yourself as politically liberal or conservative. We hypothesized that each of these characteristics is related to attitudes toward heroin use and programs to address it.

All questionnaire responses are completely anonymous—we have no way to connect any responses with any identifying information about you.

If participating in this study raised any concerns for you about drug use or other problems, please consider contacting the NKU Office of Health, Counseling, and Student Wellness, 859-572-5650. They provide help to NKU students and can also refer you to community agencies that may provide help, too. You can also find many community resources by visiting the website for NKY Hates Heroin: <http://nkyhatesheroin.com/>

If you'd like more information about the community's response to the heroin epidemic, you can download the Heroin Impact Response Task Force's report here: <http://heroin.drugfreenky.org/?p=30>

If you'd like to find out the study's results when they become available, or if you have any questions or concerns about your participation, please feel free to contact Stefanie Kozlowski ([kozlowskis2@nku.edu](mailto:kozlowskis2@nku.edu)) or Dr. Perilou Goddard ([goddard@nku.edu](mailto:goddard@nku.edu)).

Thank you very much for your help with this study. We sincerely appreciate your time and effort.