DO PSYCHOLOGICAL CHARACTERISTICS OF ADDICTION TREATMENT PROFESSIONALS PREDICT ACCEPTANCE OF HARM REDUCTION INTERVENTIONS?

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I designed this study to assess the acceptability of 12 harm reduction interventions by American addiction treatment professionals, the availability of each intervention, and the association between professionals’ reported acceptance and their stigmatizing attitudes (i.e., authoritarianism and benevolence), psychological flexibility, and burnout (i.e., emotional exhaustion, depersonalization, and personal accomplishment). I recruited a sample of 257 members of NAADAC, the Association for Addiction Professionals, to complete web-based questionnaires. Depending on the intervention and the severity of the client’s substance use disorder diagnosis (mild-moderate or severe using DSM-5 criteria), 63% to 90% of participants rated five behavioral and three pharmaceutical interventions as acceptable. Smaller proportions (27% to 52%) rated limited or moderate use of cannabis, opioids, cocaine/crack cocaine, and amphetamines as acceptable. Whatever their acceptability, interventions were not available from most providers or their agencies. Exploratory factor analyses suggested two subscales of harm reduction interventions: 1) behavioral and pharmaceutical interventions and 2) limited or moderate use goals. Regression analyses revealed that higher benevolence and lower depersonalization significantly predicted greater acceptance of behavioral and pharmaceutical interventions for individuals diagnosed with a mild-moderate substance use disorder. Higher benevolence, higher emotional exhaustion, and lower depersonalization significantly predicted greater acceptance of behavioral and pharmaceutical interventions for individuals with a severe substance use disorder. Subsequent exploratory regression analyses revealed that these characteristics were associated with acceptance of the behavioral interventions but not of the
There was no association between participants’ psychological characteristics and their acceptance of *limited or moderate use goals*. Acceptance of harm reduction was also unrelated to providers’ political orientation, personal history of diagnosed substance use disorder, years providing addiction treatment, or legal status of marijuana in the provider’s state. Several limitations could restrict the generalizability of this study. Specifically, I recruited a sample of older, more experienced counselors from a single professional organization and I had a low rate of usable responses. Additionally, participants may have provided what they felt were socially desirable responses. Consistent with this possibility, participants’ mean scores on the psychological measures reflected high benevolence, low authoritarianism, low psychological flexibility, and low burnout, all with little variability.

**Keywords:** Harm Reduction; Acceptability; Stigma; Psychological Flexibility; Burnout
For my grandmother, Jeanne Haselton Rich, who showed me what it means to live a life filled with love, passion, and adventure. Oceans of love from your favorite granddaughter.
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To all of my giants, thank you.
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INTRODUCTION

Definition and Principles of Harm Reduction

Harm reduction is a pragmatic approach to public health that focuses on decreasing the negative consequences associated with dangerous health behaviors, including problematic alcohol and drug use (Collins, Clifasefi, Logan, Samples, Somers, & Marlatt, 2012; Marlatt & Witkiewitz, 2010). Harm reduction has been characterized as “meeting substance users where they are at,” without shaming or condemning them, and providing education and interventions designed to reduce their morbidity and mortality and to improve their quality of life (Collins et al., 2012; Marlatt & Witkiewitz, 2010). This approach is predicated on the proposition that, although many problem substance users are unwilling to pursue or unable to achieve total abstinence, they may benefit from consuming drugs more safely and from reducing the amount and frequency of consumption.

Harm reduction advocates are guided by four main principles (Collins et al., 2012; Riley & O’Hare, 2000; Riley, Pates, Monaghan, & O’Hare 2012). First, guided by pragmatism, advocates argue that substance use will always take place and that some efforts to decrease or eliminate use can increase substance-related harms. For example, one outcome of laws against the possession and sale of drugs is the incarceration of drug users, which results in loss of individual freedom and an expensive criminal justice system. Second, rather than focus on elimination of substance use per se, advocates of harm reduction employ interventions designed to decrease the negative consequences experienced by those who continue to use substances. Third, advocates emphasize the advantages of addressing the more immediate and dangerous consequences of substance use before addressing less serious consequences. Fourth, harm
reduction is based on compassion and humanistic values that acknowledge an individual’s right to improved health and well-being even if he or she continues to misuse substances.

Harm reduction is often contrasted with two types of drug control strategies that also seek to reduce drug-related consequences: (1) supply reduction and (2) demand reduction. Supply reduction interventions are designed to limit drug availability, and include enforcement of anti-drug laws, government control of precursor chemicals, drug crop eradication, and inspections of persons and commerce entering the country (Office of National Drug Control Policy, 1999). Demand reduction interventions are designed to reduce the prevalence of drug use, and include addiction treatment programs and education to prevent initiation of drug use (Office of National Drug Control Policy, 2013). American drug policy has been driven largely by these two strategies, and harm reduction interventions have often met considerable resistance (MacCoun, 1998). This resistance has been based, in part, on concerns that harm reduction is a “Trojan horse” for drug legalization, beliefs that harm reduction will “send the wrong message” (i.e., approval of substance use), and the assumption that substance users must experience use-related harms to discourage further use (MacCoun, 1998).

**History of Harm Reduction**

The modern history of harm reduction is thought to have had its start in Great Britain during the 1920s (Collins et al., 2012; Riley & O’Hare, 2000; Riley et al., 2012). In response to rapid increases in opium and cocaine use, a committee of physicians and government officials drafted what came to be known as the Rolleston Report (Berridge, 1980), which advocated prescription of maintenance regimens of opium and cocaine for relief of symptoms associated with addiction (Collins et al., 2012; Riley & O’Hare, 2000). Since then, the Rolleston Report has
served as an example of collaboration between a national government and health care providers to reduce harm among substance users through the use of medical interventions.

Another major event in the history of harm reduction occurred in the Netherlands in the 1960s when, in response to escalating rates of drug use, the Dutch government commissioned two advisory committees to study the addictive properties and risks associated with various substances. These committees recommended decriminalization of personal drug use and differentiated between “soft drugs” (e.g., cannabis) and “hard drugs” (e.g., opiates and cocaine). Partially in response to these recommendations, the Dutch Opium Act of 1976 decriminalized “soft drug” use (Collins et al., 2012).

The decriminalization of “soft drugs” in the Netherlands set the foundation for the organization of the Junkiebond (which translates to “Junkie League”) in the 1980s. Founded by active heroin users in the Netherlands, the Junkiebond provided education about dangers associated with substance use while simultaneously advocating for users to have access to methadone and sterile needles and syringes (Collins et al., 2012; Marlatt, 1996). As a result of collaboration between the Junkiebond and the Municipal Health Services, the Netherlands introduced the world’s first government-backed needle exchange in 1984 (Collins et al., 2012; Marlatt 1996). As one outcome, the number of exchanged needles and syringes rose from 100,000 in 1985 to over 1,000,000 in 1990 (Collins et al., 2012).

Around the same time that the Junkiebond was advocating harm reduction interventions for users in the Netherlands, Great Britain experienced an influx of inexpensive brown heroin (Collins et al., 2012; Riley et al., 2012). The rising number of injection drug users and growing prevalence of HIV/AIDS led the government to implement harm reduction strategies in Merseyside. One result of this effort was the opening of the Mersey Drug Training and
Information Center, which provided information on safer substance use practices, a needle and syringe exchange program, and methadone maintenance (Collins et al., 2012; Riley et al., 2012).

While support for harm reduction increased in Great Britain and the Netherlands during the 1980s, the primary approach to drug use in the United States remained promotion of abstinence with little support for harm reduction (Collins et al., 2012). As the HIV/AIDS epidemic spread, small groups of American advocates increased their efforts to develop needle and syringe exchange programs and to provide education regarding safer substance use practices. Unlike Great Britain and the Netherlands, advocates working in the United States did not receive support from the federal government. Little funding was allocated for harm reduction, educational materials were often censured, and needle and syringe exchanges remained illegal in many states (Collins et al., 2012).

**Harm Reduction Interventions**

Drug and alcohol misuse can cause biomedical harms (e.g., collapsed veins, deep vein thrombosis, respiratory impairment, transmission of blood-borne pathogens, physical injuries as a result of cognitive and/or sensory impairment, etc.), psychological harms (e.g., depression, insomnia, impaired mental functioning, etc.) and social harms (e.g. increased crime, family adversity, loss of work productivity, increased health care costs, etc.) to the substance user and to the non-using community (Nutt, King, & Phillips, 2010). Since the drafting of the Rolleston Report in the 1920s, a wide variety of practices and approaches have emerged to decrease use-related consequences. A thorough description of all possible harm reduction interventions is beyond the scope of this paper, but I describe below some of the interventions that are currently offered in the United States.
Needle and syringe programs. Sharing contaminated needles and syringes increases the likelihood that injection drug users will contract blood borne diseases (i.e., HIV/AIDS and Hepatitis). To reduce transmission of such infections, needle and syringe programs provide injection drug users with sterile injection equipment (Kilmer, Cronce, Hunt, & Lee, 2012; Logan & Marlatt, 2010). Depending on the country, sterile needles and syringes have been provided at store-front clinics, pharmacies, mobile outreach vehicles, and vending machines (MacArthur et al., 2014). In addition to providing clean injection equipment, many needle and syringe programs collect and safely dispose of used injection equipment, educate clients about safer injection practices, and refer clients to treatment services (Marlatt & Witkiewitz, 2010; Ritter & Cameron, 2006).

Needle and syringe programs are one of the most frequently evaluated harm reduction interventions (Ritter & Cameron, 2006). Wodak and Cooney (2006) used the Bradford Hill criteria – a set of nine criteria commonly used to evaluate public health interventions – to conduct a comprehensive review of 45 studies of exchange programs. They concluded that there was “compelling evidence” (i.e., six of nine Bradford Hill Criteria were met) that needle and syringe programs reduce the spread of HIV, are cost effective, do not increase illicit drug use, and help recruit injection drug users into treatment and/or primary health care settings. Similarly, in a review of reviews, MacArthur et al. (2014) concluded that needle and syringe programs reduce unsafe injecting behaviors (e.g., reusing or sharing injection equipment) and the spread of HIV among injection drug users.

Consistent with evidence supporting the benefits of needle and syringe exchanges for reducing harms, research has shown widespread acceptance of these interventions by treatment providers in the United Kingdom and Canada. In a survey conducted by Rosenberg, Melville,
and McLean (2004), about 90% of British substance abuse treatment agencies rated needle and syringe programs as somewhat or completely acceptable. In their survey of Canadian treatment programs, Ogborne and Birchmore-Timney (1998) found that, depending on the severity of the client’s addiction and treatment setting in which respondents were employed (e.g., detoxification unit, hospital residential unit, hospital non-residential, etc.) needle and syringe programs were acceptable to 82 to 95% of Canadian treatment providers. In a more recent survey of Canadian agencies by Hobden and Cunningham (2006), needle and syringe programs were perceived favorably ($M = 8.42$ on an 11-point scale, where 0 = very unfavorable and 10 = very favorable) by treatment providers, despite being offered by a minority (13%) of treatment programs.

American addiction treatment providers also report favorable attitudes regarding needle and syringe exchange programs. In a survey of physicians practicing in Rhode Island (Rich et al., 2001), almost three-quarters reported that they would prescribe syringes to injection drug users if it was “clearly legal” to do so. Similarly, 68% of methadone clinic staff in New York and New Jersey agreed it was a “good idea” to provide sterile syringes to injection drug users (Deren, Kang, Mino, & Seewald, 2011). In a nation-wide survey of American treatment providers, Rosenberg and Phillips (2003) reported that 61% of respondents rated needle and syringe programs as acceptable.

**Methadone maintenance.** Opioids (e.g., heroin, morphine, oxycodone, hydrocodone) have a high potential for physical dependency, and many users of these substances experience uncomfortable withdrawal symptoms upon cessation of use. In addition, illicit use of opioids has been associated with numerous biomedical and psychosocial harms, in part because many users inject, take poor care of their health, and engage in criminal activity to support their use (Marlatt & Witkiewitz, 2010). Opioid substitution therapy has been used to reduce these harms by
supplying illicit opioid users with a prescription opioid, such as methadone, under medical supervision (Logan & Marlatt, 2010). Methadone, a synthetic opioid-receptor agonist, binds to the same receptors as other opioid drugs but, in moderate doses, it produces less euphoria, prevents or ameliorates the symptoms of withdrawal, and reduces craving (Kilmer et al., 2012). In the United States, oral methadone is provided by specialty clinics, often in combination with other therapeutic services.

Numerous research studies indicate that methadone maintenance reduces harmful outcomes associated with opioid use. Fullerton and colleagues (2014) conducted a review of meta-analyses, narrative reviews, and individual studies that examined methadone maintenance between 1995 and 2012. They found that methadone maintenance was associated with greater treatment retention rates, a reduction in illicit opioid use, decreased mortality, less criminal activity, and less frequent injecting, and less unprotected sex while intoxicated.

Several groups of researchers have assessed acceptance of methadone maintenance by treatment agencies and providers in the United Kingdom, Canada, and the United States. In a survey of British National Health Service substance abuse treatment programs (Rosenberg, Melville, & McLean, 2002), 86% of respondents rated methadone maintenance therapy as acceptable. A survey of Canadian treatment providers by Ogborne & Birchmore-Timney (1998) found that methadone maintenance was acceptable to 31 to 61% depending on treatment setting (e.g., detoxification unit, hospital residential unit, hospital non-residential, etc.). In a subsequent survey of Canadian programs, methadone maintenance programs were perceived favorably by providers ($M = 8.19$ on an 11-point scale, where 0 = very unfavorable and 10 = very favorable), although methadone was available from a minority (10%) of treatment programs (Hobden & Cunningham, 2006). In their survey of American treatment providers, Rosenberg and Phillips
(2003) found that 48% of respondents rated long-term methadone maintenance as acceptable and 67% rated short-term methadone maintenance as acceptable.

**Naloxone take-home kits.** Opioid overdose can lead to death due to suppression of the respiratory system resulting in cardiac arrest (Baca & Grant, 2005; Clark, Wilder, & Winstanley, 2014). Because most overdose incidents occur in the presence of other individuals (Darke & Hall, 2003; McGregor, Darke, Ali, & Christie, 1998; Powis et al. 1999), one harm reduction intervention is to provide take-home kits of naloxone to opioid users and their family and friends (Baca & Grant, 2005; Clark et al., 2014; Marlatt & Witkiewitz, 2010). Naloxone is an opioid antagonist that blocks the effects of opioid drugs shortly after it is administered (Baca & Grant, 2005; Ritter & Cameron, 2006). Although induced withdrawal is very unpleasant, Clark et al. (2014) noted high rates of survival (83% to 100%) following bystander administration of naloxone. The drug has no addiction potential and the chief contraindication is an allergic reaction in a small subset of individuals.

Take-home naloxone kits may be distributed through community opioid overdose prevention programs. These programs provide education about preventing, recognizing, and responding to overdose by administering naloxone, rescue breathing, and cardiopulmonary resuscitation (Clark et al., 2014; Ritter & Cameron, 2006). In 2014, the Food and Drug Administration (FDA) approved Evzio, a prescription hand-held naloxone auto-injector, for use by non-medical bystanders (i.e., family and friends of opioid users) to reverse opioid overdose (FDA, 2014). Narcan, a naloxone nasal spray, was approved by the FDA in 2015 (FDA, 2015) and is now available without a prescription from large pharmacy chains, including CVS, Walgreens, and Rite Aid.
Surveys assessing the acceptability take-home naloxone kits for treatment of opioid overdose have been conducted in the United Kingdom and the United States. In a survey by Rosenberg et al. (2002), 45% of British substance abuse treatment agencies reported acceptance of take-home naloxone kits for treatment of opioid overdose. A more recent survey indicated that over three-quarters of addiction services staff in Glasgow, Scotland believed it was a “good idea” to provide opioid users or their friends and families with take-home kits of naloxone (Hill & Mcauly, 2012). In their survey of American treatment providers, Rosenberg and Phillips (2003) reported that 58% of respondents rated self-administered opioid antagonists (including naloxone) for treatment of overdose as acceptable.

**Suboxone maintenance.** Suboxone – the trade name for a combination of buprenorphine and naloxone – was approved by the FDA in 2002 for the treatment of opioid dependence. Buprenorphine, like methadone, is an opioid agonist, prescribed to prevent withdrawal and obviate illicit drug taking by supplying users with a less harmful substitute for heroin or diverted prescription opioids. Unlike methadone, which is a full opioid agonist, buprenorphine is a partial opioid agonist. Therefore, although it also prevents or ameliorates withdrawal symptoms, buprenorphine causes less suppression of the respiratory system and has a lower risk of fatal overdose (Shah, Young, & Vieira, 2014; Thomas et al., 2014). The combination of buprenorphine and naloxone (the opioid antagonist reviewed above) is intended to reduce potential for abuse and diversion by preventing intoxication if one injects Suboxone (Thomas et al., 2014). Under the Drug Addiction Treatment Act of 2000, physicians who complete a training program are allowed to prescribe sublingual tablets of Suboxone (FDA, 2002). Two reviews of research on Suboxone maintenance (Shah et al., 2014; Thomas et al., 2014) reported fewer episodes of illicit opioid use and lower attrition following initiation of treatment. To date, I could
find no published research evaluating addiction treatment providers’ acceptance of Suboxone maintenance.

**Education and information.** Education and information about strategies to reduce use-related harms may be distributed using public awareness campaigns, peer outreach programs, videos, and printed materials such as pamphlets, leaflets, or posters (Ritter & Cameron, 2006). The materials often include information about safer routes of administration (i.e., smoking or snorting substances instead of injecting) and safer injection practices (i.e., rotating injection sites to prevent veins from collapsing, cleaning needles/syringes appropriately to decrease the spread of blood borne diseases, using a quick-release tourniquet to prevent exsanguination of limbs in case of loss of consciousness).

Empirical evaluation and support for education and information programs is limited. A review by Ritter and Cameron (2006) found inconsistent support for the effectiveness of education and information programs over other brief interventions (e.g., an HIV prevention intervention developed by the National Institute on Drug Abuse). In their review, MacArthur et al. (2014) concluded that there was only tentative support for education and information programs based on methodologically weak studies.

I could find only two surveys assessing acceptance of education and information programs by addiction treatment providers in the United Kingdom and the United States. Specifically, about 90% of British substance abuse treatment agencies rated harm reduction education as somewhat or completely acceptable (Rosenberg et al., 2004). A majority (53%) but notably fewer American treatment providers rated education about harm reduction techniques as acceptable (Rosenberg & Phillips, 2003).
**Pre/post loading and pill testing.** MDMA (3,4-methylenedioxymethamphetamine, also referred to as ecstasy) is a derivative of amphetamine. MDMA has emerged as a popular recreational drug among young people who use it while attending music festivals and “raves” (Allott & Redman, 2006; Kelly, 2009; Kilmer et al., 2012). One potentially harmful effect of MDMA/ecstasy consumption is depletion of serotonin, which can lead to mental confusion, memory loss, difficulties sustaining attention, dysregulation of body temperature, and symptoms of depression (Kelly, 2009; Parrot, 2002). Hoping to counteract these consequences, some users report taking vitamins, minerals, and/or serotonin-related pharmaceuticals before (“preloading”) or after (“postloading”) ingestion of MDMA/ecstasy (Allot & Redman, 2002; Kelly, 2002). Support for the effectiveness and efficacy of these methods has been largely anecdotal.

Because MDMA/ecstasy is not a pharmaceutical subject to quality control, tablets may contain varying amounts of both psychoactive and non-psychoactive ingredients, many of which have negative consequences (Winstock, Wolff, & Ramsey, 2001). In an effort to reduce the likelihood of ingesting unknown substances, users may test the pharmacological composition of MDMA/ecstasy tablets using do-it-yourself testing reagent kits or by submitting their pills to laboratories for examination via chromatography or gas chromatography-mass spectrometry (Winstock et al., 2001). Similar to preloading and postloading, support for the effectiveness and efficacy of pill testing has been largely anecdotal. To date, I could find no published research evaluating addiction treatment providers’ acceptance of preloading and postloading or testing of MDMA/ecstasy tablets.

**Non-abstinence goals.** Most American treatment services advocate total abstinence as the only safe and healthy treatment outcome (Marlatt, 1996; Saladin & Santa Ana, 2004), but some clients want to moderate or control their consumption rather than abstain completely
(Ambrogne, 2002; Martlatt & Witkiewitz, 2002). Adapting the definition of controlled drinking (Rosenberg, 2002) more broadly, definitions of non-abstinence goals typically include some statement about setting limits on how much and how often a person uses substances, the absence of substance related consequences, and a sense of mastery or control over one’s substance use. Supporting clients who elect to pursue non-abstinence goals as part of treatment has multiple advantages. For example, limited consumption improves both biomedical health and psychosocial functioning. In addition, problem users who are reluctant to identify themselves as “addicts” or “alcoholics” might avoid treatment settings that demand lifelong abstinence, but may be willing to initiate and remain in programs that allow moderate use. Additionally, some clients who initially choose non-abstinence goals may later choose to pursue abstinence (Ambrogne, 2002).

The majority of past research studies have evaluated the prevalence of controlled drinking, with considerably less research documenting the prevalence of non-abstinence from illicit substances. Studies of both treatment outcome and natural recovery have shown that subsets of problematic alcohol and drug users are able to reduce their consumption to non-problematic levels and sustain those reductions for a year or more (Ambrogne, 2002; Rosenberg, 1993; Saladin & Santa Ana, 2004; Sobell, Ellingstad, & Sobell, 2000). Additionally, Behavioral Self Control Training has been adapted to assist problem drinkers moderate their consumption (Ambrogne, 2002; Marlatt & Witkiewitz, 2002; Walters, 2000).

There is a large body of research examining acceptability of non-abstinence goals by addiction treatment providers in Western Europe, North American, and Australia. In repeated studies over the past three decades, approximately three-quarters of British addiction treatment providers reported acceptance of allowing clients to select outcome goals of controlled drinking
(Robertson & Heather, 1982; Rosenberg & Melville, 2005; Rosenberg, Melville, Levell, & Hodge, 1992). To a lesser extent, British agencies also support clients who want to moderate their use of illicit drugs (Rosenberg & Melville, 2005). Respondents reported considering client characteristics such as severity of dependence, drinking history, social stability/social history, and attitudes/beliefs about controlled drinking when evaluating clients’ suitability to control their consumption (Robertson & Heather, 1982; Rosenberg et al., 1992). Although controlled drinking was widely accepted, the majority of British treatment agencies surveyed by Rosenberg et al. (1992) reported that non-abstinence goals were appropriate for fewer than half of the clients served.

Surveys assessing the acceptability of non-abstinence goals in four other western European countries have focused exclusively on controlled drinking. Although Koerkel (2002) did not administer a survey, his review of treatment programs in western Germany indicated that abstinence from alcohol was the preferred treatment outcome, and very few programs supported controlled drinking goals. In their survey of Swiss treatment providers, Klingemann and Rosenberg (2009) reported that the majority (69% to 93%) endorsed acceptance of controlled drinking goals for clients diagnosed with alcohol misuse, but smaller proportions (37% to 66%) endorsed acceptance of controlled drinking for clients diagnosed with alcohol dependence. A survey of French treatment services (Luquiens, Reynaud, & Aubin, 2011) found that approximately half of the respondents considered controlled drinking an acceptable treatment goal, and 62% reported that they supported clients in treatment who identified controlled drinking goals. In a recent study of Polish treatment providers (Klingemann, 2016), roughly three quarters of respondents reported that “reduced risk drinking” was acceptable as an intermediate
or final goal for clients diagnosed with alcohol abuse, but was less acceptable as an intermediate or final goal for clients diagnosed with alcohol dependence.

Two surveys of Australian treatment services found that a majority of providers reported acceptance of controlled drinking goals. In their survey of treatment services in New South Wales, Donovan and Heather (1996) found that acceptance of controlled drinking was endorsed by 91% of community based treatment agencies, 85% of addiction treatment programs in hospitals or correctional facilities, 28% of residential programs, and 0% of therapists in private practices. A nationwide survey of Australian agencies by Dawe and Richmond (1997) found that 66% of addiction treatment agencies reported giving advice about controlled drinking as a treatment goal, and outpatient services were significantly more likely to offer advice than combined inpatient/residential services or residential treatment facilities.

Studies assessing the acceptability of non-abstinence from alcohol and drugs in North America reveal lower acceptance than in western Europe and Australia. Across multiple surveys of Canadian alcoholism treatment services in Ontario (Rush & Ogborne, 1986), Quebec (Brochu, 1990), and nationwide (Rosenberg, Devine, & Rothrock, 1996), approximately 40% of respondents rated controlled drinking acceptable for their clients. Furthermore, those who found controlled drinking acceptable indicated that it was acceptable for a limited subset of their clients (Rosenberg et al., 1996). A survey by Hobden and Cunningham (2006) found that moderate drinking goals were perceived favorably by Canadian providers ($M = 9.04$ on an 11-point scale, where 0 = very unfavorable and 10 = very favorable), and 95% of agencies surveyed reported that they allowed clients to pursue moderate drinking goals in treatment.

Studies have repeatedly found that fewer treatment professionals in the United States endorse acceptance of non-abstinence goals than in western Europe or Canada. In one of the first
nationwide surveys of American addiction treatment professionals, over three-quarters of respondents reported that controlled drinking was not an acceptable goal for their clients (Rosenberg & Davis, 1994). In two subsequent studies (Rosenberg & Phillips, 2003; Davis & Rosenberg, 2013), roughly half of the respondents reported non-abstinence was acceptable as an intermediate goal for clients diagnosed with abuse, but non-abstinence was considerably less acceptable as a final goal for clients diagnosed with dependence. In the most recently conducted of these surveys, Rosenberg and Davis (2014) found that acceptability of non-abstinence goals varied by the substance being used, with more providers endorsing acceptance of non-abstinence goals for clients using alcohol and cannabis than for those using amphetamines, heroin, cocaine, MDMA/ecstasy, or a mixture of illicit drugs. A recent study by Davis and Lauritsen (2016) found that, compared to the older, more experienced treatment providers surveyed by Rosenberg and Davis (2014), larger proportions of students enrolled in addiction studies programs endorsed acceptance of non-abstinence from alcohol and other substances. However, majorities of these students still perceived non-abstinence as unacceptable.

**Acceptance of Harm Reduction and Psychological Characteristics of Addiction Professionals**

Over the past three decades, several groups of researchers have examined the association between addiction treatment providers’ acceptance of harm reduction interventions and various client characteristics, including the substance being used and severity of the client’s dependence (e.g., Davis & Rosenberg, 2013; Davis & Lauritsen, 2016; Klingemann & Rosenberg, 2009; Rosenberg & Davis, 2014; Rosenberg & Melville, 2005; Rosenberg & Phillips, 2003). In contrast, relatively few studies have examined the association between treatment providers’ characteristics and their acceptance of harm reduction. In studies that have assessed provider
characteristics, acceptance was unrelated to provider age, gender, educational attainment, years providing addiction treatment, or personal history of being diagnosed with a substance use disorder (Davis & Rosenberg, 2013; Donovan & Heather, 1997; Rosenberg & Davis, 1994; Rosenberg & Davis, 2014).

With the exception of studies assessing treatment providers’ personal history of diagnosed substance use disorder, I could find no prior research that examined the relationship between psychological characteristics of treatment providers and their acceptance of harm reduction interventions. For the present study, I chose to examine three psychological variables: stigmatizing attitudes, burnout, and psychological flexibility. As I will describe below, I hypothesized that these psychological characteristics would predict providers’ acceptance of harm reduction strategies based on the association of these characteristics with other aspects of the therapeutic relationship. To the degree that these characteristics predict acceptance of harm reduction, decreasing stigma and burnout, and increasing psychological flexibility, could increase acceptance of potentially beneficial harm reduction interventions.

**Stigmatizing attitudes.** The term “stigma” has been used to describe the negative attitudes, stereotypes, and discriminatory treatment of members of minority ethnic groups and people with various medical and mental disorders (Corrigan & Watson, 2002; Lloyd, 2013; RüsCH, Angermeyer, & Corrigan, 2005). Corrigan and colleagues identified three common themes in stigmatizing attitudes toward the mentally ill: *fear and exclusion*, based on the belief that individuals with mental illness are dangerous and should be avoided; *authoritarianism*, based on the belief that individuals with mental illness are irresponsible and should not be allowed to make decisions for themselves; and *benevolence*, based on the belief that individuals with mental illness are child-like and require special care (Corrigan & Wilson, 2002; RüsCH et
al., 2005). Benevolence was conceptualized differently by Taylor and Dear (1981), who described benevolence as the belief that individuals with mental illness should be treated with sympathy and kindness, and should be provided with quality care and treatment. According to this latter definition, benevolent attitudes serve to reduce stigma.

Several studies and reviews have indicated that the general public is unwilling to affiliate with individuals with substance use disorders, and perceives them as dangerous, unpredictable, and to blame for their addiction (Corrigan, Schomerus, & Smelson, 2017; Crisp, Gelder, Goddard, & Meltzer, 2005; Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Lang & Rosenberg, 2016; Lloyd, 2013). These stigmatizing attitudes are likely influenced by multiple factors, including the criminalization of drug use and emphasis placed on character defects and powerlessness within some traditional, abstinence-based addiction treatment programs (Corrigan et al., 2017).

Of more direct relevance to my study, two reviews have shown that a subset of health care providers holds stigmatizing attitudes toward substance users, and that attitudes varied depending on professional training and experience (Lloyd, 2013; van Boekel, Brouwers, van Weeghel, & Gerretsen, 2014). Health care providers frequently expressed lower regard for substance users than for patients with other medical or psychiatric disorders. In several qualitative studies, health care providers have described substance users as dangerous, deceptive, challenging to work with, and manipulative (Lloyd, 2013). Although some addiction treatment providers also hold stigmatizing attitudes, they tend to hold more positive attitudes than do other types of health care professionals, such as general practitioners and general psychiatrists (van Boekel, Brouwers, van Weeghel, & Gerretsen, 2013; van Boekel et al., 2014). Addiction treatment professionals expressed greater positive regard, less fear and anger, and lower
attribution of blame toward substance users when compared to general practitioners (van Boekel et al., 2014).

There are negative consequences associated with health care providers holding stigmatizing attitudes toward substance users. More stigmatizing attitudes of providers toward substance users were associated with lower quality of care, greater distrust, and poor collaboration between professionals and patients (Lloyd, 2013; van Boekel et al., 2013). As a result, fear of stigmatization may inhibit some problem substance users from seeking health care or addiction treatment (Lloyd, 2013; van Boekel et al., 2014).

Because advocates of harm reduction are guided by compassion and humanistic principles (Marlatt & Witkiewitz, 2002; Marlatt & Witkiewitz, 2010), I expected providers who supported harm reduction interventions to hold less stigmatizing attitudes (Marlatt, 1996). Specifically, I expected providers who supported harm reduction to score higher on measures of benevolence, presumably because they wanted to support the health and safety of their clients even if their clients choose continued substance use. I also expected providers who supported harm reduction to score lower on measures of authoritarianism because they acknowledged that clients have the right to choose to use substances safely and did not impose abstinence-only treatment goals.

**Burnout.** According to Maslach, Jackson, Leiter, Schaufeli, and Schwab (1996), burnout is “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity.” Emotional exhaustion, often conceptualized as the core component of burnout, is the depletion of one’s cognitive and emotional resources. Depersonalization, also referred to as cynicism, is an attempt to cope with work demands by ignoring the human qualities of service recipients and
perceiving them as impersonal objects. Personal accomplishment is a sense of satisfaction with oneself and one’s work (Maslach et al., 1996; Maslach, Schaufeli, & Leiter, 2001).

The challenging work environment of addiction treatment professionals may set the foundation for burnout (Lacoursiere, 2001; Oser, Biebel, Pullen, Harp, 2013; Vilardaga et al., 2011). Studies that have assessed burnout in this population find it associated with high work demands (e.g. challenging patients, high rates of relapse, large caseloads, excessive paperwork), unclear work expectations, and lack of recognition and reward for one’s work (Broome, Knight, Edwards, & Flynn, 2009; Lacoursiere, 2001; Oser et al., 2013; Vilardaga et al., 2011). Emotional exhaustion and depersonalization have been associated with passive coping styles, poor general self-efficacy, and greater job dissatisfaction (Volker et al., 2010). In contrast, having a supportive workplace is a protective factor against burnout (Broome et al., 2009; Elman & Dowd, 1997; Oser et al., 2013).

Burnout has been associated with a decline in the quality of care provided to service recipients, increased work truancy, and higher rates of employee turnover (Maslach et al., 1996; Maslach et al., 2001) Burnout in addiction treatment professionals has been shown to result in difficulty establishing therapeutic rapport, poor attention to client needs, and emotional disengagement (Lacoursiere, 2001; Oser et al., 2013).

Experiencing a high degree of burnout would likely reduce a provider’s willingness to engage with clients to develop and implement personalized harm reduction strategies. It may be easier to adopt a uniform approach to treatment that imposes abstinence outcome goals on clients than it is to “meet clients where they are at” and tailor treatment according to individual harm reduction goals. Therefore, I predicted that burnout – characterized as high emotional
exhaustion, high depersonalization, and low personal accomplishment – would be associated with lower acceptance of harm reduction interventions.

**Psychological flexibility.** Proponents of Acceptance and Commitment Therapy (ACT) define psychological flexibility as one’s ability to maintain mindful awareness of the present moment while behaving in accordance with one’s personal values (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). ACT attempts to increase psychological flexibility by teaching six core processes: 1) acceptance of one’s internal states (i.e., thoughts and emotions), 2) cognitive defusion, or distancing oneself from the literal truth of one’s thoughts, 3) being present through mindful awareness of one’s internal states, 4) developing a perspective of one’s self-as-context, or the observer of internal states, 5) identifying personal values that contribute to living a vital and meaningful life, and 6) engaging in committed action that aligns with one’s identified values (Hayes et al., 2006).

Existing research suggests that higher psychological flexibility in addiction treatment providers is associated with lower levels of burnout and stigma (Hayes et al., 2004; Luoma et al., 2007; Varra, Hayes, Roget, & Fisher, 2008; Vilardaga et al., 2011). Hayes et al. (2004) found that an ACT intervention for addiction treatment professionals increased their psychological flexibility and decreased stigmatizing attitudes and burnout. In another study (Luoma et al., 2007), participation in a one-day ACT-based workshop increased the rates at which treatment providers reported implementation of Group Drug Counseling – a therapy shown to be effective for treatment of substance use disorders. In a study by Varra et al. (2008), alcohol treatment providers participated in either a one-day ACT-based workshop or a one-day education control workshop followed by a two-day workshop on empirically-supported pharmacotherapies for substance use. Treatment providers who attended the ACT-based workshop made significantly
more referrals for agonist and antagonist pharmacotherapies than those who attended the education control workshop. Both teams of researchers proposed that the ACT workshops led to increases in psychological flexibility, which corresponded with greater willingness to implement evidence-based practices despite the challenging emotions related to trying something new.

Research demonstrating that greater psychological flexibility is associated with increased willingness to adopt novel, evidence-based practices could have implications for harm reduction. Specifically, treatment providers in the United States have historically rejected harm reduction strategies in favor of abstinence-based approaches. Higher psychological flexibility could counter-balance psychological barriers associated with implementing harm reduction, including discomfort with trying a new, less commonly used intervention and fear of disapproval by co-workers or other professionals who favor abstinence-based interventions. Therefore, I predicted that higher psychological flexibility would be associated with greater acceptance of harm reduction interventions.

**Current Study**

It has been 14 years since the publication of the last nationwide survey (Rosenberg & Phillips, 2003) assessing American addiction treatment professionals’ acceptance of several harm reduction strategies, including needle and syringe exchange, education regarding less harmful ways to use drugs, prescription of naloxone to prevent overdose, and provision of short term and long term methadone maintenance. It has been three years since the publication of the last nationwide survey assessing American addiction treatment professionals’ acceptance of clients limiting or moderating their use of specific substances, including cannabis, amphetamine, and cocaine (Rosenberg & Davis, 2014). Additionally, I could find no previously published research that assessed American addiction treatment professionals’ acceptance of Suboxone.
maintenance, pre/post loading when using MDMA/ecstasy, assessment of pill content, and limited or moderate use of opioids.

Since the publication of those two studies (Rosenberg & Davis, 2014; Rosenberg & Phillips, 2003), several factors may have resulted in changes in American addiction treatment professionals’ acceptance of these strategies. For example, there have been continued efforts to educate providers about the potential benefits of harm reduction (Marlatt et al., 2012) and some interventions have become more available (e.g., naloxone kits are now available without a prescription). Additionally, the increasing prevalence of opioid-related deaths has received much media and political attention over the past several years. Given these developments, I predicted that acceptance of these eight harm reduction strategies by addiction treatment professionals had increased since last assessed by Rosenberg and Phillips (2003) and Rosenberg and Davis (2014).

Therefore, the first goal of the present study was to extend the existing literature by surveying a sample of American addiction treatment professionals to assess the acceptability and availability of 12 harm reduction interventions: (1) needle and syringe programs, (2) methadone maintenance, (3) take home kits of naloxone for treatment of overdose, (4) Suboxone maintenance, (5) education regarding safer injection practices, (6) information regarding safer routes of administration, (7) pre/post loading when using MDMA/ecstasy, (8) encouraging assessment of pill content, (9) limited or moderate use of cannabis, (10) limited or moderate use of opioids, (11) limited or moderate use of cocaine/crack cocaine, (12) and limited or moderate use of amphetamines.

As a second goal of this study, I chose to evaluate the relationship between respondents’ reported acceptance of harm reduction interventions and their stigmatizing attitudes, level of burnout, and psychological flexibility. Although previous research had assessed the association
of providers’ acceptance with different client characteristics, I could find few studies that assessed the association of acceptance with psychological characteristics of treatment providers. Based on the association of each characteristic with other aspects of therapeutic relationships, I predicted that greater acceptance of harm reduction interventions would be associated with lower authoritarianism and higher benevolence, higher psychological flexibility, and lower burnout.
METHOD

Participants

After receiving approval from the Human Subjects Review Board at Bowling Green State University (see Appendix A), I recruited members of “NAADAC, The Association for Addiction Professionals” (formerly known at the National Association of Alcohol and Drug Addiction Counselors), an American advocacy organization with a membership of approximately 9,000 addiction counselors, educators, and healthcare providers. Following acceptance of my application to recruit participants from their members, NAADAC distributed an email that included a description of the study, invitation to participate, and a link to the online survey materials. As an incentive, potential participants were informed that I would donate $2.00 for every completed survey to the Leukemia and Lymphoma Society (up to a maximum of $150).

Procedure

Potential participants who clicked the link in the email overture were taken to the online survey materials, hosted by Qualtrics.com. After reading and providing informed consent (see Appendix B for consent document), participants were asked to complete a demographic questionnaire, followed by a questionnaire assessing the acceptability and availability of 12 harm reduction interventions. Next, they were asked to complete, in the order listed below, three measures designed to assess: (1) attitudes of authoritarianism and benevolence toward substance users, (2) psychological flexibility, and (3) burnout.

Measures

Demographics Questionnaire. To gather information about participants’ personal and professional characteristics, participants were asked about their age, gender, ethnicity, education background, the state in which they practice, political orientation, years of experience, work
setting, theoretical orientation, and personal history of addiction. See Appendix C for a copy of this questionnaire.

**Harm Reduction Attitudes Questionnaire-II.** Using the survey employed by Rosenberg and Phillips (2003) as a model, I constructed a questionnaire to assess the acceptability and availability of 12 harm reduction interventions: (1) needle and syringe programs, (2) methadone maintenance for at least several months, (3) take home kits of naloxone to counteract overdose, (4) Suboxone maintenance for at least several months, (5) education regarding safer injection practices, (6) information regarding safer routes of administration, (7) pre/post loading when using MDMA/ecstasy, (8) encouraging assessment of pill content, (9) limited or moderate use of cannabis for clients who present with a cannabis use disorder, (10) limited or moderate use of opioids for clients who present with an opioid use disorder, (11) limited or moderate use of cocaine/crack cocaine for clients who present with a cocaine use disorder, (12) and limited or moderate use of amphetamines for clients who present with an amphetamine use disorder. Brief descriptions of each intervention were provided for relevant items on the questionnaire (see Appendix D).

Participants were instructed to rate the acceptability of each intervention, in principle, regardless of whether or not their agency or practice offered the intervention, using a 4-point scale (*completely unacceptable*, coded as -2; *somewhat unacceptable*, coded as -1; *somewhat acceptable*, coded as +1; *completely acceptable*, coded as +2). They rated each intervention twice: once for individuals diagnosed with a mild-moderate substance use disorder (that is, individuals who present with 2 to 5 of the 11 symptoms of a Substance Use Disorder according to DSM-5), and once for individuals diagnosed with a severe substance use disorder (that is, individuals who present with 6 or more of the 11 symptoms of a Substance Use Disorder
according to DSM-5). The order of severity (mild-moderate and severe) was randomized across participants, and all items within each level of severity were presented in the order listed above. For each item, participants were also asked to indicate whether that intervention was offered by their agency or practice.

**Community Attitudes Toward Substance Users.** To assess stigmatizing attitudes of addiction professionals toward substance users, I administered the Authoritarianism and Benevolence subscales of the Community Attitudes Toward Substance Abusers scale (Hayes et al., 2004). Participants were asked to read 20 statements of attitudes or beliefs about substance users and rate their agreement with each statement on a 5-point scale (1 = *Strongly agree*; 2 = *Agree*; 3 = *Neither agree nor disagree*; 4 = *Disagree*; 5 = *Strongly disagree*). The first five items on each subscale were reverse scored so that higher scores would be indicative of higher levels of the construct being measured. Total scores were calculated by summing the responses within each subscale. The Community Attitudes Toward Substance Abusers scale (Hayes et al., 2004) is a modification of the 40-item Community Attitudes Toward the Mentally Ill scale (Taylor & Dear, 1981). According to Taylor and Dear (1981), factor analysis for the original measure supported the calculation of four subscales, each of which demonstrated satisfactory internal consistency reliability: Authoritarianism ($\alpha = .68$), Benevolence ($\alpha = .76$), Social Restrictiveness ($\alpha = .80$), and Community Mental Health Ideology ($\alpha = .88$). Hayes et al. (2004) modified the original scale by replacing the terms “the mentally ill” and “mental patients” with “drug addicts and alcoholics.” The terms “mental illness,” “mental disturbance,” and “mental problems” were replaced with “drug and alcohol addictions” and “mental health” services or facilities were replaced with “drug and alcohol addiction” services or facilities. Additionally, gender-specific references (e.g., “a woman” or “a man”) were replaced with “a person.” I also used the terms
“substance use disorder” in place of “drug and alcohol addiction” to be consistent with DSM-5 language. Internal consistency reliability in the present sample was acceptable for the Authoritarianism subscale (α = .68) and good for the Benevolence subscale (α = .79). See Appendix E for items on the questionnaire.

**Acceptance and Action Questionnaire–II.** To assess psychological flexibility, I used the Acceptance and Action Questionnaire–II (Bond et al., 2011). Participants were asked to read seven statements assessing experiential avoidance, cognitive fusion, and commitment to values, and rate how true each statement was for them on a 7-point scale (1 = never true; 2 = very seldom true; 3 = seldom true; 4 = sometimes true; 5 = frequently true; 6 = almost always true; 7 = always true). The total score was the sum of all items and higher scores reflect higher psychological inflexibility. In Bond et al.’s (2011) original report on the psychometric properties of the Acceptance and Action Questionnaire-II, confirmatory factor analysis supported the interpretation of a single scale with satisfactory reliability (alphas range from .78 to .88, depending on the sample). Test-retest reliability was .81 after three months and .79 after one year. In addition, correlations with measures of depression, anxiety, stress, and thought-suppression provided support for concurrent, convergent, and discriminative validity. Internal consistency reliability in the present study was excellent (α = .90). See Appendix F for items on the questionnaire.

**Maslach Burnout Inventory.** To assess burnout, I administered the Maslach Burnout Inventory–Human Services Survey (Maslach, Jackson, & Leiter, 1996). Participants were asked to rate the frequency (0 = Never; 1 = A few times a year or less; 2 = Once a month or less; 3 = A few times a month; 4 = Once a week; 5 = A few times a week; 6 = Every day) with which they experienced each of 22 job-related feelings (see Appendix G for sample items and Appendix H
for permission to use copyrighted materials). Scores were calculated by summing the responses within each of three subscales with good to excellent internal consistency reliability in the original evaluation: Emotional Exhaustion ($\alpha = .90$), Depersonalization ($\alpha = .79$), and Personal Accomplishment ($\alpha = .71$). Test-retest reliability for each subscale over intervals of two to four weeks was .82 for Emotional Exhaustion, .60 for Depersonalization, and .80 for Personal Accomplishment. Convergent validity for the Maslach Burnout Inventory was supported by high correlations between Maslach Burnout Inventory scores and job characteristics expected to be related to burnout (e.g., large caseloads, high degree of client contact, unclear feedback regarding job performance) and personal outcomes theoretically related to burnout (e.g., emotional distancing, low interpersonal satisfaction, problems sleeping, and use of substances to cope).

According to Maslach et al. (1996) subscale scores can be categorized as making a low, average, or high contribution to overall levels of burnout based on a normative sample of 730 mental health workers. For Emotional Exhaustion: low $\leq 13$ points, average = 14-20 points, and high $\geq 21$ points; for Depersonalization: low $\leq 4$ points, average = 5-7 points, and high $\geq 8$ points; for Personal Accomplishment: low $\geq 34$ points, average = 33-29 points, and high $\leq 28$ points.

Internal consistency reliability in the present sample ranged from good to excellent, depending on the subscale: Emotional Exhaustion $\alpha = .92$, Depersonalization $\alpha = .75$, Personal Accomplishment $\alpha = .71$. 
RESULTS

Eligible Participants

According to NAADAC, their email distribution service successfully delivered 9,102 email invitations to participate in the study, of which 2,748 were opened. Of the 2,748 potential participants who read the email invitation, 380 clicked the link to view the informed consent. Of those 380, I eliminated 70 who began completing the survey but dropped out prior to viewing all the survey measures. Of the remaining 310, I also eliminated 20 who skipped one or more items on the Harm Reduction Attitudes Questionnaire–II and an additional 33 who skipped one or more items on the Community Attitudes toward Substance Users scale, Acceptance and Action Questionnaire-II, or Maslach Burnout Inventory. The remaining 257 participants (9% of opened emails) comprised the final sample for analysis. The 257 participants retained for analysis were somewhat younger ($M = 53.2$, $SD = 12.5$) than those 123 who were eliminated ($M = 56.4$, $SD = 10.1$), $t(332) = 2.2$, $p = .03$. There were no significant differences in reported number of years working with individuals with substance use disorders. Chi-square analyses indicated that retention status was not statistically significantly related to gender, ethnicity, educational achievement, or political orientation.

Sample Characteristics

Demographic characteristics of the sample are shown in Table 1. Majorities of participants identified as being White/Caucasian (83%), female (64%), and having earned a Master’s degree (64%). Just under half (42%) endorsed a personal history of substance use disorder. The mean number of years of experience working with clients diagnosed with substance use disorders was 16.5 ($SD = 11.5$) and the most frequently reported work settings were outpatient substance use disorder/addiction treatment agencies (46%) and private practices.
(28%). The most commonly endorsed theoretical orientations (participants could select more than one) were Cognitive Behavioral (84%), Motivational Enhancement (72%), and 12-Step principles (57%).

Psychological characteristics of the sample are also shown in Table 1. Mean scores on the two Community Attitudes toward Substance Users subscales (which could range from 10 to 50) revealed low Authoritarianism ($M = 17.4, SD = 4.9$), and high Benevolence ($M = 42.4, SD = 5.5$). The mean score of the sample on the Acceptance and Action Questionnaire-II (which could range from 7 to 49) indicated low Psychological Inflexibility ($M = 14.1, SD = 6.1$). Mean scores on the three subscales of the Maslach Burnout Inventory indicated average/moderate Emotional Exhaustion ($M = 14.3, SD = 10.2$), low Depersonalization ($M = 3.7, SD = 4.0$), and high Personal Accomplishment ($M = 41.9, SD = 5.3$).

**Acceptability of Harm Reduction Interventions**

Table 2 (top half) shows mean ratings of acceptability for each of the 12 harm reduction interventions for individuals diagnosed with a mild-moderate substance use disorder. For each of the five behavioral interventions (i.e., providing clean needles and syringes, providing education regarding safe injection practices, providing information about safer routes of administration, encouraging pre- and/or post loading, and encouraging pill testing), mean acceptability (which could range from completely unacceptable, coded as -2 to completely acceptable, coded as +2) values were positive. These mean values reflect the large proportions of participants – 63% to 82% – who rated each of these interventions as somewhat or completely acceptable. For the three pharmaceutical interventions (i.e., methadone maintenance, naloxone kits, and Suboxone maintenance), mean acceptability values were also positive, which reflects the large proportions of participants – 70% to 85% – who rated each of these interventions as somewhat or completely acceptable.
acceptable. In contrast, mean acceptability ratings for limited or moderate use of cannabis, opioids, cocaine, and amphetamines were negative, which reflects the smaller proportions – ranging from 27% to 52% – who rated non-abstinence as somewhat or completely acceptable.

Table 2 (bottom half) also shows mean ratings of acceptability for each of the 12 harm reduction interventions for individuals diagnosed with severe substance use disorders. For the five behavioral interventions, mean acceptability values were positive, reflecting the large proportions of participants – ranging from 68% to 86% – who rated these interventions as somewhat or completely acceptable. For the three pharmaceutical interventions, mean acceptability values were also positive, which reflects the large proportions of participants – 85% to 90% – who rated each of these interventions as somewhat or completely acceptable. In contrast, the mean acceptability ratings for limited or moderate use of cannabis, opioids, cocaine, and amphetamines were negative, reflecting the smaller proportions – ranging from 29% to 48% – who endorsed limited or moderate use goals as somewhat or completely acceptable.

To evaluate whether acceptability of each intervention varied as a function of the severity of a client’s substance use disorder, I conducted 12 paired-samples t-tests. Using a Bonferroni corrected alpha (.05/12 = .004), results revealed statistically significant differences in the acceptability of providing clean needles and syringes ($t(256) = 4.71, p < .000$), methadone maintenance ($t(256) = 7.83, p < .000$), and Suboxone maintenance ($t(256) = 6.81, p < .000$). In all three instances, participants endorsed greater acceptance of these interventions for individuals with severe substance use disorders than for individuals with mild-moderate substance use disorders.

Next, I evaluated the frequency of events that reportedly impacted participants’ attitudes toward the 12 harm reduction interventions. Almost half (40%) of participants provided a
response to this open-ended question. Of those 103 responses, 45 participants did not directly address the question, but instead described the basis upon which they found harm reduction interventions to be acceptable or unacceptable (e.g., one’s personal or professional experiences, beliefs about the causes of addiction, or beliefs about the message sent to substance users by providing harm reduction interventions). Among those 58 participants who identified recent events impacting attitudes toward harm reduction, 33 participants mentioned the “opiate epidemic” and higher prevalence of opiate overdoses and/or fatalities. Participants also identified events including the passage of laws legalizing marijuana (10 mentions), educational events or experiences (7 mentions), increasing availability of Naloxone (7 mentions), overall increases in substance use and associated harms (4 mentions), and changes in availability of harm reduction interventions such as Suboxone, Methadone, and needle and syringe exchanges (4 mentions). Participants’ responses could be counted more than once if they fit in multiple categories.

**Availability of Harm Reduction Interventions**

In addition to assessing participants’ acceptance of harm reduction interventions for individuals with a mild-moderate or severe substance use disorder, I also assessed the availability of each intervention. Only 7% of participants reported that their agency or practice provided clean needles and syringes. Likewise, small proportions of participants reported that their agency or practice encouraged pre-loading and/or post-loading when using MDMA/Ecstasy (8%) or testing the pharmacological composition of MDMA/Ecstasy tablets (8%). Larger proportions of participants reported that their agency or practice provided methadone maintenance (20%), naloxone kits for prevention of overdose (21%), Suboxone maintenance (28%), education regarding safe injection practices (29%), and information regarding safer routes of administration (36%). Varying proportions of participants reported that their agency or practice supported
individuals who choose to limit or moderate their use of cocaine (33%), amphetamines (33%), opioids (38%), and cannabis (46%).

**Exploratory Factor Analysis of Harm Reduction Interventions**

To evaluate the statistical dependence among the acceptability ratings of the interventions listed on the Harm Reduction Attitudes Questionnaire–II, I calculated a series of Pearson’s product moment correlations. As examination of Tables 3 and 4 indicates, all correlation coefficients were statistically significant. Furthermore, 17 of the 66 correlation coefficients in Table 3 (clients diagnosed with mild-moderate substance use disorders) were \( \geq .50 \), and 22 of the 66 correlation coefficients in Table 4 (clients diagnosed with severe substance use disorders) were \( \geq .50 \). Given the number and size of significant correlations among the ratings of interventions on the Harm Reduction Attitudes Questionnaire–II, I chose to evaluate whether there were clusters of harm reduction interventions that could be combined to create subscales. I therefore conducted two exploratory factor analyses, one for ratings of acceptability of the 12 harm reduction interventions for individuals with a mild-moderate substance use disorder and one for ratings of acceptability for individuals with a severe substance use disorder. I employed principle axis factoring because I wanted to estimate the underlying factor structure accounting for the intercorrelations among participants’ ratings of acceptance, and I used an oblique rotation because I expected that any resulting factors would be intercorrelated.

Factor analysis of the acceptability ratings of the 12 harm reduction interventions for individuals with a mild-moderate substance use disorder identified three factors with eigenvalues greater than one, but examination of the scree plot revealed flattening after the first two values. Additionally, there were several interventions that cross-loaded on the first and third factors.

Factor analysis of the acceptability ratings of the 12 harm reduction interventions for individuals
with a severe substance use disorder identified two factors with eigenvalues greater than one and no items cross-loaded. Based on these results, I conducted the factor analysis again for ratings of harm reduction interventions for clients with a mild-moderate substance use disorder and constrained the number of factors to two.

As examination of the pattern matrices in Table 5 shows, all 12 of the harm reduction interventions loaded above .40 on the same two factors for both severity levels. The first subscale comprised eight items reflecting *behavioral and pharmaceutical interventions* (i.e., providing clean needles and syringes, methadone maintenance, naloxone kits, Suboxone maintenance, providing education regarding safe injection practices, providing information about safer routes of administration, encouraging pre- and/or post loading, and encouraging pill testing). The second subscale comprised the four items assessing support for individuals choosing *limited or moderate use* of cannabis, opioids, cocaine, or amphetamines.

To evaluate the internal consistency reliability of the subscales, I calculated Cronbach’s alphas for both subscales and both levels of severity. Cronbach’s alphas revealed good or excellent internal consistencies for both subscales of interventions for individuals with mild-moderate substance use disorders: *behavioral and pharmaceutical interventions*, $\alpha = .89$; *limited or moderate use*, $\alpha = .94$. The two subscales were significantly positively correlated, $r(255) = .49, p < .001$. Cronbach’s alpha also revealed excellent internal consistencies for each subscale of interventions for individuals with severe substance use disorders: *behavioral and pharmaceutical interventions*, $\alpha = .90$; *limited or moderate use*, $\alpha = .95$. The two subscales were significantly, positively correlated, $r(255) = .46, p < .001$. 
Association of Psychological Characteristics with Acceptance of Behavioral and Pharmaceutical Interventions and Limited or Moderate Use

Prior to conducting regression analyses, I calculated Pearson’s product moment correlations among the subscale scores for measures of stigmatizing attitudes, psychological inflexibility, and burnout (see Table 6). Within each measure, the subscales were significantly correlated with each other. The Authoritarianism and Benevolence subscales of the Community Attitudes Toward Substance Users questionnaire were significantly negatively correlated, \( r(255) = -0.64, p < 0.001 \). On the Maslach Burnout Inventory, the Personal Accomplishment subscale was significantly negatively correlated with the Emotional Exhaustion subscale, \( r(255) = -0.31, p < 0.001 \); and the Depersonalization subscale, \( r(255) = -0.47, p < 0.001 \); the Emotional Exhaustion subscale was significantly positively correlated with the Depersonalization subscale, \( r(255) = 0.59, p < 0.001 \).

As displayed in Table 6, there were also statistically significant correlations between the Community Attitudes Toward Substance Users Authoritarianism subscale and the Acceptance and Action Questionnaire-II, \( r(255) = 0.13, p < 0.05 \), the Maslach Burnout Inventory Depersonalization subscale, \( r(255) = 0.18, p < 0.01 \), and the Maslach Burnout Inventory Personal Accomplishment subscale \( r(255) = -0.26, p < 0.01 \). The Community Attitudes Toward Substance Users Benevolence subscale was significantly correlated with the Maslach Burnout Inventory Depersonalization subscale, \( r(255) = -0.19, p < 0.01 \) and the Maslach Burnout Inventory Personal Accomplishment subscale \( r(255) = 0.28, p < 0.01 \). The Acceptance and Action Questionnaire-II was significantly correlated with the Maslach Burnout Inventory Emotional Exhaustion subscale, \( r(255) = 0.41, p < 0.01 \), the Maslach Burnout Inventory Depersonalization subscale, \( r(255) = 0.33, p < 0.01 \), and the Maslach Burnout Inventory Personal Accomplishment subscale \( r(255) = -0.24, p < 0.01 \).
.01. I interpreted these coefficients as indicating statistical dependence among many of the predictors, but not to the degree that precluded including each of them in multiple regressions to evaluate the association of these psychological characteristics with acceptance of harm reduction interventions.

Next, I conducted four multiple regressions using participants’ scores on the two Community Attitudes toward Substance Users subscales, the Acceptance and Action Questionnaire-II, and the three Maslach Burnout Inventory subscales to predict acceptance of behavioral and pharmaceutical interventions and limited or moderate use for each of the two severity levels (mild-moderate and severe). Because I had no theoretical basis for assuming that one psychological characteristic would be more or less predictive of acceptance of harm reduction interventions than another, I used the forced entry method to enter all predictors into the model simultaneously.

First, I evaluated the association of participants’ psychological characteristics with acceptance of behavioral and pharmaceutical interventions for individuals with a mild-moderate substance use disorder. The regression was statistically significant, $F(6,250) = 3.26, p = .004$, and these psychological characteristics explained 7% of the variance ($R^2 = .07; Adj. R^2 = .05$) in acceptance ratings. Examination of the beta weights revealed that two characteristics significantly predicted higher ratings of acceptance: higher scores on the Community Attitudes toward Substance Users Benevolence subscale, $\beta = .17, t(250) = 2.08, p = .04$, and lower scores on the Maslach Burnout Inventory Depersonalization subscales, $\beta = -.18, t(250) = -2.17, p = .03$.

Second, I evaluated the association of participants’ psychological characteristics with acceptance of limited or moderate use for individuals with a mild-moderate substance use
disorder. The regression equation was not significant, $F(6,250) = 1.63, p = .140, R^2 = .04, Adj. R^2 = .02$.

Third, I evaluated the degree to which participants’ psychological characteristics were associated with acceptance of *behavioral and pharmaceutical interventions* for individuals with severe substance use disorders. The regression was statistically significant, $F(6,250) = 3.83, p = .001$, but accounted for a small proportion of the variance in acceptability ratings, $R^2 = .08, Adj. R^2 = .06$. Examination of the beta weights revealed that three characteristics significantly predicted higher ratings of acceptance: higher scores on the Community Attitudes toward Substance Users Benevolence subscale ($\beta = .21, t(250) = 2.60, p = .010$), higher scores on the Maslach Burnout Inventory Emotional Exhaustion subscale ($\beta = .16, t(250) = 2.02, p = .045$), and lower scores on the Maslach Burnout Inventory Depersonalization subscale ($\beta = -.17, t(250) = -2.03, p = .044$).

Fourth, I evaluated the degree to which psychological characteristics of treatment professionals predicted acceptance of *limited or moderate use* for individuals diagnosed with severe substance use. The regression equation was not significant, $F(6,250) = 1.97, p = .070, R^2 = .05, Adj. R^2 = .02$.

**Exploratory Analysis I: Association of Demographic Characteristics with Acceptance of Harm Reduction Interventions**

As exploratory follow up analyses, I also wanted to evaluate whether acceptability of harm reduction interventions varied based on the legal status of marijuana in the state of one’s practice, one’s political orientation, and one’s own history of being diagnosed with a substance use disorder. Therefore, I ran three MANOVAs to evaluate the association of each demographic characteristic and providers’ acceptance of *behavioral and pharmaceutical interventions* and
limited or moderate use collapsed across mild-moderate and severe diagnoses. There were no significant differences in acceptance of behavioral and pharmaceutical interventions and limited or moderate use for individuals at either level of severity based on the legal status of marijuana (legal for recreational use, legal for medical use, or illegal) in participants’ state, $F(8,490) = 1.77$, $p = .081$, $V = .06$, partial $\eta^2 = .03$. Similarly, there were no significant differences in acceptance of harm reduction strategies for individuals at either level of severity based on participants’ political orientation (liberal, liberal to moderate, moderate, moderate to conservative, or conservative), $F(16,984) = 1.05$, $p = .40$, $V = .07$, partial $\eta^2 = .02$. There were also no significant differences in acceptance of harm reduction strategies for individuals at either level of severity based on participants’ personal history of having been diagnosed with a substance use disorder, $F(8,504) = .50$, $p = .86$, $V = .02$, partial $\eta^2 = .01$.

Because acceptance of harm reduction interventions could vary based on one’s experience treating individuals with substance use disorders, I conducted four simple linear regressions to assess the degree to which years of treatment was associated with acceptance of harm reduction interventions. Results revealed that years providing substance use disorder treatment was not associated with acceptance of either subscale of harm reduction interventions for individuals at either level of diagnostic severity: behavioral and pharmaceutical interventions for individuals diagnosed with mild-moderate substance use disorders, $F(1,248) = .78$, $p = .38$, $R^2 = .00$, Adj. $R^2 = .00$; limited or moderate use for individuals diagnosed with mild-moderate substance use disorders, $F(1,248) = 2.52$, $p = .11$, $R^2 = .01$, Adj. $R^2 = .01$; behavioral and pharmaceutical interventions for individuals diagnosed with severe substance use disorders, $F(1,248) = 1.96$, $p = .16$, $R^2 = .01$, Adj. $R^2 = .00$; and limited or moderate use for individuals diagnosed with severe substance use disorders, $F(1,248) = 1.92$, $p = .17$, $R^2 = .01$, Adj. $R^2 = .00$. 
Exploratory Analysis II: Association of Psychological Characteristics with Acceptance of Behavioral Interventions, Pharmaceutical Interventions, and Limited or Moderate Use

Because the regression analyses revealed that psychological variables predicted little variance in providers’ acceptance of behavioral and pharmaceutical interventions and non-abstinence goals for individuals presenting with a mild-moderate or severe substance use disorder, I chose to conduct four additional regression analyses after separating the behavioral and pharmaceutical interventions into two separate subscales – one for the behavioral interventions (i.e., providing clean needles and syringes, providing education regarding safe injection practices, providing information about safer routes of administration, encouraging pre- and/or post loading, and encouraging pill testing) and another for the pharmaceutical interventions (i.e., methadone maintenance, naloxone kits, and Suboxone maintenance).

Cronbach’s alphas revealed good and acceptable internal consistencies for the two new “subscales” of interventions for individuals with a mild-moderate substance use disorder: behavioral interventions, \( \alpha = .89 \) and pharmaceutical interventions, \( \alpha = .76 \). Cronbach’s alpha also revealed excellent and acceptable internal consistencies, respectively, for both new “subscales” of interventions for individuals with severe substance use disorders: behavioral interventions, \( \alpha = .90 \) and pharmaceutical interventions, \( \alpha = .73 \).

Next, I conducted Pearson’s product moment correlations among the scores of the three harm reduction intervention subscales. For individuals with a mild-moderate substance use disorder, acceptance of behavioral interventions was correlated with acceptance of limited or moderate use, \( r(255) = .44, p < .001 \); acceptance of behavioral interventions was correlated with acceptance of pharmaceutical interventions, \( r(255) = .58, p < .001 \); and acceptance of limited or moderate use was correlated with acceptance of pharmaceutical interventions, \( r(255) = .44, p < .001 \).
For individuals with a severe substance use disorder, acceptance of *behavioral interventions* was correlated with *limited or moderate use*, \( r(255) = .44, p < .001 \); acceptance of *behavioral interventions* was correlated with acceptance of *pharmaceutical interventions*, \( r(255) = .67, p < .001 \); and acceptance of *limited or moderate use* was correlated with acceptance of *pharmaceutical interventions*, \( r(255) = .39, p < .001 \).

Next, I conducted four multiple regressions to evaluate whether treatment professionals’ scores on the two Community Attitudes toward Substance Users subscales, Acceptance and Action Questionnaire-II, and three Maslach Burnout Inventory subscales predicted acceptance of the two new “subscales” of behavioral and pharmacological interventions. As before, I used the forced entry method to enter all predictors into the model simultaneously.

First, I evaluated whether the selected psychological characteristics were associated with acceptance of *behavioral interventions* for clients with a mild-moderate substance use disorder. The regression equation was significant, \( F(6,250) = 3.62, p = .002 \), and psychological characteristics explained 8% of the variance in acceptance ratings, \( R^2 = .08, \text{Adj. } R^2 = .06 \). Examination of the beta weights revealed that two characteristics significantly predicted higher ratings of acceptance: higher scores on the Community Attitudes toward Substance Users Benevolence subscale, \( \beta = .20, t(250) = 2.43, p = .016 \), and lower scores on the Maslach Burnout Inventory Depersonalization subscale, \( \beta = -.17, t(250) = -2.07, p = .040 \).

Second, I evaluated whether the selected psychological characteristics were associated with acceptance of *pharmaceutical interventions* for clients with a mild-moderate substance use disorder. The regression equation was not significant, \( F(6,250) = 1.59, p = .150 \), and accounted for a trivial amount of variance in acceptance ratings, \( R^2 = .04, \text{Adj. } R^2 = .01 \).
Third, I evaluated whether the selected psychological characteristics were associated with ratings of acceptance for *behavioral interventions* for clients with a severe substance use disorder. The regression equation was significant, $F(6,250) = 4.13, p = .001$, and psychological characteristics explained 9% of the variance in acceptance ratings, $R^2 = .09$, $Adj. R^2 = .07$. Examination of the beta weights revealed that three characteristics significantly predicted ratings of acceptance: higher scores on the Community Attitudes toward Substance Users Benevolence subscale ($\beta = .23, t(250) = 2.80, p = .006$), higher scores on the Maslach Burnout Inventory Emotional Exhaustion subscale ($\beta = .16, t(250) = 2.02, p = .045$), and lower scores on the Maslach Burnout Inventory Depersonalization subscale ($\beta = -.18, t(250) = -2.25, p = .025$).

Fourth, I evaluated whether the selected psychological characteristics were associated with ratings of acceptance of *pharmaceutical interventions* for individuals with severe substance use disorders. The regression equation was not significant, $F(6,250) = 1.96, p = .072$, $R^2 = .05$, $Adj. R^2 = .02$. 
DISCUSSION

I designed this study to assess the acceptability of 12 harm reduction interventions by American addiction treatment professionals, the availability of each intervention, and the association between treatment professionals’ reported acceptance and their stigmatizing attitudes (i.e., authoritarianism and benevolence), psychological flexibility, and burnout (i.e., emotional exhaustion, depersonalization, and personal accomplishment). A nationwide sample of 257 members of NAADAC, the Association for Addiction Professionals, completed web-administered questionnaires assessing the acceptability and availability of 12 different harm reduction interventions for clients diagnosed with a mild-moderate and severe substance use disorders.

Depending on the intervention, between 63% and 85% of participants rated as somewhat or completely acceptable five behavioral interventions (providing clean needles and syringes, providing education regarding safe injection practices, providing information about safer routes of administration, encouraging pre- and/or post loading, encouraging pill testing) and three pharmaceutical interventions (methadone maintenance, Suboxone maintenance, take-home naloxone kits) for clients with a mild-moderate substance use disorder. For clients with a severe substance use disorder, between 68% and 90% of participants rated these interventions as somewhat or completely acceptable. Participants rated three interventions – providing clean needles and syringes, methadone maintenance, and Suboxone maintenance – as more acceptable when a client was diagnosed with a severe substance use disorder versus a mild-moderate substance use disorder. In comparison with the large proportions of addiction treatment professionals who rated behavioral interventions and pharmaceutical interventions as acceptable, smaller proportions (27% to 52%) of participants rated as acceptable limited or
moderate use of cannabis, opioids, cocaine, or amphetamine by clients diagnosed with cannabis, opioid, cocaine, or amphetamine use disorders, respectively.

Although multiple factors could account for several differences between the present findings and those of Rosenberg and Phillips (2003), it appears that American treatment providers’ acceptance of several harm reduction interventions has increased over the past 14 years. Specifically, Rosenberg and Phillips (2003) reported that between half and two-thirds of respondents rated as somewhat or completely acceptable long term methadone maintenance (48%), education regarding safer injection practices and safer routes of administration (53%), provision of opioid antagonists naloxone or naltrexone to prevent overdose fatalities (58%), needle and syringe exchange (61%), and short term methadone maintenance (67%). In comparison, and depending on the severity of the client’s diagnosis, approximately three-quarters or more of the participants in the current study rated as acceptable methadone maintenance (70% and 85%), education about safer injection practices (82% and 86%), information regarding safer routes of administration (75% and 80%), take home kits of naloxone (85% and 88%), and needle and syringe exchange (78% and 85%). In addition to increased acceptance of harm reduction, these differences may be explained, in part, by differences in samples (NAADAC members versus addiction treatment agency administrators), minor differences in the descriptions of interventions, and differences in diagnostic criteria used to define severity of substance use disorders (DSM-5 versus DSM-IV-TR).

Comparison of the present findings and past research by Rosenberg and Davis (2014) also appears to show that American treatment providers’ acceptance of limited or moderate use of specific drugs has increased. In their survey of NAADAC members, Rosenberg and Davis (2014) found that, depending on severity of diagnosis (abuse versus dependence) and finality of
outcome goal (non-abstinence as an intermediate goal on the way to abstinence versus non-abstinence as a final goal), between 13% and 43% of respondents rated non-abstinence from cannabis as acceptable, between 8% and 24% rated non-abstinence from cocaine as acceptable, and between 9% and 27% rated non-abstinence from amphetamines as acceptable. In the present study, depending on the severity of a client’s substance use disorder diagnosis (mild-moderate or severe), 48% and 52% of participants rated limited or moderate use of cannabis as acceptable; 33% and 34% rated limited or moderate use of opioids as acceptable; 27% and 29% rated limited or moderate use of cocaine as acceptable; and 29% rated limited or moderate use of amphetamine as acceptable. Although the present results suggest an increase in providers’ acceptance of limited or moderate use of some drugs in the past several years, the majority of providers in the present study still rated limited or moderate use of illicit drugs as unacceptable. Methodological factors rather than actual changes in acceptance could account for such differences.

The present findings indicate that many behavioral and pharmaceutical interventions appear to be more widely available than they were 15 years ago. For example, in the sample recruited by Rosenberg and Phillips (2003), 1% of respondents reported that their agency or practice provided clean needles and syringes, 8% provided naltrexone or naloxone, 9% provided long term methadone maintenance, 12% provided short term methadone maintenance, and 28% provided education regarding less harmful ways of using drugs (safer injection practices and safer routes of administration). In the present sample, 7% of participants reported that their agency or practice provided clean needles and syringes, 21% provided naloxone kits, 20% provided methadone maintenance, 29% provided education regarding safe injection practices, and 36% provided information regarding safer routes of administration.
One factor that might be contributing to increases in acceptance of harm reduction by American treatment providers could be awareness and concern regarding increased opioid use and subsequent opioid overdoses. According to the Centers for Disease Control (Rudd, Seth, David, & Scholl, 2016), opioid-related deaths in the United States have more than tripled since 1999. In the present survey, 33 participants (out of the 58 who responded to an open-ended question regarding events influencing their opinions on harm reduction) reported that their opinions had been influenced by the current “opioid epidemic.” Of these 33, 15 participants specifically cited concerns about the increasing rates of overdose fatalities.

In addition to capturing the attention of participants in this study, the increase in opioid-related deaths has garnered the attention of national news outlets and politicians at the local, state, and federal levels. It may be that increased exposure to and awareness of opioid-related harms has led to greater acceptance of associated harm reduction measures, such as methadone maintenance, Suboxone maintenance, and provision of take-home Naloxone kits. Because some problem opioid users inject their drugs, the increased prevalence of opioid-related fatalities may have contributed to increased acceptance of other injection-related interventions such as needle and syringe exchanges, education regarding safer injection practices, and information about safer routes of administration.

The “opioid epidemic” may also be a contributing factor in the apparently increased availability of several harm reduction interventions. Apparently in response to the increase in overdose fatalities, three of the nation’s largest pharmacy chains have adapted their corporate policies to provide naloxone kits without a prescription in most states. For example, CVS currently provides naloxone without a prescription in 41 states; Walgreens provides naloxone without a prescription in 34 states; and Rite Aid provides naloxone without a prescription in 23
states. Partially in response to growing concerns about the health of individuals who inject opioids (McEvers & Cornish, 2016), Congress ended the ban on federally funded needle exchanges in the United States with the passing of the Consolidated Appropriations Act of 2016 (H. R. 2029, 2016). This act allows states and communities to request a Determination of Need from the Center for Disease Control to obtain federal funding for “syringe services programs,” also commonly referred to as needle and syringe exchanges.

In addition to examining my findings in the context of past research in the United States, I was also interested in comparing my findings to past surveys conducted in the United Kingdom. Based on the results of this study, it appears that American addiction treatment professionals are now endorsing acceptance of several behavioral and pharmaceutical interventions at rates similar to those of British treatment providers in the early 2000s. Specifically, Rosenberg et al. (2002; 2004) found that 86% of British addiction treatment services rated methadone maintenance as acceptable, that 90% of British addiction treatment services rated needle and syringe exchanges as acceptable, and 91% rated providing education regarding safer injection practices and safer routes of administration as acceptable. A notable difference between the current American sample and the earlier British samples is that 45% of British treatment services rated provision of take-home naloxone kits as acceptable (Rosenberg et al., 2002), compared to 85% and 88% of the current sample, depending on level of severity. One possible explanation for this difference is the recent introduction of the naloxone auto-injector in 2014 and naloxone nasal spray in 2015. Prior to this, naloxone was commonly administered intramuscularly or intravenously via needle and syringe (FDA, 2015).

Although there are similarities in ratings of acceptance between the present survey of American addiction treatment professionals and past surveys of British treatment providers,
fewer participants in the present sample endorsed acceptance of limited or moderate use than did their counterparts in the United Kingdom in the early 2000s. Specifically, Rosenberg and Melville (2005) found that, depending on severity of diagnosis (abuse versus dependence) and finality of outcome goal (intermediate versus final), between 51% and 82% of British treatment providers endorsed acceptance of non-abstinence goals for drug using clients. In contrast, depending on the drug (cannabis, opioids, cocaine, or amphetamine) and severity of diagnosis (mild-moderate versus severe), between 27% and 52% of American treatment providers in the present study endorsed acceptance of limited or moderate use goals.

That fewer American treatment providers accept harm reduction interventions than do British providers may be explained in part by the history of harm reduction in these two countries. Higher acceptance of harm reduction by providers in the United Kingdom may reflect both the impact of the Rolleston Report and focus on public health engendered by the National Health Service. In comparison, lower acceptance of harm reduction by providers in the United States may reflect the “abstinence-only” approach to substance use, as exemplified by Prohibition in the 1920s and 1930s, the “War on Drugs” beginning in the 1970s, the “Just Say No” campaign of the 1980s, and the domination of Alcoholics Anonymous in the 1950s, 60s, 70s, and 80s (Collins et al., 2012).

In addition to evaluating current acceptability and availability of these harm reduction interventions, the second and major goal of this study was to evaluate the relationship between American treatment professionals’ reported acceptance of harm reduction interventions and their stigmatizing attitudes (i.e., benevolence and authoritarianism), psychological flexibility, and level of burnout. These psychological characteristics predicted a statistically significant, albeit small, proportion of the variance in participants’ acceptance of behavioral and pharmaceutical
interventions for clients with both mild-moderate and severe substance use disorders. Subsequent exploratory regression analyses revealed that these characteristics were associated with acceptance of only the five behavioral interventions, but not with the three pharmaceutical interventions or the four limited or moderate use goals.

Consistent with my hypotheses, higher Benevolence and lower Depersonalization were associated with greater acceptance of behavioral interventions for clients diagnosed with mild-moderate and severe substance use disorders. Contrary to my hypotheses, higher Emotional Exhaustion was associated with greater acceptance of behavioral interventions for clients diagnosed with severe substance use disorders. Emotional exhaustion describes a state of emotional and cognitive depletion resulting from the emotional demands of one’s work. It may be that some providers experience emotional exhaustion following repeated attempts to implement abstinence-based treatments for clients who struggle to abstain or maintain abstinence. These providers may allow clients to pursue harm reduction because they feel that supporting harm reduction is easier than trying unsuccessfully to enforce abstinence. However, emotionally exhausted providers who approach harm reduction in this manner may be less likely to identify personalized harm reduction goals or to provide harm reduction interventions.

There are several possible explanations for the finding that providers’ psychological (stigmatizing attitudes, psychological flexibility, and burnout) and demographic characteristics (legal status of marijuana in one’s state, political orientation, personal history of having been diagnosed with a substance use disorder, or number of years providing substance use disorder treatment) predicted little or no variance in their acceptance of harm reduction. One potential explanation for these findings is that acceptability of harm reduction is associated more highly with treatment providers’ endorsement of the “disease model,” which characterizes addiction as
a chronic “brain disease” that will progressively worsen without total abstinence from all substances. In support of this possibility, a survey of alcohol treatment services in the United States found that 80% of respondents rated non-abstinence as unacceptable based on their adherence to the “disease model” (Rosenberg & Davis, 1994).

Another potential explanation for these findings is that acceptance may be moderated by personality traits not measured in the present study. For example, openness to experience has been associated with an ability to engage in unconventional ways of thinking and willingness to try new activities (McCrae, 1987). Given that the traditional approach to treatment in the United States has been promotion of total abstinence, openness to experience may allow a provider to “think outside the box” and adopt less conventional treatment approaches, such as harm reduction.

It may also be the case that providers’ psychological characteristics are less predictive of acceptance than the characteristics of the clients they are treating. Several studies have shown acceptance of harm reduction interventions to be unrelated to participants’ age, gender, years of experience providing addiction treatment, educational attainment, or personal history of substance use disorder (e.g., Davis & Rosenberg, 2013; Donovan & Heather, 1997; Rosenberg & Davis, 1994; Rosenberg & Davis, 2014). In contrast, research has shown that acceptability varied as a function of client characteristics such as severity of substance use and the specific substance being used (e.g., Davis & Rosenberg, 2013; Rosenberg & Davis, 2014; Rosenberg & Phillips, 2003; Rosenberg & Melville, 2005).

Several limitations could restrict the generalizability of the present study. First, although participants were demographically and geographically diverse, I recruited a sample of older and more experienced addiction treatment providers from a single professional organization.
Previous research has indicated that younger providers and students enrolled in addiction studies programs are more accepting of controlled drinking and controlled use interventions than their older, more experienced counterparts (Davis & Lauritsen, 2016; Klingemann, 2016; Luquien et al., 2011). Although they appear less accepting of harm reduction than younger, less experienced providers, NAADAC members may be more accepting of some pharmaceutical interventions than non-members because of exposure on the NAADAC website to readings and webinars that educate members about the benefits of methadone, Suboxone, and naloxone. Additionally, treatment providers who choose to join NAADAC could be experiencing lower burnout than non-members. Burnout has been associated with lower engagement in work and work-related activities. As such, providers who are experiencing high levels of burnout may be less likely to spend the time and money required to join or maintain membership in a professional organization related to their work.

Second, I had a notably low rate of usable responses (just under 10%). This low response rate could be partly due to my utilization of online recruitment and data collection methods. Although a convenient way to obtain a geographically diverse sample of American addiction treatment professionals, online recruitment excludes individuals who do not have ready access to the Internet and are uncomfortable or unwilling to provide information online. Furthermore, past research has indicated that personalized contacts, pre-contacts, and follow-up contacts are useful for increasing response rates to online surveys (Cook, Heath, & Thompson, 2000). Unfortunately, NAADAC policy allowed only a single, non-personalized email contact with their members.

The low response rate could also be due, in part, to potential respondents refusing to participate in a study they perceived as supportive of harm reduction. Although I tried to avoid
using language in the survey that would suggest my own attitudes toward harm reduction, individuals who perceived this survey as biased for (or against) harm reduction may have been hesitant to participate in a study that they felt conflicted with their personal views. However, it could also be argued that individuals whose feelings conflicted with the perceived bias of the questionnaire may have been eager to participate so that their viewpoint was represented.

Third, despite assurances of anonymity, participants may have provided what they felt were socially desirable responses – particularly with regard to psychological characteristics. Each of the measures used in this study were face-valid, and treatment providers may have been reluctant to endorse items indicative of stigmatizing attitudes toward their clients, psychological inflexibility, or burnout. Consistent with this possibility, participants’ mean scores on the psychological measures reflected high benevolence, low authoritarianism, low psychological flexibility, and low burnout, all with little variability.

To the degree that these findings generalize to the population of American addiction treatment providers, it appears that acceptance of at least some behavioral and pharmaceutical forms of harm reduction are widely acceptable to American treatment professionals. In contrast, limited or moderate use appears to be considerably less acceptable to treatment providers than almost all of the behavioral and pharmaceutical interventions. Clients who wish to utilize harm reduction strategies should know that there are at least a small number of agencies and clinicians who will support them in that pursuit. As such, clients may wish to assess agencies’ openness to harm reduction, and agencies may wish to clearly advertise harm reduction policies. To the degree that increasing acceptance by addiction treatment professionals leads to the adoption of harm reduction policies by treatment programs, the availability of harm reduction interventions may continue to increase.
To a small, albeit statistically significant degree, addiction treatment providers’ acceptance of behavioral interventions for clients diagnosed with mild-moderate and severe substance use disorders was associated with benevolent attitudes and two aspects of burnout: depersonalization and emotional exhaustion. Therefore, interventions that help to increase benevolence and decrease burnout may also be helpful in increasing providers’ acceptance of these five (and perhaps other) harm reduction strategies. For example, Hayes et al. (2004) evaluated a one-day workshop designed to train substance abuse counselors in methods of acceptance, defusion, mindfulness, and values identification. Workshop participants endorsed significant reductions in burnout at post-test and at three-month follow-up. Although stigmatizing attitudes had not decreased at post-test, they were significantly lower at three-month follow-up.

In future studies, researchers could obtain a more nuanced understanding of participant characteristics and attitudes toward harm reduction interventions by adding several items to the survey materials. For example, the term “acceptable” may be ambiguous to some participants. Therefore, future researchers may wish to add a definition of this term to ensure that participants rate acceptability rather than perceived effectiveness or appropriateness of harm reduction interventions. Additionally, researchers could add items that vary descriptions of where harm reduction interventions are provided (e.g., substance use treatment facilities, medical facilities, or community based outreach programs) and by whom (substance use treatment providers, medical professionals, or peer support specialists) to examine whether such differences influence participants’ ratings of acceptance. Researchers may also wish to assess other factors that could potentially influence acceptance, such as concerns about legality of offering harm reduction interventions or fears of malpractice suits. With regard to participant characteristics, the present
study assessed providers’ personal history of diagnosed substance use disorder as a dichotomous variable, and future researchers may wish to assess the severity of providers’ diagnosis to examine whether severity is associated with acceptance of harm reduction.

Finally, future studies may assess the acceptability and availability of harm reduction interventions that were not assessed in this study, such as limited or moderate alcohol use or provision of safe injection facilities. Research could also assess acceptance of harm reduction and predictors of acceptance across different professional disciplines. For example, physicians and nurses may be in a position to provide education or referral information to patients with substance use disorders who are unwilling or unable to pursue abstinence and would benefit from harm reduction. Understanding medical providers’ acceptance of harm reduction, along with predictors of acceptance, could inform efforts to increase provision of harm reduction interventions and referrals within medical treatment settings.
REFERENCES


doi:10.1080/02791072.1990.10472193


doi:10.1176/appi.ps.201300235


APPENDIX A. APPROVAL LETTER FROM HUMAN SUBJECTS REVIEW BOARD

DATE: March 15, 2016
TO: Kirstin Lauritsen, MA
FROM: Bowling Green State University Human Subjects Review Board
PROJECT TITLE: [866812-1] Do Psychological Characteristics of Addiction Treatment Professionals Predict Acceptance of Harm Reduction Interventions
SUBMISSION TYPE: New Project
ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: March 15, 2016
REVIEW CATEGORY: Exemption category # 2

Thank you for your submission of New Project materials for this project. The Bowling Green State University Human Subjects Review Board has determined this project is exempt from IRB review according to federal regulations AND that the proposed research has met the principles outlined in the Belmont Report. You may now begin the research activities.

Note that an amendment may not be made to exempt research because of the possibility that proposed changes may change the research in such a way that it is no longer meets the criteria for exemption. A new application must be submitted and reviewed prior to modifying the research activity, unless the researcher believes that the change must be made to prevent harm to participants. In these cases, the Office of Research Compliance must be notified as soon as practicable.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Kristin Hagemyer at 419-372-7716 or khagemy@bgsu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Bowling Green State University Human Subjects Review Board's records.
APPENDIX B. CONSENT DOCUMENT

Informed Consent Document

- My name is Kirstin Lauritsen, and I am a fourth year Ph.D. candidate in the clinical psychology program at Bowling Green State University. I am interested in assessing the acceptability and availability of various harm reduction interventions among American treatment professionals and understanding the relationship between acceptance of harm reduction interventions and characteristics of treatment providers.

- Your survey responses are anonymous. I will not ask you to provide your name or any unique identification number, and there is no way I will know who provided answers to my questionnaires. Any future publications that include data from this survey will summarize the overall results of this study; no one person’s answers will be presented – only a summary of data across many participants.

- Your participation will involve rating the acceptability of various harm reduction interventions and identifying whether or not these interventions are provided through your agency or practice. You will also be asked to complete a series of questionnaires designed to assess demographic and psychological characteristics.

- I estimate that answering all of the questions will take approximately 10 to 15 minutes.

- You are eligible to participate if you are a NAADAC member and are actively providing addiction treatment services.

- The benefits of participating include helping provide updated data on the acceptability and availability of harm reduction interventions among American treatment professionals.

- Although I cannot afford to pay every person who might participate in this survey, I do want to acknowledge your assistance – therefore, I will donate $2.00 for every completed survey to the Leukemia and Lymphoma Society (up to a maximum of $150). I realize this isn't a lot of money, but I do not have any grant funding and this is my way of trying to "pay it forward."

- The anticipated risks of filling out the questionnaires are no greater than those normally encountered in daily life.

- You are free to change your mind and stop participating at any time, even if you begin to complete the online survey. You may click on the X at the top right hand corner of your computer window to exit the survey at any time. Your responses will not be saved until you click the “Submit” button at the end of the survey.

- Your participation is completely voluntary and you are free to skip any questions you do not want to answer. Whether or not you participate will not have any impact on your relationship with the researchers or with Bowling Green State University.

- Because the Internet is not 100% secure in terms of privacy, please do not leave the partially completed survey open or unattended if completing it on a public computer. You may want to clear the browser page history and cache when finished with the survey.

- If you have any questions about the study, you may contact me, Kirstin Lauritsen, Psychology Department, BGSU, (419) 372-2301, klaurit@bgsu.edu, or my faculty
APPENDIX C. DEMOGRAPHIC QUESTIONNAIRE

Please enter your age: __________

Please select your gender
( ) Male
( ) Female
( ) Other

Please select your ethnicity
( ) White/Caucasian
( ) Asian
( ) Pacific-rim/Pacific Islander
( ) Black/African Descent
( ) Native American Indian/First Nation
( ) Latino(a)/ Hispanic/Spanish Descent
( ) Other:__________________________

What is your highest educational degree?
( ) High School Diploma (or equivalent)
( ) Some College
( ) Associate’s Degree
( ) Bachelor's Degree
( ) Master's Degree
( ) Doctoral Degree

In what state do you currently provide Substance Use Disorder treatment services?
(Dropdown list of all US States)

Please check the box that most accurately reflects your political orientation

( ) Liberal ( ) Moderate ( ) Conservative

What is your current job title? __________

How many years have you worked directly with individuals who present with Substance Use Disorders? __________

Which of the following best describes your work environment? (Check all that apply)
[ ] Residential detoxification
[ ] Residential rehabilitation
[ ] Halfway house
[ ] Outpatient mental health agency
[ ] Outpatient substance abuse treatment agency
[ ] Private practice
[ ] General medical/surgical hospital
[ ] Academic medical school
[ ] Other: _________________________________________________

What is your theoretical orientation (check all that apply)?
[ ] Cognitive-behavioral
[ ] 12-step principles
[ ] Motivational enhancement
[ ] Humanistic
[ ] Family systems
[ ] Rational emotive
[ ] Reality therapy
[ ] Psychodynamic
[ ] Acceptance and commitment therapy
[ ] Other: _________________________________________________

This next question is intended to help provide a better understanding of the individuals who have completed this survey. Some people perceive these questions as being of a sensitive nature, while others do not. Your response to this questions, like all of your other responses, is anonymous. If you prefer not to answer, check that you choose not to respond.

Have you, yourself, ever been diagnosed with a Substance Use Disorder?
( ) Choose not to respond
( ) No
( ) Yes
APPENDIX D. HARM REDUCTION ATTITUDES QUESTIONNAIRE – II

Please check the box that best indicates how acceptable you find each intervention to be, in principle, regardless of whether or not your agency or practice currently offers the intervention.

For the following set of questions, please answer how acceptable you find each intervention to be for individuals who present mild to moderate Substance Use Disorders (that is, individuals who present with 2 to 5 of the 11 symptoms of a Substance Use Disorder according to DSM-5).

1. For individuals who inject their drugs and present with mild to moderate Substance Use Disorders, how acceptable is it to provide clean needles and syringes, often in exchange for used needles and syringes?
   - () Completely acceptable
   - () Somewhat acceptable
   - () Somewhat unacceptable
   - () Completely unacceptable

2. For individuals who present with mild to moderate Opioid Use Disorders, how acceptable is it to prescribe maintenance doses (for at least several months) of methadone?
   - () Completely acceptable
   - () Somewhat acceptable
   - () Somewhat unacceptable
   - () Completely unacceptable

3. For individuals who present with mild to moderate Opioid Use Disorders, how acceptable is it to provide take-home naloxone (an opioid antagonist that provokes withdrawal) for the specific purpose of self-administration or administration to others in case of opioid overdose?
   - () Completely acceptable
   - () Somewhat acceptable
   - () Somewhat unacceptable
   - () Completely unacceptable

4. For individuals who present with mild to moderate Opioid Use Disorders, how acceptable is it to prescribe maintenance doses (for at least several months) of Suboxone, a combination of buprenorphine and naloxone?
   - () Completely acceptable
   - () Somewhat acceptable
   - () Somewhat unacceptable
   - () Completely unacceptable
5. For individuals who inject their drugs and present with mild to moderate Substance Use Disorders, how acceptable is it to provide education regarding safer injection practices (for example, rotating sites, cleaning needles and syringes, using quick release tourniquets, etc.)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

6. For individuals who inject their drugs and present with mild to moderate Substance Use Disorders, how acceptable is it to provide information regarding safer routes of administration (for example, smoking or snorting versus injection)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

7. For individuals who use MDMA/Ecstasy and present with mild to moderate Substance Use Disorders, how acceptable is it to encourage “pre-loading” or “post-loading” – that is, taking vitamins, minerals, and/or serotonin-related pharmaceuticals before or after ingestion of MDMA/ecstasy?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

8. For individuals who use MDMA/Ecstasy and present with mild to moderate Substance Use Disorders, how acceptable is it to encourage testing the pharmacological composition of their MDMA/ecstasy tablets using do-it-yourself testing reagent kits or by submitting their pills to laboratories for examination via chromatography or gas chromatography-mass spectrometry?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

9. For individuals who present with mild to moderate Cannabis Use Disorders, how acceptable is limited or moderate use of cannabis?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
10. For individuals who present with mild to moderate Opioid Use Disorders, how acceptable is limited or moderate use of opioids (such as heroin, oxycodone, morphine, etc.)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

11. For individuals who present with mild to moderate Cocaine Use Disorders, how acceptable is limited or moderate use of cocaine/crack cocaine?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

12. For individuals who present with mild to moderate Amphetamine Use Disorders, how acceptable is limited or moderate use of amphetamines?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

For the following set of questions, please answer how acceptable you find each intervention to be for individuals who present severe Substance Use Disorders — that is — individuals who present with 6 or more of the 11 Substance Use Disorder symptoms listed in DSM-5.

1. For individuals who inject their drugs and present with severe Substance Use Disorders, how acceptable is it to provide clean needles and syringes, often in exchange for used needles and syringes?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

2. For individuals who present with severe Opioid Use Disorders, how acceptable is it to prescribe maintenance doses (for at least several months) of methadone?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable
3. For individuals who present with severe Opioid Use Disorders, how acceptable is it to provide take-home naloxone (an opioid antagonist that provokes withdrawal) for the specific purpose of self-administration or administration to others in case of opioid overdose?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

4. For individuals who present with severe Opioid Use Disorders, how acceptable is it to prescribe maintenance doses (for at least several months) of Suboxone, a combination of buprenorphine and naloxone?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

5. For individuals who inject their drugs and present with severe Substance Use Disorders, how acceptable is it to provide education regarding safer injection practices (for example, rotating sites, cleaning needles and syringes, using quick release tourniquets, etc.)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

6. For individuals who inject their drugs and present with severe Substance Use Disorders, how acceptable is it to provide information regarding safer routes of administration (for example, smoking or snorting versus injection)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

7. For individuals who use MDMA/Ecstasy and present with severe Substance Use Disorders, how acceptable is it to encourage “pre-loading” or “post-loading” – that is, taking vitamins, minerals, and/or serotonin-related pharmaceuticals before or after ingestion of MDMA/ecstasy?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
8. For individuals who use MDMA/Ecstasy and present with severe Substance Use Disorders, how acceptable is it to encourage testing the pharmacological composition of their MDMA/ecstasy tablets using do-it-yourself testing reagent kits or by submitting their pills to laboratories for examination via chromatography or gas chromatography-mass spectrometry?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

9. For individuals who present with severe Cannabis Use Disorders, how acceptable is limited or moderate use of cannabis?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

10. For individuals who present with severe Opioid Use Disorders, how acceptable is limited or moderate use of opioids (such as heroin, oxycodone, morphine, etc.)?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

11. For individuals who present with severe Cocaine Use Disorders, how acceptable is limited or moderate use of cocaine/crack cocaine?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable

12. For individuals who present with severe Amphetamine Use Disorders, how acceptable is limited or moderate use of amphetamines?

() Completely acceptable
() Somewhat acceptable
() Somewhat unacceptable
() Completely unacceptable
For the following questions, please check the box that indicates whether each intervention is available at your agency or practice.

1. For individuals who inject their drugs, does your agency or practice currently provide clean needles and syringes, often in exchange for used needles and syringes?
   
   Yes/No

2. For individuals who present with Opioid Use Disorders, does your agency or practice currently prescribe maintenance doses (for at least several months) of methadone?
   
   Yes/No

3. For individuals who present with Opioid Use Disorders, does your agency or practice currently provide take-home naloxone for the specific purpose of self-administration or administration to others in case of opioid overdose?
   
   Yes/No

4. For individuals who present with Opioid Use Disorders, does your agency or practice currently prescribe maintenance doses (for at least several months) of Suboxone, a combination of buprenorphine and naloxone?
   
   Yes/No

5. For individuals who inject their drugs, does your agency or practice currently provide education regarding safer injection practices (for example, rotating sites, cleaning needles and syringes, using quick release tourniquets, etc.)?
   
   Yes/No

6. For individuals who inject their drugs, does your agency or practice currently provide information regarding safer routes of administration (for example, smoking or snorting versus injection)?
   
   Yes/No

7. For individuals who use MDMA/Ecstasy, does your agency or practice currently encourage “pre-loading” or “post-loading” – that is, taking vitamins, minerals, and/or serotonin-related pharmaceuticals before or after ingestion of MDMA/ecstasy?
   
   Yes/No

8. For individuals who use MDMA/Ecstasy, does your agency or practice currently encourage testing the pharmacological composition of their MDMA/ecstasy tablets using
do-it-yourself testing reagent kits or by submitting their pills to laboratories for examination via chromatography or gas chromatography-mass spectrometry?

Yes/No

9. Does your agency or practice currently support individuals with a Cannabis Use Disorder who choose to limit or moderate their use of cannabis?

Yes/No

10. Does your agency or practice currently support individuals with an Opioid Use Disorder who choose to limit or moderate their use of cannabis?

Yes/No

11. Does your agency or practice currently support individuals with a Cocaine Use Disorder who choose to limit or moderate their use of cannabis?

Yes/No

12. Does your agency or practice currently support individuals with an Amphetamine Use Disorder who choose to limit or moderate their use of cannabis?

Yes/No

Are there any recent events in your state or region that have influenced your attitudes toward harm reduction and/or non-abstinence goals?

Yes/No

If “Yes,” please explain:
APPENDIX E. COMMUNITY ATTITUDES TOWARD SUBSTANCE USERS

Please rate your level of agreement with each statement using the scale below.

1 = Strongly agree
2 = Agree
3 = Neither agree nor disagree
4 = Disagree
5 = Strongly disagree

Authoritarianism (heading not included in subject materials)

The following statements express opinions about individuals with a diagnosable Substance Use Disorder according to DSM-5 criteria. Please choose the response that most accurately describes your reaction to each statement.

1. One of the main causes of a Substance Use Disorder is a lack of self-discipline and will power
2. The best way to handle individuals with Substance Use Disorders is to keep them behind locked doors
3. There is something about individuals with Substance Use Disorders that makes it easy to tell them from normal people
4. As soon as a person shows signs of a Substance Use Disorder, he or she should be hospitalized
5. Individuals with Substance Use Disorders need the same kind of control and discipline as young children
6. A Substance Use Disorder is an illness like any other
7. Individuals with Substance Use Disorders should not be treated as outcasts of society
8. Less emphasis should be placed on protecting the public from individuals with Substance Use Disorders
9. Mental hospitals are an outdated means of treating individuals with Substance Use Disorders
10. Virtually anyone can develop a Substance Use Disorder

Benevolence (heading not included in subject materials)

1. Individuals with Substance Use Disorders have for too long been the subject of ridicule
2. More tax money should be spent on the care and treatment of individuals with Substance Use Disorders
3. We need to adopt a far more tolerant attitude toward individuals with Substance Use Disorders in our society
4. Our mental hospitals seem more like prisons than like places where individuals with Substance Use Disorders can be cared for
5. We have a responsibility to provide the best possible care for individuals with Substance Use Disorders
6. Individuals with Substance Use Disorders don't deserve our sympathy
7. Individuals with Substance Use Disorders are a burden on society
8. Increased spending on Substance Use Disorder treatment services is a waste of tax dollars
9. There are sufficient existing services for individuals with Substance Use Disorders
10. It is best to avoid anyone who has been diagnosed with a Substance Use Disorder
APPENDIX F. ACCEPTANCE AND ACTION QUESTIONNAIRE – II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1 = never true
2 = very seldom true
3 = seldom true
4 = sometimes true
5 = frequently true
6 = almost always true
7 = always true

1. My painful experiences and memories make it difficult for me to live a life that I would value.
2. I’m afraid of my feelings.
3. I worry about not being able to control my worries and feelings.
4. My painful memories prevent me from having a fulfilling life.
5. Emotions cause problems in my life.
6. It seems like most people are handling their lives better than I am.
7. Worries get in the way of my success.
APPENDIX G. MASLACH BURNOUT INVENTORY – HUMAN SERVICES SURVEY

The purpose of this survey is to discover how various persons in the human services, or helping professionals view their job and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term recipients to refer to the people for whom you provide your service, care, treatment, or instruction. When answering this survey please think of these people as recipients of the service you provide, even though you may use another term in your work.

Instructions: On the following pages are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, check the number “0” (zero) in the space next to the statement. If you have had this feeling, indicate how often you feel it by checking the number (from 1 to 6) that best describes how frequently you feel that way.

The phrases describing the frequency are:

Never
A few times a year or less
Once a month or less
A few times a month
Once a week
A few times a week
Every day

Note: The publishers of the Maslach Burnout Inventory prohibit reproduction of the measure but allow for students conducting dissertation research to reproduce three sample items, which appear below.

Sample Emotional Exhaustion item: I feel emotionally drained from my work

Sample Depersonalization item: I’ve become more callous toward people since I took this job

Sample Personal Accomplishment item: I feel I’m positively influencing other people’s lives through my work
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mind garden
www.mindgarden.com
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Sincerely,

[Signature]

Robert Most
Mind Garden, Inc.
www.mindgarden.com
### Table 1

**Background Characteristics of the Sample**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD) or Percentage endorsing each category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>53.2 (12.5)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35%</td>
</tr>
<tr>
<td>Female</td>
<td>64</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>83%</td>
</tr>
<tr>
<td>Black/African Descent</td>
<td>5</td>
</tr>
<tr>
<td>Latino(a)/Hispanic/Spanish Descent</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
</tr>
<tr>
<td>Educational achievement</td>
<td></td>
</tr>
<tr>
<td>Less than a Bachelor’s Degree</td>
<td>9%</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>16</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>64</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>12</td>
</tr>
<tr>
<td>Political Orientation</td>
<td></td>
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<tr>
<td>Conservative</td>
<td>7%</td>
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<tr>
<td>Conservative to Moderate</td>
<td>7</td>
</tr>
<tr>
<td>Moderate</td>
<td>39</td>
</tr>
<tr>
<td>Moderate to Liberal</td>
<td>16</td>
</tr>
<tr>
<td>Liberal</td>
<td>31</td>
</tr>
<tr>
<td>Years of experience with SUD clients</td>
<td>16.6 (11.5)</td>
</tr>
<tr>
<td>Theoretical orientation (could select more than one)</td>
<td></td>
</tr>
<tr>
<td>Cognitive-behavioral</td>
<td>84%</td>
</tr>
<tr>
<td>Motivational enhancement</td>
<td>72</td>
</tr>
<tr>
<td>12-step principles</td>
<td>57</td>
</tr>
<tr>
<td>Family systems</td>
<td>39</td>
</tr>
<tr>
<td>Reality therapy</td>
<td>30</td>
</tr>
<tr>
<td>Humanistic</td>
<td>28</td>
</tr>
<tr>
<td>Rational-emotive</td>
<td>28</td>
</tr>
<tr>
<td>Acceptance and commitment therapy</td>
<td>25</td>
</tr>
<tr>
<td>Psychodynamic</td>
<td>22</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
</tr>
<tr>
<td>Type of work setting (could select more than one)</td>
<td></td>
</tr>
<tr>
<td>Outpatient substance use disorder/addiction treatment agency</td>
<td>46%</td>
</tr>
<tr>
<td>Setting</td>
<td>Count</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Private practice</td>
<td>28</td>
</tr>
<tr>
<td>Outpatient mental health agency</td>
<td>18</td>
</tr>
<tr>
<td>Residential rehabilitation</td>
<td>16</td>
</tr>
<tr>
<td>Residential detoxification</td>
<td>7</td>
</tr>
<tr>
<td>General medical/surgical hospital</td>
<td>5</td>
</tr>
<tr>
<td>Halfway house</td>
<td>2</td>
</tr>
<tr>
<td>Academic medical school</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
</tr>
</tbody>
</table>

**Personal history of SUD**
- Yes: 42%
- No: 56
- Prefer not to answer: 2

**Current legal status for marijuana in participant’s state**
- Legal for recreational use: 13%
- Legal for medical use: 34
- Illegal: 53

**Community Attitudes Toward Substance Users**
- Authoritarianism: 17.4 (4.9)
- Benevolence: 42.4 (5.5)
- Acceptance and Action Questionnaire-II: 14.1 (6.1)

**Maslach Burnout Inventory**
- Emotional Exhaustion: 14.3 (10.2)
- Depersonalization: 3.7 (4.0)
- Personal Accomplishment: 41.9 (5.3)

*Note.* Totals may not sum to 100% due to rounding error and option to select more than one option of those provided. *Ns* per characteristic vary due to missing data.
Table 2

Means (SDs) and Percentages Endorsing Each Harm Reduction Intervention as Somewhat or Completely Unacceptable or Somewhat or Completely Acceptable for Individuals Diagnosed with Mild-Moderate or Severe Substance Use Disorders

<table>
<thead>
<tr>
<th>Mild-Moderate Severity of Substance Use Disorder</th>
<th>Mean (SD)</th>
<th>Completely Unacceptable</th>
<th>Somewhat Unacceptable</th>
<th>Somewhat Acceptable</th>
<th>Completely Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Needles</td>
<td>.96(1.4)</td>
<td>12%</td>
<td>11%</td>
<td>24%</td>
<td>54%</td>
</tr>
<tr>
<td>Methadone</td>
<td>.62(1.5)</td>
<td>14</td>
<td>16</td>
<td>34</td>
<td>36</td>
</tr>
<tr>
<td>Naloxone</td>
<td>1.25(1.3)</td>
<td>7</td>
<td>9</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>Suboxone</td>
<td>.95(1.4)</td>
<td>10</td>
<td>12</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td>Injection Education</td>
<td>1.15(1.3)</td>
<td>8</td>
<td>11</td>
<td>20</td>
<td>62</td>
</tr>
<tr>
<td>Safer Administration</td>
<td>.90(1.5)</td>
<td>15</td>
<td>10</td>
<td>21</td>
<td>54</td>
</tr>
<tr>
<td>Pre-Post Loading</td>
<td>.41(1.6)</td>
<td>21</td>
<td>16</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>Pill Testing</td>
<td>.63(1.6)</td>
<td>15</td>
<td>19</td>
<td>22</td>
<td>45</td>
</tr>
<tr>
<td>Moderate Cannabis Use</td>
<td>-.02(1.5)</td>
<td>24</td>
<td>24</td>
<td>33</td>
<td>19</td>
</tr>
<tr>
<td>Moderate Opioid Use</td>
<td>-.63(1.5)</td>
<td>42</td>
<td>24</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>Moderate Cocaine Use</td>
<td>-.86(1.5)</td>
<td>51</td>
<td>22</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Moderate Amphetamine Use</td>
<td>-.83(1.5)</td>
<td>49</td>
<td>23</td>
<td>18</td>
<td>11</td>
</tr>
</tbody>
</table>

<p>| Severe Level of Substance Use Disorder        |          |                          |                       |                    |                       |
| Clean Needles                                 | 1.26(1.3)| 8%                       | 7%                    | 20%                | 65%                   |
| Methadone                                     | 1.20(1.2)| 7                        | 8                     | 28                  | 57                    |
| Naloxone                                      | 1.40(1.1)| 6                        | 6                     | 18                  | 70                    |
| Suboxone                                      | 1.39(1.1)| 6                        | 4                     | 24                  | 66                    |
| Injection Education                           | 1.28(1.2)| 8                        | 6                     | 21                  | 65                    |
| Safer Administration                          | 1.05(1.4)| 13                       | 6                     | 23                  | 57                    |
| Pre-Post Loading                              | .59(1.5) | 16                       | 16                    | 29                  | 39                    |</p>
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Rating (Mean)</th>
<th>Acceptability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pill Testing</td>
<td>.75 (1.5)</td>
<td>15</td>
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<tr>
<td>Moderate Cannabis Use</td>
<td>-.19 (1.6)</td>
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<tr>
<td>Moderate Opioid Use</td>
<td>-.67 (1.5)</td>
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</tr>
<tr>
<td>Moderate Cocaine Use</td>
<td>-.86 (1.5)</td>
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<tr>
<td>Moderate Amphetamine Use</td>
<td>-.83 (1.5)</td>
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Note. Totals may not sum to 100% due to rounding error. Acceptability of each intervention was rated on a 4-point scale: completely unacceptable, coded as -2; somewhat unacceptable, coded as -1; somewhat acceptable, coded as +1; completely acceptable, coded as +2
Table 3

**Correlations Among Ratings of Acceptance of Harm Reduction Interventions for Clients Diagnosed With a Mild-Moderate Substance Use Disorder**

<table>
<thead>
<tr>
<th></th>
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<tbody>
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*Note. All correlations significant at $p < .05$*
Table 4

Correlations Among Ratings of Acceptance of Harm Reduction Interventions for Clients Diagnosed With a Severe Substance Use Disorder

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</table>

*Note.* All correlations significant at $p < .05$
Table 5

*Pattern Matrix of Acceptability of Harm Reduction Interventions for Individuals Diagnosed With Mild-Moderate and Severe Substance Use Disorders*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Loadings: Mild-Moderate Substance Use Disorders</th>
<th>Loadings: Severe Substance Use Disorders</th>
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<tr>
<td>Factor 1</td>
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<tr>
<td>Clean Needles</td>
<td>.79     .09</td>
<td>.78     .04</td>
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<tr>
<td>Methadone</td>
<td>.52     -.17</td>
<td>.53     -.13</td>
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<tr>
<td>Naloxone</td>
<td>.58     -.02</td>
<td>.68     .09</td>
</tr>
<tr>
<td>Suboxone</td>
<td>.47     -.17</td>
<td>.59     -.08</td>
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<tr>
<td>Education</td>
<td>.86     .14</td>
<td>.88     .08</td>
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<tr>
<td>Safer Routes</td>
<td>.86     .08</td>
<td>.85     .02</td>
</tr>
<tr>
<td>Pre-Post Loading</td>
<td>.73     -.08</td>
<td>.74     -.08</td>
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<tr>
<td>Pill Testing</td>
<td>.68     -.10</td>
<td>.74     -.06</td>
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<tr>
<td>Factor 2</td>
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<tr>
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<td>.09     -.74</td>
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<td>Mod. Opioid Use</td>
<td>.00     -.91</td>
<td>.02     -.92</td>
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<td>Mod. Cocaine Use</td>
<td>-.03    -.98</td>
<td>-.04    -.99</td>
</tr>
<tr>
<td>Mod. Amphetamine Use</td>
<td>-.03    -.98</td>
<td>-.03    -.99</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>5.85    2.06</td>
<td>6.10    2.23</td>
</tr>
<tr>
<td>Percentage of variance accounted for</td>
<td>48.74    17.17</td>
<td>50.84    18.57</td>
</tr>
</tbody>
</table>

Mild-Moderate: Factor 1 alpha = .89, Factor 2 alpha = .94.
Severe: Factor 1 alpha = .90, Factor 2 alpha = .95.
Table 6

*Correlations Among Measures of Psychological Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td>1. Community Attitudes toward Substance Users - Authoritarianism</td>
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</tr>
<tr>
<td>2. Community Attitudes toward Substance Users - Benevolence</td>
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<td>3. Acceptance and Action Questionnaire-II</td>
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<td>4. Maslach Burnout Inventory - Emotional Exhaustion</td>
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<td>5. Maslach Burnout Inventory - Depersonalization</td>
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<td>6. Maslach Burnout Inventory - Personal Accomplishment</td>
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* p < .05  
** p < .01