EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE USAGE AND SEXUAL ACTIVITIES HAVE ON GAY MEN IN RECOVERY

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Rosa Castro

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Marie Gray, Ph.D.--Professor of Psychology--Chair

Timothy Legg, Ph.D.--Professor of Health Sciences--Member

Christopher Ewing, Ph.D.--Professor of Psychology--Member
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COMMITTEE MEMBERS

Committee Chair: Marie Gray, Ph.D.
Professor of Psychology
Touro University Worldwide

Committee Member: Timothy J. Legg, Ph.D.
Professor of Health Sciences
Touro University Worldwide

Committee Member: Christopher Ewing, Ph.D.
Professor of Psychology
Touro University Worldwide
Dedication

To my parents who worked endlessly to ensure that their children enjoyed a meaningful and productive life.

To my partner and best friend, Lars, who was a constant inspiration and support throughout my journey.
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Abstract

This study explores the relationship between drug usage and sexual activities of gay sober men. The literature provides research regarding how the combination of drug usage and engagement in sexual activities impact the ability for gay men to maintain sobriety for extended periods of time. Counselors are often ill prepared or unsure of how to implement culturally appropriate evidence-based treatment interventions or approaches designed for successful outcomes with disenfranchised individuals such as those included (but not limited to) the Lesbian, Gay, Bisexual, Transgendered or Questioning (LGBTQ) community. This study examines sobriety in conjunction with specific barriers faced by recovering gay male addicts. Through an examination of the relationship between drug usage and sexuality, the audience will understand the unique barriers faced by gay male drug users which demonstrate why treatment interventions and approaches must target specific needs respective to marginalized and diverse populations in order to evidence successful outcomes.
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CHAPTER 1: INTRODUCTION

Background of the Study

It takes enormous effort to achieve sobriety as well as to manage cravings created by triggers that activate desires to engage in addictive behaviors. The components that impact addiction are not limited to social practices, possession of a risk-taking personality, family history of addiction but also include influences on brain chemistry through prolonged usage (Legrand, Iacon, & McGue, 2005). Numerous factors contribute to drug usage which range from recreational use to self-medication for undiagnosed mental disorders and lastly crossing the bridge from misuse to abuse to addiction. There are a variety of factors that interfere with the process of trigger identification or core issues that contribute to drug abuse and further impedes subsequent treatment interventions and approaches.

The National Institute on Drug Abuse (NIDA, 2009) describes drug addiction as a complex illness characterized at times by uncontrollable cravings and compulsive drug seeking behaviors which persist regardless of potentially devastating consequences. Addiction is a process which consumes the individual cognitively, emotionally and physically. Irrespective of the potential consequences and damages produced by addictive lifestyles, inpatient treatment protocols do not yield permanent outcomes which are made evidenced by limited successes and individualistically based issues that foster regular cycles of relapse.

Drug use affects the brain through interference regarding the process of neuron functioning. Neurons operate through sending, receiving and processing data (NIDA, 2014). Certain drugs classified as stimulants include cocaine and crystal methamphetamine (crystal meth) remain substances that impact the brain through the release of 2-10 times the amount of naturally produced dopamine which occurs when eating or when someone engages in sexual
activity. The release of excessive dopamine levels makes drug use difficult to resist. As a result of the excessive release of dopamine triggered by both sex and drug a synergic relationship manifests, and creates an unbreakable bond.

Crystal meth releases dopamine, which creates feelings of euphoria when consumed. This euphoric outcome remains a desirable attainment for the user, based within ongoing pleasure that increases appeal of use and further obscures ability for individuals to cease usage. Dopamine enhances the production of oxytocin which intensifies during the process of orgasm achievement and drug use. Similarly, the production of dopamine influences male sexual behaviors when the hypothalamus releases oxytocin (Hiller 2004). It has been reported that oxytocin also affects the neurobiological processes causal to addiction due to inhibitory behavioral effects on sensitization and tolerance (Sarnyai, 2011).

In order to successfully treat addiction, it is essential to develop effective therapeutic programs and approaches that are evidence based and create realistic long term results as well as outcomes for sobriety. It would be useful to explore the contribution of therapeutic practices of treatment programs and facilities to the overall framework of an "addict’s toolbox" for sobriety. Several factors prevent service providers from successfully addressing issues and treating addiction within the LGBTQ community based on but not limited to the following issues:

a) Heterosexual belief that gay men and women are somewhat defective or fail to adjust to social norms (O'Dell, 2000). Disclosure of sexual activities as part of drug usage can be a difficult topic in a group with heterosexual men. Typically this is recognized as a problem for females in treatment which often means they shut down for fear of judgment. The same problem occurs with gay men in treatment.
b) Christian influence on policy makers and public opinion which amplifies the need for LGBTQ individuals to remain private and invisible within and amongst many communities within society. The ongoing struggle to avoid disclosure results in limitations to services and resources for members of the LGBTQ community in the areas of mental health and substance abuse (Linneman, 2004).

c) Counseling interventions with the LGBTQ population are not always research based because researchers often use heteronormative norms in the design of their research. Regarding treatment associated with the LGBTQ community specific issues such as sexual identity, socialization, and internalized homophobia might not always be therapeutically identified or properly treated (Pope, Barret, Szymanski, Chung, Singaravelu, and Sanabria, 2004).

d) The social-normative realities associated with sexual engagement (Flores, Mansergh, Marks, Guzman, and Colfax, 2009) often impedes attempts at sobriety initiated by gay male consumers who use drugs because many individuals within peer groups engage in sexual activities that include drugs.

e) Limited knowledge of the effects of crystal meth often indicates that therapist may not recognize certain behaviors are often part of the detoxification or “detox” period which can last beyond the initial days of cessation of substance usage. Thus, based on inexperience or naivety regarding the effects of crystal meth, the therapist may "confuse" the presentation as "a lack of focus" in treatment or perhaps "aggressiveness" or "disconnection" demonstrated by the consumer’s behavior attributed to "resistance” to treatment or change. According to Kish et al. (2009) crystal meth usage has been linked to cognitive problems and aggression due to serotonergic damage which often
contributes to erratic behaviors that might manifest as consumers remain engaged in treatment but do not demonstrate investment in recovery.

f) Crystal "meth" usage has typically been viewed as a mid-western problem and is seldom recognized as a growing problem in New York City (NYC). Data on statistical reporting is often gathered through emergency room admissions or incarceration due to drug related crimes (NIDA, 2013). Hospital Incidents related to crystal meth are often due to burning injuries, sexual assault or psychotic episodes. Hospitalizations for drugs such as heroin often take the spotlight regularly since heroin overdoses tend to be fatal. Hospitalization for drugs such as "crystal meth" often remain underreported because patients are typically not capable of explicit discussion of his or her usage specifically if the individual is in the midst of an active psychotic episode. Also, addicts minimize disclosure since it can result in legal investigations that can include incarceration.

According to World Drug Report (2011) "meth" usage has steadily increased within the growing middle class who have disposable income.

Shore (2011) states that when treating addiction a “one size fits all” mentality is ineffective because individuals possess different coping skills, social and personal needs. Based on individual differences, not all consumers who seek treatment live the same lifestyle or have support systems to reinforce sobriety. Thus, as a therapist, it is essential to “know your population well.” According to NIDA (2009), several components that contribute to effective substance abuse interventions consist of the following:

- Treatment programs should monitor health status such as but not limited to Human Immunodeficiency Virus (HIV), Tuberculosis (TB) or Hepatitis in order to develop treatment interventions that provide risk reduction behaviors.
• Substance abuse should be monitored since relapse is possible.

• Medically assisted detoxification may be a requirement for some individuals in order to fully engage in treatment. This is the initial step of treatment.

• Individual treatment and services should be reviewed continuously and modified to ensure it meets the changing needs of the consumer.

• Individuals may have untreated and undiagnosed mental disorders.

• Addiction is a complex but treatable illness that impacts both brain function and behavioral patterns. Thus, treatment facilities, programs and clinicians, specifically must educate consumers about the relationship between drugs, behavior and functioning.

• No single treatment approach or intervention remains appropriate for all individuals.

• Effective treatment focuses on the multiple needs of the person and not just drug usage.

• Treatment retention for an adequate period is critical.

• Counseling should be available and include individual and/or group therapy as well as other behavioral skills building procedures.

• Medication might be a necessary component for stabilization of the consumer. This is considered essential with the combination of counseling and other behavioral and skills-building therapies.

Though many treatment facilities and programs follow the generic format for addiction treatment, many fail because they lack competency in combining treatment with regard to comorbid mental illness, HIV stigmatization and/or lack a complete understanding of the
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chemical dynamics that impact behaviors which influence treatment compliance. Some clinicians who lack the proper therapeutic knowledge might label the crystal meth consumer as "difficult," "resistant" or "not committed" to treatment. According to National Association of Alcoholism and Drug Abuse Counselors NAADAC (2005), individuals who are "under the influence" of substances may exhibit symptoms that replicate anxiety, nervousness or aggression.

This study reviews specific elements that impact gay men and provides concrete information that may facilitate evidence-based practices approaches for the treatment of drug addiction within the LGBTQ population. The 62 consumers currently identified as "maintaining sobriety" were analyzed and reviewed to identify, confirm or refute factors that enhance or reduce the duration of sobriety. This study considers the period of sobriety through a comparative analysis of consumers already present in treatment (at the time of the research) and investigates different activities that consumers identified which may enhance skills or lessen abilities for maintaining sobriety.

Problem Statement

Addiction is not a process where an individual simply "consumes too many drugs" and then "abstains" from drugs through the desire for sobriety. Addiction is a gradual degenerative process that slowly disintegrates the lifestyles of individuals over a period of time. Madukwe (2013) describes addiction as a consequence of prolonged use of substances which does not present as one single element or core problem that can be treated with one evidence-based solution or presentation of educational videos on the dangers of drugs.

Addiction often stems from comorbid combinations such as undiagnosed mental illness that may be disguised during periods of self-medication as well as poor social skills where individuals might use drugs as a means for engagement in sexual activities and at times for
primary communication with potential sexual partners. Drug usage enhances striatal dopamine neurotransmission by means of environmental cues which trigger "cravings" often not consciously recognized (Sulzer, 2011) by the user. Both sexual and drug cravings become biological in nature which creates a desire for consumption as does thirst and hunger create the desire to eat or drink. Thus, a result of imbalances with the production of neurotransmitters manifests.

Bali, Im, and Kenny (2011) indicate addiction has been conceptualized as an unusual type of learning and memory development and suggest that DNA methylation may interact together to influence memory formation, as well as trigger brain neuroplasticity during exposure to drugs. The pairing of sex with drugs often creates an association that can be difficult to separate with individuals who are in recovery. Davis (2013) explains how sexual behaviors are frequently linked to drug usage which exacerbates problems associated with addiction.

Crystal meth is often used for sexual enhancement and produces disinhibiting and aphrodisiac effects because it is a stimulant drug that excites the central nervous system (Rawstorne, Digiusto, Worth, and Zablotska, 2007).

As a result of its sexual enhancement, crystal meth evolved into a collaborative partner with regard sexual activity within the gay male community. Challenges to the maintenance of long term sobriety are based in the normalization of sexual behavior in addition to dissolving association of sexual behavior with drug use.

**Research Questions**

The duration periods for sobriety differs significantly among the LGBTQ consumers who attend Center Recovery Treatment Facility. Each individual has their unique and diverse background which includes history and co-occurrence of addiction and mental health disorders.
which validates the importance of identifying specific contributory factors associated with substance abuse to provide effective treatment interventions. The writer developed questions designed to provide answers that would clarify what influences sobriety, which consisted of the following:

1. Among gay men who used drugs as part of the sex act, was there a particular substance that was more likely to be used in conjunction with the sexual act?
2. Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?
3. Among gay sober men, is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus gay sober men who do not go to drug treatment programming?
4. Does the length of sobriety have any impact on sexual satisfaction and the perception of the link between drug use and sexual pleasure?

It is vital to determine if differences exist when it comes to the factors that influence the ability to maintain or obtain sobriety. The information revealed through this research will provide systems of care such as outpatient and inpatient treatment facilities with necessary data to assist with devising effective treatment strategies as well as to employ successful treatment interventions that result in demonstrated recovery gains.

**CHAPTER 2: LITERATURE REVIEW**

Drug addiction is frequently viewed through stereotypical norms (Gossip, 1992) shaped through media, television or poor impressions of low-income areas. In order to develop evidence-based therapies that demonstrate effective improvement to lives of recovering addicts
and reducing relapse, Chinman, Hunter, and Ebener (2010), suggest identifying factors which impede the consumer's abilities to remain sober. Examining how the combination of environmental factors, social cues, and brain function influence drug usage as well as sexual activities may assist in the development of a significant understanding of why sobriety may be difficult to maintain for extended periods of time.

Obtaining accurate statistical data that is useful for the identification of specific barriers to recovery obtained from a random sampling may be difficult as data will be collected from individuals who self-identify as “addicts” and actively seek treatment or remain consumers mandated into treatment through the court system or by employer requirement. According to Bahr, Masters and Taylor (2012), studies often produce reports based on results obtained through treatment and seeks consumers who tend to use fewer drugs overall than consumers who are not participating in treatment. The research relies on institutional environments. However, these settings may not represent an appropriate context to obtain self-reported information from a population that is generally alienated from mainstream acceptance and approval (Clatts, Davis, & Atillasoy, 1995). To specifically isolate which factors may influence recovery it may be useful to select a particular group of individuals and explore the lifestyles of these consumers in relation to sobriety.

For this study, men have been chosen because males are more likely to use illicit drugs (Anderson, 1998) for longer periods than females. Gay men were selected because the population of drug using gay men continues to steadily increase when compared to heterosexual men and women, according to the Center for Disease Control (2007).

Individuals who have a history of substance abuse and dependency are more susceptible to substance-related "cravings" than persons who do not have a history of drug usage (Becker,
Relapse consists of both biological and behavioral patterns as well as of several components which are comprised of imbalanced brain chemistry due to stress, poor sleep, diet or extreme changes triggered by overproduction or depletion of neurotransmitters.

Exploring the relationship between drug usage and sexual activities within the population of addicted gay males provided the writer the opportunity to determine if long term sobriety is impacted by specific behaviors that may be unique to the LGBTQ culture. However, it is necessary to recognize potential limitations related to obtaining data as any barrier may influence the procurement of viable data.

Social hostility experienced within the gay population has forced many individuals to deny publically or repress sexual orientation which can contribute to the need to remain secretive about drug usage and sexual activities (Wong, Weiss, Ayala, and Kiple, 2010). Antagonism faced by gay men limited studies to treatment facilities specifically identified as LGBTQ-friendly, which eliminates a significant percentage of the gay male population if they are not enrolled in treatment. It is typically difficult to identify "crystal meth" users since many avoid treatment until it becomes a legal or medically mandated condition for inclusion and participation. This adds to methodological flaws in data collection (Weatherbe, 2014).

According to Heath, Lanoye and Maisto (2012), research on risky sex and drug usage is incomplete because of limited research options outside of treatment facilities. Ethically most studies are conducted with the use of lab animals as opposed to human being as subjects. Thus, when addiction is explored in a laboratory setting it is notable that drug-seeking behavior in animals demonstrate they (the animals) will perform any task to obtain desired drug (Burkett & Young, 2012). Information respective to methamphetamine (meth) use among gay males and its role in the enhancement of sexual motivation, reducing inhibition and the amplification of
pleasurable results (Frohmader, Bateman, Lehman, & Coolen, 2010), exists in the body of examined literature.

The research findings by Vosburgh, Mansergh, Sullivan, and Purcell (2012), indicate high levels of risky sexual behavior as a result of drug usage within the gay community. Additionally, according to reports on increases in HIV cases (Lim et al., 2010), men who have sex with men (MSM) evidence a high increase in stimulant drug usage such as crystal meth and results in increased risky sexual behavior. Identifying the linkage between sexual activities and drugs will provide some understanding regarding the correlation between drugs and sex when compared to the ability and challenges of maintaining sobriety for gay men. Studies on methamphetamine usage suggest that individuals who use meth will engage in sexual activities in exchange for drugs even if the sexual activity demonstrates dangers which include (but are not limited to) unprotected sex (Patterson, Semple, Strathdee, & Zians, 2011).

In order to obtain reliable information that demonstrates the relationship between sex and drugs as they mutually impact sobriety within the gay population, certain areas require consideration such as the following categories:

1. History of Crystal Methamphetamine (meth)
2. Sex, Drugs and brain function
3. Crystal Methamphetamine and motivation for usage
4. Social roles and gay male sexuality
5. Treatment limitations.

**History of crystal meth (methamphetamine).** Parson (2014), reports that historically mankind has had a long tradition of various mind altering substance usage. Synthetic amphetamine was isolated in 1887; methamphetamine isolated in 1919. Synthetic stimulants, such as amphetamines were availed and popular as an over-the-counter nasal decongestant in the 1930’s as reported by Ciccarone (2011), which provided users with relief from fatigue,
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narcolepsy, and depression. However, methamphetamine was misused during World War II through experimentation on soldiers and then escalated again in 1960 then started to decline until 1990’s.

History reveals that the relationship with drugs is shaped by a number of factors (Crocq, 2007). Culture, religion, society, individual psychology, neurobiology and genetics that foster the addictive relationship between an addict and their drugs remain associative dynamic factors to be considered when examining addiction, sexuality and the use of methamphetamine.

Freese, Obert, Dickow, Cohen, and Lord (2000), report that methamphetamine consumption was typically regarded as a problem primarily concentrated in rural areas of the United States, Hawaii and California and within poor heterosexual communities. According to reports in 2004, nearly 25 million individuals worldwide have tried amphetamine and methamphetamine during a 12 month period (Buxton & Dove, 2008).

Methamphetamine production and usage have severely increased in the United States (Lineberry & Bostwick, 2006), specifically in rural areas. In the late 1990’s methamphetamine consumption had become consistently associated with gay and bisexual males in urban communities. Currently, there is a usage upsurge in metropolitan areas such as New York City in the last decade among gay men who have sex with men.

**Sex, drugs and brain function.** The brain consistently responds to fluctuation in chemical levels due to normal bodily and emotional functions. Chemical changes are activated by alterations in heart rates, chemical reactions through consumption of food, through sex, use of drugs or alcoholic beverages as well as environmental situations such as fear or excitement (flight or fight). The brain reacts to specific substances responsible for different sensations associated with drug usage (Dombeck, 2002). Various chemicals impact brain chemistry and
specific substances stimulate brain function. These "neurotransmitters" are responsible for different types of behavior and mood changes.

Researchers postulate that specific neural circuits within the brain regulate the reward process and influence "cravings" (Tomkins & Sellers, 2001). The substantial impact on the brain’s reward system generates "cravings" difficult to avoid on both conscious and physical levels. Researchers recognize a significant relationship between neurotransmitters and behaviors are also responsible for the ability to learn new behavioral patterns (Powledge, 1999). The writer provided a chart which lists the drugs and associated moods to different neurotransmitters' influence on behavior. Below is a list of neurotransmitters, with identified drugs and mood modifiers (NIDA, 2007).

Table 1.

*Cognitive and Behavioral effects of Drugs on Neurotransmitter Functioning*

<table>
<thead>
<tr>
<th>Neurotransmitter</th>
<th>Triggering drug</th>
<th>Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serotonin</td>
<td>MDMA, (LSD, marijuana), stimulants (cocaine)</td>
<td>impacts mood, sleep and impulsivity</td>
</tr>
<tr>
<td>Dopamine</td>
<td>cocaine, amphetamine, methamphetamine</td>
<td>Induces mild to intense pleasure, heightens euphoria, arousal. (highly addictive, intense feelings of alertness and manic productivity)</td>
</tr>
<tr>
<td>Norepinephrine</td>
<td>Stimulants, cocaine, amphetamine, methamphetamine</td>
<td>engages feelings of arousal, alertness, energy and pleasure (highly addictive)</td>
</tr>
<tr>
<td>Glutamate</td>
<td>Ketamine, Phencyclidine, Alcohol</td>
<td>Impacts Neuron activity (increased rate), Learning, Cognition, Memory</td>
</tr>
<tr>
<td>Acetylcholine</td>
<td>Nicotine</td>
<td>impacts general movement, perception, motivation and sleep</td>
</tr>
<tr>
<td>GABA (Gamma-aminobutyric acid)</td>
<td>Sedatives, Tranquilizers, Alcohol</td>
<td>Reduces impulsiveness impairs motivation and judgment, induces euphoria but not with manic tendencies. Neuron activity (slowed), Anxiety, Memory, Anesthesia</td>
</tr>
<tr>
<td>Endorphins</td>
<td>opiates, heroin, alcohol:</td>
<td>both emotional and physical pain relief</td>
</tr>
</tbody>
</table>

Note: Identified neurotransmitters are those activated by street drugs and alcohol usage.
Unkelbach, Guastella, and Forgas (2008) state that dopamine is a neuromodulator that affects the central nervous system and increases the production of Oxytocin; a neuroendocrine hormone which engages social cues as well as increases social association towards others. Some researchers indicate that dopamine and oxytocin have a synergistic effect that influences social and sexual behaviors (Baskerville & Douglas, 2010). Dopamine levels naturally increase from engagement regarding eating something enjoyable, achievement of a hard-earned goal or sexual stimulation also it enhances rewards and approaches behavior in social contexts. The brain perceives enjoyable engagement as a reward and stimulates the brain's mechanism for craving. Table 1 illustrates that drug use can also activate dopamine transmission which contributes to cravings to engage in sexual activities or uses drugs to activate the reward pathways of the brain. Stimulants such as cocaine and Methamphetamine use specifically increases levels of the neurotransmitter dopamine which increases motivation for drug seeking behaviors, intensity levels of pleasure and motor function (NIDA, 2014).

Crystal meth and social motivation for use. Addiction has been conceptualized as an unusual type of learning and memory development which potentially contributes to euphoric recall. Bali, Im, and Kenny (2011), suggest that DNA methylation may influence memory formation as well as triggering neuroplasticity during exposure to drugs. Research findings support that methamphetamine abuse produces abnormalities in white matter interconnecting prefrontal cortices and hippocampal formation during early recovery stages (Tobias et al., 2010).

The release of dopamine-related euphoric feelings, which subsequently increases male sexual behaviors and attainment of orgasm occurs potentially simultaneously or sequentially with the release of oxytocin by the hypothalamus, and also reduces inhibition. Thus, drug usage becomes more desirable and difficult to halt (Hiller, 2004). Similarly, the additional release of
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Oxytocin influences the neurobiological processes underlying addiction based on its reduction of inhibitory effects which increases sensitization and pleasure (Sarnyai, 2011). The cycle of usages and cravings remain difficult for individuals to avoid because sex without drugs pales in comparison to the intensity of sex while "on" drugs. For people who may have shame-based belief systems regarding sex, body-image or internalized homophobia drugs that reduce inhibition and heighten pleasure become difficult to avoid during sobriety.

According to Roberts, Redfield, Olson, Rawson and Knight (2010), the downside effects of crystal meth can range from acute physical symptoms such as cramping, cardiac arrhythmia, heightened anxiety, paranoia, and psychosis. Often due to the negative side effects motivation for usage is increased as a result of untreated or prolonged symptoms.

Usage of crystal meth is motivated by a number of justifications as identified by Kurtz (2005) and include, but are not limited to:

1. **Loneliness and alienation** – Not all gay men are "public," "open," or "out" regarding their sexual orientation which often means that meeting potential partners or even sexual "buddies" requires non-traditional social avenues and exclusive gay connections. Thus, meeting other men requires discreet methods of getting together which includes an underground culture of meeting places primarily focused on sexual encounters. These meeting places include bars, bathhouses or online websites which typically involve men who "play and party." The reference to "play and party" is a term used to the use of drugs with sex.

2. **Aging and illness** – After the onset of the AIDS epidemic the older population of gay males who survived often struggled to cope with the identification of "HIV positive," older and often remain the lone survivor among their close circle of friends who died of
AIDS. Crystal meth usage created a sexual energy that allowed older or "HIV positive" men to forget what they perceived as limitations created by aging or illness. The physical surge of energy increased the libido of the older male as well as enhanced "his" stamina often changed by poor health and aging.

3. **Poor body issues** – Men who are self-conscious of their bodies and feel inadequate in their abilities to attract lovers, perform or cope with certain sexual roles often use drugs to lower inhibition, reduce shame and gain confidence. Also, men who use drugs tend to neglect their diets and as a result experience enormous weight loss which produces muscle loss and less body weight, thus giving the user what is often referred to as the “crystal meth six pack;” the illusion of having a better body.

4. **Sexual enhancement**-- Drugs provided men with internalized homophobia the ability to relax and engage in sexual activities with less shame and inhibition.

5. **Limited social supportive network** - Chaney and Blalock (2006), report in the gay community: social isolation, family rejection, internalized homophobia and limited social circles fosters the need for internet usage which is often connected to sexual encounters and drug usage.

6. **Social-Sexual Norms** – Prominent social scenes for gay-identified men involve dance clubs, bars and circuit parties which promote drug usage (Flores et al. 2009), and creates challenges to maintaining sobriety.

7. **Environmental cues and sexual motivation.** Oxytocin is a 9 amino acid peptide produced in the paraventricular and supraoptic nuclei of the hypothalamus which contributes to the development of social behavior. This includes parental bonding, pair bonding, aggression and sexual behavior (Bales, 2014). It has been known to facilitate
social communication such as eye contact, self-disclosure and less inhibited behavior patterns. It has also been known to enhance bonding skills, reduce anxiety and allow individuals to feel comfortable with others (Keating et al., 2013). In sexual relations, oxytocin increases the ability to “fully share” oneself during the process of intercourse (Ishak, Berman, & Peters, 2008).

Hiller (2004) reports that neurotransmitters are considered important to promote social behavior by rewarding sensory, motor arousal and motivation. Craving for drugs is activated by social context (Insel & Fernald, 2004), which often makes it difficult for an addict to omit drug thoughts from his/her mind. In order to understand the power of social context the writer asks the reader to consider food commercials and how often they (the advertisements) trigger hunger for items, one does not crave.

**Crystal meth users in the gay community.** Studies in NYC indicate that crystal meth is used at higher rates amongst gay men than heterosexual men. According to Carpiano, Kelly, Easterbrook, and Parsons (2011) crystal meth usage has become an epidemic in the gay community due to the association with heightened sexual activities. Crystal meth use is associated with high rates of anal sex, sexual marathons and anonymous partners (Rajasingham et al., 2012).

The usage of crystal meth in gay males is derived from club-going activities that initially included a variety of drugs such as MDMA (methylenedioxymethamphetamine), ecstasy, cocaine, katamine, GHB (gamma-hydroxybutyrate) and crystal meth (methamphetamine) (Kelly, Parsons, & Wells, 2006). Crystal meth usage is often referred to as the after the club drug since it is often smoked or injected which is more difficult to ingest than a pill or a “line” of cocaine in public bathrooms.
The intense attraction to crystal meth usage is summarized by Dowsett (2009) with several factors such as decreases inhibition, intensifies sexual drive and ability to perform for long periods. Crystal meth provides gay men the opportunity to “switch roles” with less experienced physical pain and shame when “switching” (taking turns) from “tops” to “bottom.” The term “bottom” refers to “men who are anally penetrated during intercourse.” The term “top” refers to “men who penetrate others anally during intercourse.” For males who are “bottoms,” crystal meth provides them with the ability to endure several hours of anal penetration painlessly thus facilitating essential roles in circuit sex parties.

**Barriers to treatment.** Systems of care, treatment facilities, and programs fail to provide effective evidence-based best practices interventions because treatment focuses on the implementation of motivational techniques that rely on the consumers' ability to remain engaged, develop a commitment to the process and adhere to recommendations.

The Matrix model of treatment reports: stimulants affect brain function which in turn affects the ability to sustain focus and improve behaviors. According to brain research incorporated into the Matrix model of treatment behaviors which were once attributed to psychological issues are credited to physiological issues related to impaired brain function (Roberts et al., 2010).

Numerous factors influence the success of treatment outcomes which supports the value of this study. Fonseca, Gilchrist, and Torrens (2011) reported in their findings the following identified barriers:

- **Acceptance of problems** – many addicts are naturally in denial of the severity of their usage and enter treatment as a result of a crisis or mandate. Individuals tend to minimize
alcoholic intake or misuse of prescription drugs such as Vicodin, Adderall, OxyContin, (to name a few) which can impact treatment success.

- **Knowledge and visibility of services** – resources of services that are accessible can be limited due to insurance and type of treatment. There is a limited number of LGBTQ friendly services/providers and medical insurance often make it difficult to be selective and/or remain in treatment for extended periods.

- **Hours of Service** – many programs are not flexible in terms of schedules that cater to working consumers or individuals who live in residential treatment programs with daytime commitments.

- **Location** – some programs are inconveniently located which make them difficult to access, especially for people living outside the city zone i.e. Long Island or Staten Island.

- **Staff confidence and skills** – not all drug counselors are equally trained to work with addicts or trained to identify mental health problems. It is common for addicts to suffer the stigma of misdiagnosis with a mental health disorder as a result of withdrawal symptoms that linger.

- **Training** – staff training is not consistent and does not address addiction as an illness, which creates the belief that consumers “should” be able to stop usage without experiencing problems. Many substance abuse counselor assumes that proper motivation is the method to helping individual stop using.

- **Stigma** – the personal views and bias of staff regarding addiction can impede objectivity in treating addicted consumers.

- **Culture** – the cultural aspects of usage can influence how addicts cope within cultural circles.
- **Availability and offer of treatment** – the lack of resources and qualified staff can prevent a client from feeling comfortable about seeking treatment; specifically related to trust that staff is sensitive to the lifestyle choices of gay men.

- **Previous experiences in treatment** – facilities that have poor service outcomes or sober environments can influence the view consumers may have about seeking help with addiction. Facilities in which consumers engage in harm-reduction can reduce the desires for future treatment if a client does not feel safe and supported in being completely abstinent. Also, facilities that are not gay-friendly will also diminish the desires to seek treatment.

- **Gender issues** – many facilities do not have staff that can meet the needs of gender specific consumers. The staff made be poorly trained or simply have personal views against the LGBT lifestyle that prevent them from providing adequate and therapeutically centered services that are compassionate and reassuring.

- **Services coordination and integration** – Many programs fail to create linkages with programs that provide services for common consumers. The separation of treatment efforts can create confusion in a consumer’s treatment plan if the goals are drastically different.

- **Detection of problem** – There are times when staff may overlook the importance of cross addiction or maybe unaware of medical or mental health components that impact the consumer’s ability to remain sober. Many programs screen for toxicology. As such, false results are common when consumers are prescribed medications such as Adderall and OxyContin. Also, consumers who abuse other drugs might hide their usage with legal prescriptions.
Family involvement and peer support – Many consumers live in homes or with partners who are actively using drugs. This creates difficulty to maintain sobriety.

The writer presented factors that identified essential data for effective organizational development of evidence-based treatment designs that facilitate significant results and successful outcomes.

Limitations of Study

Some factors limited the data collection within studies that involve addiction as well as the population of gay men. As previously discussed, hostility faced by gay men limited the scope of research to treatment facilities program identified as LGBTQ-friendly. This omits a significant percentage of gay men who remain "lost" within generic treatment modalities and associated systems as well as adds to limitations to the data collection process (Weatherbe, 2014) for this dissertation. Social antagonism experienced by addicts and members of the gay community forced many to minimize their addiction as well as separate from their sexual orientation (Wong et al., 2010).

According to archives in the government drug abuse database (drugabuse.gov, 1995), few social scientists have the requisite methodological expertise to study the complexity of behaviors related to drug abuse. The stigma of being an addict or gay often contributes to either isolation or camaraderie amongst other addicts or gay men who use drugs which creates separation from heterosexual or non-drug using populations. Avoidance of admission to addiction or sexual identity tends to discourage individuals from seeking help with addiction in generalized systems of care or if they do seek help, the consumer struggles with difficulty admitting he is gay. When conducting research it is essential to obtain appropriate sampling and data collection though challenges remain for the following:
1. Limited LGBTQ treatment facilities
2. Crystal meth addiction in NYC is currently an underground occurrence
3. Individuals obtained outside of treatment may not be 100% sober due to minimizing the use of other mind altering drugs that are not drug of choice
4. Standard statistical analyses are often inadequate with substance abuse, due to inconsistent (Mackinnon & Lockwood 2005) and unreliable data from often unreliable participants
5. Limited research on the impact of crystal meth in the gay community (Kurtz 2005).

Addiction remains to be a world of chaos mixed with pleasure, pain and blurred lines of reality. Drug usage is a social link for many, a social enhancer and a social entry pass. There is no single cure or causational factor that results in addiction. However, there are common factors that influence and deter individuals from maintaining long term sobriety. This research explores common aspects by examining the relationship between sex, drugs and sobriety. To obtain cohesive results without identifying an excessive amount of variables, a specific population was gathered from a sampling of men who have sex with men and who were provided with a survey that disclosed the correlation between sex and drug usage. To gather a comprehensive understanding of what impacts sobriety for men who have sex with men, different contributing factors that specifically influence that MSM community were explored to determine the role and impact each area has on sobriety. The areas explored are the following:

1. Heteronormative values
2. Sexual identity
3. Social isolation
4. Sexual barriers
5. Social lifestyle barriers

The oversimplification of addiction and the tendency to culturally design treatment that meets the needs of individuals who are heterosexual males diminishes the individual issues and life stressors encountered by members of different marginalized groups. Another factor according to Sue, Arredondo and McDavis (1992), remains that white heterosexual, middle-
class value systems are often mirrored in counseling and social psychological research, exclude groups that do not match the value system. Gay related stressors are culturally different from the mainstream heterosexual community because they are linked to lifestyle events that directly impact the LGBTQ community such as social rejection, discrimination, living a dual lifestyle as well as reluctantly conforming to social norms that are invalidating or exclusionary to one's authentic lifestyle (Lewis, Derlega, Griffin, & Krowninski, 2003).

To develop a comprehensive view of the dynamics of addiction in gay male lifestyle, the researcher presents a number of areas that influence recovery and impede long-term recovery as a whole.

**Heteronormative values.** Social values imposed by heterosexual normative standards contribute significantly to the limitations of viable social circles (Adams, 2010). Heterosexual normative values influence the shaping of sexual roles and courtship. Initial sexual experiences are often influenced by the limited concepts which force individuals to seek same-sex partners in environments that are gay affirming but are not always ideal or supportive of sober living. “Same-sex social circles for men often occur in bathhouses, bars, online sex dating sites or circuit parties.” In essence where will a nice “gay boy” go to meet another nice “gay boy?” Meeting a nice “gay boy” does not easily occur in the church, or with family, friends or co-workers for and of gay men who lack support.

Dating is not the only factor influenced by social norms or cultural views. The field of mental health itself contributes to many of its own bias experienced by individual treated within therapeutic settings. Therapy and social psychology are often based on Eurocentric mental health social norms and impacts the quality of treatment and how consumers are treated. Homosexuality was once regarded by the mental health community as a mental disorder and was classified as
deviant behavior in the Diagnostic Statistical Manual of Mental Disorders, published by American Psychiatric Association (APA) until the 2nd edition, (DSM-II) removed the classification in 1973 (Harren, ND). Thus, since the removal of the classification the APA maintains that “homosexuality per se implies no impairment in judgment, stability, reliability, or general social and vocational capabilities” (1973). Homosexuality became viewed as a variant of normal sexual behavior and all references to deviance were removed from diagnostic classification.

Though changes were made in terms of sexual orientation, transgender individuals still continue to remain diagnosed with gender dysphoria in DSM-5 (APA, 2013), which evidences continued perception of inequity and ongoing marginalization present with regard to treatment of LGBTQ individuals based divergent heterosexist belief systems regarding said implications of LGBTQ lifestyle (Vaughan & Rodriguez, 2014). Social attitudes influence how people behave and are treated; specifically gay men within both heterosexual and homosexual circles (Davies, 2004).

With ongoing social norms which imply certain aspects of sexuality as maladaptive, a social division resulted in denial and repression of an individual’s identity and created the need for individuals to rely on perceived acceptable sources which were affirming and supportive. Living as a gay person meant living a double life and as well as avoiding groups that potentially can be aggressive or non-accepting. Gay men face countless accounts of homophobia from heterosexuals and other gay men who suffer from internalized homophobia. Negative attitudes create sexual identities that promote social isolation or socialization that includes exposure and usage of drugs. Social isolation creates a barrier that reduces sober support and the capability to seek treatment when faced with addiction. In metropolitan areas such as NYC, some gay men
who attempted to enter inpatient treatment often left before completion of 28-day program terms due to rejection by other addicts once sexual identity was revealed through therapeutic group exercises. Many individuals who left 28-day programs often did so due to the hostility or judgment expressed by the other heterosexual addicts in treatment, as well as conservative counselors.

**Sexual identity.** Heteronormative values influence how society develops sexual identities and practices which may not often be authentic for the preferred lifestyles of many individuals (Edwards, 2012). Extensive research has been conducted through the last 15 years regarding heterosexual attitudes towards homosexuality. According to (Thatcher & Chandler, 2013) studies have indicated that factors such as gender, age, ethnicity and cultural beliefs impact heterosexual views and behaviors when it comes to coping with homosexuality.

Though many individuals demonstrate tolerance for homosexual lifestyles, in general, society prefers homosexual chastity and invisibility according to Long (1996). It can also be said that to be out of “the closet” is to refuse conformity to presumed heterosexist standards or norms. Existing out of "the closet" means living an authentic life that may not be fully accepted and integrated into one’s family or friends or community. In summary, Matthews and Bieschke (2001) explain gay lifestyle as a comparison to an ethnic minority who moves into a new location and must adapt. The development of gay identity represents a swift departure from acceptable membership of the dominant culture to becoming a minority. Being different is viewed as threatening.

In order to understand how sex specifically influences the social dynamics of gay men, one needs to explore the sexual developmental stages of the gay community as a separate process from the heterosexual developmental process. According to Levine and Troiden (1988) in the
United States, dominant sexual scripts determine whether behaviors are labeled as psychosexual
disorders or sexually appropriate. Amico (1997) explores two theories in terms of the sexual
stages of “coming out.” Vivienne Cass’ (1979) model involves 6 stages, and Eli Coleman's
(1981) model discuss 5 stages as follows:

**Vivienne Cass six stages:**

1. Identity confusion
2. Identity comparison
3. Identity tolerance
4. Identity acceptance
5. Identity pride
6. Identity synthesis

**Eli Coleman developed the 5 stage model as follows:**

1. Pre-coming out
2. Coming out
3. Exploration
4. First relationship
5. Identity integration

The sexual development stages for individuals differs greatly depending upon support
systems available during developmental periods. Sexual stagnation can occur to both
heterosexuals and LGBTQ individuals based on the influence of social cues that may either
reinforce or negate personal sexual desires and/or practices. Sexually affirming messages
naturally increase confidence and sexual identity while sexual denial or critical messages create
shame based belief systems and low self-esteem that often leads to hidden or repressed sexual
needs. An example of sexual affirming messages can be seen between the sexual shaping of
males and female sexuality; men are encouraged to be sexually free and pursue
whomever they
want while females are encouraged to be chaste and pure until her wedding day.

The individual’s sexual identity is reinforced by peers who share similar values and
within the LGBTQ community. Gay men reinforce their sexual activities through norms created
within their community. Sexual identity is supported by peers who share similar values. For gay men, drugs and sex are often supported as normal and expected behaviors (Doty, Willoughby, Lindahl, & Malik, 2010).

Though sexual identity is reinforced by peers, the initial sexual awareness is designed by heterosexual norms and interpretations. Alderson (2003) reminds us that “there is no one gay identity: it is fluid and ever-changing.” Many developmental models dismiss social factors that influence the gay identity. Finneran and Stephenson (2014) explored how social networks are influential in the sexual development of gay men.

Sexual orientation is not limited to sexual identity or the type of sexual position which individuals engage in sexual acts. Sexual identity includes a number of factors such as self-image, self-esteem, social roles and bonding abilities (Martin & Knox, 1997). Self-image often creates a strong need for validation and acceptance within the gay community. It also contributes to body dysmorphia and eroticization of certain body types (Gough & Flanders, 2009).

Gay identity and actions are impacted by heterosexual norms which emphasize monogamy and a certain level of sexual restrictiveness that contradicts gay subcultural beliefs which may consist of polyamorous connections and liberation, in addition to monogamy and sexual practices (Myers, Allman, Calzavara, Morrison, Marchand, & Major, 1999).

Social isolation. Studies by Schnieder and Witherspoon (2000) indicate that the LGBTQ population is at higher risk for hate crimes, undiagnosed mood disorders, suicidal ideation and substance abuse as well as isolation. Social rejection and isolation remain a motivational force for seeking support in social circles that share similar values and ideas which can be either life enhancing or lifestyle diminishing. For gay men, social acceptance often occurs within social circles that involve the bar scene, gay clubs, bathhouses, circuit parties, online dating sites and
communities typically known as being “gay-friendly.” In NYC currently "gay-friendly,"
communities is Chelsea and Hell’s Kitchen.

Social isolation creates a strong drive for engagement with groups that are accepting and validing. As a result, it is natural for gay men to seek out other gay men who share similar beliefs. However at the same time, it also remains difficult to remain sober if social circles are highly influenced by drug activities. In terms of sex and drugs usage (Gatewood & Weiss, 2011) many gay men believe that sex is the main reason they relapse.

**Sexual identity barriers.** Social norms designed by heterosexual society describe homosexuality as a deficit or maladaptive behavior that fails to meet social standards. Thus, failure to progress through developmental stages is viewed as a failure to thrive and adjust (O’Dell, 2000). Sexual development is regarded more in terms of a process of “coming out” rather than a normal variant of sexual development or growth. However, there are stages of sexual development. Some stages lead towards a healthy lifestyle and others toward a life of sexually maladaptive behaviors that involve personal compromises such as unwanted sexual activities and unhealthy attachments (Edwards, 2012).

Some useful elements can contribute to the development of sexual health explored by Edwards (2012). There are 10 identified elements which consist of the following:

1. **Talking about sexual preferences, values and needs:** in active addiction there are sexual arrangements and opportunities which often lead to unhealthy outcomes. Individuals under the influence often engage in sexual practices that painful and not to their preference.
2. **Awareness of culture, identity, and sexual health**: provides an understanding of how to negotiate sexual needs. In active addiction opportunity regulates the sexual engagements which often lead to compromising one’s integrity and identity.

3. **Sexual Functioning**: sexual anatomy and functioning are vital in learning to enjoy sex and obtain maximum pleasure. Medication (HIV and psychotropic medication) and drugs often impede sexual function which can contribute to frustration and decreased desires that may impact individuals involved in long-term relationships.

4. **Sexual Health Care and safer sex issues**: sexual health results from taking a proactive stance on using methods that protect against STD’s as well as sexual abuse. Individuals who have low self-esteem may compromise and agree to sexual practices that expose them to potential health hazardous as well as volatile and self-destructive situations.

5. **Barriers to sexual health**: barriers that contribute to unhealthy sex practices include: drug usage, untreated mental health issues and unresolved sexual abuse history that contribute to unhealthy sexual beliefs and patterns.

6. **Body Image**: contribute to sexual validation through unhealthy sexual encounters. An individual who has an unhealthy body image may have a proclivity to engage in sex for praise and the idea of desirability: if just for a moment. This leads to a cycle of unhealthy behaviors patterns related more to the engaging process of sex rather than the actual participation.

7. **Masturbation, fantasy and sexually explicit material**: can serve as an enhancement tool for individuals with sexual issues linked to shame and guilt that may inhibit
excitement and enjoyment. Individuals in active addiction may develop unhealthy attachments to enhancement tools that often trigger more drug usage especially during isolation stages in active drug usage.

8. **Positive Sexuality**: involves exploring sexual needs in a safe and life-affirming manner. In active addiction sexuality tends to involve unhealthy and often dangerous situations, such as having sex in conditions that can become volatile due to aggression and paranoia triggered by certain drugs.

9. **Intimacy and relationships**: awareness of intimacy needs contributes to healthier sexual choices that are more fulfilling and lead to significant connections. In active addiction, engagement in "one-night stands" that lack intimacy and longevity often results in feelings of loneliness and isolation.

10. **Spirituality, values and sexual health**: In practicing healthy sexual behaviors an individual becomes whole and not fragmented between critical beliefs and desires for sexual engagements. Individuals in active addiction often compromise sexual needs and spiritual needs and do things that remain opposed to what is spiritually significant.

Edwards (2012) identifies other factors that influence sexual practices. Awareness of one’s sexual attraction does not provide an individual with the awareness of what constitutes a healthy sex life or sexually risk-free behaviors. There are 3 areas identified as barriers that create internal sexual struggles:

- **Heterosexism**: The belief that heterosexuality is superior and ideal for everyone. It creates a sense of superiority and rejection of others.
- **Homonegativity:** The tendency to believe same-sex attractions as negative and opposed to heterosexual norms. This belief system tends to contribute internalized negative thoughts and beliefs that contribute to self-destructive thoughts.

- **Homophobia:** The irrational fear of homosexuality which can be external as well as internalized.

**Gay lifestyle barriers.** Developing a healthy gay lifestyle extends past risk of HIV exposure, body image, and social acceptance. A healthy lifestyle involves developing tools for living, engaging in healthy life choices, as well as creating and maintaining supportive social circles. Socializing in sober circles that are life affirming can be difficult to maneuver because connecting to sober sexual partners manifests its own set of complications for a number of reasons which consist of (but are not limited to) the following:

1. **Damaged self-esteem:** Years of using drugs causes social damages in career, health and appearance and often add to naturally low self-esteem and shame associated with drug-induced failure to thrive and social stigmatization (Moskowitz & Seal 2011).

2. **Limited trust:** Due to victimization and homophobia the perception of finding an ideal sexual partner is limited to what is familiar and known to be gay-friendly which tends to consist of other gay men who may or may not be sober.

3. **Negative sexual norms:** Many gay men learned to expect drug usage as a cultural aspect of their identity. Social studies on gay lifestyle focused heavily on drug usage and high-risk behaviors due to HIV research. Studies focused on risky sexual behaviors as a result of HIV, which contributed to the development of models that reinforced certain stereotypes (Carrillo & Fontdevila 2011).
4. **Where to meet men:** The economy complicates dating or "going out" as this can be expensive and tedious without guarantees of desired outcomes. According to McKirnan, Houston and Tolou-Shams (2007), the Internet outranks traditional social venues (bathhouses, parks, bars or clubs) for meeting men. However, the internet has also become an easy avenue for not only meeting men but finding drug partners and risky sexual activities.

5. **Unstable Brain chemistry:** Sober choices are difficult to make during early stages of recovery as the brain attempts to recalibrate the levels of social neuropeptide oxytocin which is excessively overproduced by increases in dopamine levels triggered by the use of stimulants (Meyer-Lindentberg et Al. 2011). Oxytocin is a social neuropeptide that creates a sense of bonding which may or may not produce long-term connections. Initially drug usage creates a strong desire for connecting to others regardless how unhealthy their behaviors may become.

6. **False Euphoric recall:** Precise memory recall is reduced by the overproduction of oxytocin (Moskowitz & Seal 2011) which means the memory of specific events are filtered through intensity produced by orgasm under the influence of drugs. The brain rearranges memory and creates a false euphoric or distorted memory, according to Paul (2012).

7. **Gay related life stressors:** Gay-related stressors are unique within the LGBTQ community since they are linked to life events that directly impact the community such as social rejection, discrimination, living a dual lifestyle as well as reluctant conformation to social norms that are not lifestyle-affirming (Lewis, Derlega, Griffin, & Krowninski 2003).
8. **Unreported trauma**: Consumers under the influence often engage in risky behaviors and experience date rape, gang rape, exposure to HIV or sexually transmitted diseases, are robbed and at times, blackmailed. During traumatic incidents, many individuals remain silent and assimilate the posture of victim re-victimization assuming responsibility for the violation based on their use of drugs or drinking. Thus the belief that they “are at fault” for taking risks with strangers met via the internet or while buying drugs rather than the responsibility lying with the perpetrator.

9. **Varying sexual practices**: Sandfort and de Kiezer (2001) state that literature associated with problems within the gay male community is limited which means sexual roles and dysfunctions can complicate the process of developing a healthy sexual life. Gay sexuality was regarded as a deviant practice and often viewed as a psychopathology rather than a lifestyle which often contributed further to shameful feelings.

10. **Social acceptance**: It is difficult to feel socially accepted when laws are challenged that protect the rights of individuals. The idea that certain communities can reject a person or condone violent actions against individuals who are gay continues to foster social alienation.

**Socialization and drugs.** Social engagement is fundamental to the human population. Survival relies on the ability for human beings to socially conduct oneself in a civilized manner for the survival of the human species (Gabor, Phan, Clipperton-Allen, Kavaliers, & Choleris, 2012). Nature cleverly ensures the survival of the human race by pre-wiring the brain to release neurotransmitters such as oxytocin, vasopressin and sex hormones that activate desires to engage
and create emotional bonds in the process of social recognition. The survival of the human race not only depends on biological relationships established through parental roles but also through social engagement essential for surviving and thriving within the community. It’s essential to understand that survival of the human race does not indicate sexuality must be same or opposite sex but rather have the capacity of establishing and maintaining harmonious unions of varying degrees.

Socialization and acceptance is a huge factor for individuals within the LGBTQ community because many have been stigmatized by the dominant culture. The severity of heterosexism (a term that describes culture victimization and oppressive treatment experienced by the LGBTQ community) has forced many LGBTQ individuals to socialize with primarily lifestyle-affirming groups (Amico, 1997). With gay men, lifestyle-affirming groups often consist of gay men who "party and play."

The production of oxytocin decreases inhibition while intensifying the connections between people as well as pleasure (Hiller 2004). The pleasure experienced during usage of stimulants often produces a sense of acceptance and validation which is the results of the release of oxytocin through the drug induced production of dopamine. Stimulants such as crystal meth and cocaine offer gay men membership into a club of acceptance, excitement and uninhibited sexual opportunities that reduce feelings of isolation and loneliness (Halkitis, Parsons, & Wilton, 2003).

Sexual enhancement drugs play a major role in the sexual activities of gay men for a number of reasons including but not limited to social rejection, internalized homophobia, HIV stigma, mental disorders and Post Traumatic Stress Disorder [PTSD] resulting from multiple separate incidences of abusive situations (Kleinplatz, 1999).
Recovery lifestyle barriers. Recovery is difficult and challenging (Becker, 2007). Within the gay male community, some challenges exceed the typical general challenges faced by heterosexual men and women. It is essential to recognize that drug usage within particular groups serves specific needs such as social engagement, pharmacological treatment for co-occurring mental disorders, lifestyle habits or a combination personal issues. The following barriers for recovery consist of a number of issues that specifically impact gay men:

1. **Lifestyle adjustment:** adjusting to a sober life can cause isolation and social awkwardness. Many gay men find it difficult to adapt to the sober community because many friendships consist of other gay men who also use drugs.

2. **Untreated mental illness:** Many addicts self-medicate anxiety, depression and PTSD symptoms that often go undiagnosed and untreated for years. During the early stages of recovery, undiagnosed mental disorders may be confused for cravings and withdrawal. As a result addicts may be tempted to self-medicate to treat these undiagnosed as well as diagnosed mental disorders with familiar vices unless they obtain and maintain proper psychiatric treatment (Perdue, Hagan, Thiede & Valleroy 2003).

3. **Brain chemistry:** The brain requires some time to readjust to the normal chemical levels after exposure to long periods of stimulant abuse (NIDA 2014). The problem with the adjustment period is that the individual experiences numerous types of cravings that can weaken resistance to maintaining sobriety and strengthen the likelihood of relapse.

4. **Sober connections:** Finding sober friends or sober sexual partners can be difficult since many individuals tend to meet in situations that are influenced by heavy drug or alcohol usage. (Meunier 2014).
5. **Internet usage**: The internet is a vital part of today’s lifestyle. For many individuals, it remains a vital method for social connections, communication, and sexual activities. Ogilivie et al. 2008, states that according to a questionnaire, MSM are more likely to use the internet to find sexual partners instead of going out to bars or public places.

6. **Sexual Urges**: It is normal to experience sexual craving in early recovery. However due to the chemical correlation established between the production of the social neuropeptides of oxytocin during both sex and drug usage sexual cravings can mask cravings for drug use (Walker, Ray & Kuhn 2006).

7. **Sexualization of platonic gestures**: There is a tendency to confuse platonic gestures with sexual invitations making efforts to connect in 12 step meetings awkward and often unpleasant for individuals seeking only sober support and not sexual “hook-ups.” In treatment men often admitted that they lacked the skills to distinguish correctly between friendly gestures and flirting. As a result, avoiding engaging in a new friendship is often the choice for many individuals.

8. **Internalized homophobia**: There is a tendency to view homosexuality as purely sex-centered when in there are identity centered factors involved. Schindhelm and Hospers (2004) indicated that this often contributes to higher levels of internalized homophobia. Identities that are focused on sexual lifestyles are often based on needs for validation and acceptance.

   Sobriety is a challenge; not realizing or misinterpretation of cravings can lead an individual to return to the dark cycle of usage. The combination of personal identity, social influences, and brain chemistry can be a difficult ordeal to manage when individuals are unaware and believe sobriety is a matter of will power only.
Social neuropeptides and sobriety. Addiction studies would not be complete without including the role brain of chemistry regarding cravings and social behaviors. According to Marazziti and Catena (2008), oxytocin plays several roles in neuropsychiatric disorders. The studies indicate that oxytocin is responsible for influencing the following areas:

- **Social behavior:** Oxytocin decreases anxiety levels that permit individuals to feel more comfortable connecting with others and overall feelings of well-being pertaining to social settings. With gay males, it reduces the social phobias that have been associated with living a lifestyle oppressed by homophobia.

- **Sexual enhancements:** Oxytocin levels increase during sexual activities which enhance sexual desires and orgasm intensity. Drug usage increases the production of oxytocin which increases sexual intensity as well as connections between gay men.

- **Addiction:** Drug usage enhances the brain’s reward apparatuses which can contribute to the development of tolerance and dependency. Dependency makes addiction a difficult process to overcome and manage successfully.

- **PTSD:** Attenuates memory consolidation and retrieval as well as intervenes with brain function that leads to the development of PTSD. Many gay men have a history of sexual abuse and unresolved childhood trauma.

- **Memory and Learning:** Oxytocin reduces learning process and memory contributing to poor judgment and factual recall of important events. With addiction, drug seeking behavior focuses on glorifying drug induced experiences or romanticized “good times,” which result in the alterations in memory.

**CHAPTER 3: METHODOLOGY**
Purpose of the Study

The purpose and goals of this study are to explore how lifestyle choices related to sexual activities and social support systems impact gay men in terms of maintaining sobriety. The study will demonstrate how the needs of gay men require a different level of clinical and cultural awareness when it comes to treatment focus.

Though there are numerous treatment facilities in New York City, there remain explicit barriers that impact treatment enrollment due to cultural insensitivity as well as a limited understanding of the impact of crystal meth usage specifically within the gay community. (Aguilar & Sen 2013).

Studies indicate that the majority of crystal meth users in NYC are MSM (men who have sex with men). Goodrich (2011) reports that according to a study (Reback et al., 2003) meth use increases sexual activities which increase tendencies to use even more. The CDC (2010) reports that during 1980 and mid-1990’s HIV cases had declined, however due to the increased drug usage; HIV cases have started to increase in numbers. Crystal meth addiction not only creates a dependency on drugs but increases sexual impulsivity which in turn increases risky behaviors and a potential increase in HIV cases.

Successful addiction treatment for individuals who use drugs requires identification of specific obstacles that impact recovery. These barriers remain biological, social and related to the lifestyle of the substance abuser or identified addict. Regarding gay male addicts: exploring the relationship between sexual activity and drug usage is essential.

Research Objective
The study reviews various features that are unique to the gay male community in order to provide some information that may illustrate why maintaining sobriety is often a challenge for many individuals despite having long term sobriety and ongoing engagement in 12 step programs as well as with therapeutic involvement and support. The data explores the correlation between sexual actions and drug usage through social engagements and social-normative realities surrounding sexual activities in order to determine barriers that may influence sobriety.

**Research Questions and Hypotheses**

The questions were designed to determine relationships between sexual preferences and the ability to maintain long-term sobriety. In order to determine patterns that impact sobriety variables had to focus on what reinforces or weakens attempts to remain sober. The principal research questions that guided this study are as follows:

**Research Question 1**: Among gay men who are in recovery and previously used drugs as part of their sex act, was there a particular substance that was more likely to be used in conjunction with the sexual activities?

**Hypothesis**: $H_0/1/H_1$ It was hypothesized that there is a relationship between the measured levels of ranked preference of different drugs of abuse (heroin, poppers, cocaine, crack, alcohol, crystal methamphetamine) among gay men. There is a relationship that indicates a preference does exist for gay men in recovery.

**Research Question 2**: Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?
Hypothesis: $H_02/H_a2$ It was hypothesized that there is a relationship between sobriety and perceptions of the impact of sexual activity on the maintenance of sobriety between gay sober men who are sexually active versus sober gay men who are sexually abstinent individuals on 5 dependent variables associated with the ratings on 1). “Sexual satisfaction while using drugs,” 2). “Sex influencing sobriety,” 3). “Difficulty levels in having sex without drugs,” 4). “Comfort levels of having sex while sober,” and 5). “The correlation between sex and drugs.” There is a significant effect on the perception that varies for sober men when it comes to sex in sobriety.

Research Question 3: Is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus gay sober men who do not go to drug treatment programs?

Hypothesis: $H_03/H_a3$ It was hypothesized that there is a relationship between sober consumers who attend drug treatment and sober consumers who do not go to drug treatment on dependent variables associated with ratings on 1). “Sexual satisfaction while using drugs,” 2). “Sexual satisfaction while sober;” 3). ” The ability for sex to influence sobriety;” 4). “Difficulty of having sex while sober;” 5). “Sex being exciting while sober;” 6). “Comfort levels of having sex while sober;” and 7). “The correlation between sex and drugs.” There is some significant effect based on whether or not individuals are in treatment.

Research Question 4: Does the length of sobriety have any impact on sexual satisfaction and perceptions regarding the link between drug use and sexual pleasure?

Hypothesis: $H_04/H_a4$ It was hypothesized that there is a relationship between the measured levels in lengths of sobriety (less than 30 days, less than 90 days, less than 6 months, less than a year, more than a year) among sober gay men on dependent variables associated with

Table 2.

*Dependent and Independent Variables Used in the Research*

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<thead>
<tr>
<th>Dependent Variable (n=5)</th>
<th>Independent Variables (n=8)</th>
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<tr>
<td>Drug usage</td>
<td>Drug Preference</td>
</tr>
<tr>
<td>Sexually Active</td>
<td>Sexual Satisfaction while using drugs</td>
</tr>
<tr>
<td>Sexually abstinent</td>
<td>Sexual Satisfaction while sober</td>
</tr>
<tr>
<td>Treatment attendance</td>
<td>The ability for sex to influence sobriety</td>
</tr>
<tr>
<td>Length of sobriety</td>
<td>Difficulty levels of having sex while sober</td>
</tr>
<tr>
<td></td>
<td>Sex being exciting while sober</td>
</tr>
<tr>
<td></td>
<td>Comfort levels of having Sex while sober</td>
</tr>
<tr>
<td></td>
<td>Correlation between Sex and Drugs</td>
</tr>
</tbody>
</table>

**Participants**

The consumers for this study consisted of individuals who began attending the Center Recovery program at the Lesbian Gay, Bisexual and Transgender (LGBT) Center in New York City beginning July 2013, as well as a separate group of individuals who participated in a Facebook sober support group for gay men who were not enrolled into the Center Recovery Treatment Facility at the LGBT program. The population consisted of gay men who had a previous drug history but were currently self-identified as "sober" during their participation in the survey. The total sample of participants for this study comprised of 62 males. A summary of the demographic characteristics of the participants is identified in Table 3.
Table 3.

Demographic Data

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-24 years old</td>
<td>1</td>
<td>1.61%</td>
</tr>
<tr>
<td>24-29 years old</td>
<td>4</td>
<td>6.45%</td>
</tr>
<tr>
<td>29-35 years old</td>
<td>13</td>
<td>20.97%</td>
</tr>
<tr>
<td>35-45 years old</td>
<td>15</td>
<td>24.19%</td>
</tr>
<tr>
<td>45-55 years old</td>
<td>22</td>
<td>35.48%</td>
</tr>
<tr>
<td>55-60+ years old</td>
<td>7</td>
<td>11.29%</td>
</tr>
</tbody>
</table>

Living in New York City
- Yes: 51 (85%)
- No: 9 (15%)

Sexual orientation
- Homosexual: 54 (88.52%)
- Bisexual: 4 (6.56%)
- Queer: 3 (4.92%)

Currently Sexually Active
- Yes: 24 (38.71%)
- No: 38 (61.29%)

Attendance in Outpatient Meetings
- Yes: 35 (56.45%)
- No: 27 (43.55%)

Length of Time Sobriety
- Less than 30 days: 8 (12.90%)
- Less than 90 days: 7 (11.29%)
- Less than 6 months: 10 (16.12%)
- Less than a year: 6 (9.68%)
- More than a year: 31 (50.00%)

Relapse
- Yes: 35 (58.06%)
- No: 26 (41.94%)

Among the 62 participants in the research study, 51 participants (85%) lived in New York City while 9 participants (15%) lived in the Tri-state area around New York City, which includes New Jersey and Connecticut.

Among the participants in the research study, there was 1 participant (1.61%) in the 19-24 age range, 4 participants (6.45%) in the 24-29 age range, 13 participants (20.97%) in the 29-35 age range, 15 participants (24.19%) 35-45 age range, 22 participants (35.48%) in the 45-55 age range, and finally 7 participants (11.29%) in the 55-60+ age range.
In the research study, 54 participants identified themselves as homosexual (88.52%), 4 participants who identified as bisexual (6.56%) and 3 participants identified themselves as queer (4.92%).

The number of participants who were sexually active consist of 24 (38.71%) while the number of not sexually active was 38 (61.29%).

Among the participants in the research study, the number of participants who attended outpatient treatment were 35 (56.45%) while the number of men who didn’t attend outpatient treatment was 27 (43.55%).

The combined numbers of participants who are less than 30 days sober consisted of 8 participants (12.9%), participants who are less than 90 days was 7 (11.29%), participants who are less than 60 days was 10 (16.12%), participants who are less than a year was 6 (9.68%) and finally participants who are sober for more than one year was 31 (50.0%).

Among the participants in the research study, 35 (58.06 %) participants experienced a drug relapse while 26 (41.9%) denied ever relapsing.

**Instrumentation**

A self-administered survey was conducted with consumers selected from the LGBT Center Recovery treatment facility and Facebook gay sober support groups during hours that were convenient and easy for the consumers. The consumers were permitted to register and participate completely anonymously online through Survey Monkey. The anonymous feature of the survey and flexible log in the timeframe allowed consumers to disclose without concerns of being identified which permitted individuals to participate freely without the fear of judgment or stigma.
The total amount of consumers who were asked to take part in the research was at least 65, but the required number ranged from 20 to 40. Upon completion of data collection, a total of 62 consumers participated in the survey. The exact number of consumers who took part in the Center Recovery treatment facility and those that were in the Facebook sober groups are only determined by one question: question 14 directly asks participants if they were currently enrolled in treatment.

According to results out of the 62 individuals who took the survey only, 60 answered question #14 was “Do you attend treatment?” The data indicated that 58.33% attend outpatient treatment and 41.67% did not. Though not every individual attended treatment many people were engaged in other support systems such as 12 step meetings and sober groups on Facebook during their participation in the survey.

The results indicated that out of 61 men who replied at least 45 men attended 12 step groups, 4 had other types of support in place, and 12 did not attend a support group at all. The percentage of individuals who got support was 80.34% and those who do not is 19.67%.

Each consumer was given a survey using a questionnaire format that was designed to be completed online through Survey Monkey. The survey results were reviewed by the writer once all material was completed within a range of 30 to 90 days.

The survey in this research study has multiple components. The survey identified demographic information regarding the participants, as well as rating questions to formulate personal views on specific areas. Furthermore, the researcher measured various rating scales of sexual satisfaction, the occurrence of psychological symptoms in the last 30 days and ranking of previous drug preferences prior to entering into drug treatment or drug abstinence.
**Demographic information.** A categorical questionnaire was developed for the study to identify the respondents’ demographic data. Demographic questions were designed to reduce variables that may influence outcomes in fluctuating ways. The study focused on sexual behaviors and drug usage rather than HIV-risk related behaviors since many previously published studies typically focus on risky sexual behaviors (Doyle, Rees, & Titus 2015; O’Dell, 2000). The respondents completed categorical queries including age group, residential location, sexual orientation, the length of sobriety and a previous experience of drug relapse as well as attendance in outpatient drug rehabilitation meetings. The complete set of items identifying the demographic information is found in Appendix C.

**Ranking of Drug preference.** In the survey, participants were asked to rank their drug preference from the following list of illicit substances: heroin, poppers, cocaine, crack, alcohol, and crystal methamphetamine. Participants were instructed that rating of 1 would be the lowest ranked drug preference for the participant while a rating of 6 would be the highest ranked drug preference. This ranking was applied to all the 6 drugs listed in the survey.

**Rating scales of sexual perspectives.** The researcher also developed a series of 5 items using Likert rating scales that measured various aspects of how sexual satisfaction was tied to previous drug use and current sexual perspectives. The 7-point Likert Rating scales for each item ranged between strongly disagree (1) to strongly agree (7). The items measured participants:

1. “Ratings on having sexual satisfaction when using drugs;”
2. “Rating on sex influencing sobriety;”
3. “Rating difficulty levels of having sex while sober;”
4. “Rating on comfort levels of having sex while sober.”
5. “Rating the correlation between sex and drugs;”


Treatment Participation: The researcher reviewed data to determine if treatment or participation in support groups influence consumers’ views on sexual activities and substance usage. The data will determine if treatment has any impact in changing views or improving behaviors that may lead back to poor or impulsive behaviors. The statistics can also determine if treatment is necessary for effective sobriety.

The length of Sobriety. The duration of sobriety was compared to determine any significant differences in behaviors in terms of sexual engagement regarding drug cravings. The researcher seeks to determine whether drug cravings reduce with time thus making sexual engagement less triggering for participants.

Correlation of sex and drugs: The researcher developed two ways to determine if consumers see a correlation between drug usage and sexual activities. The survey data collected through a rating system as well as through a detailed system based on comments produced by the survey participants.

Procedure

The recruitment phase included dissemination of Institutional Review Board (IRB) approved study research invitation at the LGBT Center Recovery treatment facility and on a Facebook sober support group for gay men. All recruitment materials were presented in the English language and included a brief description of the study and the contact information of the principal research investigator.

Snowball sampling was utilized. Respondents were also encouraged to recruit other participants. The ethical and legal considerations for this study delineated the completion of the informed consent process prior to access to the online survey. This process included a thorough
EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE

explanation of the nature of the study along with an explanation of the research’s potential risks and discomfort or adverse effects of the study design. The consent further included information about the respondents’ rights to decline as well as withdraw from the research, the probable consequences of declining or withdrawing from the research, limits of confidentiality and any prospective benefits of the research study.

Respondents were also informed that they will not be compensated for this study, and that participation was strictly voluntary. The consent process included the provision of the investigator’s contact information for further questions and the opportunity for the respondents to contact the researcher through email for any questions and concerns about their study participation. All respondents were asked to read and sign an informed consent document prior to obtaining access to the internet survey. Some remote respondents were able to read the consent form and complete the survey which represented agreement for voluntary participation in the research study. There was no identifying information solicited from the research respondents. The informed consent page is found in Appendix B.

Potential respondents were screened to meet four inclusionary criteria: (a) identify as Gay, Queer or Bisexual Males (b) ages between 18-65 years old, (c) reside in New York City or within the Tri-state (New Jersey and Connecticut) area around New York City, and (d) sober for at least 30 days during the survey process. The online survey was designed to filter respondents who do not meet criteria through initially presenting the potential respondents with a page that listed the four criteria. Respondents who did not endorse all four criteria were omitted from participating in the survey. Study administration was completed through the Internet via the Survey Monkey website. Instructions for completing the survey task required from the respondents were included in the beginning page of each instrument.
Research Methodology

Analysis of variance (ANOVA) was used as a method for calculations, which Laerd Statistics (2013) explains is a method with a one-way single factor experiment with k levels (k =3) that compares the means of four samples to determine if there is statically a difference. The dependent variable, in this case, is sobriety. The study will utilize a quasi-experimental design since there are no control groups but there are comparisons between dependent and independent group variables that potentially impact sobriety. See table 4

Table 4. Dependent and independent variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Research Question 1</th>
<th>Research Question 2</th>
<th>Research Question 3</th>
<th>Research Question 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug preference</td>
<td>Sexually Active Vs Sexually abstinent</td>
<td>Treatment attendance</td>
<td>Length of sobriety</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Research Question 1</th>
<th>Research Question 2</th>
<th>Research Question 3</th>
<th>Research Question 4</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Statistical Test Used</th>
<th>Research Question 1</th>
<th>Research Question 2</th>
<th>Research Question 3</th>
<th>Research Question 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analysis of variance (ANOVA) 2. Tukey post-hoc analysis</td>
<td>Analysis of variance (ANOVA)</td>
<td>Analysis of variance (ANOVA)</td>
<td>1. Analysis of variance (ANOVA) 2. Tukey post-hoc analysis</td>
<td></td>
</tr>
</tbody>
</table>


Research Goals

Through the data from Survey Monkey, the researcher focused on the following goals:

1. **Drug Preference**: To determine which drug is preferred by gay men.

2. **Sex in recovery**: To categorize specific factors that impact the duration of sobriety such as early sexual engagement, treatment involvement and perception of a linkage between drugs and sex.

3. **Support systems**: To identify barriers faced by men who have sex with men in terms of support systems, social isolation, and social acceptance.

4. **Correlation of sex and drugs**: To clarify the relationship sex may have with drugs usage and if having sex would naturally trigger a need to use drugs.

**CHAPTER 4: ANALYSIS AND PRESENTATION OF RESULTS**

The following statistical analyses were conducted using IBM SPSS statistic version 19.0 for windows software package. The alpha level of statistical significance was set at 0.05 for all the data analyzed. The research question focused on the analyses of 4 categories: Drug preferences, sexual perspective, treatment attendance, and length of sobriety.

**Research Question #1**

The first question that this study attempted to answer was: "Among gay men who used drugs as part of the sex act, was there a particular substance that was more likely to be used in conjunction with the sexual act?" It was hypothesized that there is a relationship between the measured levels of ranked preference of different drugs of abuse (heroin, poppers, cocaine,
crack, alcohol, crystal amphetamine) among gay men. There is a relationship that indicates a preference does exist for gay men in recovery.

The research question was answered using the following hypothesis: \( H_a: \) There is a statistically significant difference between the measured levels of ranked preferences of different drugs of abuse (heroin, poppers, cocaine, crack, alcohol, crystal amphetamine) among gay men. The alternative hypothesis was accepted since there was a significant variance. The results indicated that gay men in recovery who previously used drugs as part of their sex act demonstrated a preference for crystal methamphetamine over heroin, poppers, cocaine, crack, and alcohol, in conjunction with their sexual activities.

In order to test this hypothesis, the following tests were undertaken: A one-way ANOVA to examine the statistical significance between the different types of drugs previously used by the participants (heroin, poppers, crack, alcohol, and crystal methamphetamine) with the dependent variable of drug preference ranking. As stated in Chapter III, Methodology, participants were instructed to provide a rating of 1 to 6 (in which 1 is the lowest ranked drug preference for the member and 6 being the highest ranked drug preference). The null hypothesis is rejected, and the alternative hypothesis is accepted.

The ANOVA comparison for different drugs consumed by survey participants consisted of dependent variables ranked according to usage preferences (heroin, poppers, cocaine, crack, alcohol, crystal methamphetamine) verified a significant effect, \( F(5, 248) = p = .001. \)

Tukey post-hoc analysis showed that participants ranked heroin \((M = 2.16, SD = 1.94)\) lower in comparison to crystal methamphetamine \((M = 3.67, SD = 1.47)\) \(p = .001.\) Additional Tukey post-hoc analysis showed that participants ranked heroin \((M = 2.16, SD = 1.94)\) lower when compared to poppers \((M = 4.20, SD = 2.15)\) \(p = .003.\) heroin \((M = 2.16, SD = 1.94)\) lower
when compared to alcohol \( (M = 3.44, SD = 1.61) \) \( p = .012 \), and crack \( (M = 3.05, SD = 1.53) \) lower when compared to crystal methamphetamine \( (M = 3.67, SD = 1.47) \) \( p = .037 \). An MANOVA analysis was conducted to test whether participants who were sexually active versus the participants who were sexually abstinent would score differently on 5 dependent variables using a rating system for the following areas: 1) sexual satisfaction while using drugs 2) sex influencing sobriety; 3) difficulty levels of having sex while sober; 4) rating on comfort levels of Sex while sober and; 5) correlation between sex and drugs in order to answer the research question, “Do sober gay men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?” Overall, there was significant multivariate effect, Wilks’ Lambda \( = 0.707, F \( (8, 48) \) = 2.489, \( p = .024 \). See table 4.

### Table 4

<table>
<thead>
<tr>
<th>Drug Preference</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>30</td>
<td>2.1667</td>
<td>1.94906</td>
<td>.35585</td>
<td>1.4389 to 2.8945</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poppers</td>
<td>40</td>
<td>3.6750</td>
<td>1.47435</td>
<td>.23312</td>
<td>3.2035 to 4.1465</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td>46</td>
<td>3.1957</td>
<td>1.31012</td>
<td>.19317</td>
<td>2.8066 to 3.5847</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crack</td>
<td>34</td>
<td>3.0588</td>
<td>1.53625</td>
<td>.26347</td>
<td>2.5228 to 3.5948</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>56</td>
<td>3.4464</td>
<td>1.61718</td>
<td>.21610</td>
<td>3.0133 to 3.8795</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crystal Methamphetamine</td>
<td>43</td>
<td>4.2093</td>
<td>2.15537</td>
<td>.32869</td>
<td>3.5460 to 4.8726</td>
<td>1.00</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>249</td>
<td>3.3614</td>
<td>1.76374</td>
<td>.11177</td>
<td>3.1413 to 3.5816</td>
<td>1.00</td>
<td>6.00</td>
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<td></td>
</tr>
<tr>
<td>Model Fixed Effects</td>
<td></td>
<td>1.68388</td>
<td>.10671</td>
<td>.31512</td>
<td>3.5716</td>
<td>3.3175</td>
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<td></td>
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<tr>
<td>Model Random Effects</td>
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<td>.26257</td>
<td>2.6865</td>
<td>4.0364</td>
<td></td>
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<td></td>
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</tbody>
</table>
The individual ANOVAs were conducted to examine the statistical significance of the 2 levels of the independent variable which consisted of gay sober men who were sexually active versus gay sober men who were sexually abstinent with each of the dependent variables (see Table 5). An MANOVA analysis was conducted to test whether participants who were sexually active versus participants who were sexually abstinent in order to answer the research question, “Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?” The analysis would show that members of each group of participants would score differently on 5 dependent variables. The variables consisted of using a rating system for the following areas:

1) Sexual satisfaction while using drugs
2) Sex influencing sobriety
3) Difficulty levels of having sex while sober
4) Rating on comfort levels of Sex while sober
5) Correlation between sex and drugs.

Overall, there was significant multivariate effect, Wilks’ Lambda = 0.707, $F \ (8, \ 48) = 2.489, p = .024$.

Table 5.
ANOVA results in participants ranking of drug preference
Research Question #2

The second question that this study attempted to answer was: "Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?"

The hypotheses that were formulated to answer this research question included: Ho2: There is no statistically significant difference between the gay sober men who were sexually active versus gay sober men who were sexually abstinent when it came to the dependent variables associated with the ratings on “sexual satisfaction while using drugs.” The data revealed no significant differences.

In order to test this hypothesis, the following tests were undertaken: a first ANOVA comparison between gay sober men who were sexually active versus gay sober men who were sexually abstinent on the dependent variable of “sexual satisfaction while using drugs” revealed no significant effect, $F(1, 55) = 0.341, p=0.561$. Participants who were currently sexually active

<table>
<thead>
<tr>
<th>Independent Variable levels</th>
<th>Average Ranking</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>2.16</td>
<td>1.94</td>
</tr>
<tr>
<td>Poppers</td>
<td>3.67</td>
<td>1.47</td>
</tr>
<tr>
<td>Cocaine</td>
<td>3.19</td>
<td>1.31</td>
</tr>
<tr>
<td>Crack</td>
<td>3.05</td>
<td>1.53</td>
</tr>
<tr>
<td>Alcohol</td>
<td>3.44</td>
<td>1.61</td>
</tr>
<tr>
<td>Crystal Methamphetamine</td>
<td>4.20</td>
<td>2.15</td>
</tr>
</tbody>
</table>
rated having “sexual satisfaction while using drugs” \((M = 3.69, SD = 2.2)\) equally to those participants who were not currently sexually active \((M = 4.04, SD = 2.2)\). The data on these results can serve as a baseline on attitudes shared by both sexually active and sexually abstinent individuals who are currently sober. Both groups are able to share some input based on their past experience of sexual engagement while under the influence of drugs. This data is useful because it permits the writer to establish a baseline regarding levels of sexual satisfaction prior to sobriety. The null hypothesis was accepted, and the alternative rejected.

The dependent variables associated with the ratings related to "sex influencing sobriety" were rated related to the hypotheses formulated to answer this research question. Ho: There is no statistically significant difference between the gay sober men who were currently sexually active versus gay sober men who were sexually abstinent when it came to the dependent variables associated with the ratings on “sex influencing sobriety.”

In order to assess this hypothesis, the following tests were undertaken: a second ANOVA comparison between participants who currently are sexually active versus the participants who were sexually abstinent on the dependent variable of rating “sex influencing sobriety” revealed no significant effect, \(F (1, 55)=0.538, p =0.466\). Participants who were currently sexually active rated “sex influencing sobriety” \((M = 5.11, SD = 1.8)\) equally when compared to participants who were sexually abstinent \((M = 5.47, SD = 1.8)\). It is clear that both groups shared similar views regarding "sex influencing sobriety" which provides this writer with data that supports the premise that "sex influences sobriety." The null hypothesis was accepted, and the alternate hypothesis was rejected. Therefore is no significant effect which indicated that participants who were sexually active were equal to participants who were not.
Further analysis of hypothesis formulated to answer the second research question: "Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?" are discussed below:

The hypotheses that were formulated to answer this research question included: Ha: There is a relationship between gay sober men who were sexually active versus gay sober men who were sexually abstinent when it came to the dependent variables associated with the ratings on “difficulty levels of having sex while sober.” Sober men who were sexually abstinent reported having a difficult time with the concept of having sex while sober. There is a significant effect which indicated sober men struggled and were unable to engage in satisfying sexual activities.

To assess this hypothesis, the following were undertaken: A third ANOVA comparison between participants who were sexually active versus the participants who were sexually abstinent on the dependent variable of rating “difficulty levels of having sex while sober” revealed a significant effect, $F(1, 55) =6.94, p =0.011$. Participants who were sexually active rated the “difficulty levels of having sex while sober” ($M = 2.75, SD = 2.10$) lower compared to participants who were not sexually active ($M = 4.33, SD = 2.3$). The Null hypothesis was rejected and the alternative accepted.

The next hypothesis formulated to answer this research question included: Ha: There is a relationship between the gay sober men who were currently sexually active versus gay sober men who were sexually abstinent when it came to the dependent variables associated with the ratings on “sex being comfortable while sober.” The participants who were sexually active rated higher compared to those who were sexually abstinent which indicates that individual who engaged in sex while sober were not necessarily comfortable doing so. There is a significant effect on the perception that varies for sober men when it comes to sex in sobriety, indicative of the fact that
sex can be an uncomfortable activity for gay sober men.

The following tests were undertaken in order to test this hypothesis: A fourth ANOVA comparison between participants who were sexually active versus participants who were sexually abstinent on the dependent variable of rating “Sex being comfortable while sober” revealed a significant effect, $F(1, 55) = 4.012, p = 0.050$. Participants who were sexually active rated higher comfort levels to engaging in sex without drugs ($M = 4.19, SD = .855$) when compared to participants who were not sexually active ($M = 3.71, SD = .902$). The null hypothesis was rejected, and the alternative hypothesis was accepted.

Another hypothesis formulated to answer this research question included: $H_0$: There is no statistically significant difference between the gay sober men who were currently sexually active versus gay sober men who were sexually abstinent when it came to the dependent variables associated with the ratings of a “correlation between sex and drugs.” Data revealed no significant differences which indicate that both groups of consumers based on the dependent variable

To examine the hypothesis, the following tests were undertaken: A fifth ANOVA compared participants who are sexually active versus participants who were sexually abstinent on the dependent variable of rating the “correlation between sex and drugs” revealed no significant effect, $F(1, 55) = 1.14, p = 0.289$. Participants who were currently sexually active rated on the “correlation between the sex and drugs” ($M = 3.94, SD = 1.26$) equally when compared to participants who were not sexually active ($M = 4.28, SD = .956$). The findings demonstrate that men who have sex with men believe there is a correlation between sex and drug usage. The null hypothesis was accepted, and the alternate hypothesis was rejected.
Research Question #3

The writer developed this question in order to determine if sobriety in treatment developed different sexual attitudes as a result of being in treatment. To obtain data for the hypothesis for Research Question #3, which will be discussed below, a separate MANOVA was conducted to test whether participants actively attending treatment as opposed to participants who were not in treatment would score differently on the dependent variables related to sexual attitudes and behaviors. The dependent variable measured consisted of the following:

1) Rating on having sexual satisfaction while using drugs;
2) Rating sexual satisfaction while sober;
3) Rating on the influence of sex on sobriety;
4) Rating of difficulty levels of having sex while sober;
5) Rating of sex as exciting while sober;
6) Rating on comfort levels of having sex while sober
7) Rating of the correlation relationship between sex and drugs,

The above variables were used to answer the following question: "is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus sober gay men who do not go to drug treatment programs?" Overall, there was no statistically significant multivariate effect according to Wilks’ Lambda = 0.814, $F(7, 48) = 0.173$, $p = 1.55$.

The individual ANOVAs were conducted to examine the statistical significance of the 2 levels of the independent variables of attending and not attending treatment with each of the following dependent variables rating on 1) sexual satisfaction while using drugs; 2) sexual satisfaction while sober; 3) sex influencing sobriety; 4) rating of difficulty levels of having sex while sober; 5) rating of sex as exciting while sober; 6) rating on comfort levels of having sex while sober, and; 7) rating of the correlation relationship between sex and drugs. (See Table 6).

The third question that this study attempted to answer was: "Is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus gay sober men who did not attend drug treatment programs?"

The hypothesis formulated to answer this research question included: Ho: There is no statistically significant difference between gay sober men attending drug treatment compared to gay sober men not in drug treatment with dependent variables associated with ratings on: “sexual satisfaction while using drugs.” The findings indicated no significant differences between the two groups of sober men attending treatment versus not attending treatment.

In order to test this hypothesis, the following tests were undertaken: a first ANOVA comparison between participants who were attending drug treatment sessions versus the members who were not attending drug treatment sessions on the dependent variable of rating on “sexual satisfaction while using drugs” revealed a no significant effect, $F(1,54) = 0.004$, $p = .950$. 
Participants who were currently attending drug treatment rated “having sexual satisfaction while using drugs” \((M = 3.80, SD = 2.15)\) equally when compared to participants not currently attending drug treatment \((M = 3.80, SD = 2.16)\). The null hypothesis is accepted.

Another hypothesis devised to answer this research question also included: Ho: No statistically significant difference between gay sober men attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “sexual satisfaction while sober.” The data indicates that treatment does not impede sexual satisfaction for individuals in treatment when compared to individuals, not in treatment based on the equality evidenced in the results.

To assess this hypothesis, the following tests were undertaken: a second ANOVA comparison between participants who were attending drug treatment sessions versus the members who were not attending drug treatment sessions on the dependent variable of rating on having “sexual satisfaction while sober” revealed no significant effect, \(F(1,54) = 1.82, p = .182\). Participants who were attending drug treatment rated having “sexual satisfaction while sober” \((M = 4.89, SD = 1.66)\) equally when compared to participants who were not currently attending drug treatment \((M = 5.57, SD = 1.90)\). The null hypothesis is accepted.

In order to answer research question #3 another hypothesis was explored to answer this research question included: Ho: There is no statistically significant difference between gay sober men who attend drug treatment and sober gay men who do not go to drug treatment with dependent variables associated with ratings on “the influence of sex on sobriety.” The data indicated that both groups of sober men in treatment versus sober men not in treatment were equal according to the findings and identified that both individuals in treatment or not in treatment perceive that sex influences sobriety.
In order to analyze this hypothesis, the following tests were conducted: third ANOVA comparison between participants attending drug treatment versus members not attending treatment on the dependent variable of rating of "the influence of sex on sobriety" revealed no significant effect, $F(1,55) = .497, p=.484$. Participants who were currently attending drug treatment rated “the influence of sex on sobriety” $(M = 5.40, SD = 1.72)$ equally compared to participants who were not currently attending drug treatment $(M = 5.00, SD = 1.85)$. The null hypothesis was accepted.

The following hypotheses devised to answer this research question included: Ha: There is a relationship between gay sober men who attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “difficulty levels of having sex while sober.” The data indicated that individuals in treatment struggle with having sex in sobriety when compared to individuals, not attending treatment.

To investigate this hypothesis and answer this research question, a fourth ANOVA comparison between participants attending drug treatment sessions versus the members not attending drug treatment sessions on the dependent variable rating the “difficulty levels of having sex while sober” was conducted and revealed a significant effect, $F(1,54) = 5.208, p = .026$. Participants who were attending treatment rated having higher levels of “difficulty in having sex while sober” $(M = 3.89, SD = 2.22)$ compared to participants, not in treatment $(M = 2.56, SD = 2.16)$. The null hypothesis was rejected and the alternative hypothesis accepted.

Continued examination of Research Question #3 asks: "Is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus gay sober men who do not go to drug treatment programs?" The complexity of this question continued to yield additional hypotheses and associated dependent variables.
The following hypotheses explored to answer this research question was: Ha: There was a significant relationship between gay sober men who attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “sex being exciting while sober.” The data indicated a significant difference which reflects that individuals in treatment find sex less exciting when compared to those, not in treatment, which may suggest treatment has an impact on sexual satisfaction.

In order to test this hypothesis, the following tests commenced: a fifth ANOVA comparison between participants who were attending drug treatment sessions versus the members who were not attending drug treatment on the dependent variable of rating on “sex being exciting while sober” revealed a significant effect, $F(1,54) = 9.45, p=0.003$. Participants who were attending drug treatment rated having lower levels of “sex being exciting while sober” ($M = 4.74, SD = 1.88$) in comparison to participants not currently attending drug treatment ($M = 6.21, SD = 1.25$). The null hypothesis was rejected and the alternative hypothesis accepted.

Additional hypotheses related to this question were considered to answer the question more effectively. The alternative hypothesis, Ha: theorized that there was a significant relationship between gay sober men who attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “sex being comfortable while sober.” The results revealed a significant difference between individuals in treatment compared to individuals not in treatment. The data indicated that persons in treatment are not as comfortable with sex when compared to individuals, not in treatment which implies treatment has an impact on sexual satisfaction.

In order to test this hypothesis, the following tests were conducted: a sixth ANOVA comparison between sober gay men who were attending drug treatment sessions versus sober
gay men who were not attending drug treatment sessions on the dependent variable of rating “sex being comfortable while sober” revealed a significant effect, F(1,54) = 8.900, p = .004. Participants who were currently attending drug treatment rated having lower levels of “sex being comfortable while sober” (M = 3.76, SD = .85) in comparison to consumers not currently attending drug treatment (M = 4.33, SD = .92). The null hypothesis was rejected and the alternative hypothesis accepted.

Additional null hypotheses created to answer this research question is Ho: No statistically significant difference between gay sober men attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “correlation between the sex and drug use.” The data indicates that individual in treatment believe that sex and drugs are strongly connected when compared to those, not in treatment.

A seventh ANOVA comparison was conducted in order to test this hypothesis. This ANOVA examined participants who were attending drug treatment versus members not attending treatment on the dependent variable of rating the “correlation between the sex and drug use” revealed no significant effect, F (1,54) = 2.15, p =0.148. Participants who were currently attending drug treatment rated the “strength between the sex and drug use” (M = 4.24, SD = 1.05) higher in comparison to participants not currently attending drug treatment (M = 3.80, SD = 1.22). The null hypothesis is true and accepted by both individuals in treatment and not in treatment share similar views and no significant differences were indicated.

Table 7.

ANOVA results in participants in drug treatment versus not in treatment
The fourth question that this study attempted to answer was: "Does the length of sobriety have any impact on sexual satisfaction and perceptions regarding the link between drug use and sexual pleasure?" The writer designed Research Question #4 to explore whether the length of sobriety influences sexual attitudes in terms of satisfaction and perception. The hypothesis was compared between the different periods of time in order to determine if time was an influencing factor for Research Question # 4: "Does the length of sobriety have any impact on sexual satisfaction and perceptions regarding the link between drug use and sexual pleasure?"

To obtain results the individual ANOVAs were conducted to examine the statistical significance of the different lengths of time being sober from using drugs (less 30 days, less than 90 days, less than 6 months, less than a year, more than a year) with each of the dependent variables:

1) Rating on having sexual satisfaction while using drugs;

2) Rating sexual satisfaction while sober,

3) Rating on sex being able to influence sobriety;

4) Rating of difficulty having sex while sober,
5) Rating of sex as exciting while sober;

6) Rating on comfort of having sex while sober;

7) Rating of the strength of relationship between sex and drugs

(See Table 7).

The research question was designed to determine if the length of time sober has any impact on sexual attitudes and behaviors.

The null hypotheses that were formulated to answer this research question was: \( H_0: \) There is no statistically significant difference between the measured levels in lengths of sobriety (\(< 30 \text{ days}, < 90 \text{ days}, < 6 \text{ months}, < \text{a year}, > \text{a year}\) among sober gay men on dependent variables associated with the ratings for \textit{sexual satisfaction while using drugs.}"

In order to test this hypothesis, the following tests were undertaken: a first ANOVA comparison between different lengths of time in sobriety related to drug use (at least 30 days, less than 90 days, less than 6 months, less than a year, more than a year) on the dependent variable of rating on \textit{sexual satisfaction while using drugs} revealed no significant effect, \( F (4, 61) =0.380 \quad p = .822 \). Overall, there are no statistically significant differences between the ratings on having \textit{sexual satisfaction while using drugs} among the participants who had different lengths of time being sober from using drugs (less than 30 days, less than 90 days, less than 6 months, less than a year, more than a year). The Null hypothesis is accepted, and the alternative rejected.

The next hypotheses devised to answer this research question included: \( H_0: \) There is no statistically significant difference between the measured levels in lengths of sobriety (\(< 30 \text{ days}, < 90 \text{ days}, < 6 \text{ months}, < \text{a year}, > \text{a year}\) among sober gay men on the dependent variables associated with the ratings for \textit{sexual satisfaction while sober.}"

The data does not
reveal any differences regardless how long individuals were sober when it comes to “sexual satisfaction while sober.” Therefore the ability to be sexually satisfied is not impeded by the length of sobriety.

In order to test this hypothesis, the following tests were conducted: a second ANOVA comparison examined the different periods of time being sober from using drugs the dependent variable of rating on “sexual satisfaction while sober” revealed no significant effect, $F(4, 59) = .701, p = .595$ Overall, there are no statistically significant differences between the rating “sexual satisfaction while sober” among the participants who had different lengths of time being sober from using drugs (at least 30 days, less than 90 days, less than 6 months, less than a year, more than a year). The null hypothesis is accepted, and the alternative rejected.

The next hypotheses created to answer this research question included: $H_0$: There is no statistically significant difference between the measured levels in lengths of sobriety (< 30 days, < 90 days, < 6 months, < a year, more than a year) among sober gay men on the dependent variables associated with the ratings for “the influence of sex on sobriety.” It is apparent from the data that regardless how long an individual is sober the views on “the influence of sex on sobriety” are similar.

A third ANOVA comparison explored the different lengths of time being sober from using drugs and the dependent variable of rating on “the influence of sex on sobriety” and revealed no significant effect, $F(4, 61) = .497, p=0.484$. Overall, there are no statistically significant differences between the “the influence of sex on sobriety” among the participants who had different lengths of time being sober from using drugs (at least 30 days, less than 90 days, less than 6 months, less than a year, more than a year). The null hypothesis is accepted, and the alternative is rejected.
The next alternative hypotheses created to answer this research question included: $H_a$: There was a significant relationship between the measured levels in lengths of sobriety ($< 30$ days, $< 90$ days, $< 6$ months, $< a$ year, more than a year) among sober gay men on dependent variables associated with the ratings for “difficulty levels of having sex while sober.”

A fourth ANOVA analysis tested this hypothesis and compared the independent variable, different lengths of time and the dependent variable “difficulty levels of having sex while sober.” The data revealed a significant effect, $F(4, 61) = 3.64, p = .010$. The alternate hypothesis is accepted since there was a significant difference indicated by the findings on the dependent variable “difficulty levels of having sex while sober.” The different time frames in sobriety; specifically regarding individuals with less than 30 days-60 days compared to persons with more than one year of sobriety reported a difference. The data indicates that the length of sobriety that a person has attained impacts sexual satisfaction. The null hypothesis is rejected and the alternative accepted.

The Tukey post-hoc analysis showed that participants who were sober for at least 30 days reported higher rates of “difficulty levels of having sex while sober.” ($M = 4.13, SD = 2.23$). Data indicated in comparison to those participants with more than one year's worth of sobriety ($M = 2.71, SD = 2.27$) $p=.007$ a difference.

Furthermore, a Tukey post-hoc analysis also showed that participants who were sober from using drugs for less than 6 months rated higher levels of “difficulty in having sex while sober” ($M = 5.30, SD = 1.89$) in comparison to participants who were sober for more than 1 year ($M = 2.71, SD = 2.27$) $p=.007$.

Another alternative hypothesis that was devised to answer Research Question #4 remains: $H_a$: There was a significant relationship between the measured levels in lengths of sobriety ($< 30$
days, < 90 days, < 6 months, <a year, more than a year) among sober gay men on dependent variables associated with the ratings for “sex as exciting while sober.” There are differences in the views individuals had when it came to the dependent variable “sex as exciting while sober” specifically persons with less than 30 days of sobriety when compared to individuals who maintained sobriety for more than 1 year. The findings seem to signify that the longer time an individual had in sobriety, the more enjoyable sex became. Therefore, it is indicated that the length of sobriety that individuals have attained impacts sexual satisfaction.

In order to test this hypothesis, the following tests were undertaken: a fifth ANOVA comparison explored the relationship between the independent variable “different lengths of time being sober from using drugs” and the dependent variable of rating “sex as exciting while sober” revealed a significant effect, $F(4,59) = 6.79$ $p < 0.001$. Tukey post-hoc analysis showed that participants who were sober for less than 30 days rated lower levels of excitement with sexual activity while sober ($M = 3, SD = 2.00$) when compared to participants who were abstinent from drug use for more than 1 year ($M = 5.75, SD = 1.61$), $p=.002$. The null hypothesis is rejected and the alternative accepted.

Tukey post-hoc analysis also showed that participants who were sober for less than 90 days reported lower levels of excitement with sexual activity while sober ($M = 3.10, SD = 2.07$) in comparison to participants who were sober for more than 1 year ($M = 5.75, SD = 1.61$), $p=.001$.

Yet another additional alternative hypotheses identified to answer this research question included: $H_a$: There was a significant relationship between the measured levels in lengths of sobriety (< 30 days, < 90 days, < 6 months, <a year, more than a year) among sober gay men on
dependent variables associated with the ratings for “comfort levels of sex while sober.” The data indicated a significant difference.

A sixth ANOVA comparison of the different lengths of time being sober from using drugs the dependent variable of rating “comfort levels of sex while sober” revealed a significant effect, $F(4,60) = 3.45, p=.014$ was conducted to examine this hypothesis. The null hypothesis was rejected and the alternative accepted.

Tukey post-hoc analysis showed that participants who were sober from using drugs less than 30 days rated lower levels of “comfort levels of sex while sober” ($M = 4.25, SD = 1.90$) when compared to participants who were sober from using drugs for more than 1 year ($M = 5.96, SD = 1.44$), $p=.002$. The null hypothesis was rejected and the alternative accepted.

Additional Tukey post-hoc analysis showed that participants who were sober from using drugs less than 90 days rated lower levels of “comfort levels of sex while sober” ($M = 5.57, SD = 1.39$) when compared to participants who were sober from using drugs for more than 1 year ($M = 5.96, SD = 1.44$), $p=.002$. The null hypothesis was rejected and the alternative accepted.

This question continues to demonstrate the need for further examination of additional alternative hypotheses. As such another hypothesis identified to answer this research question included: $H_a$: There was a significant relationship between the measured levels in lengths of sobriety ($< 30$ days, $< 90$ days, $< 6$ months, $< 1$ year, more than a year) among sober gay men on dependent variables associated with the ratings for the dependent variable “difficulty having sex without drugs.” The data reveals that there are different levels of difficulty in sexual engagement depending on how long a participant was in sobriety. The individuals with less than 30 days of sobriety as well as the people with less than 6 months of sobriety showed higher levels of difficulty with engaging in sober sexual activities when compared to individuals who had 1 year
of sobriety. The data indicates that length of time impacts the individual’s difficulty levels with sex.

In order to test this hypothesis, the following tests were undertaken: a seventh ANOVA comparison examined the different lengths of time sober from using drugs on the dependent variable of “difficulty having sex without drugs” revealed a significant effect, $F(4,59) = 4.99$, $p = .002$. The null hypothesis was rejected and the alternative accepted.

Tukey post-hoc analysis showed that participants who were sober for less than 30 days rated having higher levels of “difficulty having sex while sober” ($M = 4.25$, $SD = 1.90$) when compared to participants who were sober for more than 1 year ($M = 5.96$, $SD = 1.44$), $p = .002$. The null hypothesis was rejected and the alternative accepted.

Tukey post-hoc analysis showed that participants who were sober from using drugs less than 90 days rated having higher levels of “difficulty having sex without drugs” ($M = 5.57$, $SD = 1.39$) when compared to participants who were sober from using drugs for more than 1 year ($M = 5.96$, $SD = 1.44$), $p = .002$. The null hypothesis rejected and the alternative accepted.

An additional hypothesis identified to answer this research question included: $H_0$: There is no statistically significant difference between the measured levels in lengths of sobriety (< 30 days, < 90 days, < 6 months, < a year, more than a year) among sober gay men on dependent variables associated with the ratings for “correlation between sex and drugs.” According to the data the dependent variable on “correlation between sex and drugs” revealed no significance difference when compared to different time frames of sobriety with regard to less than 30 days, less than 90 less than 6 months, less than a year and more than a year. The data did not indicate any different in views among consumers when it came to their views on the relationship between
sex and drugs. In summary, all consumers regardless of the length of sobriety view sex and drugs are seen as having a synergistic relationship.

An eighth ANOVA comparison was utilized to examine this hypothesis. This ANOVA explored the different lengths of time being sober from using drugs and the dependent variable of rating on “correlation between sex and drugs” revealed no significant effect, $F(4,60) = 1.46$, $p = .225$. Overall, there are no statistically significant differences in the “correlation between sex and drugs” among the participants who had different lengths of time sobriety (less than 30 days, less than 90 days, less than 6 months, less than a year, more than a year). The null hypothesis was rejected and the alternative accepted.

Table 8.

ANOVA results in participants’ length of time being sober from using drugs

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>At least 30 days</th>
<th>Less than 60 days</th>
<th>Less than 90 days</th>
<th>Less than a year</th>
<th>More than a year</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Satisfaction while using drugs</td>
<td>1.75</td>
<td>1.57</td>
<td>1.70</td>
<td>1.00</td>
<td>1.84</td>
<td>.730</td>
<td>.574</td>
</tr>
<tr>
<td>Rate sex without drugs</td>
<td>4.50</td>
<td>5.00</td>
<td>4.80</td>
<td>5.66</td>
<td>5.44</td>
<td>.701</td>
<td>.595</td>
</tr>
<tr>
<td>Rate sex influence on sobriety</td>
<td>4.85</td>
<td>4.42</td>
<td>5.60</td>
<td>6.00</td>
<td>5.16</td>
<td>.835</td>
<td>.509</td>
</tr>
<tr>
<td>Rate Difficulty having sex without Drugs</td>
<td>4.13</td>
<td>3.00</td>
<td>5.30</td>
<td>2.33</td>
<td>2.27</td>
<td>3.64</td>
<td>.010</td>
</tr>
<tr>
<td>Rate Difficulty having sex in sobriety</td>
<td>3.00</td>
<td>5.00</td>
<td>4.10</td>
<td>3.10</td>
<td>5.17</td>
<td>6.79</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Rate Excitement of sex without drugs</td>
<td>4.25</td>
<td>5.57</td>
<td>4.10</td>
<td>5.50</td>
<td>5.34</td>
<td>3.76</td>
<td>.014</td>
</tr>
<tr>
<td>Rate comfort levels of sex without drugs</td>
<td>3.25</td>
<td>4.16</td>
<td>3.30</td>
<td>4.17</td>
<td>4.33</td>
<td>4.99</td>
<td>.002</td>
</tr>
<tr>
<td>Rate the strength between the sex and drug</td>
<td>4.13</td>
<td>4.17</td>
<td>4.70</td>
<td>4.33</td>
<td>3.77</td>
<td>1.46</td>
<td>.225</td>
</tr>
</tbody>
</table>
Men who have sex with men. During the quantitative phase, the focus of the study consisted of a number of similar variables obtained through the surveys. The material was obtained from specific questions, and an average was collected to determine what areas impacted sobriety the most. The study gathered data in areas of sexual activities and drug usage.

The consumers of the study consisted of 62 individuals, consisted of 88.62% who identified as homosexual, 6.56% who identified as bisexual and 4.92% who identified as “queer.” The total percentage of men that had sex with men was 100%. The total number of men who answered the questions regarding substance usage was 61, with one person who skipped the question. The drugs were classified into six categories. The number of men who report using either alcohol or drugs can be viewed in the chart (Figure 2) or below which also identifies the number of users for each drug category.

1. Crystal Methamphetamine consisted of 44 users (72.13%)
2. Alcohol consisted of 57 users (93.44%)
3. Cocaine consisted of 45 users (73.77%)
4. Crack consisted of 20 users (32.79%)
5. Heroin consisted of 13 users (21.31%)
6. Poppers consisted of 44 users (72.13%)

Each consumer was informed about the survey and its purpose in determining how much sexual activities may or may not play a significant role in the participation of drug usage. The survey consisted of over 37 combinations of open-ended and closed-ended questions that measured a range using strong agreement to strong disagreement rating questions as well as yes or no questions and personal commentaries. The rating scales and yes or no questions were
placed into categories that are designed to highlight similarities within group types. The remarks are useful as clarification and summaries for the overall study.

The survey measures questions that consist of specific areas of the consumer’s life and designed to explore what role sex plays when it comes to drug usage and maintaining sobriety. The survey measured areas related to the consumer’s lifestyle which consist of some of the following example questions that served as in:

1. Question #5 Are you currently sober?
2. Question #7 Rate your drug preference starting with the number #1 for your lowest and working your way to the highest number. (this question was created to answer hypothesis #1 which focused on drug of choice)
3. Question #10- How long have you been sober (this question was used to answer the hypothesis question #4 to determine if the longevity of sobriety impacts sexual activities.
4. Questions #13 how many treatment programs have you attended. Question #14 do you attend outpatient treatment. Both questions #13 and 14 focused on treatment participation.
5. Question #18 are you currently sexually active?
6. Question #20 did you ever have sex while under the influence of drugs
7. Question #24 how often do you have sex while sober?
8. Question #25 how would you rate having sex without drugs?
9. Question #26 do you think sex influences sobriety at all?
10. Question #27 do you think it is difficult to have sex without drugs? (used as a dependent variable)
11. Question #28 how difficult is having sex without drugs in sobriety? (used as a dependent variable)
12. Question #29 do you find sex just as exciting without drugs? (used as a dependent variable)
13. Question #30 how comfortable do you feel having sex without drugs? (used as a dependent variable)
14. Question #31 how strong do you think is the relationship between sex and drugs? (used as a dependent variable)
15. Question #33 do you believe that drugs make sex more enjoyable? (used as a dependent variable)

Men were asked in the study if they were sexually active or not since it provided some foundation for exploring if men rely on drugs to engage in sexual activities. Exploring men’s sexuality is significant in determining if men can have sex and remain successfully sober. Many
men admitted that they did not have sex and went on to explaining their motives behind their choices.

**Research Limitations**

Stigmatization deriving from homophobia and heterosexism have traditionally contributed to individuals resisting participation in research in environments that are not LGBTQ friendly (Hughes & Eliason, 2002). Another factor in the shortage of available research material concerns institutional biases against same sex that often prevents honest disclosure as well as qualified researchers who are unbiased in their observation (Means-Christensen, Snyder, & Negy, 2003). In this study some participants did not answer all questions; specifically, those which related to being sexually active or seeing a correlation between sex and drug usage. Though the survey was anonymous individuals were not entirely comfortable with complete disclosure.

Research on psychosexual development has been historically conducted using smaller samples of homosexual individuals compared to the larger samples available for heterosexual individuals (Rosario, Meyer-Bahlburg, Hunter, Exner, Gwadz, & Keller, 1996). Homosexual sex practices have gained attention as a factor in finding ways to prevent the spread of HIV rather than to develop an understanding of the social composition of gay lifestyle (Finneran & Stephenson, 2014). Another major limitation regarding the collection of data regarding sexual behaviors remains that much data is collected based on individuals who seek help for identified problems and does not include the primary population as a whole (Skegg, Nada-Raja, Dickson, & Paul, 2010).
This research has some limitations regarding data gathering and the cooperation of participants. Some of the following are examples of the limitations encountered:

1. Data collection - obtaining data on the topic of addiction can be difficult since the majority of research material on the effects of drugs is often concentrating on laboratory rats and their reaction to drugs.
2. Survey resistance - participants assumed the questionnaire would be lengthy and not user-friendly due to being annoying or time-consuming (Pettit, ND).
3. Online participation - Two factors influence online participation access. Some consumers do not have access to a home based computer and/or they stop using the internet to avoid temptations through online sex-oriented sites.
4. Reminder - Many participants required reminders since many often forgot or resisted the process due to negative assumptions related to long or overwhelming survey designs.
5. Willing participants – Obtaining willing participants can be tricky, especially if it requires addicts to disclose details that reveal uncomfortable issues such as the actual duration of their sobriety or the many problems related to their history of drug usage. Though the participation is told that the survey is anonymous, many remain unsure about the privacy of the data.
6. Dishonest disclosure – participants often worry about the truth leaking out and things that they are not ready to disclose leaking into the public arena.
7. Poor historians – Recollection of events that occur during drug usage are often tainted with a combination of black-outs, distorted perception influenced by drug intake and selective memory recall. During episodes of drug usage individuals seldom remember all the details of their night regardless of extreme pleasures or displeasures experienced. Asking for a precise account of events that include drugs are often unreliable as a result of memory loss that may occur while using.

**Challenges in gathering data.**

Encouraging participation from addicts or recovering addicts in a survey that do not provide monetary incentives can be difficult since desires to disclose status or drug history can be a painful, shameful and at times a triggering experience. Case in point, one of the participants verbally informed the researcher that he avoided responding to some questions about certain drugs since the thought of ever using them scared him deeply. Also, many individuals who entered treatment use a variety of narcotics but only seek help for drugs that they couldn’t effectively manage with regard to functioning. Aside from personal and emotional desires not to
engage in the survey many individuals have limited internet access since many participants avoid the internet since their drug usage involved connecting to sex sites. The study revealed that over 42% meet men online for sex which typically included drugs. Apart from apprehension, many individuals often forgot to complete the survey and reminders were issued as well as follow-up queries to determine completion and status. In reality, no single best method for gathering data (Seymour, 1996) exists and all studies will experience unique problems that will require different techniques to overcome said challenges.

Studies by Evans, Wiggins, Bolding, and Elford (2008) reported that out of a survey of 4,271 men, only 2,752 (64%) of gay men who took the survey completed it. The reasons why they did not complete the survey was unclear, however, the writer of this study believes several factors such as:

1. Little motivation to disclose
2. Lack of financial incentive
3. Limited internet access
4. Using the Internet can be triggering since it is often used for gaining access to sex sites
5. Fear of judgment due to a long history of being poorly judged due to sexual orientation.
6. Some addicts make poor historians due to drugs impairing memory retention due to various levels of blacking out as well as false euphoric recall influenced by the production of Oxytocin which impacts learning and memory
7. Fear of euphoric remembrance triggered by some drug related questions

In this study, the writer faced challenges when trying to motivate participants to remember to log onto the internet to take the survey. Many individuals received emails which they read on their smartphones but were unable to access due to internet restrictions. Many consumers deliberately blocked internet access on the phones to avoid temptation associated pairing of potential risk factors with regard to relapse or a lack of perceived safety. The numbers of participants increased as the writer sent out reminder emails. The writer sent out friendly
update status to engage the participants who typically motivated them to complete the survey as well as encourage others to participate.

Another challenge encountered by the writer related to the number of consumers who attended the program during the summer months remained low in numbers. Thus recruitment number was a barrier due to lowered summer attendance. Many consumers were away for the summer, and participation in the treatment facility was low. Therefore, Facebook became the second option for obtaining data. With Facebook social media, the writer posted the link with a brief description on her page of the research and also sent the link to the various individuals whom the writer knew were members of the LGBTQ community.

**Benefits of using surveys.** Collecting data via anonymous participation provides information that may not be revealed through face to face interviews. Regarding the issues related to the disclosure of drug use and sexual practices of gay men, understanding the exposure to vulnerabilities related to delicate areas they are already struggling with when it comes to being integrated and accepted into hetero-normative society can impact service delivery, future research and treatment outcomes. As such, surveys such as this study provide a level of safety and anonymity. Though there might be limits in obtaining willing participants, the benefits outweigh the limitations since it helps identifies issues that are not often acknowledged (Parson, Kowalezyk, Botsko, Tomassilli, & Golub, 2013). An example of data identified that had been overlooked remains unexplored such as the usage of other stimulants in addition to crystal methamphetamine. Treatment often focuses on the individual's "drug of choice" and minimizes the use of other drugs as being problematic, such as poppers, cocaine, and alcohol. As such, many individuals who identify as "recovering" addicts or alcoholics move usage from one substance to another, minimizing the impact of the substitution and maintaining or reinforcing
addictive behaviors based on the secondary substance classified internally as "not my drug of choice."

The survey provided not only vital data for the research question, but it also provided some insight into the dynamics of drug usage and sex, as well as disclosed the usage of other drugs aside from methamphetamine at surprisingly high levels. The survey identified not only the relationship of sex drug usage but also the minimization of drug use across the board.

Survey. The survey was available on Survey Monkey and has provided a collection not only of data but comments that have provided insight into the reality of being a gay male who tries to remain sober while being sexual. Some examples of the material gathered are the following:

The study consisted of gay men with a broad range of sober time living in NYC and within its parameters. The information below indicates the total number of gay, bisexual and transgender males who participate as well as their reported sober time frames.

The reports consist of the following categories:

1. Total number of men and sexual orientation
2. Number of men who have sex with men
3. Time frame of sobriety
4. Most popular drugs consumed
5. Total of men sexually active
6. Number of men who are sexually abstinent
7. Comments about why sex is avoided
8. Men in treatment
9. Overall insight on drugs and sex.

The total number of men. The sexual orientation of the men who took the survey varied but all men had had sex with men and had strong sexual preferences for men. The total number of men who had taken the survey was 62 and the sexual orientation consisted of the following:

- Gay: 54 men – 88%
- Bisexual – 4 men - 6.56%
- queer – 3 (transgender men) – 4%

**Sexually abstinent.** Not everyone answered question 19 which ask for comments on sexual abstinence. Out of 62 individuals, only 24 individuals responded to the questions with personal comments. The 24 individuals reported being sexually inactive and provided reasons for abstinence which consisted of a variety of factors demonstrated in Figure 1:

![Figure 1. Question 19: If you are not sexually active explain why?](image_url)
Thirty-eight percent (38%) of the men are not sexually active. A few men admitted that sex was a trigger for drug usage. The following numbered comments derive from the different consumers who provided comments to the question. Each response was numbered according to the consumer who responded:

# 2 - “For me right now at this point in my recovery to be sexually active would mean picking up…”

#7 - “HIV-related stigma.”

#9 – “Risk for relapsing with substances.”

#14 – “Trauma around sexual activity.”

# 15 – “Too Fat.”

#22 – “Sex is associated with drug usage.”

# 24 – “I feel sex is a trigger, and I wish to feel more love for myself. I tend to be not present and compulsive.”

The comments on sex and drug usage clearly identify the struggle between sex and drugs in recovery. Out of 62 men who took the survey, 52 answered question #36 which asked the participants to explain their views on the impact the combination of sex and drugs have on their ability to remain sober. The answers vary, but each demonstrates some struggle or concern regarding the capacity to stay sober for many participants. The comments are illustrated in the following chart.
### Exploring the Impact of Crystal Methamphetamine

Q36 Briefly explain your views on the impact the combination of sex and drugs have on your ability to remain sober

<table>
<thead>
<tr>
<th>#</th>
<th>Responses</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I only used drugs to have sex. If there was no sex involved... I wouldn't get high</td>
<td>9/25/2015 3:48 PM</td>
</tr>
<tr>
<td>2</td>
<td>I personally don't have these issues.</td>
<td>9/10/2015 5:29 AM</td>
</tr>
<tr>
<td>3</td>
<td>At this point in early sobriety it would be problematic to have sex and remain sober. As much as I want to.</td>
<td>9/12/2015 5:58 PM</td>
</tr>
<tr>
<td>4</td>
<td>Loneliness is a trigger... but I'm beginning to feel more connected in meetings</td>
<td>8/30/2015 11:25 PM</td>
</tr>
<tr>
<td>5</td>
<td>For me they went together like peanut butter and jelly. When I was doing drugs, I was having sex.</td>
<td>8/28/2015 12:57 PM</td>
</tr>
<tr>
<td>6</td>
<td>I don't think it has a impact I view them as two separate areas.</td>
<td>8/28/2015 12:48 PM</td>
</tr>
<tr>
<td>7</td>
<td>I am not having sex because I'm not ready. I see a lot of guys go out when they do.</td>
<td>8/27/2015 9:52 PM</td>
</tr>
<tr>
<td>8</td>
<td>I definitely, must avoid any kind of sexual apps. This apps are so related with my using</td>
<td>8/27/2015 11:36 AM</td>
</tr>
<tr>
<td>9</td>
<td>I have to keep myself safe... as in people places and things. It is very easy to rationalize old behavior that doesn't serve me today</td>
<td>8/26/2015 4:42 PM</td>
</tr>
<tr>
<td>10</td>
<td>I haven never really been addicted to a drug or alcohol. I messed around with Pot, and mushrooms, but never to the extent I couldn't live without it.</td>
<td>8/25/2015 1:01 PM</td>
</tr>
<tr>
<td>11</td>
<td>Prevented me from learning intimacy</td>
<td>8/25/2015 10:57 AM</td>
</tr>
<tr>
<td>12</td>
<td>As our AA Lifeline says, and I paraphrase it: Sex is a God given GIFT, not to be abused, nor loathed. As I see it Alcohol is the problem; Sex is a natural human need/desire; most of our defects of character are human nature desires, tweaked up to excess. Obsessation &amp; Compulsion, selfishness and self-centered behavior; these are the malady's, not sex; least we start to demonize sex as the culprit and not spiritual bankruptcy!</td>
<td>8/23/2015 12:56 PM</td>
</tr>
<tr>
<td>13</td>
<td>Positive self esteem promoted by sobriety improves sexual health</td>
<td>8/23/2015 9:20 AM</td>
</tr>
<tr>
<td>14</td>
<td>Not an issue for me.</td>
<td>8/22/2015 8:44 PM</td>
</tr>
<tr>
<td>15</td>
<td>I get upset when there is no intimacy or second date when I hook-up with a guy through apps. It has triggered me to relapse. Monetary/financial issues also affected my mood and I relapsed for the first time, but shame for engaging in compulsive sex also led me closer to my relapse.</td>
<td>8/22/2015 4:51 PM</td>
</tr>
<tr>
<td>16</td>
<td>I've done it before I know sober sex is possible and enjoyable</td>
<td>8/18/2015 2:54 PM</td>
</tr>
<tr>
<td>17</td>
<td>In my case, I was lucky to have met someone that was also on recovery and we have been together since. In a more monogamous and sober way.</td>
<td>8/6/2015 10:43 AM</td>
</tr>
<tr>
<td>18</td>
<td>Sex and drugs have gone hand-in-hand for years, so breaking the connection is difficult.</td>
<td>8/5/2015 11:06 PM</td>
</tr>
<tr>
<td>19</td>
<td>Had no sex 4 months sober 4 months</td>
<td>8/5/2015 1:36 PM</td>
</tr>
<tr>
<td>20</td>
<td>Sex is a gateway to drugs.</td>
<td>8/4/2015 11:17 PM</td>
</tr>
<tr>
<td>21</td>
<td>Sex and drugs do play hand in hand with drugs but I have always had control of sober sex. It truly depends on the human being and there addiction strength</td>
<td>8/4/2015 11:12 PM</td>
</tr>
<tr>
<td>22</td>
<td>In early stages of sobriety sex can lead to relapse. But I believe it is important to slowly practice &quot;healthy&quot; sexual connections in order to transition back to &quot;fully recovered&quot; sex life and having successfully and drug free intimate relationships.</td>
<td>8/4/2015 10:06 PM</td>
</tr>
<tr>
<td>23</td>
<td>It was very role playing... at moment...</td>
<td>8/4/2015 9:54 PM</td>
</tr>
<tr>
<td>24</td>
<td>The relaxation aspect of using can make it tempting to use drugs during sex.</td>
<td>8/4/2015 7:06 PM</td>
</tr>
<tr>
<td>25</td>
<td>towards the end sex had lost pleasure even when high, sober sex is more uncomfortable</td>
<td>8/4/2015 3:19 PM</td>
</tr>
</tbody>
</table>
Figure 2. Question 36: Briefly explain your views on the impact the combination of sex and drugs have on your ability to remain sober.
CHAPTER 5: CONCLUSION

Interpretation of the Findings

The study provides information that attempted to demonstrate whether or not sexual activities influence sobriety on any level. The results of the data enabled the writer to determine if indeed sex plays a role in diminishing sober behaviors and increasing the consumers’ chances of relapse. The data presented may be useful in the design of therapeutic programs through service delivery, developing effective treatment plans, improving current treatment modalities and providing consumers with insights that may assist in behavioral changes.

The results demonstrated that drug usage provides more than just recreational activities but also serve as a bridge between sexual and social engagements to participate in a variety of sexual situations. The research focused on drugs usage and its impact on the lifestyle of gay males. There were 4 hypothesis developed and explored within the research. The study reviewed specific categories used as dependent variables as it pertains to gay men involve the following areas:

1. Sexual satisfaction while using drugs
2. The influence of sex on sobriety."
3. Difficulty in having sex while sober.
4. Sex without using drugs
5. Sex as Exciting without using drugs
6. Comfort of having sex without drugs
7. The strength of the relationship between sex and drugs.

The different variables disclosed various confirmations and contradictions. Several ANOVAs were calculated to determine what variables had any significance regarding the role
sex and its influence on sobriety. Each ANOVA indicated some results were significant, and some were not significant. A total of 1 to 8 ANOVAs were conducted for the following research questions:

**Research Question #1:**

The first research question that the study focused on is: *“Among gay men who used drugs as part of the sex act was there a particular substance that was more likely to be used in conjunction with the sexual act?”*

Research Question #1 was developed using the following hypothesis: \( H_a \): There is a relationship between the measured levels of ranked preferences of different drugs of abuse (heroin, poppers, cocaine, crack, alcohol, crystal amphetamine) among gay men. The results of the data indicated that gay men in recovery who previously used drugs as part of their sex act demonstrated a preference for crystal methamphetamine over heroin, poppers, cocaine, crack, and alcohol, in conjunction with their sexual activities.

The data in the survey indicated that gay men have a stronger preference for crystal methamphetamine over other drugs. The Center for Disease Control (2007) verifies that studies indicate a higher prevalence of methamphetamine use among white gay men over other groups of individuals. The null hypothesis was rejected, and the alternative hypothesis was accepted.

According to data gathered by Chemsex stats meth usage increases self-confidence, facilitates sexual desire, enhances intimacy levels and sexual connection. Drugs, specifically crystal meth, serve to remove cognitive barriers such as low self-esteem, doubts about attractiveness and general issues regarding life as a gay man (Bourne, Reid, Hickson, Rueda, & Weatherburn, 2014).
Drug preferences are often the result of lifestyle choices, availability and brain chemistry. Hirschman (2010) reports that the brain becomes addicted to drugs as a consequence of the brain increasing dopamine levels as an outcome of using. "If a drug produces increases in dopamine levels in the limbic areas of the brain, then your brain is going to understand that a signal as something that is very reinforcing, and will learn it very rapidly," according to Volkow (2010). The ability of the brain to learn quickly and reinforce behaviors can make it easier or harder to learn or "unlearn" old patterns.

In summary, it is clear that there is a significant difference in drug preferences among gay men who use drugs. The significance revealed by the data indicates that gay men prefer crystal meth among all drugs analyzed the data collected. There is no surprise that crystal meth is the preferred drug amongst gay men since it does increase dopamine production which reinforces the constant need to both continue and increase drug usage (Hirschman, 2010).

**Research Question # 2**

"*Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?*"

Research Question # 2 was answered using the following hypothesis: H₀: There is no relationship between sobriety and perceptions of the impact of sexual activity on the maintenance of sobriety for gay sober men who are sexually active or sexually abstinent individuals on dependent variables associated with the ratings of “*sexual satisfaction while using drugs.*” The null hypothesis is accepted.

The data implies that drug usage may be motivated by a need to improve sexual activities or merely a social element of the gay lifestyle. There are two options to review, is there or isn’t there a significant difference in sexual activities prior and after drug usages? The answers vary
depending on the variables selected because different variables represent diverse conditions that impact sexual activities which create the possibility for a collection of hypotheses to exist.

Additionally, to answer this research question, the following hypothesis was developed:

\[ H_0: \text{There is no relationship between gay sober men who are sexually active versus gay sober men who sexually abstinent individuals on dependent variables associated with the ratings on “sexual satisfaction while using drugs.”} \]

The null hypothesis is accepted.

According to the survey, data participants reported no difference in sexual satisfaction while using drugs, which may serve to dispute if drugs were the original motivator for "hooking up." The sexual action alone is not necessarily the reward received but the opportunity to obtain drugs. Several comments made by consumers in the survey indicated that sex can be the "tradeoff" for drugs rather than the primary goal of connecting with a partner or person of sexual interest. Previous studies suggest that "trading sex for drugs” has been associated with high-risk behaviors which include unsafe sex, multiple sex partners, potentially dangerous partners and unprotected sex (Patterson, Semple, Strathdee, & Zians, 2011).

Furthermore, the following hypothesis was developed \( H_0: \) There is no relationship between gay sober men who are sexually active versus gay sober men who remain sexually abstinent on dependent variables associated with the ratings of “the influence of sex on sobriety.”

Both groups share the same and equal results regarding “the ability for sex to influence sobriety” related to Research Question # 2:"Do gay sober men believe that they are unable to engage in satisfying sexual activity while maintaining sobriety?"

The results clearly demonstrate that both sexually active and sexually abstinent individuals believed that sex can influence sobriety. This finding allows the writer to recognize
the linkage between sex and drugs impacting gay sober men as a whole. The null hypothesis is accepted.

Research question (# 2) is answered further addressing the following hypothesis: Hₐ:
There is a relationship between gay men who were sexually active versus gay sober men who are sexually abstinent on dependent variables associated with the ratings of “difficulty levels of having sex while sober.” Sober men who were sexually abstinent reported having a difficult time with the concept of having sex while sober. The data indicated that consumers who engaged in sober sex rated lower on the variable of “difficulty levels of having sex while sober” compared to those who remained sexually abstinent. The data may suggest that sexually abstinent individuals reveal the difficulty of separating sex from drug usage. This interpretation is based on comments made by survey participants who stated that they believed that engaging in sex would create problems. For example, Participant #3 said – “At this point in sobriety it would be problematic to have sex and remain sober…”

Another hypothesis was developed using a Third ANOVA comparison between participants who are sexually active versus the participants who were sexually abstinent on the dependent variable in the rating of ”difficulty levels of having sex while sober.” Participants who were currently sexually active rated the difficulty having sex without drugs as lower when compared to participants who were not currently sexually active. Therefore, avoidance of sexual activity would be the logical response. The null hypothesis was rejected, and the alternative hypothesis was accepted.

Research Question #2 required further analysis to answer this question more succinctly. Thus, in response to this research question, the following hypothesis was developed: Hₐ: There is a relationship between gay sober men who were sexually active versus gay sober men who are
sexually abstinent on dependent variables associated with the rating levels of “*sex being comfortable while sober.*” The participants who were sexually active rated as higher compared to those who were sexually abstinent. This indicates that individuals who engaged in sex while sober were not necessarily comfortable with the process or the action. There is a significant effect on the perception that varies for sober men when it comes to sex in sobriety. Sex can be an uncomfortable activity for gay sober men. Individuals who have sex while in sobriety have a higher score of difficulty which can indicate these people face ongoing challenges in the natural process of meeting sexual partners who may or may not be sober as well as struggling with avoiding the temptation to use substances or revert to old patterns associated with sexual activities. The null hypothesis is rejected, and the alternative hypothesis is accepted.

The writer also developed the following hypothesis to answer Research Question #2: H₀: There is no relationship between gay sober men who were sexually active versus gay sober men who are sexually abstinent on dependent variables associated with the ratings of the “*correlation between sex and drugs.*” According to the calculations, it was revealed that there were no significant differences between groups of participants based on the dependent variable “*correlation between sex and drugs.*” The findings demonstrate that men who have sex with men believe there is a correlation between sex and drug usage. Thus, both sexually active and sexually abstinent men think there is a relationship between sex and drugs. This demonstrates that this matter is worthy of attention in treatment. The null hypothesis is accepted.

**Research Question #3**

"*Is there a difference in measures of sexual satisfaction between gay sober men who attended drug treatment versus gay sober men who do not go to drug treatment programs?*" This
question was developed to focus on measuring differences between recovering addicts in treatment versus recovering addicts who are not in treatment. An ANOVA was conducted using eight dependent variables that were compared and reviewed to determine if the different variables produced hypothesis are that can be accepted or rejected for each.

This question was explored using eight different ANOVA which is listed as follows:

1. ANOVA #1 “Sexual satisfaction while using drugs,”
2. ANOVA #2 “Sexual satisfaction without using drugs,”
3. ANOVA #3 “Sex being able to influence sobriety,”
4. ANOVA #4 “difficulty having sex while sober,”
5. ANOVA #5 “Sex without using drugs,”
6. ANOVA #6 “Sex as exciting without using drugs,”
7. ANOVA #7 “Comfort levels of having sex without drugs,”
8. ANOVA #8 “the strength of the relationship between sex and drugs.”

Does treatment have any impact? Upon reviewing the ANOVA results, it is possible to see that there are some areas which are not significant, equal and significant. ANOVA for number 1, 3 and 8 indicated different hypothesis from numbers 4, 5, 6 and 7.

In reviewing the ANOVA for 1, 2, 3, and 8, we can conclude that there is no significant effect demonstrated by the data collected which indicates that the null hypothesis is true and accepted. However, it is important to recognize that in ANOVA #8 reported a higher rating between the strength between sex and drug use. The ANOVAs numbered 4, 5, 6 and 7 stated that there is a significant effect on treatment, which leads to the null hypothesis being rejected and the alternative accepted.
Research Question # 3 was answered using, the following hypothesis $H_0$: No relationship between gay sober men attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings of “sexual satisfaction while using drugs.” The results indicated equal results when measuring the dependent variable of “sexual satisfaction while using drugs” for individuals in treatment compared to persons who were in not in treatment. It can be summarized that treatment does not impact the view of sexual satisfaction for individuals either in treatment or out of treatment. The null hypothesis is accepted.

The research question was further answered using the following hypothesis: $H_0$: No relationship between gay sober men attend drug treatment and those who do not go to treatment on dependent variables associated with ratings of “sexual satisfaction while sober.” The null hypothesis is true and was accepted because the results demonstrated that there was no significant difference. The data indicates that treatment does not impede sexual satisfaction for individuals in treatment when compared to individuals not in treatment since the results were equal. ANOVA #2 compared consumers attending treatment at the time of the survey who rated “sexual satisfaction while sober” equally compared to consumers’ not currently attending drug treatment. In summary, the results indicated there was no significant difference. The null hypothesis is correct and shows no significant effect between groups on consumers. The null hypothesis is accepted.

The research question was answered through examination of the following hypothesis: $H_0$: No relationship between gay sober men attend drug treatment and gay sober men who do not go to drug treatment on dependent variables associated with ratings on “the ability for sex to influence sobriety.” The ANOVA # 3 which measured the variable of “the ability for sex to influence sobriety” indicated there was no significant effect for individuals in treatment. Also,
the ANOVA # 3 showed equal results of “the ability for sex to influence sobriety” for individuals using drugs when compared to participants not currently attending drug treatment.

The results in this section may be debatable, however because several consumers revealed in their comments that they abstained from sex given that they felt it influenced sobriety. The outcomes of the results may be affected because all participants who answered this question are not sexually active. As such, it remains impossible for some individuals to contribute objectively to this question. Out of 62 participants, only 38 admitted to being sexually active. The null hypothesis is accepted.

Additional answers to the research question were obtained using the following hypothesis: Hₐ: There is a relationship between gay sober men who attend drug treatment and gay sober men not attending drug treatment on dependent variables associated with ratings of “difficulty levels of having sex while sober.” The alternative hypothesis was accepted in view of the fact that data indicated a significant difference in the variable “difficulty in having sex while sober.” The ANOVA # 4 measured the variable “difficulty levels of having sex while sober” demonstrated a comparison between participants in treatment versus the participants not in treatment sessions on the dependent variable rating of “difficulty levels of having sex while sober” revealed a significant effect. Participants attending drug treatment rated having “sexual satisfaction while using drugs” higher when compared to participants who were not currently sexually active. The null hypothesis is rejected and the alternative accepted.

Further consideration to answering the research question was provided using the following hypothesis: Hₐ: There is a relationship between gay sober men who attend drug treatment and gay sober men who do not go to drug treatment based upon dependent variables associated with ratings of “sex being exciting while sober.” The alternative hypothesis is
EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE

accepted based on the fact that data indicated a significant difference. This means that individuals in treatment find sex less exciting when compared to those who are not in treatment. This may suggest that treatment has an impact on sexual satisfaction. The ANOVA #5 measured the variable of “sex being exciting while sober.” A comparison was analyzed between consumers attending treatment versus those not attending treatment using the dependent variable of rating “sex being exciting while sober.” Consumers who were currently attending drug treatment rated as lower when compared to participants who were not currently sexually active. This demonstrated a significant difference. The null hypothesis is rejected and the alternative hypothesis accepted.

Continued exploration of the research question addressed the following hypothesis: Hₐ: There is a relationship between gay sober men in treatment and gay sober men who do not attend drug treatment on dependent variables associated with ratings of “sex being comfortable while sober.” The ANOVA # 6 compared consumers currently attending treatment at the time of the survey process as opposed to consumers who were not currently engaged in treatment based on the dependent variable of “Sex being comfortable while sober.” The results revealed a significant effect. Consumers who were attending treatment rated as experiencing sexual satisfaction while using drugs as lower when compared to participants who were not currently attending drug treatment. The data indicates that treatment has an impact on the views on sexual satisfaction. The results demonstrating significance suggest that treatment has a direct bearing on how gay men in recovery change their beliefs regarding their views on sexual activities. The alternative was accepted.

Further applications of the research question yielded results based on the following hypothesis: Hₒ: No relationship between gay sober men attend drug treatment and gay sober men
EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE

who do not go to drug treatment on dependent variables associated with ratings of the
“correlation between the sex and drug use.” The ANOVA #7 compared groups and indicated
there was no significant effect on rating the “correlation between the sex and drug use” for
individuals in treatment. The data suggests that individuals both in treatment and not in treatment
believed that sex and drugs are strongly connected when compared to those who are not in
treatment. The null hypothesis is accepted.

Research question#4

"Does the length of sobriety have any impact on sexual satisfaction and perceptions
regarding the link between drug use and sexual pleasure?" This question focused on the
emphases of the concept that there is a difference based on the length of sobriety when it comes
to sexual satisfaction. The ratings of sexual satisfaction were measured through a sequence of
time to determine if there is a hypothesis that is significant or not.

Individual ANOVAs were conducted to examine the statistical meaning of the different
lengths of time being sober from using drugs (at least 30 days, less than 90 days, less than six
months, less than a year, more than a year) with different dependent variables.

The data does not reveal any differences regardless how long individuals were sober
when it comes to “sexual satisfaction while sober.” Therefore, it is concluded that the length of
sobriety does not impede the ability to be sexually satisfied. The null hypothesis is accepted
since there is no significant difference between the different periods of drug sobriety (less than
30 days, less than 90 days, less than six months, less than a year, more than a year). The null
hypothesis was accepted.
The research question was answered using the following hypothesis: $H_a$: There is a relationship between the measured levels in lengths of sobriety (< 30 days, < 90 days, < 6 months, < a year, more than a year). The dependent variables associated with the ratings for the dependent variable “difficulty having sex without drugs” revealed a significant effect. The null hypothesis is rejected and the alternative hypothesis accepted.

**Discussion**

The study identified numerous key themes in the struggle for gay men to remain sober. Though the emphasis of the survey was focused on sexual activities in relation to drug usage, there are some of the numerous factors that also contribute to sobriety which consist of the following:

1. **The Internet**: the internet creates an avenue for sexual engagement that facilitates both risky sex behaviors and foster drug using partnership (McKirnan, Houston & Tolou-Shams 2007). Ogilivie et al. 2008, state that according to a questionnaire MSM are more likely to use the internet to find sexual partners. Due to social isolation, the internet has created a vast opportunity for meeting other gay men without the difficulty related to spending money in bars or leaving the safety net of one’s home. According to the data gathered the internet rates highest as a source for meeting other men. Based on the fact that the internet serves both as a sexual and drug trigger, many survey participants took their time in "going online" because they disconnected their internet service to avoid temptation which may result in potential relapse.
**Figure 3. Question 35:** Where do you meet men for sex?

2. **The brain:** the overproduction of dopamine that releases oxytocin creates not only intensified pleasure through drug usage but designs a relationship between sex and drugs that can be difficult to separate (Marazziti & Dell’Osso, 2008).

3. **Cultural sensitivity limitation:** Treatment facilities tend to treat larger numbers of heterosexual addicts with treatment modalities based on heterosexual realities which often means the awareness of LGBTQ issues is limited or influenced by heteronormative values. Many treatment facilities utilized evidence-based studies that deal with the sexual
risk behaviors and HIV-related issues that impact gay men; not matters related to identity factors as struggling individuals. The lack of cultural sensitivity means that issues such as homosexual lifestyles and sexual struggles might not be effectively addressed during therapy.

4. **Sexual Identity:** Drug usage has the propensity to reduce internalized homophobic feelings through the decrease of a sense of shame and inhibition. The state of relaxation and the ability to engage sexually provides gay men who struggle with acceptance of their sexual identity. Many treatment programs minimize the importance of sex in the lifestyles of addicts and typically discourage sexual encounters in early sobriety.

5. **Sexual Negotiation skills:** Many participants struggle to obtain meeting their sexual needs due to internalized homophobia or lack of strong negotiation skills. Individuals do not always know how to say no or ask for certain sexual actions of preference as opposed to those which result in displeasure regardless of sexual identity. Giving one's self-permission to say "no" or to request certain sexual positions can remain to be a foreign concept to some individuals. An example of limited sexual negotiation skills can be reviewed in the following case vignette:

   Consumer entered treatment frustrated with his partner and their sex life. Consumer admits that his drug usage is entirely related to engaging in sex parties where men are willingly sleeping with each other but typically do while under the influence. Consumer reports that his partner is not sexual and their lack of having sex has made him seek sexual satisfaction outside the relationship. At one point he thought his need for sexual gratification was an indication he was a sex addict when in fact his need for sexual gratification is healthy but just being ignored. Consumer stated that when they first became involved, they were very sexually involved with each other. After being together for some time, he came to realize that the reason his partner was more sexually active at the beginning of their relationship was due to drug usage. Under the influence of drugs, he was able to relax sexually, and his inhibitions were lowered. The consumer is not necessarily a sex addict but rather an individual who lacks the skills to negotiate sexual needs
within his relationship. In reality, the consumer is sexually undernourished at this point making him seek sexual comfort wherever it’s available.

6. **Untreated PSTD and unreported suffering:** Many consumers reported being raped while under the influence but feel too shameful to report the sexual abuse incidents. Some consumers admit that while they were “under the influence” of drugs other individuals often took advantage of their state of unconsciousness and at times would proceed to have unconsented anal sex as well as allow other men to take turns gang raping them. In the survey respondent #22 states:

   “It’s hard to enjoy sex due to trauma.” consumers have reported that while “under the influence of drugs” many have been “roofied” (spiking drinks with drugs) with GHB dropped into their drinks and then while unconscious injected with crystal meth. The combination of both crystal meth and GHB often lead to a physically pleasurable experience due to the sexual enhancement qualities of both drugs. The enjoyment also created tremendous confusion due to the double intense feelings of shame and guilt. The guilt arrived as a result of physically enjoying themselves and shame because they had been raped.

7. **Gay related stressors** are unique within the LGBT community since they are linked to life events that directly impact the community such as social rejection, discrimination, living a dual lifestyle as well as reluctantly confirming to social norms that are invalidating.

8. **Cultural Rejection:** homosexuality is not socially acceptable in many cultures globally making research data difficult to obtain, as well as sober support and overall treatment of addiction.

Though drug usage has often been linked to a combination of unresolved trauma and struggles to cope with individual lifestyle choices, the study suggests that the correlation between social acceptance and feeling connected is an essential factor. Regarding lifestyles of gay men: it’s not peer pressure but rather peer validation that reinforces the need to use to avoid isolation and social rejection from hetero-normative lifestyle requirements. The social neuropeptides that
become activated create connections to permit individuals to feel acceptance as well as mood enhancement to provide the illusion of happiness as opposed to depression.

**Research Goals Obtained**

Through the Survey Monkey, other resources as well as consumer interaction the researcher was able to achieve the following goals.

A. **Drug Preference:** The study indicated that men who have sex with men preferred crystal methamphetamine. Though many men are reporting using other drugs, crystal meth became the drug preferred among men who have sex with men.

B. **There are specific factors that impact the duration of sobriety:** Sex influences the length of sobriety because men who have sex with men often struggle to find sober sexual partners as well enjoyable social activities that are drug-free.

C. **Identified specific barriers faced by men who have sex with men:** There are a number of obstacles aside from sober sexual partnerships that influence the duration of recovery such as:

   - Many lacked the skills to develop sober friendships, specifically when it came to recognizing differences between friendly gestures and flirtations.
   - The ability to engage in new social circles that are gay-friendly and sober.
   - Personal self-perceptions regarding body image.
   - Developing new male friendships that are not sexualized.
   - Learning to trust the intentions of others who are in sobriety. Many men have experienced betrayal and abuse when actively engaged in drugs.
D. Clarified the relationship sex may have with drugs: Many men have never engaged in sober sex and are insecure about the mechanics of sexual engagement while drug-free. The study revealed men believed there is a correlation between sex and drug usage.

**Recommendations**

This research demonstrated the prevalence of crystal meth usage in the lives of gay men regarding drug preferences, sexual enhancement, and socialization. For many individuals, this is a difficult drug to cease using because (Shoptaw and Reback 2007) crystal meth induces euphoria, brightens the mood, eliminates fatigue, decreases appetite (leading to weight loss providing gay men with desired body type), focuses attention and heightens libido.

Upon obtaining data through information gathered with survey questionnaires the writer became aware that the study had limitations. The kind of questions answered provided only a range of satisfactory answers leaving biological and chemical influences unanswered based on the fact that neither biological or chemical testing was not conducted or ethically possible. The writer realized that the material obtained through peer-reviewed journal articles and studies resulted in some questions which remained unanswered based on queries raised in the survey.

The study clearly demonstrated that many gay men preferred crystal meth as opposed to other drugs for a variety of reasons that included (but are not limited to) the enhancement of sexual performance and enjoyment, as well as general overall heightened moods and increase in general energy levels. Also, many participants stated that they believed that drugs and sex were paired and separating the two remained to be one of their goals in maintaining sobriety.
Effective treatment of addiction involves understanding how to develop and implement different modalities of treatment which address specific triggers that impact recovery. Regarding addicted gay males: it is important to explore the relationship between sexual activities and drug usage. The problems associated with comorbidity which should be studied are:

1. Environmental and chemical based social cues – examine the role of brain chemistry regarding environmentally and chemically based social indications.
2. Chemical imbalances produced by dopamine changes – how do dopamine levels amplify addictive behaviors?
3. A combination or social cues and dopamine changes – why are social signals a focus connected to dopamine changes?
4. Social cues and social support limitations – what role do social cues and supports play with sobriety?

In addition to the findings identified by the researcher, it is essential to recognize that clinicians and scholars may have internalized bias regarding homosexuality and subsequent issues that impact the community. Thus, this may result in an avoidance of necessary research or the development of program policies that address the ongoing needs of the LGBTQ community.

Successful treatment of addiction requires changes in organizational structures of treatment facilities because treatment protocols are far too often developed and conducted based on the needs of the heterosexual community as the norm and therefore promoting heterosexist bias as well as heteronormative values. This remains culturally biased and insensitive to LGBTQ individuals and requires attention and revision to demonstrate evidence-based best practices approach to comprehensive treatment.

Many treatment facilities focus on the criminal or medical elements of addiction because numerous individuals are mandated into treatment through the legal, medical and mental health systems or based on EAP referrals or employment modifications placing one's employment status in jeopardy without compliance. Treatment often focuses on “rehabilitation of the criminal
or wounded individual” and does not necessarily address the cultural or unique needs of the person outside the typical mandates. There are significant amounts of data designed specifically to work with addicts referred to treatment through the judicial system that influences treatment designs.

Studies have permitted treatment programs to develop systems to treat addiction with higher levels of success (Bahr, Masters, & Taylor 2012). However, many treatment facilities fail special needs population and lack cultural awareness which diminishes overall effectiveness for treatment outcomes.

**Limitations and areas for future research:**

The study has some constraints and regions left unrequited that warrant further investigation. The examination of the relationship between drug usage and sexuality provided the audience with an opportunity to identify several barriers faced by gay male addicts. The findings demonstrate why many treatment interventions and approaches must be developed and designed specifically to target the needs of marginalized and diverse populations to promote strong evidence-based best practices methods and outcomes. The material presented provided answers to the questions postulated by the writer. Some areas that should benefit from further research are the same but not limited to the following:

- Analysis of consumer’s comments: it would be useful to develop a coding system that may analyze specific standard features associated with the comments stated by the consumers.
- To examine further the sexual preferences within gay couples and their impact on the relationship dynamic.
• To explore the role of sexual passivity and sexual dominance as a comparison and contrast of LGBTQ relationships.

• To investigate the association between trauma, substance abuse, and self-medication.

• To identify an appropriate "waiting period" for gay sober men regarding becoming sexually active with other gay men.

• To determine the length of treatment programs, participation and aftercare for individuals in recovery with in-place safety nets for relapse prevention.

In summary, the data revealed that more studies warrant consideration regarding different contributing factors to relapse and prolong successful long-term healthy lifestyles that promote sobriety. Also, the study revealed unique factors that require strong review in the development of successful treatment interventions and effective plans for consumers who are actively attending treatment. Effective treatment for consumers entering or maintaining recovery requires developing treatment goals that identify and address specific obstacles such as sexual lifestyles, social and mental health needs. Regarding gay male addicts: exploring the relationship between sexual activities and drug usage is essential respective to usage as indicated by the study as there remains a significantly strong correlation between sex and drugs.

**Conclusion**

The study was effective in defining the drug preference of gay men in NYC as that of crystal methamphetamine. Statistically, the study revealed that when given a choice gay men will use crystal meth when engaging in sexual activities. The study also indicated that gay men need to address specific issues that are pertinent to their lifestyles which are often overlooked and
clinically not adequately appropriated in treatment programs or facilities because the majority of programs follow heteronormative evidence-based treatment modalities. Historically, social studies on gay lifestyle focused heavily on drug usage and high-risk behaviors due to HIV research and minimized lifestyle issues. Studies focused on risky sexual behaviors as a result of HIV, which contributed to the development of models that reinforced certain stereotypes. (Carrillo & Fontdevila 2011).

The study provided readers with data that addresses the role of sexuality and sexual behavior regarding the lifestyles of gay men in recovery. The data can provide substance abuse treatment program and system developers with evidence that sexuality and specific sexual behaviors need to be safe and efficiently addressed regarding behavioral patterns that remain outside the realm of HIV-related issues. The study identifies a strong need for more research regarding sexuality and specifically addressing sexual behaviors and their impact on life choices for gay men as well as the development of culturally competent evidence-based treatment modalities.

This study also creates a different argument for future research respective to examining alcoholism, addiction, drug preference and trauma for heterosexual women as well as women in the LGBTQ community as a comparative basis for analysis. The focus of future research specific to gender and sexuality would be appropriate to determine similarities and differences based on the findings of this specific study which focused on exploring the impact of crystal methamphetamine usage and sexual activities with regard to gay men in recovery as well as future areas of focus with regard to gay men in recovery and sexuality. A corresponding or
EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE

separate study which examines the similarities or differences between LGBTQ females and heterosexual females would examine factors such as but not limited to:

- the substance of choice,
- motivation for usage: cessation of usage and/or recovery,
- impact on sexuality,
- Shame based association and/or impact of trauma.

The study should also address challenges related to both gender and sexual orientation, barriers to recovery, the effectiveness of treatment modalities and delivery systems as well as evidence-based best practice treatment interventions which emphasize strengths-based resiliency recovery outcomes.
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APPENDIX A

APPROVAL LETTER

Approval Letter

Institutional Review Board
For the Protection of Human Subjects

Date of letter: July 16, 2015

Principal Investigator: __Rosa Castro________________

Title of Dissertation: ___”Exploring the impact crystal meth usage and sexual activities have on gay men in recovery”_____

Student ID#: __427107________Date _July 16, 2015___

Your application to IRB to collect data for your research has been reviewed, and it appears to meet the requirements for protection of human subjects. Based on this, the TUW Institutional Review Board has determined to approve your application.

This approval is valid for one year from the date of this letter. In the case of any need for modification, complete the modification form and submit to IRB for review.

Sincerely,
IRB Committee

Godwin Igein, Ph.D., Chair

Godwin.Igein@TUW.Edu

Adriana Dominguez, JD, Member

Tim Legg, Ph.D., Member
INFORMED CONSENT FORM

Participation in a Research Study

Institutional Review Board
Touro University Worldwide

Title of Dissertation
Exploring the impact
Crystal methamphetamine usage and sexual activities have on gay men In Recovery
INVESTIGATOR: Rosa Castro, MHC, CASAC
You are invited to participate in a research study conducted by Rosa Castro, MHC, CASAC.

The purpose of this study will be to compare the social relationship between drug usage and sexual activities and how it impacts long term sobriety. The focus will be to determine what
key factors create the strong bond between sex and drugs. The primary objective is to explore if neurotransmitters activate during sex and drug usage and are responsible cravings alone or if the combination of socially normative roles is equally responsible.

Your participation will involve taking an online survey that will review over several questions. The study will measure issues which consisted of general areas and rated for degree of the agreement due to what role does sex play regarding significant impact or insignificant when it comes to sobriety. The survey consisted of questions that measured areas related to the client’s lifestyle. There will also be opportunities to add comments on certain sections.

Risks and discomforts

There are no known risks associated with this research. The process of gathering data will take place in a private manner and may be completed in the comfort of your home using your computer or any public internet café that has Wi-Fi that allows for login into the survey monkey. The information gathered will be anonymously, and a login number will be assigned that maintains the identity concealed

Potential benefits
There are no known benefits to you that would result from your participation in this research. This research may help us to understand the relationship that sexual engagements play in maintaining sobriety.

Protection of confidentiality

Data collection during the interview will be kept confidential. We will do everything we can to protect your privacy. Your identity will not be publicized in any publication resulting from this study.

Voluntary participation

Your involvement in this research study is voluntary. You may choose not to partake in the study; you may rescind your consent at any time. You will not be penalized in any way should you decide to remove yourself or cease participant in the study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact (Rosa Castro, MHC, CASAC 646-515-1505) at Touro University Worldwide. If you
have any questions or concerns about your rights as a research participant, please contact the Touro University Worldwide Institutional Review Board at 818-874-4125.

Consent

As a participant, I have read this consent form, understand the information contained in it and have been given the opportunity to ask questions. I agree to the terms. I at this moment, give my consent to participate in this study.

Participant’s name __________________________

Participant’s signature: _______________________ Date: _____________

Principal Investigator’s signature __________________________

A copy of this consent form should be provided.
APPENDIX C

RESEARCH SURVEY

1. Do you live in New York City
   - yes
   - no

2. What age group do you belong to?
   - 19-24
   - 24-29
   - 29-35
   - 35-45
   - 45-55
   - 55-60+

3. Do you have sex with other men?
   - yes
   - no

4. How do you identify yourself sexually
   - heterosexual
   - homosexual
   - bisexual
   - queer

5. Are you currently sober?
   - yes
   - no

6. Select the drugs you have used throughout the years
   - crystal methamphetamine
   - alcohol
   - cocaine
   - crack
   - heroin
   - poppers
   Other (please specify)
7. Rate your drug of preference starting with the number 1 for lowest and working your way to the highest number

- heroin
- poppers
- cocaine
- crack
- alcohol
- crystal methamphetamine

8. In the last 30 days have you experienced any of the following. Select the ones that apply.
- depression
- anxious
- restlessness
- insomnia
EXPLORING THE IMPACT OF CRYSTAL METHAMPHETAMINE

☐ unmotivated
☐ confusion
☐ irritable
☐ sexually frustrated
☐ loneliness
☐ hopelessness
☐ Other (please specify)

9. Are you taking any prescribed mood stabilizers?
   ☐ yes
   ☐ no
   Indicate what medication and for what

10. How long have you been sober?
   ☐ more than a year
   ☐ less than a year
   ☐ less than 9 months
   ☐ less than 6 months
   ☐ less than 90 days
   ☐ less than 30 days
   ☐ a few days
   ☐ Other (please specify)

11. How often did you do drugs when you were active?
   ☐ a few times a year
   ☐ once or twice a month
   ☐ once a week
   ☐ 2-3 times a week
   ☐ daily
   ☐ Other (please specify)

12. In the last 30 days do you feel your drug cravings have lessened since you entered recovery
13. How many treatment programs have you attended
☐ first time in treatment
☐ more than one prior treatment
☐ more than 2 treatment facilities
Other (please specify)

14. Do you attend outpatient treatment
☐ yes ☐ no

15. How many times a week do you attend outpatient treatment
☐ once a week
☐ at least twice a week
☐ a few times a month
☐ no longer attending
☐ Other (please specify)

16. do you attend 12 step meetings
☐ daily meetings
☐ 2-3 times a week
☐ rarely
☐ sporadically
☐ no
☐ Other (please specify)

17. Have you ever relapsed?
☐ yes
☐ no

18. Are you currently sexually active
19. If you are not sexually active explain why?

20. Did you ever have sex while under the influence of drugs or alcohol
   - yes
   - no
   - Other (please specify)

21. How often did you have sex while using drugs or alcohol?
   - every time
   - once in a while
   - never
   - Other (please specify)

22. How would you rate your last sexual experience while on drugs?

23. Have you ever had sex without using drugs or alcohol
   - yes
   - can't recall
   - no
   - Other (please specify)

24. How often do you have sex while sober?
   - often
   - rarely
   - seldom
25. How would you rate having sex without drugs?

<table>
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<th>slightly unpleasurable</th>
<th>unpleasurable</th>
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<th>extremely pleasurable</th>
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26. Do you think sex influences sobriety at all?

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<th>disagree</th>
<th>neither agree nor nor disagree</th>
<th>agree</th>
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27. Do you think it is difficult to have sex without using drugs?

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<th>strongly disagree</th>
<th>slightly disagree</th>
<th>disagree</th>
<th>neither agree nor nor disagree</th>
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28. How difficult is having sex without drugs in sobriety?

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29. Do you find sex just as exciting without drugs

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<th>strongly disagree</th>
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<th>neither agree nor nor disagree</th>
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<th>strongly agree</th>
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Other (please specify): _

30. How comfortable do you feel having sex without drugs?
### Exploring the Impact of Crystal Methamphetamine

#### Question 31
**How strong do you think is the relationship between sex and drugs?**

- Extremely uncomfortable
- Very uncomfortable
- Uncomfortable
- Slightly comfortable
- Very comfortable
- Extremely comfortable

#### Question 32
**Do you feel sexier while on drugs?**
- Yes
- Not really
- Makes no difference

#### Question 33
**Do you believe that drugs make sex more enjoyable?**
- Yes
- No
- Sometimes
- Other (please specify)

#### Question 34
**Do you have trouble meeting sober men?**
- Yes
- Sometimes
- No
- Other (please specify)

#### Question 35
**Where do you meet men for sex?**
- Local bars
- Parties
- Through friends
- Public places (parks, beach)
36. Are you currently taking any prescribed mood stabilizers

37. Briefly explain your views on the impact the combination of sex and drugs have on your ability to remain sober

38. Do you believe that having sex in the early stages of sobriety safe or dangerous? Please explain