

Examining Earlier Sexual Debut Among Men Who Have Sex with Men (MSM) in Kazakhstan at
Elevated Risk of HIV

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Abstract

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As rates of HIV transmission have accelerated in Kazakhstan over the past ten years, gay, bisexual, and other men who have sex with men (MSM) in Kazakhstan have experienced a disproportionate burden of the HIV epidemic, including a seven-fold increase in HIV prevalence. Earlier age of first sexual activity (i.e., earlier sexual debut) has been associated with long-term health trajectories among MSM at risk of HIV, however, no previous research has examined associations between earlier sexual debut and HIV-related risk factors among MSM in Kazakhstan. This dissertation tests hypotheses examining whether earlier sexual debut is associated with the following factors associated with HIV infection during adulthood among MSM in Kazakhstan: substance use, exchange sex, and experiences of anti-gay violence. Study data were obtained through a NIDA-funded clinical trial of a behavioral intervention seeking to increase the engagement of MSM who use substances in Kazakhstan in the HIV care continuum. Findings indicate that earlier sexual debut is significantly associated with increased risk of substance use, exchange sex behaviors, and experiences of anti-gay victimization among MSM in Kazakhstan. Future research should examine the contexts of MSM's sexual debut, including whether this experience was consensual or involved other forms of adverse childhood events. Policy recommendations include increased access to sexual and gender expansive-inclusive comprehensive sexual education, and anti-discrimination policies. Clinical considerations include trauma-informed HIV prevention resources for MSM that recognizes that individuals

seeking care may have complex, intersecting, and marginalized life histories, including experiences of violence across the life course.

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Chapter 0: Introduction

0.0 Study Rationale

Over the past ten years, the overall global decrease in HIV incidence has contrasted with the rapidly rising rates in Kazakhstan, particularly among gay, bisexual, and other men who have sex with men (MSM) (ECOM, 2018). HIV incidence among MSM in Kazakhstan has increased seven-fold since 2009, and the current HIV prevalence rate among this population is estimated to be between 10-20% (Berry et al., 2012; ECOM, 2018; Paine et al., 2021; Wu et al., 2020). Despite MSM's disproportionate burden of HIV infection, limited research has sought to examine how sexual development during childhood and adolescence among this population are connected to long-term HIV-risk factors and experiences of violence over the life course.

Age of sexual onset—or age of sexual debut—has been noted as a particularly significant event within a person's sexual development due to its association with sexual risk and negative health outcomes, such as unwanted pregnancy and sexually transmitted diseases (Moore & Rosenthal, 2006). Earlier age of sexual debut relative to one's peers has frequently been found to be associated with long-term negative health outcomes, including HIV-risk and victimization, among both heterosexual and sexual and gender expansive individuals (SGE) such as MSM (Lindberg et al., 2019; Lowry et al., 2017; Outlaw et al., 2011; Sprecher et al., 2019). Previous research has found correlations between earlier age of sexual debut and subsequent HIV risk factors, such as substance use and exchange sex, and experiences of victimization among MSM in other global contexts; however limited research exists among MSM in Kazakhstan (Lowry et al., 2017; Outlaw et al., 2011; Tomori et al., 2016).

Given the aforementioned gaps in the scientific knowledge base, the overarching purpose of this dissertation is to examine age of sexual debut among MSM in Kazakhstan. Specifically,

this three-paper dissertation tests hypotheses that earlier sexual debut will be associated with substance use (Paper 1), exchange sex (Paper 2), and anti-gay victimization (Paper 3) among adult MSM in Kazakhstan. The developmental *life course theory* provides a theoretical framework to prompt a scientific inquiry into how the timing of notable life transitions, such as age of sexual debut, are related to other subsequent life events and long-term health outcomes (Elder Jr., 1998).

0.1 Earlier Sexual Debut, HIV Risk Factors, and Violence

For many young people, sexual debut marks the beginning of important sexual-decision making behaviors that may result in life-long repercussions. Earlier timing of sexual debut relative to one's peers, often before 16 years of age, has been frequently linked to long-term negative outcomes, including experiences of violence and HIV risk factors. Although there is limited research examining long-term health implications of earlier sexual debut among MSM in Kazakhstan, there are other relevant studies and published work that illustrate connections between earlier sexual debut and subsequent health trajectories, including substance use, exchange sex, and victimization.

Earlier Sexual Debut & Substance Use

Earlier sexual debut has been associated with increased risk of substance use behaviors, including alcohol and tobacco use as well as the illicit use of drugs in the U.S. and internationally (Clark et al., 2020; Liu et al., 2006). Although the current research literature recognizes that young people's sexual activity should not be pathologized, the link between earlier onset of sexual activity and increased risk of substance use has been highlighted as an area of sexual health that requires further investigation (Clark et al., 2020).

Several studies in the United States and internationally have found significant associations between earlier sexual debut and substance use behaviors among young people. Earlier sexual debut has been associated with long-term substance use behaviors, as well as cooccurring interpersonal issues at home and in school. A longitudinal study of Mexican-origin youth found that earlier sexual debut was associated with increased risk of long-term trends in substance use throughout adolescence (Clark et al., 2020). A study of adolescents in eight African countries found that young people who began having sex before 15 years old were more likely to report alcohol, tobacco, and illicit drug use, as well as truancy, poor relationships with parent/guardians, a lack of friends, and experiences of physical fighting and serious injury (Peltzer, 2010). In Thailand, earlier sexual debut among boys has been associated with increased risk of tobacco use as well as having parents who did not live together (Liu et al., 2006). Among a sample of adolescents from six Caribbean countries, earlier sexual debut was associated with male gender, substance use (smoking and alcohol use), physical fighting in the past year, truancy, and a lack of attachment with parents/guardians (Peltzer & Pengpid, 2015). A systematic review of adolescent substance use and risky sexual activity found that parental monitoring and communication were protective factors for delayed substance use behaviors as well sexual debut (Ryan et al., 2015).

Fewer studies have examined sexual debut specifically among MSM, but earlier age of sexual debut has been linked to substance use behaviors among this population. Among a sample of racial/ethnic minority MSM youth living with HIV, earlier sexual debut before the age of 16 years old was found to be associated with increased risk of substance use (i.e., marijuana use), high-risk sexual behaviors, and emotional distress including a history of suicide attempts (Outlaw et al., 2011). A longitudinal study of MSM in the Netherlands found that MSM with a

higher behavioral risk score for HIV seroconversion were more likely to report an earlier sexual debut and increased frequency of substance use over time (Basten et al., 2018). A qualitative study of non-gay identified (NGI) Latino men who have sex with men and women found that those who experienced a sexual debut between 13 and 20 years of age were more likely to be recruited into sex work as teenagers by drug-involved NGI peers (Finlinson et al., 2006). A national U.S. study of sexually diverse youth found that earlier sexual debut before the age of 13 years old was associated with increased risk of substance use, sexual risk taking, violent victimization, and suicidal thoughts/attempts (Lowry et al., 2017). Altogether, similar to associations found among other populations, earlier sexual debut among MSM has been associated with substance use behaviors.

Earlier Sexual Debut & Exchange Sex

Fewer studies have examined connections between earlier sexual debut and exchange sex behaviors, particularly among SGE populations. Most of the research that has focused on exchange sex behaviors has examined risk factors among women and girls, however, some research exists among MSM.

In a study of Swedish teenagers, earlier sexual debut before the age of 14 years old was associated with increased risk of selling sex as well as having experienced physical and sexual abuse, engaging in risky sexual behaviors, substance use (i.e., tobacco, alcohol, and illicit use of drugs), as well as lying, stealing, and running away from home (Kastbom et al., 2015). Among a sample of adolescent girls in sub-Saharan Africa who had experienced forced sexual debut, some participants reported being pressured by their family to engage in commercial sex to provide food, money, and gifts (Moore et al., 2007). A study of female sex workers in Kenya found that those who had an earlier initiation into sex work were also more likely to report an earlier sexual

debut (prior to 15 years old), as well as an earlier age of first drinking alcohol (Parcesepe et al., 2016).

A study of MSM from twelve East and Southeast Asian countries found that those who had experienced an earlier anal sexarche (first anal sexual intercourse) before 18 years of age were more likely to report having sold sex for resources, as well as engaged in recreational drug use, inconsistent condom use, and having had an older anal sexarche partner (Cheung et al., 2014). MSM living with HIV, who had an earlier sexual debut before age 16, were more likely to report exchange sex behaviors as well as substance use, risky sexual behavior, and emotional distress (Outlaw et al., 2011). A qualitative study of MSM in India found that gender nonconforming boys were disproportionately sexually abused by older, trusted, men, which normalized subsequent exchange sex behaviors during childhood (Tomori et al., 2016).

Earlier Sexual Debut & Victimization

Earlier sexual debut has frequently been associated with experiences of interpersonal violence that are also related to HIV-risk behaviors, such as substance use and risky sexual behaviors (Kastbom et al., 2015; Peltzer, 2010). Among the general population, earlier sexual debut has been associated with immediate and long-term forms of victimization.

A nationally representative study of adolescents in the U.S. found that victims of violence were more likely to report an earlier age of sexual debut compared to those who had not experienced violence (Warner & Warner, 2019). Among a sample of US high school students, girls who reported an earlier sexual debut before the age of 12 years old were more likely to experience physical dating violence in the past year (Ihongbe et al., 2017). A multicountry study of adolescents aged 13-17 years old found that those who had experienced an earlier sexual debut were more likely to experience physical forms of violence; the study's authors

recommended that future research consider whether this population's first sexual intercourse was voluntary (Smith et al., 2020).

It is important to note that for some, earlier age sexual debut was a result of forced or coerced sexual experiences (Howard, 2021). Reports of sexual activity before the age of 13 years old has been flagged within the research literature as particularly concerning due to the high likelihood of childhood sexual abuse (CSA) and other experiences of violence (Lindberg et al., 2019; Wurtele & Kenny, 2011). Compared to heterosexual men, MSM disproportionately experience CSA, and history of CSA victimization has been linked to increased risk of HIV infection among MSM (Lloyd & Operario, 2012a). Sexual violence during childhood is important to highlight because it is well-documented that survivors of CSA are vulnerable to long-term negative physical and emotional health outcomes, including HIV infection (Gagnon & Hersen, 2000; Lloyd & Operario, 2012b; Tomori et al., 2016).

Beyond CSA, earlier sexual debut has been associated with other forms of violence among SGE populations. A study examining associations between earlier sexual debut and adverse childhood events found that MSM with a sexual debut prior to 15 years old were more likely to report having experienced neglect, physical/psychological abuse, sexual abuse, parental violence, and parental incarceration and psychopathology (Brown et al., 2015b). Among sexually diverse youth in the U.S., earlier sexual debut has been associated with having had forced sexual intercourse, serious considerations of suicide, attempted suicide, as well as having been bullied electronically and at school, and threatened at school (Lowry et al., 2017). A study of heterosexual and SGE young people in Colorado found that compared to cisgender heterosexual young people, SGE youth reported an earlier age of sexual debut; and that earlier age of sexual

debut was significantly associated with increased risk of suicide attempts, in-school bullying, and electronic bullying (Kattari et al., 2021).

0.2 Life Course Theory

Life course theory (LCT) was developed from the emerging field of child development research that utilized longitudinal studies of children during the Great Depression (late 1920s to early 1930s) (Elder Jr., 1998). LCT posits that significant life event transitions and their associated trajectories across the lifespan are shaped by individual level behaviors and interdependent lives that exist within the constraints of shifting cultural norms and historical events (Elder Jr., 1998; Hutchison, 2011). LCT recognizes that significant life events and transitions during human development extend from birth to death and are shaped by micro- and macro- systems synchronized across time (Hutchison, 2011). Specifically, LCT emphasizes four key principles that influence developmental trajectories over the life course: (1) historical and cultural contexts, (2) timing of life transitions, (3) linked lives (i.e., interdependent relationships), and (4) human agency (Elder Jr., 1998). Sexual debut during sensitive and rapid periods of developmental transition, such as throughout childhood and early adolescence, have been strongly associated with HIV-risk and experiences of violence spanning into adulthood. The timing of sexual debut as a transitional life event that is linked to subsequent health trajectories—such as substance use, exchange sex, and victimization—will be examined within the four main pillars of life course theory.

Historical & Cultural Contexts

Conservative sexual views, such as abstinence-only beliefs, have been associated with delayed sexual debut, however, these beliefs can come at the cost of other negative long-term health risks in the life course. Below, the complex relationships between sexually conservative

cultural attitudes around abstinence and virginity loss, sexual debut timing, and their long-term health outcomes—and associated hypotheses—will be discussed.

The Cult of Virginity. Virginity is currently understood within scientific communities as a deeply heteronormative and misogynistic patriarchal social construct; however, virginity continues to be fetishized as a form of moral purity, and virginity loss is still perceived as a transformative milestone within one’s human development (Carpenter, 2001; Valenti, 2010). First sexual intercourse holds significant power within the cult of virginity,¹ due to its perceived ability to permanently transform someone’s moral character and social value (Valenti, 2010). In Kazakhstan, sexual education is not formally part of public education due to sexually conservative abstinence-only beliefs that are culturally dominant in the region (Arystanbek, 2021; Kabatova, 2018). Although sexually conservative attitudes that tend to stress the importance of virginity and sexual abstinence before heterosexual marriage have been associated with delayed sexual debut among adolescents, these cultural norms produce their own set of health problems across the life course (Aalsma et al., 2013; Molla et al., 2008; Rostosky et al., 2003).

Sexual Conservatism, Sexual Debut, and Long-Term Health Trajectories: U.S.

Research. Previous research has found significant associations between sexually conservative attitudes and delayed age of sexual debut among young people, however, longitudinal research in the U.S. suggests that there are negative long-term health implications of abstinence-only attitudes (Izdebski et al., 2020; Paik et al., 2016; Rosenbaum, 2009; Thorpe et al., 2021).

Longitudinal research in the U.S. has found that adolescents who report having taken a virginity pledge do not differ from nonpledgers in rates of premarital sex, number or lifetime partners,

¹ The cult of virginity conflates sex with morality, often for the purposes of controlling people’s bodies (Valenti, 2010).

sexually transmitted diseases, and oral and anal sex behaviors; and compared to nonpledgers, virginity pledgers are less likely to use birth control and condoms at last sex (Rosenbaum, 2009). Other longitudinal U.S. research has found that compared to nonpledgers, virginity pledgers have a higher risk of HPV and nonmarital pregnancy (Paik et al., 2016). Abstinence-only ideologies and policies in the U.S. have also been attributed to the perpetuation of sexual shaming and homophobic attitudes in our society that disproportionately stigmatize and harm CSA survivors, women, and SGE populations (Guttmacher Institute, 2021; Santelli et al., 2017).

Sexual Conservatism, Sexual Debut, and Long-Term Health Trajectories in Kazakhstan. Limited research about sexually conservative attitudes, sexual debut, and their long-term health consequences have been conducted in Kazakhstan, however, some published literature suggests that abstinence-only cultural attitudes prevent young people from asking questions about sex due to feelings of shame, which results in subsequent HIV-risk behaviors (Kabatova, 2018). Even fewer sexual education resources exist for SGE populations in Kazakhstan due to dual homophobic and abstinence-only cultural beliefs and policies, which likely contributes to HIV disparities—particularly among MSM. It is unclear how current sexual attitudes about sexuality effect timing of sexual debut and subsequent HIV-risk among SGE populations in Kazakhstan, however, previous literature would suggest that sexually conservative attitudes would be associated with delayed sexual debut but long-term increased risk of HIV and violence among MSM.

Although sexually conservative approaches can delay timing of sexual debut, they come at the cost of harmful and stigmatizing sexual norms and subsequent long-term health risks that disproportionately effects SGE people and other populations. The sexual conservatism literature, illustrates the complexity of sexual debut, as well as possible long-term repercussions of sexual

debut timing within the life course. This dissertation will test the hypothesis that earlier sexual debut will be associated with long-term health trajectories—substance use, exchange sex, and anti-gay victimization—among MSM in Kazakhstan.

Timing of Transitions

Considerable research and discussion have focused on adolescent sexual development because many young people become sexually active during this time. Childhood sexual development is considered a more taboo topic and consequently, less research has examined the implications of sexual development prior to adolescence (Sandfort, 2001; Wurtele & Kenny, 2011). Due to the more limited understanding of childhood sexual development, there tends to be a misconception in our society that young people somehow become sexual beings overnight once they experience puberty (Wurtele & Kenny, 2011). In reality, there are many types of sexual transitions that can occur throughout the life course from infancy through adolescence. The following is a review of sexual development from infancy to adolescence, as well as potential signs of abuse that can occur during this period of time.

Childhood (Birth to 7 Years). Early in development, humans commonly seek out safe, nurturing, and loving forms of touch, body contact, and verbal communication (Mesman et al., 2019; S. Wurtele & Kenny, 2011). It is common for infants and toddlers to want to be held, snuggled, or kissed by loving caregivers (Harlow, 1973; Wurtele & Kenny, 2011). The early development of intimacy and emotional attachment that occurs between infants and caregivers is considered to be an early foundation of intimacy that will continue to develop throughout the child's life (Frayser, 1994; Wurtele & Kenny, 2011). It is common for infants to discover their own genitals within the first year of life, and toddlers may be curious about their own bodies and

may touch their own genitals as a means of self-soothing if they are afraid, tense, excited, or trying to fall asleep (Martinson, 1991; Mesman et al., 2019; Wurtele & Kenny, 2011).

During early childhood (ages 3-7 years), it is common for children to develop a curiosity about their bodies, as well as other people's bodies. Younger children may engage in various behaviors and desires such as wanting to be naked, being curious about other people's bodies, and cuddling with familiar people (Friedrich et al., 1991; Mesman et al., 2019; Sandfort, 2001; Wurtele & Berkower, 2010; Wurtele & Kenny, 2011). The majority of young children touch and explore their own genitals, sometimes using their hands or by rocking or rubbing against an object, but rarely engage in self-penetrative sexual behaviors due to initial discomfort or pain (Friedrich et al., 1991; Larsson, 2000; Wurtele & Kenny, 2011). "Sex play" (e.g., playing "doctor") is also common among children in this age group, and these behaviors are typically exploratory, infrequent, playful, and voluntary between children who are familiar with each other and developmental peers (Lamb & Coakley, 1993; Larsson, 2000; Mesman et al., 2019; Rutter, 1971; Sandnabba et al., 2003; Wurtele & Kenny, 2011).

Although there are many common sexual behaviors among younger children, there are some behaviors and signs that are concerning, and potentially signs of abuse. Among infants and toddlers, signs of abuse can include fearful or resistant behaviors from the child towards caregivers, as well as signs of irritation, inflammation, or trauma to the genitals (Wurtele & Kenny, 2011). Among older children, signs of abuse can include behaviors that mimic sexual activity among older adolescents or adults, such as tongue-kissing, oral-genital touching and forced sexual penetration of the self or others; as well as forced or coerced "sex games" between peers or with younger children (Davies et al., 2000; Gil, 1993; Heiman et al., 1998; Hornor,

2004; Johnson, 2004; Kellogg, 2010; McKee et al., 2010; Mesman et al., 2019; Okami et al., 1997; Wurtele & Berkower, 2010; Wurtele & Kenny, 2011).

Preadolescence and Early Adolescence (8-12 Years). Preadolescence is a time where many young people begin to go through the beginning stages of puberty. During this time, young people often begin to experience sexual attraction and sexual thoughts, and begin to purposely masturbate for pleasure (Haffner, 1999; Herdt & McClintock, 2000; Shibley Hyde & Jaffee, 2000; Wurtele & Kenny, 2011). During this developmental stage, young people may begin to develop an initial awareness of their sexual orientation, including same-sex sexual attraction (Mustanski et al., 2014). Tweens may have an increased curiosity in sexual behaviors and sexual content in the media, and they may begin to form short-term crushes and romantic connections with peers (Bruckner & Bearman, 2003; Wurtele & Kenny, 2011). Romantic relationships among preadolescent people may include behaviors such as hugging, kissing, and holding hands, but are less likely to include genital-touching or sexual intercourse (Bruckner & Bearman, 2003; Eaton et al., 2008; Mesman et al., 2019; Wurtele & Kenny, 2011).

Concerning behaviors that can signal abuse during early adolescence include “adult-type” sexual activities, such as intercourse, with adults, peers, or younger children (Wurtele & Kenny, 2011). Preoccupation with sex or masturbation, as well as the use of coercion, force, or bribery to engage in sexual behavior with other children are behaviors that warrant further attention, including screenings for abuse (Chaffin et al., 2002; Mesman et al., 2019; Wurtele & Kenny, 2011).

Adolescence (13-18 Years). During adolescence, young people often begin to develop a deeper sense of their sexual orientation and many young people in this age group begin to engage in partnered sexual activity, such as sexual intercourse (Hammack, 2005; Lindberg et al., 2021).

During this period of development, SGE populations may begin to initiate same-sex sexual activity, self-identify as SGE, and/or disclose their sexual orientation to others (Mustanski et al., 2014). Adolescent aged people often begin a process of learning how to navigate emotional and physical intimate relationships with others, and continued sexual curiosity (Hammack, 2005). Sexual violence, unwanted pregnancy, and HIV/STI infection, are common concerns for sexually active adolescents during this developmental period (Hammack, 2005; Irwin & Rickert, 2005). Signs of sexual abuse among adolescents can include depression, post-traumatic stress disorder symptoms, anxiety, low self-esteem, substance use, fear of adults, and a history of running away from home (Pfeiffer & Salvagni, 2005; Saywitz et al., 2000).

From infancy through adolescence people may experience numerous sexual “firsts,” beyond sexual intercourse. Although children can exhibit various types of intimate behaviors, it is uncommon for preadolescent children to engage in certain sexual behaviors, such as penetrative sexual contact, that typically begin to occur during later adolescence. Sexual behavior during childhood that mimics developmentally older sexual behaviors, are typically suspected to be a result of some type of sexual abuse and warrant further investigation. Although people are sexual beings throughout the lifespan, the timing of certain sexual behaviors throughout developmental stages of the life course can have significant implications for the long-term wellbeing of individuals. The sexual development life stage literature highlights the importance of sexual timing within the life course, and potential health implications of sexual debut timing—particularly regarding risk of sexual violence. This dissertation will assess the hypothesis that earlier sexual debut will be associated with long-term health trajectories—specifically, substance use, exchange sex, and anti-gay violence—among MSM in Kazakhstan.

Linked Lives

Young people's first sexual experiences are shaped by many interpersonal factors in life, including their relationships with family, friends, and sexual partner(s). It is well-documented that young people's interpersonal relationships can influence their sexual decision-making behaviors and feelings about initiating sexual activity, however, fewer research studies exist for SGE populations. The following is a brief review of how family, peer, and partner relationships can impact young people's experiences of sexual debut, and their long-term health implications.

Family Relationships. Familial attitudes about sex can play a significant role in young people's sexual decision-making behaviors and attitudes about having sex. Familial disapproval of premarital sex, and approval of education over marriage have been associated with delayed sexual initiation among young people (Gilliam et al., 2007; Lee et al., 2018). Research suggests that adolescents with supportive and close relationships with their parents are more likely to report a delayed sexual debut (Gilliam et al., 2007; Sieving et al., 2000). However, lack of parental monitoring can result in the child assuming that their parent disapproves, or conversely, tacitly approves of their sexual behaviors (Lee et al., 2018). Children who experience sexual abuse are more likely to be in family systems that utilize corporal punishment and contain parental negligence (Gámez-Guadix et al., 2011; Lee et al., 2018). Young MSM (YMSM) have reported learning little pertinent information about sex or relationships from their parents or family, and instead have sought sexual information from Internet pornography (Kubicek et al., 2010). Parent-child discussions of sex among YMSM tend to be described as absent, awkward, or unsupportive, however, some YMSM have reported open and positive sexual discussions with parents (Kubicek et al., 2010). Parent-child relationship quality, including communication about sexual behavior, is a known contributor to sexual debut timing, as well as long-term health implications among young people, including HIV-risk behaviors (Wight & Fullerton, 2013).

Peer Relationships. It is well-known that peer relationships can play a key role in young people's lives and can have a major influence in decision-making behaviors among this population. Young people's curiosity about engaging in sexual activity may be influenced by the exaggerated belief that everyone else is having sex, and peer "hype" around how great sex feels (Skinner et al., 2008). Some adolescents report feeling pressured by other young people to engage in sexual activity, because they place a high value on the approval and acceptance of their peers (Fleming & Davis, 2018; Skinner et al., 2008). Men are more likely to report peer related virginity stigma and perceive heterosexual sex as a way to gain social status among their male peers (Carpenter, 2002; Fleming & Davis, 2018). There is limited research available about how peer relationships impact the motivations of SGE people's first sexual experiences, however some research suggests that SGE young people are more likely to have differing opinions about how virginity is defined or valued compared their heterosexual peers, such as the possibility of multiple virginities (Carpenter, 2011). Adolescent peer relationship qualities are predictors of sexual-debut timing and long-term sexual health outcomes, including romantic life satisfaction and HIV risk behaviors (Allen et al., 2020; Bryan et al., 2013; Senteio et al., 2018).

Partner Relationships. Partner relationships can play a major role in an individual's decision, or choice, to become sexually active. Some young people report having their first sexual experiences with a partner because they felt ready or comfortable to have sex within their relationship, and because they trusted their partner or felt that sex was a "natural" progression of the relationship (Skinner et al., 2008). However, some people report having unwanted first sexual experiences, particularly at a younger age, within a relationship because a partner coerced or forced them into sexual activity (Howard, 2021; Skinner et al., 2008). Girls and younger women have reported passively engaging in coerced sexual activity with male partners because

they wanted to make their partner happy or maintain the attention or interest of older male partners (Skinner et al., 2008). More limited research about this topic exists for SGE populations, however, some research suggests that SGE people report wanting to be in same-sex sexual relationships to own their “outness,” be accepted by a sexual partner, or to be socially and culturally recognized as being in a SGE relationship (Cohen et al., 2008). The quality of intimate partner relationships during adolescence is associated with lifelong health trajectories, including risk of violence and HIV (Lundgren & Amin, 2015; Pettifor et al., 2018).

There are many interpersonal factors, such as family, peer, and partner relationships, that can influence sexual debut timing among young people, which in turn can result in long-term health consequences—including risk of HIV and violence. The interpersonal relationship literature underscores the complexity of sexual debut decision-making, and the potential long-term ramifications of earlier sexual debut timing. This dissertation will test the hypothesis that earlier sexual debut will be associated with long-term HIV-related health factors, namely substance use, exchange sex, and anti-gay victimization, among MSM in Kazakhstan.

Human Agency

Within life course theory, human agency is the notion that “individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstance” (Elder Jr., 1998, p. 4). In addition to external factors that influence sexual decision-making, there are intrapersonal factors that can sway young people’s decisions to initiate sexual activity. Some key intrapersonal factors that can influence the decision to engage in first sexual activity include personal moral beliefs around sexual activity and desire for pleasure. However, it is critical to also highlight that the concept of human agency may be extremely sensitive and complex for people who have had unwanted first sexual

experiences, such as in the case of CSA or sexual assault at sexual debut. Although most of the research literature has focused on intrapersonal motivators for sexual debut among heterosexual populations, specific considerations for SGE young people, such as MSM, will be discussed. Intrapersonal contexts, such as personal moral beliefs about sex and desire for pleasure, will be reviewed as factors that may influence sexual debut decision-making, as well as agency within the context of forced or coerced sexual debut.

Moral Beliefs. Moral beliefs about sexuality have been associated with decisions around sexual initiation. Adolescents who prescribe to conservative sexual norms are more likely to have a later sexual debut and report wanting to wait for a sexual partner that they are in love with (Izdebski et al., 2020). Among younger women, religiosity has been associated with later age of sexual debut as well as lower knowledge of human sexuality (Štulhofer et al., 2011; Thorpe et al., 2021). Conservative beliefs about sex have been shown to mediate the association between virginity pledge status and delayed age of sexual debut (Rostosky et al., 2003). Although more conservative views of sexuality have been repeatedly associated with delayed age sexual debut, it is important to note that non-affirming and conservative religious views have also been associated with sexual shame, guilt, decreased sexual satisfaction, and internalized homophobia (Anderson & Koc, 2020; Barnes & Meyer, 2012; Marcinechová & Záhorcová, 2020). Specifically, internalized homophobia has been associated with HIV-risk and psychological adjustment among MSM and other SGE populations throughout life (Amola & Grimmer, 2015; Meyer, 1995; Ramos et al., 2021). As previously discussed, sexually conservative attitudes are associated with delayed timing of sexual debut, but these attitudes are also associated with long-term sexual risk behaviors and negative health outcomes (Guttmacher Institute, 2021; Paik et al., 2016; Rosenbaum, 2009; Santelli et al., 2017).

Desire for Pleasure. Although most of the sexual debut literature has focused on risk, limited research has examined pleasure as motivator for sexual debut. In a study of youth motivations for having sex, boys were more likely to report wanting to engage in sex for pleasure, and most participants reported wanting to initiate or continue having sex in order to relieve stress and anxiety (Voisin & Bird, 2012). Among adolescent boys, earlier sexual debut has been associated with greater sexual risk, but also greater feelings of romantic appeal and dating sexual satisfaction (Golden et al., 2016). Compared to adolescent girls, adolescent boys are more likely to report wanting to have sex for self-esteem enhancing reasons, and earlier sexual debut among boys was associated with power-related reasons for wanting to have sex (Robinson et al., 2007). Among YMSM, high levels of emotional or physical satisfaction at sexual debut have been associated with higher rates of sexual risk behaviors, compared to YMSM with lower levels of satisfaction at sexual debut (Oidtman, 2015). Reports of sexual desire and pleasure at time of sexual debut have been positively associated with self-perceived acceptability of sexual debut timing among both men and women (Sprecher et al., 2022). Research has shown that young people who reported positive first sexual experiences were more likely to report emotional and physical satisfaction in their current sexual interactions as adults, suggesting that positive sexual self-efficacy at sexual debut during adolescence is linked to long-term positive health trajectories among emerging adults (Reissing et al., 2012; Smith & Shaffer, 2013).

Human Agency & Victimization. It is important to note that some people's sexual debut is forced, coerced, or within a broader context of violence and abuse. Survivors of sexual victimization often experience a traumatizing loss of control over their bodily autonomy, as well as intense feelings of vulnerability and lack of safety in the world (Ullman & Peter-Hagene,

2014). Survivors of sexual violence frequently report strong feelings of helplessness, fear, and horror during, and often after, experiences of sexual victimization (Cordero, 2020). Violent experiences of sexual debut are associated with earlier age of sexual debut and are strongly associated with negative health trajectories—including HIV-risk and experiences of revictimization in adulthood (Arata, 2000; Howard, 2021; Ports et al., 2016; Stockman et al., 2013).

Overall, intrapersonal factors such as desire for sexual pleasure or attitudes about sexuality, can shape sexual decision-making around the timing of sexual debut and subsequent health outcomes, including HIV risk behaviors. A lack of sexual agency within the context of forced or coerced sexual debut additionally is tied to the timing of sexual debut, as well as negative long-term health issues, particularly regarding HIV-risk and (re)victimization. Sexual agency and intrapersonal decision-making factors within the context of sexual debut illustrates the complexity of sexual debut timing, as well as the downstream effects of sexual debut timing into adulthood. This dissertation will assess the hypothesis that earlier sexual debut will be associated with long-term HIV-related risk factors—specifically substance use, exchange sex behaviors, and anti-gay victimization—among MSM in Kazakhstan.

0.3 Brief Overview of the Parent Study

Data for the three studies presented in this dissertation were from the NIDA funded HIV prevention trial titled, “Increasing Involvement of MSM in the Continuum of Care in Kazakhstan” (ClinicalTrials.gov Identifier: NCT02786615). The primary aim of this trial was to determine if the *Peer Reach and Influencer-Driven Engagement in HIV Care Continuum (PRIDE in HIV Care)* intervention—a crowdsourcing and peer-actuated network intervention—could exert a community effect of increasing HIV testing among MSM and transgender adults

who have sex with men (TSM) in Kazakhstan. A stepped-wedge design across three geographically disparate cities in Kazakhstan (Almaty, Astana, and Shymkent) was used to test intervention effects. This dissertation utilized the screening and baseline data from MSM involved in the parent study; these data were between July 2018 and September 2021. Participants were recruited from physical (e.g., cafes, bars, community-based organizations) and digital (e.g., Facebook, Grindr, VKontakte²) venues and networking spaces geared towards SGE individuals. Participants were eligible to participate in the stepped-wedge clinical trial portion of the study if they were 18 years or older; identified as a man or were assigned male at birth;³ reported having consensual sex with a man in the last year; proficient in Russian or Kazakh; and resided in a study city. For this three-paper dissertation, data from MSM in screening interviews were used in all papers and baseline data were additionally used in Paper 3; inclusion criteria for the specific studies are presented in the methods section of each paper.

0.4 Aims

- *Paper 1:* To examine associations between earlier sexual debut and substance use among MSM in Kazakhstan.
- *Paper 2:* To examine associations between earlier sexual debut and exchange sex behaviors among MSM in Kazakhstan.
- *Paper 3:* To examine associations between earlier sexual debut and reports of anti-gay victimization among MSM in Kazakhstan.

² VKontakte is a Russian social media networking service like Facebook.

³ The present studies only included cisgender MSM. Although 11% of participants in the clinical trial identify as a non-cis man, a sample that included non-cis men added variance to the dataset arising from differences—hence heterogeneity—in lived experiences between non-cis and cisgender populations. While 11% may arguably be non-ignorable, that subsample included transwomen, transmen, gender non-conforming individuals, etc. which leads to additional heterogeneity. Altogether, these heterogeneities would essentially be “noise” for models that are generating estimates predominantly for cis-men.

Chapter 1: Earlier Sexual Debut as a Risk Indicator for Substance Use Among Men Who Have Sex with Men (MSM) in Kazakhstan

1.0 Abstract

The research examining predictors of illicit use of drugs and binge drinking among gay, bisexual, and other men who have sex with men (MSM) in Kazakhstan and Central Asia is very limited. This study examines earlier sexual debut as a risk factor for lifetime and recent substance use behaviors among MSM in Kazakhstan. Using data from a NIDA-funded HIV prevention trial, a secondary analysis was conducted with 902 adult cisgender MSM in Kazakhstan who completed structured screening interviews that elicited self-reported data. Logistic regression models were used to estimate associations between earlier sexual debut (ages 16 and older as the reference group) and lifetime and recent substance use, with covariance adjustment for sociodemographic characteristics. The majority of MSM in the sample reported lifetime binge drinking behavior and illicit use of drugs. Participants with an earlier sexual debut before 13 years old had significantly higher odds of lifetime binge drinking, marijuana use, or using any illicit drugs. MSM with sexual debuts between the ages of 13 and 15 years old had significantly higher odds of ever binge drinking, using marijuana, heroin, other opioids, stimulants, cocaine, club drugs, or any illicit drugs; as well as binge drinking, marijuana or stimulant use in the past 90 days. Future research should examine pathways between earlier sexual experiences and substance use behaviors among sexually diverse populations. Earlier sexual experiences during childhood and adolescence may be relevant contextual information for interventions aimed at substance use risk prevention, treatment, and recovery among MSM populations.

1.1 Introduction

Gay, bisexual, and other men who have sex with men (MSM) are a relatively understudied population in Kazakhstan and Central Asia—where sexual and gender expansive (SGE) communities are made vulnerable by low levels of tolerance and legal protection (Amnesty International, 2017; Pérez-Stable, 2016). In addition to community and structural level stigma, MSM in Kazakhstan are experiencing a recent rise in HIV incidence (UNAIDS, 2020). Evidence suggests that substance use is a key factor that may be driving HIV disparities among MSM and other key populations in Kazakhstan (ECOM, 2018; UNAIDS, 2020). Earlier age of first sexual activity, or earlier sexual debut, has been found to be a predictor of substance use behaviors among sexually diverse populations in other national contexts, yet these factors have not been investigated among MSM in Kazakhstan (Cheung et al., 2014; Halkitis et al., 2021; Lowry et al., 2017).

Previous research has explored reports of heterosexual young people's sexual debut, but relatively fewer studies have examined SGE people's first partnered sexual experiences (Averett et al., 2014; Babin & Humphreys, 2021; Dion & Boislard, 2020). As young people sexually develop, they often become curious about aspects of sexual activity—however, common forms of exploratory sexual behaviors can vary between developmental age groups (Wurtele & Kenny, 2011). For example, partnered sexual intercourse is frequently reported among adolescents but is rarely reported among children ages twelve and under (Hornor, 2004; Kellogg, 2010; Lindberg et al., 2021; Wurtele & Kenny, 2011). Among pre-teenage children, reports of oral-genital, anal, and vaginal sex are often indicators of child sexual abuse victimization as well as other forms of abuse and neglect (Hornor, 2004; Kellogg, 2010; Wurtele & Kenny, 2011). Although children and adolescents may initiate and display a wide range of sexual behaviors throughout their

development, earlier sexual debut is associated with higher risk behaviors including substance use (Clark et al., 2020).

Health risk behaviors associated with earlier sexual debut have been mainly explored among adolescent heterosexual people in the U.S., and fewer studies have examined sexually diverse and global populations (Cavazos-Rehg et al., 2009; Halkitis et al., 2021; Lowry et al., 2017; Outlaw et al., 2011). Among sexually diverse young people in the U.S., earlier sexual debut before the age of thirteen has been linked to drug-related risk behaviors including recent cigarette, alcohol, and marijuana use as well as lifetime use of prescription drugs, cocaine, methamphetamine, heroin, and injected-drugs (Lowry et al., 2017). Specifically, among U.S. MSM, sexual debut before the age of sixteen has been associated with lifetime drug use, particularly marijuana use (Outlaw et al., 2011). Outside of the U.S., earlier sexual debut has been linked to tobacco and alcohol use among adolescents (Kastbom et al., 2015; Peltzer, 2010; Peltzer & Pengpid, 2015).

Limited research has investigated the role or potential implications of earlier sexual debut among people in Kazakhstan. A nationally representative survey of adolescents in Kazakhstan found that approximately a third of young people were sexually active by their 18th birthday, and that the average age of sexual debut among sexually active adolescents was sixteen years old (UNFPA, 2018). Among a study sample of medical students in Semey, Kazakhstan, men reported an earlier median age of sexual debut (16 years old) compared to women (18 years old) (Hansson et al., 2008). The difference in reported sexual debut by gender in this region may be a result of sociocultural double standards that encourages men's heterosexual sexual behavior and stigmatizes women's sexual behavior (Hansson et al., 2008). Information about sexual debut or earlier sexual behavior among sexually diverse people in Kazakhstan is limited and may be a

result of broader issues around stigma against sexually diverse people (Hansson et al., 2008; Latypov et al., 2013).

Higher risk sexual behavior and substance use have been more widely investigated in Kazakhstan as a key factor underlying rising HIV prevalence (Jiwatram-Negrón et al., 2018; Marotta et al., 2018). Couple-based and intimate partner focused HIV prevention research among people in Kazakhstan have frequently focused on the role of risky sexual behavior in conjunction with substance use (El-Bassel et al., 2014; Gilbert et al., 2010; Marotta et al., 2018; Shaw et al., 2017). HIV prevention microfinance interventions have been implemented for women in Kazakhstan who engage in substance use and sex work (McCrimmon et al., 2018; Mergenova et al., 2019). Although substance use research among MSM in Kazakhstan is limited, one study based in Almaty found that condomless anal intercourse was significantly associated with non-injection drug use (Berry et al., 2012). Given evidence of associations between HIV-risk and substance use among MSM in Kazakhstan, and connections between substance use and sexual risk in other contexts, further insight into earlier sexual debut experiences among MSM is needed.

This study seeks to advance our understanding of the experiences of sexually diverse populations in Kazakhstan by examining whether earlier sexual debut is associated with an increased likelihood of substance use in a sample of MSM from three major cities. The prevalence of earlier sexual debut was explored, as well as whether earlier sexual debut was associated with recent and lifetime binge drinking behaviors and illicit use of drugs among MSM in Kazakhstan.

1.2 Methods

Data Collection and Procedures

This is a secondary analysis of data were obtained during the conduct of a NIDA-funded clinical trial of a behavioral intervention that sought to increase the engagement of MSM who use substances in Kazakhstan in the HIV care continuum (e.g., learning one’s HIV status via HIV testing, receiving HIV medical care for those living with HIV, and achieving viral suppression for those who have started antiretroviral therapy) (see Paine et al., 2021). Briefly, the parent study was a clinical trial designed to test a behavioral intervention for MSM across three geographically disparate cities in Kazakhstan: Almaty, Astana, and Shymkent. The clinical trial commenced in 2018, and the data presented in this report utilized self-reported data collected during structured screening interviews conducted in Russian or Kazakh with MSM in Almaty, Astana, and Shymkent that were completed between July 2018 and September 2021 ($N= 902$). All study procedures were approved by the Institutional Review Board (IRB) at Columbia University (Protocol # IRB - AAAQ7251) and the Local Ethical Committee at Al-Farabi Kazakh National University (Protocol # IRB - A052).

Participants

Screened individuals were considered eligible for these analyses if they were 18 years and older, self-identified as a cisgender man, and reported ever having had consensual sex with a man.

Measures

Earlier sexual debut

Age of sexual debut was originally assessed using a single continuous variable based on the response to the following question: “How old were you when you first had sex?” Due to the cultural relativity and subjectivity of what may be socially considered a normal age of sexual debut, earlier sexual debut was determined by the two lowest reported interquartile age groups in

the MSM sample: age of sexual debut was divided into three categories—those with a sexual debut before the age of 13 years old, between 13 to 15 years old, and 16 years and older with the former two categories indicating earlier sexual debut. The purpose of having two distinct earlier sexual debut categories was to recognize a possible difference in health behavior risk for those who experienced earlier sexual behavior prior to being a teenager (Hall et al., 2020).

Additionally, the age of consent in Kazakhstan is 16 years old which coincides with the reference group (UNFPA, n.d.).

Substance use

Participants were asked about recent (i.e., past 90 days) and lifetime binge drinking behavior as well as illicit use of drugs which included: marijuana, heroin, other opioids, stimulants, cocaine, hallucinogens, inhalants, and club drugs. Any recent or lifetime illicit substance use was calculated using Boolean OR operators among all of the reported illicit drugs. Binge drinking was defined as consuming five or more drinks within a two-hour period (Courtney & Polich, 2009).

Covariates

The following population characteristics as covariates were included in all multivariable models: age; city (Almaty, Astana, and Shymkent); marital status (single, married, no longer with a spouse, or ‘other’); highest educational attainment level (9th grade or less, high school or vocational, bachelor’s degree or more, or ‘other’ category); employment (full-time, part-time, unemployed, or ‘other’); housing insecurity (past 6 months); self-reported HIV status (positive, negative, or unknown); self-reported sexual orientation (heterosexual, bisexual, gay, or ‘other’); and self-reported estimated income in Kazakhstan Tenge (KZT) per month for the prior six months. Income was transformed using log squared to reduce heteroscedasticity.

Statistical analyses

For descriptive analyses, frequencies of population sociodemographic characteristics, and substance use, and age of sexual debut were assessed (see Tables 1-3a). For bivariate analyses chi-square tests were used to evaluate any associations between earlier sexual debut and substance use behaviors. For the multivariable models, logistic regressions were used to assess associations between earlier sexual debut and substance use while adjusting for age, city, marital status, education, employment, HIV-status, sexual orientation, and income (see Table 4a). Multicollinearity diagnostics were examined; all variance inflation factor (VIF) values were less than 4 and no tolerance values were lower than 0.25.

1.3 Results

Sample characteristics

Table 1a displays the demographic characteristics of the sample. Most of the men in the sample lived in Almaty (41%); about half had a college education or more (49%); and were 28 years old on average. Most participants worked full-time (52%); were housing secure (91%); and had an average monthly income of approximately 140,000 KZT (about 300 USD) over the past six months. The majority of MSM in the sample reported being single (79%), HIV-negative (60%), and gay identified (50%). Approximately two-thirds (67%) of MSM participants were 16 years or older at the time of their sexual debut.

Table 1a.

Population Characteristics of a Sample of MSM in Kazakhstan, 2018-2021 (N=902)

Population Characteristic	<i>n</i>	%
City		
Almaty	372	41.2%

Astana	290	32.2%
Shymkent	240	26.6%
Marital Status		
Single	714	79.2%
Married	58	6.4%
No Longer with Spouse	74	8.2%
Other	56	6.2%
Highest Educational Attainment Level		
9th Grade or Less	50	5.5%
High School or Vocational	382	42.4%
Bachelor's Degree or More	440	48.8%
Other	30	3.3%
Employment		
Full-Time	473	52.4%
Part-Time	200	22.2%
Unemployed	99	11.0%
Other	130	14.4%
Housing Insecurity in the Past 6 Months		
Yes	85	9.4%
No	817	90.6%
Self-Reported HIV Status		
HIV-Positive	65	7.2%
HIV-Negative	540	59.9%
Unknown	297	32.9%
Self-Reported Sexual Orientation		
Gay	451	50.0%
Bisexual	388	43.0%

Heterosexual	27	3.0%
Other	36	4.0%
Sexual Debut ^a		
Ages less than 13	75	8.3%
Ages 13-15	226	25.1%
Ages 16 and older	600	66.5%

Note. The present table represents the percentage (%) of a population characteristic within the total sample of MSM. ^aOne participant response was coded as missing for sexual debut.

Substance use

Table 2a displays descriptive statistics for substance use. The most frequently reported types of substance use were lifetime binge drinking (73%) and any use of illicit substances (65%), followed by lifetime marijuana use (48%) inhalants (34%). The same pattern occurred for reported substance use in the past 90 days, with the greatest reports of binge drinking (57%) and any illicit use of substances (28%), followed by marijuana (16%) and inhalant use (13%).

Table 2a.
Substance Use within a Sample of MSM in Kazakhstan, 2018-2021 (N=902)

Substance Use	Ever		Past 90 Days	
	<i>n</i>	%	<i>n</i>	%
Binge Drinking	654	72.5%	513	56.9%
Marijuana	437	48.4%	147	16.3%
Heroin	43	4.8%	17	1.9%
Other Opioids	67	7.4%	25	2.8%
Stimulants	95	10.5%	40	4.4%
Cocaine	41	4.5%	2	0.2%

Hallucinogens	71	7.9%	7	0.8%
Inhalants	308	34.1%	119	13.2%
Club Drugs	72	8.0%	20	2.2%
Any Illicit Substances	584	64.9%	256	28.4%

Note. The present table represents the percentage (%) of substance use reported within the total sample of MSM.

Associations between earlier sexual debut and substance use

Table 3a presents the distribution of the sample with respect to earlier sexual debut and substance use. Bivariate analyses indicated that earlier sexual debut was significantly associated with binge drinking and illicit drug use. Compared to participants reporting a sexual debut at age 16 or older, earlier sexual debut was associated with higher rates of ever binge drinking and using marijuana, heroin, opioids, stimulants, cocaine, club drugs, and any illicit use of drugs. Compared to sexual debut at 16 or older, earlier sexual debut was associated with higher rates of binge drinking and marijuana, heroin, opioid, stimulant, and any illicit drug use in the past 90 days.

Table 3a.*Earlier Sexual Debut and Substance Use Among MSM in Kazakhstan, 2018-2021 (N=902)*

Substance Type	Sexual Debut Less Than 13 Years Old		Sexual Debut 13-15 Years Old		Sexual Debut 16 Years or Older	
	Ever	Past 90 days	Ever	Past 90 days	Ever	Past 90 days
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Binge Drink Alcohol	64 (85.3%)	48 (64.0%)	176 (77.9%)	144 (63.7%)	413 (68.8%)	320 (53.3%)
Marijuana	52 (69.3%)	9 (12.0%)	125 (55.3%)	52 (23.0%)	260 (43.3%)	86 (14.3%)
Heroin	5 (6.75%)	2 (2.7%)	23 (10.2%)	9 (4.0%)	15 (2.5%)	6 (1.0%)
Other Opioids	8 (10.7%)	4 (5.3%)	28 (12.4%)	10 (4.4%)	31 (5.2%)	11 (1.8%)
Stimulants	8 (10.7%)	3 (4.0%)	39 (17.3%)	22 (9.7%)	48 (8.0%)	15 (2.5%)
Cocaine	5 (6.7%)	0 (0.0%)	20 (8.8%)	1 (0.4%)	16 (2.7%)	1 (0.2%)
Hallucinogens	9 (12.0%)	1 (1.3%)	23 (10.2%)	1 (0.4%)	39 (6.5%)	5 (0.8%)
Inhalants	32 (42.7%)	12 (16.0%)	85 (37.6%)	33 (14.6%)	191 (31.8%)	74 (12.3%)
Club Drugs	7 (9.3%)	2 (2.7%)	29 (12.8%)	8 (3.5%)	37 (6.2%)	11 (1.8%)
Any Illicit Drugs	61 (81.3%)	22 (29.3%)	164 (72.6%)	79 (35.0%)	360 (60.0%)	155 (25.8%)

Note. The present table represents the percentage (%) of participants within a sexual debut category who engaged in a substance use behavior.

Results from multivariable models are presented in Table 4a. There was a significant relationship between earlier sexual debut and substance use. Compared to participants with a sexual debut of 16 years of age or older, those with sexual debuts before the age of 13 had significantly higher odds of ever reporting to binge drink (*aOR*= 2.3, 95%CI: 1.2-4.5), use marijuana (*aOR*= 3.1, 95%CI: 1.7-5.4), or any illicit drugs (*aOR*=3.1, 95%CI: 1.6-6.0). MSM with sexual debuts between the ages of 13 and 15 years old had significantly higher odds of ever binge drinking (*aOR*=1.6, 95%CI: 1.1-2.3), using marijuana (*aOR*=1.4, 95%CI: 1.0-2.0), heroin (*aOR*=3.7, 95%CI: 1.7-8.0), other opioids (*aOR*=2.0, 95%CI: 1.1-3.5), stimulants (*aOR*=2.4, 95%CI: 1.5-3.9), cocaine (*aOR*=2.7, 95%CI: 1.3-5.5), club drugs (*aOR*=2.0, 95%CI: 1.2-3.5), or any illicit drugs (*aOR*=1.6, 95%CI: 1.1-2.3); as well as binge drinking (*aOR*=1.7, 95%CI: 1.2-2.3), using marijuana (*aOR*=1.5, 95%CI: 1.0-2.2) or stimulants in the past 90 days (*aOR*=4.3, 95%CI: 2.1-8.8).

Table 4a.
Associations Between Earlier Sexual Debut and Substance Use Among MSM in Kazakhstan, 2018-2021

Substance Type	Sexual Debut Less Than 13 Years Old		Sexual Debut Between 13-15 Years Old	
	Ever	Past 90 days	Ever	Past 90 days
	<i>aOR</i> (95% CI)	<i>aOR</i> (95% CI)	<i>aOR</i> (95% CI)	<i>aOR</i> (95% CI)
Binge Drink Alcohol	2.3* (1.2-4.5)	1.4 (0.8-2.4)	1.6* (1.1-2.3)	1.7** (1.2-2.3)
Marijuana	3.1*** (1.7-5.4)	0.6 (0.3-1.4)	1.4* (1.0-2.0)	1.5* (1.0-2.2)
Heroin	2.3 (0.8-7.2)	1.8 (0.3-11.1)	3.7*** (1.7-8.0)	2.9 (0.7-11.6)
Other Opioids	1.6 (0.7-4.0)	1.7 (0.4-6.5)	2.0* (1.1-3.5)	1.2 (0.4-3.5)
Stimulants	1.3 (0.6-3.0)	1.7 (0.5-6.4)	2.4*** (1.5-3.9)	4.3*** (2.1-8.8)
Cocaine	2.0 (0.7-5.9)	a	2.7** (1.3-5.5)	a
Hallucinogens	2.0 (0.8-4.5)	1.5 (0.1-15.0)	1.4 (0.8-2.6)	0.4 (0.0-4.0)

Inhalants	1.5 (0.9-2.6)	1.1 (0.5-2.2)	1.3 (0.9-1.8)	1.2 (0.7-1.8)
Club Drugs	1.4 (0.6-3.5)	1.0 (0.2-5.2)	2.0** (1.2-3.5)	1.8 (0.7-4.7)
Any Illicit Drugs	3.1*** (1.6-6.0)	0.9 (0.5-1.6)	1.6* (1.1-2.3)	1.3 (0.9-1.9)

Note: The reference group is sexual debut 16 years and older. aOR: Odds ratio adjusted for age, income log2(n), city, marital status, education, employment, housing insecurity, HIV-status, and sexual orientation. CI: Confidence interval. P-values: $p \leq 0.05^*$ $p \leq 0.01^{**}$ $p \leq 0.001^{***}$.

^aAnalyses not run due to insufficient cell size for the outcome: cocaine use in the past 90 days

1.4 Discussion

In the final models of earlier sexual debut and substance use among MSM in Kazakhstan, significant associations were found between earlier sexual debut and binge drinking as well as illicit drug use behaviors. Although earlier sexual debut has been associated with substance use and other HIV-risk factors among MSM in China, limited research has previously examined sexual debut as a risk factor for substance use among MSM in Central Asia (Cheung et al., 2014). The present study suggests that age of sexual onset is a relevant risk factor for a variety of substance use behaviors among MSM in Kazakhstan and warrants additional research examining connections between earlier sexual debut and substance use behaviors among SGE populations in Kazakhstan.

These findings make an important contribution to the current sexual debut and substance use literature. Earlier sexual debut has been previously measured using one discrete age marker, however, the present research accounted for possible differences between pre- and post-teenage sexual debuts and related substance use behaviors (Lowry et al., 2017; Sawyer et al., 2018). These findings support differentiating between earlier sexual debut groups by developmental stages to assess connections with substance use behaviors. These results suggest that age of sexual onset during earlier adolescence or childhood may be a particularly vulnerable time for

sexual decision-making and identity formation that may be connected to higher-risk behaviors in the form of substance use.

Service needs that may be relevant for MSM in Kazakhstan could include additional clinical attention towards assessing and addressing potential childhood sexual abuse as well as voluntary or consensual sexual activity during earlier adolescence and childhood. Within Kazakhstan, adolescents have limited access to sexual and reproductive health information, particularly in the native Kazakh language, and sexual education among young people remains a taboo social topic (WHO, 2020). These findings warrant an increase of sexual health resources for a wide range of young people—including children and adolescents—and reducing barriers to care for youth and MSM. Overall, further research is needed to better elucidate causal pathways between earlier sexual experiences among sexually diverse people and risky substance use behaviors.

Limitations

This study had several limitations. Some of the models were limited by small proportions of participants using certain illicit substances, particularly recent illicit use of drugs. This study is not necessarily representative of MSM in Kazakhstan, and all participants were recruited from major cities in the region which does not capture rural MSM experiences. Additionally, information about race/ethnicity were not available, and possible disparities between Russian and Kazakh populations could not be assessed. The earlier sexual debut measure used was a relatively broad single question about age of first sexual activity that did not assess whether this experience was consensual or non-consensual. Although sexual debut presumably predates most of the substance use behaviors reported by adults, this study is cross-sectional and is unable to assess temporal sequences. Lastly, social desirability bias may have influenced how participants

self-reported socially sensitive behaviors, such as substance use and sexual behaviors during childhood or adolescence.

Conclusion

Sexual experiences during childhood and early adolescence are significantly associated with current and lifetime substance use among MSM in Kazakhstan. Earlier-onset of sexual activity was significantly associated with lifetime marijuana, heroin, opioid, stimulant, cocaine, and club drug use as well as binge drinking and any illicit use of drugs. Earlier sexual debut was also significantly associated with recent binge drinking, marijuana, and stimulant use. Further investigation of earlier sexual experiences as a relevant factor for risky substance use behaviors is warranted for men who have sex with men.

Chapter 2: Earlier Sexual Debut and Exchange Sex Behaviors Among Men Who Have Sex with Men (MSM) in Kazakhstan

2.0 Abstract

Limited research has examined prevalence rates and associations related to exchange sex behaviors among gay, bisexual, and other men who have sex with men (MSM) in Kazakhstan. This study aims to examine associations between earlier sexual debut and lifetime exchange sex behaviors among MSM in Kazakhstan. Using data from a NIDA-funded HIV prevention trial, a secondary analysis was used of self-reported data from 766 adult cisgender MSM in Kazakhstan who completed structured screening interviews. Earlier sexual debut was measured as age of sexual onset prior to 16 years old with ages 16 and older as the reference group. Logistic regression models were used to estimate associations between earlier sexual debut and lifetime reports of buying or selling sex for resources, with covariance adjustment for sociodemographic characteristics. Study findings indicate that, among the sample of MSM in Kazakhstan, approximately a quarter of participants had sold sex and had bought sex, respectively, in their lifetime. MSM who reported an earlier sexual debut, particularly before the age of 13, had significantly higher odds of ever selling or buying sex in their lifetime, as well as selling sex at an earlier age. Future research should examine how consensual and non-consensual sexual activity during childhood and adolescence relate to exchange sex behaviors and risk among MSM.

2.1 Introduction

As rates of HIV transmission have accelerated in Kazakhstan over the past ten years, gay, bisexual, and other men who have sex with men (MSM) in Kazakhstan have experienced a disproportionate burden of the HIV epidemic, including a seven-fold increase in HIV prevalence (ECOM, 2018; UNAIDS, 2020). Despite this context of increased risk, two known dimensions of sexual experience that predict the acquisition of HIV among MSM globally—earlier age of first sexual activity (i.e., earlier sexual debut) and exchange sex behaviors (Nelson et al., 2016; Outlaw et al., 2011)—have not yet been examined among MSM in Kazakhstan.

During adolescence, many young people begin to form romantic relationships and initiate partnered sexual activity (Lindberg et al., 2021). Although various types of sexual behaviors are prevalent across the lifespan, children and early adolescents (i.e., ages 12 and younger) rarely engage in oral-genital, vaginal, or anal sex with peers (Felzen Johnson, 2002; Haugaard, 1996; Hornor, 2004); when such sexual behaviors are reported within this age group, they are associated with adverse childhood events, particularly child sexual abuse (Felzen Johnson, 2002; Haugaard, 1996; Hornor, 2004). In other contexts, earlier sexual activity during childhood and early adolescence is associated with exchange sex and other HIV-risk behaviors. Among adolescent boys in Sweden, earlier sexual debut before fourteen years old was associated with an increased risk of sexual abuse as well as exchange sex (Kastbom et al., 2015).

Earlier sexual debut among MSM has been associated with illicit use of substances as well as risky sexual behaviors, including exchange sex and unprotected sex (Cheung et al., 2014; Outlaw et al., 2011). In a U.S. study of young men who have sex with men (YMSM) living with HIV, YMSM with an earlier sexual debut were significantly more likely to use marijuana, experience emotional problems related to substance use, have a history of suicide attempts, and

engage in exchange sex compared to YMSM with an older debut (Outlaw et al., 2011). Among MSM at risk of HIV transmission in China, earlier anal sexarche (anal sexual debut) was associated with recreational drug use as well as risky sexual behaviors, including unprotected sex, having multiple male sexual partners, and exchanging sex for money (Cheung et al., 2014).

In Kazakhstan, exchange sex among women has been the predominant focus of HIV prevention research with limited attention to sexually diverse men (Berry et al., 2012; Davis et al., 2017; El-Bassel et al., 2020; Mergenova et al., 2019). Over the past several years, constellations of higher risk behaviors have been associated with exchange sex among women in Kazakhstan (Davis et al., 2017; El-Bassel et al., 2020). Women in Kazakhstan who reported engaging in both exchange sex and drug use were at increased risk of intimate partner and non-partner violence as well as nonfatal overdose (El-Bassel et al., 2020). HIV-positive women in Kazakhstan who have exchanged sex were more likely to report housing insecurity, intimate partner violence, risky sexual behavior, and injection drug use compared to HIV-positive women who did not exchange sex (Davis et al., 2017). Additional research about exchange sex behaviors among MSM in Kazakhstan may strengthen interventions aimed at reducing HIV risk. In one study examining exchange sex among MSM in Kazakhstan, unprotected anal intercourse with male partners was associated with sexually transmitted infection (STI) symptoms, exchange sex, and non-injection drug use (Berry et al., 2012).

To the author's knowledge, the present study is the first to examine associations between earlier sexual debut and lifetime exchange sex behaviors among MSM in Kazakhstan. The age of consent in Kazakhstan is 16 years old and will be used as a primary age-cut off for earlier sexual debut (UNPF, 2018). Earlier sexual debut will be examined within the context of a lifetime history of buying or selling sex in exchange for resources. Given the findings in other contexts, it

is hypothesized that MSM reporting a sexual debut before sixteen years of age will be more likely to report buying and selling sex in exchange for resources.

2.2 Methods

This is a secondary analysis of data were obtained during the conduct of a NIDA-funded clinical trial of a behavioral intervention that sought to increase the engagement of MSM who use substances in Kazakhstan in the HIV care continuum (for additional information refer to the methods section in Chapter 1). The clinical trial commenced in 2018, and the data presented in this report utilized self-reported data collected during structured screening interviews conducted in Russian or Kazakh with MSM in Almaty, Astana, and Shymkent that were completed between September 2018 and September 2021 ($N= 766$).⁴ All study procedures were approved by the Institutional Review Board (IRB) at Columbia University (Protocol # IRB - AAAQ7251) and the Local Ethical Committee at Al-Farabi Kazakh National University (Protocol # IRB - A052).

Participants

For this study, the sample consists of individuals who completed a screening interview (conducted to determine eligibility of the parent study) and met the following additional eligibility criteria: ≥ 18 years old, assigned male at birth, and reported ever having had consensual sex with a man. Exclusion criteria included insufficient Russian or Kazakh comprehension or cognitive ability to provide informed consent in those languages. The original target sample size for the parent study was 1,000. The COVID-19 pandemic resulted in a pause and modification of study activities that cut about one-third of the recruitment time. The proportionally reduced sample size was estimated to still achieve 80% power for the parent study to detect a clinically

⁴ Note: The parent study added exchange sex questions to their screening survey several months into participant recruitment, which accounts for differences in recruitment dates and sample sizes between Paper 1 ($N= 902$) and 2 ($N=766$).

significant change in HIV testing rates (the first step in the HIV care continuum). For this secondary analysis, the sample involves the 766 screened individuals who met the aforementioned inclusion and exclusion criteria.

Measures

Earlier Sexual Debut

Age of sexual debut was originally assessed using a single continuous variable based on the response to the following question: “How old were you when you first had sex?” The measure was divided into three categories to characterize earlier sexual debut. The following are justifications for sexual debut categorization. Sexual debut at 16 years or older was used as a reference category in all final models because 16 years old is age of consent in Kazakhstan as well the average age of sexual debut in the MSM sample (UNPF, 2018). The two earlier sexual debut categories included sexual debut occurring at ages 12 and younger and between 13-15 years old. Earlier sexual debut was divided into two categories to assess possible differences between earlier sexual activity that occurred during childhood through late childhood/early adolescence (i.e., ages 1-12) versus earlier sexual activity during adolescence but prior to the average age of sexual debut in the sample (i.e., ages 13-15) (Kellogg, 2010; Wurtele & Kenny, 2011).

Exchange Sex

Participants were asked several questions about exchange sex behaviors in their lifetime. Exchange sex is defined as a dynamic where partners exchange sex for resources (i.e., money, drugs, shelter, or some other resource). Outcome variables included whether MSM participants ever exchanged sex (yes or no) separately as a seller or buyer. Participants were also asked at what age they first sold sex; this variable was collapsed into three categories by median age of

first selling sex (never exchanged sex; under 21 years of age; and ages 21 and older). Age at which the participant first bought sex was not collected as a survey question.

Covariates

Categorical population characteristics that were included in bivariate and multivariable models were city (Almaty, Nur-Sultan, Shymkent); marital status (single, married, no longer with spouse, or ‘other’); highest educational attainment level (9th grade or less, high school or vocational, bachelor’s degree or more, or ‘other’); employment (full-time, part-time, unemployed, or ‘other’), housing insecurity (ever homeless or without a regular place to sleep in the past 6 months); self-reported HIV-status (HIV-positive, HIV-negative, unknown); self-reported sexual orientation (gay, bisexual, heterosexual, or other); binge drinking (ever in the past 90 days); and any illicit use of substances (ever in the past 90 days). Continuous population characteristics included current age and income. Income was measured as a self-reported estimated monthly income over the past six months in Kazakhstani Tenge (KZT). Income was used for population descriptives, and income log squared was used in all models.

Data Analysis

Frequencies of categorical population characteristics and exchange sex variables were used for descriptive analysis (see Table 1b and 2b). Chi-square tests were used for bivariate analyses to assess associations between earlier sexual debut and exchange sex (see Table 3b). Chi-square tests were also used to assess differences between population characteristics by exchange sex categories. Three adjusted multivariable models were used to examine associations between earlier sexual debut as a predictor of ever selling or buying sex and age of onset for selling sex. A logit link was used since the outcome variable (engaging in exchange sex) was binary. Statistical assumptions were met by examining tolerance measures to avoid

multicollinearity (all values were well above .25), and the categorization of the key independent variable (age of sexual debut) obviated any potential impact of extreme outliers.

2.3 Results

Population Characteristics

Demographic characteristics of MSM respondents are displayed in Table 1b. Most participants were single (79%), college-educated (42%), and an average age of 28 years old. The majority of the sample lived in Almaty (40%), worked full-time (53%), housing secure (90%), and had an average monthly income of approximately 180,000 KZT (about 460 USD) over the past six months. Half of the participants identified as gay (50%), and over half self-reported being HIV-negative (58%). Most of the men in the sample had recently binge drank (58%) but had not illicitly used any type of substance recently (73%). Over two-thirds (68%) of respondents were ages 16 years or older during their sexual debut.

Table 1b.
Categorical population characteristics of the sample of MSM in Kazakhstan, 2018-2021 (N=766)

Population Characteristic	<i>n (%)</i>
City	
Almaty	303 (39.6%)
Astana	263 (34.3%)
Shymkent	200 (26.1%)
Marital Status	
Single	604 (78.9%)
Married	51 (6.7%)
No Longer with Spouse	62 (8.1%)

Other	49 (6.4%)
Highest Educational Attainment Level	
Other	28 (3.7%)
9th Grade or Less	48 (6.3%)
High School or Vocational	319 (41.6%)
Bachelor's Degree or More	371 (48.4%)
Employment	
Full-Time	409 (53.4%)
Part-Time	153 (20.0%)
Unemployed	87 (11.4%)
Other	117 (15.3%)
Housing Insecurity in the Past 6 Months	
Yes	75 (9.8%)
No	691 (90.2%)
Self-Reported HIV Status	
HIV-Positive	51 (6.7%)
HIV-Negative	440 (57.7%)
Unknown	275 (35.9%)
Self-Reported Sexual Orientation	
Gay	451 (50%)
Bisexual	388 (43.0)
Heterosexual	27 (3.0%)
Other	36 (4.0%)
Binge-Drinking [Past 90 Days]	
Yes	444 (58.0%)
No	322 (42.2%)
Any Illicit Substance Use [Past 90 Days]	

Yes	206 (26.9%)
No	560 (73.1%)
Sexual Debut ^a	
Ages Less Than 13	61 (8.0%)
Ages 13-15	182 (23.8%)
Ages 16 and older	522 (68.1%)

Note. The percentage (%) of population characteristics within this table represents the total MSM sample. MSM participants. ^aOne participant response was coded as missing for sexual debut.

Table 2b.
Exchange Sex Among MSM in Kazakhstan, 2018-2021 (N=766)

Exchange Sex	<i>n (%)</i>
Ever Exchanged Sex (Seller)	
Yes	179 (23.4%)
No	587 (76.6%)
Ever Exchanged Sex (Buyer)	
Yes	199 (26.0%)
No	567 (74.0%)
Age First Exchanged Sex (Seller) ^a	
Never	587 (76.6%)
Ages 21 and Older	104 (13.6%)
Under 21 Years of Age	73 (8.1%)

Note. The present table represents the percentage (%) of exchange sex variables reported within the total sample of MSM. ^aTwo participant responses were coded as missing for age first sold sex.

Exchange Sex

The following subsections describe significant bivariate associations found between categorical demographic variables and exchange sex behaviors.

Ever Sold Sex

Participants who reported ever selling sex reported greater rates of living in Shymkent, having attained an education of 9th grade or less, housing insecure, binge drank in the past 90 days, and having had illicitly used any drugs in the past 90 days.

Ever Bought Sex

Respondents who reported ever having bought sex had higher rates of no longer being with their spouse, being unemployed, identifying as heterosexual, and having illicitly used any substances in the past 90 days.

Age First Sold Sex

In the sample, MSM who first sold sex under 21 years of age had higher frequencies of having attained an ‘other’ type education, an ‘other’ type of employment, experiencing housing insecurity, having binge drank in the past 90 days, and having used any type of illicit substance in the past 90 days.

Associations Between Earlier Sexual Debut and Exchange Sex

Table 3b presents crosstabulation results between earlier sexual debut and exchange sex outcomes. Earlier sexual debut differed by lifetime exchange sex behavior (see Table 3b). MSM with a sexual debut less than 13 years old and between 13-15 years old had higher rates of ever selling and buying sex compared to those with a later age of sexual debut. MSM who reported a sexual debut less than 13 years old reported the highest rates of earlier age of onset of selling sex (before 21 years of age) compared to older sexual debut age groups.

Table 3b.*Earlier Sexual Debut and Exchange Sex Among MSM in Kazakhstan, 2018-2021 (N=766)*

Exchange Sex Characteristics	Exchange Sex		Age First Exchanged Sex (Seller)		
	(Seller)	(Buyer)	Never	Under 21	Ages 21
	Ever	Ever		Years of Age	and Older
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Sexual debut less than 13 years old	26 (42.6%)	21 (34.4%)	35 (57.4%)	16 (26.2%)	10 (16.4%)
Sexual debut 13-15 years old	54 (29.7%)	63 (34.6%)	128 (70.3%)	30 (16.5%)	24 (13.2%)
Sexual debut 16 years or older	99 (19.0%)	115 (22.0%)	423 (81.3%)	27 (5.2%)	70 (13.5%)

Note. The present table represents the percentage (%) of participants within a sexual debut category who engaged in exchange sex behavior.

All three adjusted multivariable models found significant associations between earlier sexual debut and exchange sex (see Table 4b). MSM with an earlier sexual debut prior to 13 years old had 3 times higher odds of ever selling sex and 2 times higher odds of ever buying sex (*aOR*=3.0, *95%CI*: 1.66-5.45; *aOR*= 2.0, *95%CI*: 1.09-3.75). MSM with an earlier sexual debut between 13 to 15 years old had 1.6 times higher odds of ever selling sex (*aOR*=1.6, *95%CI*: 1.07-2.46). In the final model, MSM with a sexual debut before 13 years old and between 13-15 years old had, respectively, 7 and 3.5 times higher odds of selling sex at an earlier initial age (*aOR*= 7.0, *95%CI*: 3.24-15.08; *aOR*= 3.54, *95%CI*: 1.94-6.43) compared to MSM with a later sexual debut.

Table 4b.*Associations between earlier sexual debut and exchange sex among MSM in Kazakhstan, 2018-2021*

	Exchange Sex (Seller)	Exchange Sex (Buyer)	Age First Exchanged Sex (Seller)	
	Ever	Ever	Less Than 21 Years Old	Ages 21 Years and Older
	<i>aOR (95% CI)</i>	<i>aOR (95% CI)</i>	<i>aOR (95% CI)</i>	
Sexual Debut:				
Less Than 13 Years Old	3.0*** (1.66-5.45)	2.0* (1.09-3.75)	7.0*** (3.24-15.08)	1.6 (0.73-3.52)
Sexual Debut:				
13-15 Years Old	1.6* (1.07-2.46)	1.5 (0.99-2.23)	3.5*** (1.94-6.43)	1.0 (0.57-1.67)
<i>Age</i>	1.0 (0.97-1.02)	1.0* (1.01-1.06)	1.0 (0.93-1.01)	1.0 (0.98-1.05)
<i>Income</i>	0.9 (1.00-1.08)	1.1 (0.98-1.19)	1.0 (0.92-1.10)	1.0 (0.92-1.10)
<i>City (ref: Almaty)</i>				
Astana	0.6* (0.39-0.96)	1.3 (0.84-1.98)	0.7 (0.37-1.40)	0.5* (0.31-0.95)
Shymkent	1.0 (0.62-1.56)	1.3 (0.83-2.10)	1.2 (0.64-2.41)	0.8 (0.47-1.46)
<i>Marital Status (ref: Married)</i>				
Single	2.0 (0.79-4.80)	0.6* (0.29-1.08)	1.5 (0.40-5.86)	2.3 (0.73-6.89)
No Longer with Spouse	2.0 (0.69-5.79)	1.2 (0.54-2.74)	2.3 (0.48-11.38)	1.9 (0.52-7.02)
Other	2.2 (0.72-6.70)	0.4 (0.16-1.07)	0.5 (0.07-3.90)	3.9* (1.04-14.35)
<i>Highest Educational Attainment Level</i>				

(ref: 9th Grade or Less)

High School or

Vocational 0.67 (0.33-1.39) 1.0 (0.45-2.05) 1.1 (0.39-3.08) 0.6 (0.23-1.33)

Bachelor's Degree or

More 0.6 (0.29-1.28) 1.3 (0.59-2.77) 0.6 (0.21-1.83) 0.7 (0.27-1.63)

Other 0.9 (0.28-2.63) 1.4 (0.39-4.84) 1.6 (0.39-6.74) 0.43 (0.08-2.39)

Employment (ref: Unemployed)

Full-Time 0.6 (0.33-1.00) 0.73 (0.41-1.30) 1.0 (0.39-2.58) 0.4** (0.21-0.76)

Part-Time 0.6 (0.31-1.10) 0.75 (0.40-1.43) 0.7 (0.26-2.12) 0.5 (0.24-1.02)

Other 0.5 (0.26-1.07) 0.3*** (0.11-0.59) 1.3 (0.43-3.63) 0.27** (0.11-0.67)

Housing Insecurity in the Past 6 Months (ref: No)

Yes 2.9*** (1.72-5.00) 1.4 (0.81-2.58) 3.5*** (1.72-7.22) 2.39** (1.24-4.57)

Self-Reported HIV Status (ref: HIV-Negative)

HIV-Positive 1.1 (0.50-2.21) 0.4 (0.19-1.05) 0.7 (0.21-2.43) 1.3 (0.56-2.95)

Unknown 1.1 (0.73-1.61) 1.2 (0.82-1.76) 1.2 (0.65-2.05) 1.0 (0.64-1.69)

Self-Reported Sexual Orientation (ref: Gay)

Bisexual 0.9 (0.62-1.35) **1.7 (1.16-2.49) 0.7 (0.41-1.30) 1.1 (0.68-1.76)

Heterosexual 0.7 (0.27-2.09) **3.3 (1.40-7.98) 0.6 (0.11-2.72) 0.9 (0.27-3.10)

Other 0.7 (0.27-1.93) 0.9 (0.29-2.58) 0.6 (0.13-2.45) 0.9 (0.27-3.0)

Binge-Drinking (Past 90 Days) (ref: No)

Yes	1.7** (1.14-2.50)	1.14 (0.79-1.67)	1.8 (0.97-3.14)	1.7* (1.08-2.82)
<i>Any Illicit Substance Use (Past 90 Days)</i> (ref: No)				
Yes	2.2*** (1.51-3.28)	2.1*** (1.40-3.05)	2.2** (1.25-3.87)	2.3*** (1.43-3.66)

Note: The reference groups include: sexual debut 16 years and older; living in Almaty; married marital status; 9th grade or less education; unemployment; HIV-negative status; gay sexual orientation; no binge-drinking in the past 90 days; and no illicit substance use in the past 90 days. CI: Confidence interval. P-values: $p \leq 0.05$ * $p \leq 0.01$ ** $p \leq 0.001$ ***.

2.4 Discussion

This is the first study to find associations between earlier sexual debut and exchange sex behaviors among MSM in Kazakhstan. Notably, the significant associations between sexual initiation during childhood (i.e., ages 12 and under) and exchange sex behaviors strongly suggests the presence of child sexual abuse and/or other forms of adverse childhood events. Previous research has shown that children who have experienced sexual abuse and other forms of neglect are at increased risk of engaging in exchange sex behaviors (Brown et al., 2015b). Similarly, earlier sexual debut has been previously associated with both sexual abuse and exchange sex behaviors (Kastbom et al., 2015). The possible influence of adverse childhood events may be particularly salient for sexually diverse populations in Kazakhstan who report high rates of homophobic discrimination within their families and greater community (Amnesty International, 2017). Future research and clinical interventions aimed at examining exchange sex risk behaviors among MSM in Kazakhstan should include sexual histories that incorporate age and context of first sexual activity, including non-consensual or abusive sexual experiences during childhood.

The significant associations found between selling sex and population characteristics such as city region, housing security, educational attainment, and substance use suggests that exchange sex behaviors among MSM in Kazakhstan may be a form of survival sex. Sexually diverse young people are at increased risk of family rejection due to homophobia, and as result experience disproportionate rates of homelessness (Castellanos, 2016). Additionally, sexually diverse youth who experience violence and/or parental substance use in the home may leave their family to remove themselves from abuse within the home (Ream & Forge, 2014). Homelessness can be traumatizing, and adapting to this environment may involve substance use and

exchanging sex for resources (Castellanos, 2016; Ream & Forge, 2014). Similarly, obstacles and other stressors related to housing insecurity and substance use may also result in lower educational attainment. Additional research is needed to assess why selling sex among MSM is associated with specific city centers. In Kazakhstan, clinicians and other providers who work with MSM who are at risk of HIV transmission and selling sex for resources should consider the potential impact of trauma, homelessness, lack of access to education, and substance use.

There is no singular reason why some men exchange resources for sex, however, research examining men who buy sex from women suggests that some motivators include desire for emotional intimacy, sexual novelty, and/or sexual control (Sanders, 2008). This study found significant associations between buying sex and characteristics such as substance use, heterosexual and bisexual identity, and marital status. It is possible that some MSM in Kazakhstan buy sex to attain a form of intimacy and/or control that is absent from their non-commercial sexual relationships with women or other men. Substance use and buying sex could be emotional coping mechanisms, or they may simply be a result of novelty seeking. Future research should examine the motivators, risk factors, and contexts of gay, bisexual, and other MSM who buy sex in Kazakhstan.

Limitations

The present study sample may not be representative of MSM populations in Kazakhstan. Additionally, information about race/ethnicity were not available, and possible disparities between Russian and Kazakh populations could not be assessed. The sexual debut survey question was relatively simple and only asked the participant's age of first sexual activity. The study survey did not ask or differentiate between consensual and non-consensual sexual debut; the study's Community Advisory Board dissuaded asking about child sexual abuse during

instrument development. In the screening survey, participants were asked their age of onset for selling sex, but this question was not asked for buying sex. The study is cross-sectional and cannot assert a temporal relationship between sexual debut and exchange sex. Finally, social desirability-bias may have influenced reporting of socially sensitive behaviors, such as exchange sex and sexual activity during childhood or adolescence.

Conclusion

MSM in Kazakhstan reporting an earlier sexual debut had significantly higher odds of ever buying or selling sex in exchange for resources as well as selling sex at an earlier age. MSM with a sexual debut prior to thirteen years of age were particularly likely to report exchange sex behaviors. Differentiating between consensual and non-consensual earlier sexual experiences is an important contextual detail for future research to consider. Additional research and clinical interventions are needed to better understand the context of exchange sex behaviors and pathways between consensual and non-consensual earlier sexual activity and exchange sex behaviors among MSM in Kazakhstan.

Chapter 3: Earlier Sexual Debut and Experiences of Anti-Gay Violence Among Men Who Have Sex with Men (MSM) in Kazakhstan

3.0 Abstract

Limited research has examined predictors of anti-gay victimization among men who have sex with men (MSM), despite anti-gay violence continuing to be a global problem. A secondary analysis of data from structured interviews was conducted with 600 MSM adults to examine anti-gay victimization and earlier sexual debut among MSM in Kazakhstan. Multiple linear regression was used to test for associations between earlier sexual debut—categorized as age of sexual onset between 13-15 years of age and prior to 13 years old, with ages 16 and older as the reference group—and recent and number of types of anti-gay victimization experiences. Multivariable logistic regression models were used to assess earlier sexual debut and specific types of victimization. The majority of MSM reported lifetime (89%) or recent (68%) experiences of anti-gay victimization. Earlier sexual debut prior to 13 years of age was significantly associated with greater number of types of lifetime and recent reports of victimization. Among specific types of anti-gay victimization, earlier sexual debut was associated with higher odds of experiencing verbal, physical, and sexual violence. Anti-gay violence in Kazakhstan is a significant and prevalent public health issue. Future research and clinical interventions addressing anti-gay victimization among MSM populations should consider the lifetime and current implications of consensual and non-consensual childhood and adolescent sexual experiences.

3.1 Introduction

Globally, sexual and gender expansive (SGE) populations continue to face many pervasive forms of discrimination, including physical, emotional, and sexual violence (Bostwick et al., 2014; Handlovsky et al., 2018; Herek, 2017; Herek & Berrill, 1990; Hong et al., 2016). Gay, bisexual, and other men who have sex with men (MSM) are highly stigmatized populations within Kazakhstan, yet empirically assessed prevalence rates of anti-gay forms of violence and victimization in the region are relatively unknown (Latypov et al., 2013; Paine et al., 2021).

Anti-Gay Victimization

Evidence suggests that SGE people are at increased risk of experiencing anti-gay violence and victimization across the life span within both their interpersonal relationships and within the greater society (Balsam et al., 2005). Anti-gay forms of discrimination and victimization are critical and well-documented environmental contributors to health disparities among SGE populations (Bostwick et al., 2014; Clark, 2014). However, reports and documentation of anti-gay victimization can vary widely depending on complex cultural, political, and geographic factors (Balsam et al., 2005; Herek, 2017). Direct academic research and data collection of victim-reported experiences is important because it can bypass structural barriers within law enforcement and state-controlled systems to contribute key information about the effects and pervasiveness of anti-gay violence within global regions underrepresented in research (Herek, 2017).

Anti-Gay Violence and Social Norms in Kazakhstan

In Kazakhstan, homophobia has been attributed to wide-spread Russian colonial influence within the region and is a socially and politically constructed environmental risk factor for SGE people (Wilkinson, 2020; Levitanus, 2022). As a result of anti-gay social norms, SGE

people have reported experiences of violence and discrimination from family members, employers, and members of the state (Amnesty International, 2017; Latypov et al., 2013; Levitanus, 2022; Paine et al., 2021). SGE people in Kazakhstan are not legally protected from discrimination on the basis of sexual orientation and gender identity, and are restricted from freedom of peaceful assembly, association, and expression in part by censored state-controlled media (Amnesty International, 2017). Although consensual same-sex sexual behavior among men was decriminalized in 1998, same-sex marriage remains illegal in Kazakhstan (Amnesty International, 2017; Wilkinson, 2020). Homophobic social attitudes and norms in Kazakhstan have been associated with violent crimes against SGE people, and survivors of anti-gay violence risk inadequate and abusive responses from police, prosecutors, judges, and other members of the legal system (Amnesty International, 2017; Levitanus, 2022). The nascent empirical research literature on SGE people in Kazakhstan has primarily focused on the harms of substance use and HIV, and less is known about violence against MSM and other sexual and gender expansive groups in Kazakhstan (Berry et al., 2012; Paine et al., 2021).

Earlier Sexual Debut, Anti-Gay Stigma, and Victimization

One aspect of sexual development that is associated with experiences of violence and victimization among SGE people is earlier age of first partnered sexual activity, otherwise known as earlier sexual debut (Brown et al., 2015a; Halkitis et al., 2021; Lowry et al., 2017). For many young people, sexual debut is considered to be a pivotal developmental milestone because it can represent a shift in personal identity, social status, and susceptibility to health risks (Golden et al., 2016; Lowry et al., 2017). However, compared to cisgender-heterosexual peers, SGE people's sexual debut can be complicated by systemic forms of anti-gay discrimination and stigma that perpetuate harm and health disparities (Stout et al., 2022). Earlier sexual debut can

contribute to additional risk for SGE people who are navigating stigmatized sexual relationships at a younger age (Outlaw et al., 2011; Stout et al., 2022). Risks related to earlier sexual debut among SGE people include disproportionate substance use and risky sexual behaviors, as well as experiences of violence and victimization (Outlaw et al., 2011; Tomori et al., 2016). Despite evidence that earlier sexual debut is linked to experiences of violence and victimization among SGE populations, limited research exists among MSM in Kazakhstan.

Global studies examining earlier sexual debut and experiences of victimization among SGE people often highlight child sexual abuse (CSA), sexual assault, and other forms of emotional and physical violence (Adeboye, 2017; Brown et al., 2015a; Lowry et al., 2017; Pan et al., 2014). SGE people report disproportionately higher rates of CSA victimization, and earlier sexual debut is associated with CSA victimization among SGE populations (Biello et al., 2014; Brown et al., 2015a; Lloyd & Operario, 2012b; Mimiaga et al., 2009; Schafer et al., 2013; Thoma et al., 2021). Beyond CSA, earlier sexual debut among SGE people has been associated with increased risk of other forms of violence, including electronic bullying, suicidal thoughts/attempts, and having been threatened at school (Kattari et al., 2021; Lowry et al., 2017). No previous studies have examined earlier sexual behavior among MSM populations within Kazakhstan, nor any associations between these earlier sexual events and reports of victimization.

Study Aims and Hypotheses

Limited research has examined the role of homophobic forms of victimization among MSM in Kazakhstan, and no previous research has examined associations between earlier sexual debut and anti-gay victimization among this population. The present study aims to investigate the relationship between earlier sexual debut and experiences of anti-gay violence and victimization

among a sample of MSM from three metropolitan cities in Kazakhstan. Specifically, it was hypothesized that earlier age of sexual debut is a predictor of both lifetime and recent experiences of anti-gay victimization. This study seeks to help address knowledge gaps about the role of sexual diverse people's earlier sexual behavior and how it relates to lifetime and present-day experiences of harm and violence.

3.2 Methods

Data Collection and Procedures

This is a secondary analysis of data that were obtained from a NIDA-funded clinical trial of a behavioral intervention that sought to increase the engagement of MSM who use substances in Kazakhstan in the HIV care continuum (for additional information refer to the methods section in Chapter 1). The clinical trial commenced in 2018, and the data presented in this report utilized self-reported data collected during structured screening and baseline interviews conducted in Russian or Kazakh with MSM in Almaty, Astana, and Shymkent that were completed between July 2018 and September 2021 ($N=600$). The sexual debut responses were collected from the screening interviews, and all other information was collected from the baseline interviews. All study procedures were approved by the Institutional Review Board (IRB) at Columbia University (Protocol # IRB - AAAQ7251) and the Local Ethical Committee at Al-Farabi Kazakh National University (Protocol # IRB - A052).

Participants

Participants included in this study are MSM adults who had completed both the screening and baseline surveys. Eligible participants were 18 years and older; identified as cisgender men; and reported having had consensual sex with a man in the past year ($N=600$).

Earlier Sexual Debut

Age of sexual onset, or sexual debut, was measured using a screening survey question asking how old the participant was when they first had sex: “How old were you when you first had sex?” The mean age of sexual debut in the MSM sample was 16 years old which determined the age cut-off point for the reference group used in all models. Earlier sexual debut was categorized into two sub-groups (ages 12 and younger and ages 13-15) to assess possible differences in health behavior risk among those who were sexually active as a pre-teenager as opposed to an early adolescent teenager (Hall et al., 2020).

Anti-Gay Victimization

An adapted version of Herek and Berrill’s (1990) anti-gay violence and victimization survey instrument was used for assessment. Respondents were asked if they had experienced various forms of victimization due to their gender identity or sexual orientation recently (past six months) and within their lifetime. A total of 16 victimization questions were asked including whether they had ever been sexually assaulted or threatened with physical violence (see Table 2c for the complete list of items). Based on a more contemporary understanding and feedback from the study’s Community Advisory Board, the research team added items related to “outing” and being targeted on social media. Lifetime victimization was measured using the sum number of victimization types experienced ever. Recent victimization was measured using the sum number of victimization types experienced in the past six months.

Covariates

Sociodemographic characteristics included age, city (Almaty, Astana, and Shymkent); marital status, highest educational attainment level, employment status, recent housing insecurity (past 6 months); lifetime polydrug use (reported illicitly using three or more types of drugs ever); and self-reported HIV status. Sexual orientation was self-reported by participants and identified

as either gay, bisexual, heterosexual, or other sexual orientation. Income was self-reported by participants and was measured by their estimated monthly income during the past six months. Within bivariate and multivariable models, income was transformed using a natural log.

Statistical Analyses

Independent t-tests, one-way ANOVA tests, and Pearson correlations were used for bivariate analyses to determine differences between population characteristics and experiences of violence and victimization. Multiple linear regression was employed to assess the association between earlier sexual debut and victimization, with covariance adjustment for sociodemographic characteristics. Logistic regression was also used to determine associations between earlier sexual debut and specific types of victimization that occurred over the lifetime and in the past six months (e.g., whether they had ever been verbally insulted) and controlling for sociodemographic characteristics. Multicollinearity diagnostics were examined; all variance inflation factor (VIF) values were less than 4 and no tolerance values were lower than 0.25.

3.3 Results

Sociodemographic Characteristics

Categorical sociodemographic characteristics are listed in Table 1c. Over a third of participants lived in Almaty (37%) and most had recently experienced housing security (89%). Participants were primarily single (76%), employed full-time (52%), and had a bachelor's education or more (47%). The majority of participants reported identifying as gay (53%) and HIV-negative (62%). Most participants did not report engaging in lifetime polydrug use behaviors (81%). Approximately two-thirds of participants reported having a sexual debut when they were 16 years of age or older (62%). Regarding continuous population characteristics, the average age of study participants was 28 years old, and the average monthly income reported

over the past six months was approximately 200,000 KZT (~500 USD based on the average exchange rate over the data collection period).

Table 1c.
Categorical Sociodemographic Characteristics of the Sample of MSM in Kazakhstan, 2018-2021 (N=600)

Population Characteristic	<i>n (%)</i>
City	
Almaty	223 (37.2%)
Astana	194 (32.3%)
Shymkent	183 (30.5%)
Marital Status	
Single	457 (76.2%)
Married	44 (7.3%)
No Longer with Spouse	53 (8.8%)
Other	46 (7.7%)
Highest Educational Attainment Level	
Other	39 (6.5%)
9th Grade or Less	253 (42.2%)
High School or Vocational	281 (46.8%)
Bachelor's Degree or More	27 (4.5%)
Employment	
Full-Time	311 (51.8%)
Part-Time	143 (23.8%)
Unemployed	62 (10.3%)
Other	84 (14.0%)
Housing Insecurity in the Past 6 Months	
Yes	67 (11.2%)

No	533 (88.8%)
Self-Reported HIV Status	
HIV-Positive	46 (7.7%)
HIV-Negative	372 (62.0%)
Unknown	182 (30.3%)
Self-Reported Sexual Orientation	
Gay	317 (52.8%)
Bisexual	256 (42.7%)
Heterosexual	8 (1.3%)
Other	19 (3.2%)
Lifetime Polydrug Use	
Yes	113 (18.8%)
No	487 (81.2%)
Sexual Debut ^a	
Ages less than 13	64 (10.7%)
Ages 13-15	162 (27.0%)
Ages 16 and older	373 (62.2%)

Note. The present table represents the observed percentage (%) of categorical sociodemographic characteristics within the sample of MSM adults. ^aOne response for sexual debut was coded as missing.

Anti-Gay Victimization

Lifetime Anti-Gay Victimization. Across all types, the vast majority (89%) of MSM in the sample had reported ever experiencing a form of anti-gay victimization. Among lifetime reports of specific types of victimization, verbal insults (69%) and insults on social media (62%) were most frequently reported by participants (see Table 2c for a complete list). In the bivariate

analyses, the number of types of lifetime victimization differed significantly by recent housing status, region, income, polydrug use, and sexual orientation. Participants who recently reported experiencing housing insecurity were more likely to report higher mean lifetime victimization scores. Income had a positive, but weak, significant correlation to number of types of lifetime victimization.

Recent Anti-Gay Victimization (Past 6 Months). Across all types, approximately two-thirds (68%) of MSM in the sample had reported recently experiencing a form of anti-gay victimization. Among reports of specific types of recent victimization, insults on social media (42%) and verbal insults (33%) were most frequently reported by participants (see Table 2c for a complete list). In the bivariate analyses, the number of types of victimization experienced over the past six months differed significantly by recent housing status, region, education, polydrug use, and HIV status. Participants who reported recently experiencing housing insecurity were more likely to report higher mean victimization scores over the past six months. MSM with an unknown HIV status had significantly higher mean recent victimization scores compared to those with a negative HIV status.

Table 2c.
Anti-Gay Victimization Among MSM in Kazakhstan, 2018-2021 (N=600)

Experiences of Victimization	Lifetime	Past 6 Months
	<i>n (%)</i>	<i>n (%)</i>
Verbal Insults	415 (69.2%)	198 (33.0%)
Threatened with Physical Violence	271 (45.2%)	100 (16.7%)
Personal Property Damaged	215 (35.8%)	95 (15.8%)
Objects Thrown	185 (30.8%)	64 (10.7%)

Chased or Followed	198 (33.0%)	89 (14.8%)
Spat On	65 (10.8%)	23 (3.8%)
Punched, Hit, Kicked, or Beaten	265 (44.2%)	92 (15.3%)
Assaulted or Wounded with a Weapon	134 (22.3%)	30 (5.0%)
Sexual Harassment	239 (39.8%)	102 (17.0%)
Sexual Assault	119 (19.8%)	31 (5.2%)
Harassed by Police	103 (17.2%)	31 (5.2%)
Beaten or Assaulted by Police	57 (9.5%)	14 (2.3%)
Outed Against Their Will	264 (44.0%)	132 (22.0%)
Threatened to Be Outed	219 (36.5%)	108 (18.0%)
Insulted on Social Media	371 (61.8%)	251 (41.8%)
Threatened with Physical Violence on Social Media	182 (30.3%)	129 (21.5%)

Note. The present table represents the percentage (%) of experiences of victimization reported within the total sample of MSM.

Associations Between Earlier Sexual Debut and Anti-Gay Victimization. Earlier sexual debut was significantly associated with recent and lifetime measures of victimization in the bivariate analyses. After controlling for sociodemographic characteristics in the adjusted multiple linear regression models, earlier sexual debut before 13 years old was significantly associated with greater number of types of lifetime and recent victimization ($\beta = 1.37, p < 0.01$; $\beta = 1.15, p < 0.01$ respectively) (see Table 3c).

Table 3c.*Associations Between Early Sexual Debut and Reports of Anti-Gay Victimization Among MSM in Kazakhstan, 2018-2021*

	Experiences of Victimization							
	Number of Types Ever				Number of Types in the Past 6 Months			
	β	<i>SE</i>	<i>95%CI</i>	<i>p</i>	β	<i>SE</i>	<i>95%CI</i>	<i>p</i>
<i>Sexual Debut</i> (ref: ≥ 16 Years Old)								
Sexual Debut Less Than 13								
Years Old	1.37	0.50	0.39-2.35	<.01	1.15	0.40	0.36-1.94	<.01
Sexual Debut 13-15 Years Old	0.48	0.35	-0.21-1.17	0.17	0.11	0.28	-0.45-0.67	0.70
<i>Age</i>	0.02	0.02	-0.02-0.07	0.30	0.01	0.02	-0.03-0.05	0.35
<i>Income log2(n)</i>	0.08	0.06	-0.05-0.20	0.21	0.05	0.05	-0.05-0.15	0.34
<i>Region</i> (ref: Almaty)								
Astana	-2.33	0.37	-3.07--1.60	<.001	-0.83	0.30	-1.42--0.23	<.01
Shymkent	-2.13	0.38	-2.87--1.38	<.001	0.80	0.30	0.20-1.40	<.01
<i>Marital Status</i> (ref: Single)								
Married	-0.06	0.62	-1.27-1.15	0.92	-0.06	0.50	-1.03-0.92	0.91
No Longer with Spouse	-0.64	0.63	-1.87--0.60	0.31	-0.53	0.51	-1.53-0.47	0.30
Other	0.37	0.57	-0.75-1.49	0.52	-0.23	0.46	-1.14-0.67	0.61

Highest Educational Attainment Level (ref: Bachelor's Degree or More)

Higher Secondary	0.13	0.33	-0.51-0.77	0.69	0.49	0.26	-0.03-1.01	0.06
Lower Secondary	0.38	0.67	-0.92-1.69	0.56	0.61	0.54	-0.44-1.67	0.26
Other	2.23	0.75	0.75-3.71	<.01	1.30	0.61	0.10-2.49	0.03

Employment (ref: Full-Time)

Part-Time	-0.24	0.38	-0.99-0.51	0.52	0.14	0.31	-0.47-0.74	0.66
Unemployed	0.53	0.53	-0.51-1.57	0.32	1.18	0.43	0.34-2.01	<.01
Other	-0.22	0.50	-1.19-0.76	0.66	0.57	0.40	-0.22-1.35	0.16

Housing Insecurity in the Past 6 Months (ref: No)

Yes	2.64	0.49	1.68-3.59	<.001	2.42	0.39	1.65-3.19	<.001
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Lifetime Polydrug Use (ref: No)

Yes	1.61	0.39	0.85-2.38	<.001	0.62	0.32	0.00-1.24	0.05
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Self-Reported Sexual Orientation (ref: Gay Identity)

Bisexual	-1.38	0.33	-2.02--0.74	<.001	-0.63	0.26	-1.15--0.11	0.02
Heterosexual	-0.97	1.33	-3.57-1.64	0.47	-0.16	1.07	-2.26-1.94	0.88
Other	-0.40	0.88	-2.13-1.32	0.65	-.073	0.71	-2.13-0.66	0.30

Self-Reported HIV Status (ref: HIV-Positive)

HIV-Negative	-0.51	0.58	-1.64-0.62	0.38	-0.06	0.46	-0.97-0.85	0.90
Unknown	-0.45	0.62	-1.67-0.78	0.47	0.46	0.50	-0.53-1.44	0.36

Note. β : Beta adjusted for age, income $\log_2(n)$, city, marital status, education, employment, housing insecurity, sexual orientation, lifetime polydrug use, and HIV-status. CI: Confidence interval. P-values: significant values of $p \leq 0.05$ are in bold.

Participants with an earlier sexual debut reported significantly higher odds of recent and lifetime forms of specific types of victimization compared to those with a sexual debut of sixteen years or older. Sexual debut prior to thirteen years old was significantly associated with increased odds of being threatened with physical violence ever and recently (*aOR*=2.0, 95%*CI*: 1.12-3.64, *p*=0.02; *aOR*=2.1, 95%*CI*: 1.03-4.13, *p*=0.04); punched, kicked, hit, or beaten recently (*aOR*=2.2, 95%*CI*: 1.05-4.49, *p*=0.04); lifetime (*aOR*=2.2, 95%*CI*: 1.22-3.79, *p*=0.008); lifetime and recent sexual assault (*aOR*=6.6, 95%*CI*: 3.56-12.20, *p*<0.001; *aOR*=6.3, 95%*CI*: 2.08-18.88, *p*=0.001); being “outed” and threatened to be “outed” recently (*aOR*=2.3, 95%*CI*: 1.21-4.34, *p*=0.01; *aOR*=2.4, 95%*CI*: 1.23-4.75, *p*=0.01); as well as insulted on social media recently (*aOR*=1.9, 95%*CI*: 1.05-3.22, *p*=0.04). Sexual debut between thirteen to fifteen years old was significantly associated with increased odds of ever being assaulted with a weapon (*aOR*=1.7, 95%*CI*: 1.05-2.77, *p*=0.03).

3.4 Discussion

The majority of Kazakhstani MSM in our sample had experienced some form of anti-gay violence in their lifetime, as well as over the past six months. This study indicates that the prevalence rate of anti-gay victimization is higher than other major public health concerns for MSM in Kazakhstan, such as HIV, binge drinking, and illicit use of substances (Paine et al., 2021). The most frequently reported forms of lifetime and recent anti-gay victimization were verbal insults and insults on social media, suggesting that homophobic language is prevalent in Kazakhstan. It is possible that verbal and online insults are more frequently reported because these forms of harm are relatively easier to perpetrate compared to physical forms of abuse, such as assault with a weapon. Research about the context of verbal and online threats as well as other

forms of anti-gay victimization are needed, in addition to online and offline anti-bullying interventions aimed at destigmatizing sexual and gender expansive populations in Kazakhstan.

Anti-Gay Victimization & Other Factors

In our final models, other factors such as housing insecurity, lifetime polydrug use, and sexual orientation were also significantly associated with anti-gay victimization among MSM in Kazakhstan. These results suggest that anti-gay victimization may be a more salient concern in Almaty, compared to Astana or Shymkent. However, this may be due to overall higher crimes rates in Almaty, compared to other major cities in Kazakhstan (Kabdesov, 2022). Further research is needed to understand anti-gay victimization disparities among cities in Kazakhstan.

Significant associations between sexual orientation and anti-gay victimization suggests that MSM who identify as gay experience a greater burden of anti-gay victimization compared to bisexual, heterosexual, or other identified MSM. Compared to other types of sexual orientation identities, gay identified MSM may be more “out” or visible as a potential target within a homophobic risk environment, which may account for these disparities.

Additionally, the significant associations found between anti-gay victimization and housing insecurity and lifetime polydrug use suggests that homelessness and substance use may be part of an overall environment of risk that also includes vulnerability to homophobic victimization. Overall, high prevalence rates of anti-gay victimization were reported among MSM which suggests a robust homophobic risk environment within Kazakhstan that needs to be addressed to improve the health and well-being of sexual and gender expansive communities.

Earlier Sexual Debut and Anti-Gay Victimization

Evidence from the present study suggests that sexual debut before 16 years old is associated with an increased risk of verbal, physical, and sexual anti-gay victimization among

MSM in Kazakhstan. Specifically, MSM within the youngest sexual debut age category (i.e., before 13 years old), were particularly vulnerable to physical, sexual, and verbal forms of anti-gay violence compared to those reporting an older age of sexual onset. These results suggest that earlier onset of sexual activity among MSM is linked to a violent and homophobic risk environment that may extend from childhood throughout adulthood. MSM in Kazakhstan are vulnerable to complex and systemic homophobic violence that needs to be examined as a key contextual factor throughout the lifespan, beginning in childhood and early adolescence.

Earlier Sexual Debut and Sexual Victimization

Notably, earlier sexual debut prior to 13 years old was significantly associated with over six times higher odds of lifetime and recent sexual assault. This is consistent with previous research among sexually diverse populations linking earlier sexual debut to violent forms of victimization, including forced sexual intercourse (Lowry et al., 2017). Sexual activity before the age of 13 years old is highly suspected to be a result of sexual abuse, and additional research is needed to understand the context of childhood sexual debut among MSM (Wurtele & Kenny, 2011). Survivors of sexual abuse and violence are known to be at increased risk of sexual revictimization and sexuality-related discrimination (El Khoury et al., 2021). The significant associations found between earlier sexual debut and lifetime and recent sexual victimization may indicate a pattern of violence and revictimization that are connected to events dating back to childhood. Stigma related to sexual victimization may additionally be compounded by homophobic attitudes directed towards MSM survivors of sexual assault (Kiss et al., 2020). Additional research needs to examine the long-term health consequences of consensual and non-consensual earlier sexual debut among MSM, including sexual revictimization.

Limitations

There are several limitations to the present study. The study design was cross-sectional and cannot determine a causal relationship between earlier sexual behavior and experiences of violence and victimization. Earlier sexual debut and the models used in this study do not control for or distinguish between consensual and non-consensual sexual onset. In this secondary analysis, variables describing sexual debut acts (e.g., anal intercourse, oral sex) and sexual debut partner information (e.g., gender, age) were not available. This sample only included cisgender MSM and did not include any other sexual or gender expansive populations. Additionally, information about race/ethnicity were not available, and possible disparities between Russian and Kazakh populations could not be assessed. Lastly, social-desirability bias may have influenced self-reporting of socially sensitive behavior, such as sexual activity during childhood and experiences of anti-gay violence.

Future Research & Recommendations

Additional research is needed to better elucidate homophobic environmental contexts that shape earlier sexual experiences and how they relate to reports of lifetime and recent physical, sexual, and verbal anti-gay victimization among MSM as well as other sexual and gender expansive populations in Kazakhstan. Future MSM sexual debut research should also include contextual information regarding specific sexual behaviors (e.g., anal intercourse), as well as information about the sexual partner(s) (e.g., age, gender, relationship to participant). Future research should also examine the impact of substance use, homelessness, and sexual orientation identity as factors associated with anti-gay victimization among MSM. Policy and clinical programming interventions aimed at addressing the needs of MSM survivors of sexual, physical, and verbal harm in Kazakhstan should investigate the role of anti-gay/homophobic

environmental influences as well as inquire about any history of homelessness, substance use, and childhood sexual experiences.

Conclusion

Experiences of anti-gay victimization are prevalent among MSM in Kazakhstan. Earlier sexual debut is associated with both recent and lifetime experiences of anti-gay victimization among MSM in Kazakhstan. Specifically, earlier sexual debut is associated with increased risk of verbal, physical, and sexual forms of victimization. Systemic forms of anti-gay victimization among SGD adults in Kazakhstan need to be better addressed across the lifespan, with a specific focus on investigating the role of consensual and non-consensual sexual experiences of children and younger adolescents.

Chapter 4: Conclusions

4.0 Summary of Results

There is limited understanding of how sexual onset during sensitive life stages of development are associated with long-term health disparities and trajectories, such as substance use, exchange sex, and anti-gay violence, among gay, bisexual, and other men who have sex with men in Kazakhstan who are at risk of HIV. This dissertation found significant associations between earlier timing of first sexual activity and subsequent HIV-risk factors and experiences of violence among adult MSM in Kazakhstan—specifically substance use, exchange sex behaviors, and anti-gay victimization. Overall, these results suggest that consensual and non-consensual sexual debut during childhood and earlier adolescence are connected to longer-term health disparities and trajectories among this sample of MSM. Interventions aimed at reducing health disparities among MSM in Kazakhstan should consider evaluating for the influence of lifetime sexual experiences, including those earlier in sexual development.

Paper 1: Earlier Sexual Debut as a Risk Indicator for Substance Use Among Men Who Have Sex with Men (MSM) in Kazakhstan

This study examined associations between earlier sexual debut and lifetime and recent substance use behaviors among MSM in Kazakhstan. Most MSM in the study sample reported lifetime binge drinking behavior and illicit use of drugs. MSM with an earlier sexual debut before 13 years old had significantly higher odds of lifetime binge drinking, using marijuana, or any illicit drugs, compared to MSM with an older sexual debut. Compared to MSM with a sexual debut at 16 years or older, MSM with sexual debuts between the ages of 13 and 15 years old had significantly higher odds of ever binge drinking, using marijuana, heroin, other opioids, stimulants, cocaine, club drugs, or any illicit drugs; as well as binge drinking or using marijuana or stimulants in the past 90 days. These findings demonstrate that earlier sexual experiences

among MSM during childhood and earlier adolescence are associated with illicit use of substances and binge drinking behaviors. The timing and context of sexual debut (whether sexual debut was consensual) among MSM in Kazakhstan should be researched further in order to better understand how it is related to lifetime trajectories of substance use, and other HIV-risk factors. Interventions aimed at substance use prevention, treatment, and recovery should utilize a life course approach that takes into consideration the lifetime sexual histories of MSM, including consensual and non-consensual sexual experiences during childhood and adolescence.

Paper 2: Earlier Sexual Debut and Exchange Sex Behaviors Among Men Who Have Sex with Men (MSM) in Kazakhstan

This study aimed to examine associations between earlier sexual debut and lifetime exchange sex behaviors, including selling and buying sex, among MSM in Kazakhstan. The median age of selling sex in this sample was 21 years old. Results from this study indicated that approximately a quarter of participants had sold and bought sex, respectively, in their lifetime. MSM who reported an earlier sexual debut, particularly before the age of 13, had significantly higher odds of ever selling or buying sex in their lifetime, as well as selling sex at an earlier age (before the age of 21). These findings demonstrate that earlier timing of sexual debut is predictive of exchange sex behaviors among an adult population of MSM. Future research should examine the context of sexual debut among MSM, including whether these earlier sexual experiences were consensual or non-consensual. Beyond buying and selling sex, research should seek to better understand the risk profiles of those who exchange sex for resources, including safer sex methods, substance use, and exchange sex setting (e.g., street-based, brothels, hotels). Interventions aimed at addressing HIV-risk among MSM who exchange sex should consider a life course approach to examining health disparities among this population, including how earlier

experiences of sexual behaviors during childhood and adolescence are related to shifts in health trajectories among this population over time.

Paper 3: Earlier Sexual Debut and Experiences of Anti-Gay Violence Among Men Who Have Sex with Men (MSM) in Kazakhstan

This study aimed to examine prevalence rates of anti-gay victimization among MSM in Kazakhstan, and associations between earlier sexual debut and anti-gay victimization. Study results indicated that the vast majority of MSM in our sample had experienced some type of lifetime or recent anti-gay victimization. The most commonly reported types of anti-gay victimization were verbal insults and insults on social media. Compared to MSM with an older sexual debut, MSM with a sexual debut prior to 13 years of age were significantly more likely to report a greater number of types of lifetime and recent reports of victimization. Earlier sexual debut was associated with higher odds of experiencing verbal, physical, and sexual violence, such as having been beaten, insulted online, and sexually assaulted. These results indicate that earlier sexual experiences are associated with lifetime and recent experiences of violence, including verbal, physical, and sexual victimization. Future research needs to examine whether these earlier sexual debut experiences were consensual, and potentially part of a milieu of violence across the life course. Homophobia and anti-gay violence are highly prevalent issues among MSM in Kazakhstan, and interventions aimed at violence and harm reduction among this population should be aware that sexual experiences during childhood and early adolescence are associated with violence disparities among this population that can span into adulthood.

4.1 Limitations

Beyond the specific limitations reported for each paper, there are several cross-cutting limitations to this dissertation research. Notably, age of sexual debut is a relatively simple measure and does not include information about specific sexual behaviors (e.g., sexual

intercourse) and whether the sexual debut was consensual. These analyses were cross-sectional, retrospective (especially regarding age of sexual debut), and based on self-report; altogether, this study could not establish causal relationships between earlier sexual debut and substance use, exchange sex, and anti-gay victimization outcomes. Additionally, these studies cannot determine the longitudinal timing of sexual activities, substance use, exchange sex, and victimization over the life course. Lifetime and recent reports of outcomes were included, however these studies cannot determine the timing of repeated behaviors or experiences, such as sexual revictimization. The data used for these studies are not necessarily representative of MSM in Kazakhstan. Participants were recruited from three major cities in Kazakhstan, and do not represent the lived experiences of MSM in rural regions of Kazakhstan. Additionally, racial/ethnic disparities among this population could not be addressed because this data were not available in the original parent study. Childhood sexuality, exchange sex, substance use, and anti-gay victimization are all stigmatized behaviors and experiences and may be underreported due to social-desirability bias.

4.2 Social Work Implications

There are several important implications of this dissertation research. Limited research literature currently exists about MSM in Kazakhstan and these studies expand upon our understanding of associations between earlier sexual behavior, HIV-risk factors, and victimization among this population. Additional overarching research, clinical, and policy implications of the present research will be discussed.

Research

Beyond Age of Sexual Debut: ACES & Other Contexts. As noted previously, the sexual debut measure used throughout this dissertation is relatively simple and only assessed the

chronological age of first sexual activity. Due to associations found between earlier age of sexual debut and substance use, exchange sex, and violence among MSM at risk of HIV, additional information beyond chronological age of sexual debut needs to be considered further.

Expanded Definitions of Sexual Debut. Future research should collect information about how the participant defines their sexual debut (e.g., first oral sex, first anal sex). Previous literature has suggested that SGE populations may perceive multiple types of sexual debuts, such as first heteronormative sexual intercourse and first same-sex sexual activity (Huang, 2018). The assumption of one “type” of sexual debut, typically defined by heteronormative assumptions of penetrative sexual intercourse, should be avoided and additional research is needed to better elucidate how SGE populations define their own sexual debut(s).

Interpersonal Contexts. Other research has noted that earlier sexual debut, particularly among children and younger adolescent populations, need to be critically evaluated for signs of abuse or violence. In addition to age of sexual debut of the participant it would be highly beneficial to collect sociodemographic information about the sexual debut partner(s), such as their age, gender, sexual orientation, as well as substance use and exchange sex behaviors. Interpersonal details regarding the relationship context between the participant and sexual debut partner(s) such as their relationship status (e.g., boyfriend, stranger, relative) and how they met/know each other (e.g., school, party, family) may provide critical information to determine abusive sexual debut contexts. Due to the significant associations between earlier sexual debut and victimization, substance use, and exchange sex, it would be prudent to assess if the participant’s sexual debut involved substance use, exchange sex, or violence with their first sexual partner.

Future sexual debut research among MSM should ask participants if they felt that their sexual debut experience(s) was/were consensual, and if they felt they were coerced or forced to have sex for the first time. If the sexual debut involved signs of abuse or violence, it would be important to know if the participant disclosed their sexual debut to friends, parents/guardians, or other adults such as a teacher or healthcare professional. Positive and negative social reactions to sexual debut, particularly if they involved same-sex behavior and/or sexual assault, may provide greater insight to experiences of violence, stigma, and discrimination throughout the life course (Lorenz et al., 2018). Reasons for sexual debut non-disclosure should also be examined as potentially both a risk and/or protective factor for MSM and other SGE populations (Ullman et al., 2020). Sexual debut non-disclosure could help protect the individual from additional violence and stigmatization, however, non-disclosure could also limit the young person's access to sexual health resources and protection from revictimization.

ACEs Contexts. In addition to more detailed data collection around the context of sexual debut, adverse childhood events (ACEs) screening measures can be utilized to broadly capture experiences of childhood violence, including childhood sexual abuse (CSA). For example, the Center for Disease Control's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) Adverse Childhood Experience (ACE) module assesses for stressful events during childhood such as physical, emotional, and sexual abuse, as well as parental mental health, substance use, and interpersonal violence (IPV) within the home (CDC-BRFSS, 2010).

Previous research has linked earlier sexual debut to ACEs, as well as other interpersonal conflicts at home and in school (Brown et al., 2015a; Lohman & Billings, 2008). Beyond the evaluation of sexual victimization during childhood and adolescence, it is important to also examine other forms of abuse and neglect that may also shape the context and timing of sexual

debut. ACEs, such as CSA, typically do not exist within an isolated social and environmental vacuum and are often associated with multiple forms of abuse and neglect within childhood that can collectively result in negative lifelong health implications.

For MSM who experienced consensual earlier sexual debut, the role of other (non-sexual) ACEs may still be applicable. Social isolation because of family conflict and violence within the home may result in a young person seeking intimacy and connection from other relationships during childhood and adolescence; these other interpersonal relationships may provide risk and protective factors for the child depending on the context of the relationship(s). For example, a SGE young person who is isolated at home may find positive connections and community among other SGE and ally peers at their school. Alternatively, a SGE young person who is isolated at home may be vulnerable to predatory behaviors from older adolescents or adults who may target marginalized and stigmatized young people who have limited adult and/or peer social support. Consequently, family, peer, and community support may be critical protective factors to explore for ACEs, earlier sexual debut, and long-term HIV risk factors among MSM and other SGE populations.

Due to significant concerns around ACEs, specifically childhood sexual violence, it may be ill-advised to recommend direct efforts towards delaying age of sexual debut. Hyper-focusing on chronological age of sexual debut may obfuscate deeper issues at play within the child's life, and risks victim-blaming survivors of abuse who had limited to no control over their sexual debut timing. Beyond sexual risk and safety, a greater emphasis should be placed on better understanding the child's quality of life and improvements towards more overall positive sexual experiences over the life course.

Sexual Pleasure. The overwhelming majority of sexual debut research focuses on risk reduction and experiences of violence among young people—but limited research has examined the long-term health implications of sexual desire, sexual self-efficacy, and sexual satisfaction at sexual debut. Beyond a baseline of consent, it could be beneficial to know if this was a positive sexual experience, and what specific aspects of the sexual debut made it positive. Research has found that positive first sexual experiences are linked to long-term positive sexual relationships in adulthood, suggesting that there are long-term health effects of *both* positive and negative sexual debut (Reissing et al., 2012; Smith & Shaffer, 2013). Greater research attention is needed to better understand how key components of a positive sexual debut are possibly associated with long-term health trajectories of SGE populations.

The Role of Social Stigma. It is important to note that some MSM may report an earlier sexual debut and no history of sexual abuse or other forms of violence during childhood and adolescence. For some younger MSM, earlier sexual debut may have been a positive experience and risk associated with this experience may be a result of the sociocultural stigmatization of childhood and adolescent sexual behavior, particularly same-sex sexual behavior.

It is possible that being involved in stigmatized behavior during childhood or adolescence, such as consensual or non-consensual earlier sexual debut, may increase the likelihood of engaging in subsequent stigmatized behaviors (i.e., drug use, exchange sex) into adulthood. It is well known that survivors of sexual violence are frequently stigmatized and blamed for their own victimization; and children who have experienced sexual violence may even be victim-blamed by adults in their life—or not believed at all (Kennedy & Prock, 2018; Theimer & Hansen, 2020). Additionally, adults (e.g., parents, policymakers) within our society risk rejecting and marginalizing sexually active young people by refusing to acknowledge

childhood and adolescent sexual behaviors, and by denying younger people access to sexual education, social support, or healthcare resources.

To assess for the potential influence of sexual stigma, various measures can be used to evaluate for sexual conservatism and internalized homophobia, as well as perceived parental sexual conservatism and parental rejection following sexual orientation disclosure (Aalsma et al., 2013; Holt & McKinney, 2023; Puckett et al., 2015; Spanier, 1976). For survivors of childhood sexual violence, including non-consensual sexual debut, there are measures that have been developed to assess for feelings of powerlessness, betrayal, and stigma related to CSA victimization that could be used to help understand how individuals interpret their experience(s) of childhood sexual violence (Gibson & Leitenberg, 2001).

Previous sexual debut research has emphasized the importance of sexual education for children and adolescents to delay debut, however, there is less emphasis on expanding parent or adult education to improve their understanding of childhood and adolescent sexual development (Erkut et al., 2013; Maina et al., 2021). Due to the persistent stigmatization of young people's sexuality, it is important to consider that adults, who are responsible for the safety of children, also have increased access to comprehensive sexual education and resources that promotes a positive understanding of sexual development throughout the life course.

Methodological Considerations for Trauma Informed SGE Life Course Research.

Researchers interested in HIV-prevention and other health equity research for adult SGE populations need to consider the complex impact of trauma and adversity spanning across the lifespan, from childhood throughout adulthood. Future research should consider utilizing longitudinal, mixed methods, and community-based approaches to better understand how sexual

development and major life events, such as experiences of sexual debut and/or violence, across the lifespan impact HIV risk among MSM, as well as other SGE populations.

Longitudinal research may be able to better provide insight to age effects among a cohort over time and establish temporal links and temporal dynamics between sexual debut and subsequent HIV-risk behaviors and experiences of victimization that cannot be established within cross-sectional research. Understanding the timing and context of significant, and potentially traumatizing, childhood events over time and their subsequent risk factors may also provide greater insight to critical and time-sensitive windows for research interventions. For example, MSM who have experienced sexual violence since childhood may perceive adult safer sex interventions as out of touch or far too delayed and may benefit from more immediate trauma-informed sexual and reproductive health resources.

In addition to understanding the role of time, future research should consider incorporating mixed methods research to better elucidate how MSM and other SGE populations describe their histories and life trajectories in their own words and on their own terms. Mixed methods research may provide a valuable opportunity for survivors of violence, discrimination, and abuse to have control over how they tell their own life stories as well as how they interpret their strengths and adaptations in response to adversity (Campbell et al., 2019).

Additionally, community-based approaches to trauma-informed HIV-prevention research among SGE populations may benefit from input from sexual assault nurse examiners (SANE), victim advocates, and local partnerships that provide support teams for SGE survivors of violence (Farrell, n.d.). Community-based trauma informed approaches may be particularly salient for SGE survivors of violence who have a dual risk of revictimization and HIV-risk and may benefit from social support as a key protective factor.

Barriers to Trauma-Informed Research Among SGE Populations Kazakhstan. There are several barriers to trauma-informed SGE research in Kazakhstan that should be highlighted. For example, CSA is a highly taboo topic that is poorly understood among the general population in Kazakhstan. According to United Nations Children’s Fund (UNICEF) Kazakhstan, the general public in Kazakhstan reports high rates of CSA myth beliefs—it is estimated that most adults in Kazakhstan believe that girls are partly responsible for their sexual abuse, and that perpetrators of CSA should *not* be reported to the police (UNICEF, 2019). Most sex crimes against children in Kazakhstan are committed by people within the victim’s close inner circle (e.g., parents, relatives, neighbors), however, the general public views strangers as a greater threat to children than relatives or other close family ties (UNICEF, 2019). It is unclear how the public in Kazakhstan views CSA among SGE populations, and how homophobic attitudes may overlap or intersect with CSA misconceptions in this region.

Due to pervasive misconceptions around topics such as CSA, it is important that researchers are sensitive to how principles of ethical research (i.e., informed consent, confidentiality, prevention of harm, privacy, non-deception, and collection and dissemination of accurate findings) are applied to community-based trauma-informed research among SGE populations in Kazakhstan (Sobočan et al., 2019). Previous research in the U.S. has suggested that survivors of sexual assault participate in sexual violence research to 1) help other survivors; 2) help themselves; 3) support sexual assault research; and 4) receive financial compensation (Campbell & Adams, 2009); however, it is unclear how survivors and local community members in Kazakhstan would feel about ACEs/CSA research being conducted among SGE populations. A Community Advisory Board consisting of survivors, clinicians, advocates, and other key stakeholders in Kazakhstan may be able to provide guidance in how to best navigate sensitive

research topics, such as ACEs/CSA, and best meet the needs of SGE populations who may be interested in engaging with this research. SGE researchers and scientists in Kazakhstan may benefit from a greater research capacity to address these complex issues and expand upon our understanding of SGE health across the lifespan.

Policy

SGE-Inclusive Comprehensive Sexual Education in Kazakhstan. Numerous earlier sexual debut studies have recommended earlier implementation of comprehensive sexual education to help reduce HIV-risk, however, there are some major cultural and political barriers to implementing these types of policy recommendations in Kazakhstan (Erkut et al., 2013; Lee et al., 2018). The severe stigmatization of adolescent and extramarital sexuality in Kazakhstan is credited as a significant driver for the lack of comprehensive sexual education and substantial barriers to HIV prevention and treatment among young people (Ismayilova & Terlikbayeva, 2018; Kabatova, 2018). Sexual education is considered taboo in Kazakhstan, and is not included within formal education (Kabatova, 2018; Zhuravleva & Helmer, 2023). Several Kazakhstani programs (e.g., the Concept of Moral and Sexual Education), have attempted to promote sexual education for young people within the region, but these recommendations were ultimately never adopted by the state (Kabatova, 2018; Zhuravleva & Helmer, 2023).

The main political and moral arguments against sexual education in Kazakhstan are that sexual education will cause children and teenagers to become sexually active at an earlier age and that human sexuality is not a cultural aspect of Kazakh social discourse (Kabatova, 2018). However, proponents of sexual education attribute Russian cultural influence as the strongest cultural contributor to sexual traditionalism in Kazakhstan and argue that sexual education helps to prevent earlier sexual debut and negative outcomes such as HIV acquisition (Kabatova, 2018).

Despite the negative cultural attitudes around pre-marital teen sex, the average age of sexual debut in Kazakhstan is 16 years old and young people are left with limited resources to help navigate their initial sexual experiences (Sultan, 2020). The implementation of comprehensive sexual education for young people, regardless of gender or sexual orientation, remains at a major cultural and political deadlock within Kazakhstan.

For SGE populations, access to sexual education is even more limited, due to homophobic and negative attitudes around adolescent sexuality resulting in dual stigmatizing factors. The addition of SGE-inclusive sexual education programs within Kazakhstani school systems would be a major cultural and political move forward, however, entrenched heteronormative gender norms and authoritarian power structures within Kazakhstan profoundly limit grassroots support for inclusive state-sponsored sexual education (Arystanbek, 2021). Due to state resistance around implementing sexual education, online resources, and educational interventions (e.g., social media, mobile apps, websites) may be critical first steps to disseminating SGE sexual education resources in English, Kazakh, and Russian. Some Central Asian SGE sexual education resources are currently available online, such as the Eurasian Coalition on Health, Rights, Gender, and Sexual Diversity (ECOM) website⁵ and the Kazakh online resource Kok.team,⁶ however, additional resources are needed. NGOs, such as the United Nations Population Fund (UNPF), have previously created and implemented online sexual education resources for young people in countries that limit sexual education (e.g., UNALA⁷) (Sitanggang, n.d.). Partnerships between researchers, local community organizations, NGOs, and other key stakeholders should be considered to help further develop and implement accessible

⁵ <https://shor.by/ecom2021>

⁶ <https://www.kok.team/ru/o-proekte#>

⁷ UNALA was initiated by the UNFPA in 2014 to provide sexual and reproductive health online resources to youth (ages 15-24) in Indonesia. UNALA means “your ability to make decisions” in Sanskrit. <https://www.unala.net/>

SGD-inclusive sexual education digital platforms and other important resources for youth in Kazakhstan.

Anti-Discrimination Policies for SGE Population in Kazakhstan. Currently, there are no anti-discrimination policies in place for SGE people in Kazakhstan. This research suggests that MSM experience high rates of violence, and thus, would significantly benefit from additional legal protections to help prevent future experiences of violence as well as discrimination. Anti-discrimination policies on the basis of sexual orientation are needed to protect SGE people from violence and discrimination in places such as schools, public accommodations,⁸ and at work. Anti-discrimination legislation has been noted within the research literature as having an important role in changing social norms and underlying attitudes towards SGE people (Hebl et al., 2016). However, as previously described, there are substantial cultural and political structural barriers to establishing legal protections for SGE people in Kazakhstan. SGE activists in Kazakhstan likely require significant national and international support to establish anti-discrimination legislature to help prevent anti-gay violence (Levitanus, 2019).

Clinical

Clinical Considerations for Trauma-Informed HIV Prevention. Clinical interventions aimed at addressing HIV prevention and treatment among adult populations of MSM should utilize trauma-informed care and strategies that recognize complex and intersecting life histories. MSM who need access to HIV-related healthcare resources may have layered and intersecting identities, such as being a survivor of childhood sexual violence, sex worker, substance user, and/or person with a sexually diverse identity. All of these identities are highly stigmatized and

⁸ Public accommodations include places like restaurants, theaters, and other businesses.

marginalized within Kazakhstan and may be associated with distinct and/or overlapping experiences of violence and discrimination over the life course (Aizada, n.d.; Bak et al., 2018; El-Bassel et al., 2020; Mergenova et al., 2019; Mukherjee et al., 2022; Paine et al., 2021).

Trauma-informed clinical practice generally includes procedures and considerations such as ensuring consent; building trust and transparency; autonomy in decision-making; and strength-based delivery approaches (Kimberg & Wheeler, 2019). Within a clinical setting, survivors of violence may benefit from trauma-informed systems that support and promote health and well-being through safe, compassionate, and collaborative patient-provider relationship dynamics (Kimberg & Wheeler, 2019). Considering the high prevalence rate of violence among MSM, including anti-gay victimization among MSM in Kazakhstan, healthcare providers who work with SGE populations should incorporate trauma-informed practices in HIV prevention and treatment interventions (Campbell et al., 2019).

It is important to note that MSM seeking HIV-prevention care may be hesitant or distrustful of healthcare resources due to fears of discrimination based off one or more intersecting identities. For example, a gay identified patient seeking HIV testing resources may not be concerned about discrimination from healthcare providers because of their sexual identity, but they may be concerned about discrimination within a healthcare setting due to their substance use. A similar patient however may have the opposite reaction and feel more comfortable disclosing substance use rather than discussing their sexual identity. Consequently, two patients with similar intersecting identities may have different perceptions of their healthcare needs and willingness to engage with clinical providers. Clinicians therefore need to not only be aware of the impact of intersecting identities within an individual but also between individuals in their care.

Additionally, healthcare recommendations that may work at one point in a person's life may not be effective throughout their life course. For example, an MSM patient may have previously been engaged in HIV testing without issue, but after an experience of homophobic violence they may be hesitant to seek SGE HIV prevention resources in the future. Maintaining MSM engagement throughout the HIV care continuum may consequently require a constant process of reevaluation of patient needs over their life course. Clinicians incorporating trauma-informed HIV care need to be aware that SGE people's lives are constantly changing in real time.

Due to the intersecting and shifting nature of people's experiences and identities, clinical practitioners who provide a discrete set of resources need to be prepared to potentially offer referrals and additional resources when an individual's needs expand beyond their scope of care. For example, an MSM individual who is a sexual assault survivor may be able to access HIV tests, pre-exposure prophylaxis (PrEP), and condoms at an HIV healthcare center, but may not be able to access a SANE nurse, legal counseling, or mental health resources for SGE individuals at this particular resource center. Providers need to be able to screen for intersecting healthcare issues that frequently cooccur with HIV-risk, and either address those issues within their scope of care or create networks of referral systems with other community partners that are better equipped to address specialized needs and resources.

Finally, some SGE individuals may require trauma-informed HIV-related resources throughout their lifetime, from childhood to late adulthood. Traumatic events, particularly during childhood and adolescence, and their associated sequelae may require multi-level interventions over the course of a lifetime. Realistically, there are no "easy fixes" that can resolve complex trauma in a few clinical appointments over the course of a person's life. Individuals who

experience complex and intersecting experiences of marginalization, stigma, and violence may require long-term support and care to facilitate healthier coping strategies and to reduce the risk of maladaptive functioning in later life (Gagnon & Hersen, 2000). Alternatively, some individuals may only periodically request to reestablish care due to a meaningful change in their health, social support, or life stage. A trauma-informed HIV continuum of care must be both robust and flexible to account for people's complex lived experiences throughout the lifespan.

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