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# Understanding of personal agency among youth to curtail HIV rates

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#### **Abstract**

We aimed to discover which social factors influence protective health behaviors among Black youth. We measured study variables based on data from the National Survey of Teens and Young Adults on HIV/AIDS. Participants include youth aged 15 to 24 who completed a 40-question, web-based survey. The analytical sample of participants (n = 270) only comprised African American youth, mean age 20 years (SD: 0.28). Using multiple regression analysis, study findings suggest that focusing on protective health behaviors, such as personal agency among youth, with variables like personal perception and concern and HIV testing could be one way to reduce their risk of HIV transmission. Enhancing the role and influence of personal agency given their testing behaviors can inform HIV prevention and intervention programs that are specific to Black youth. Our findings identify targets for intervention to enhance personal agency in this population, including enhancing HIV risk prevention.

## Keywords

Black; HIV/AIDS; Adolescence; Health; Personal agency

## 1. Introduction

Black youth are disproportionately represented among individuals who seroconvert the human immunodeficiency virus (HIV) in the United States, despite advancements in prevention and treatment; those between the ages of 13 and 25 years are more likely than youths of other ethnicities to become infected (Boyd, Lea, Gilbert, & Butler-Barnes, 2018; Hess et al., 2017). According to the Centers for Disease Control and Prevention (CDC), Black youth are eight times more likely than their White peers and more than twice as likely as their Latinx peers to contract the disease (Kaiser Family Foundation, 2019). In

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Appendix A. Supplementary material

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fact, 42% of those newly diagnosed with HIV (37,832) are Black youth. New infections are particularly burdensome among Black men who have sex with men (BMSM), accounting for 80% of new infections among Black youth. Factors of personal agency, specifically engaging them to employ their power to make decisions, are fundamental for reducing HIV infection among Black youth. Consequently, the present study seeks to investigate the factors that influence their use of personal agency in curtailing the spread of HIV.

#### 1.1. Sexual risk factors

The youth are in a stage within their psycho-social development that is marked by impulsivity, particularly since cognitive development continues to evolve until the age of 25 years (Colver & Dovey-Pearce, 2018). During this time, they also begin to experiment with their own sexuality without fully considering the ramifications of their actions (Mahat, Scoloveno, & Scoloveno, 2016). Black males begin sexually experimenting from as young as 13 years old—much younger than Latinx or White males (Lindberg, Maddow-Zimet, & Marcell, 2019). Furthermore, Black males are more likely than their peers to experience vaginal intercourse without a condom, experiment with multiple sexual partners, contract sexually transmitted infections (STIs), and father children (Córdova, Heinze, Mistry, Salas-Wright, & Zimmerman, 2016; Harris, Fantasia, & Castle, 2019). Similarly, Black females reflect higher rates of sexual activity than Latina and White adolescent females, and once they are in their 20 s, their sexual activity parallels that of Black males (Kann et al., 2018; Liu et al., 2015). In fact, Black adult females between the ages of 20 and 24 years are most likely to report having had two or more sexual partners within the same year (Liu et al., 2015). Moreover, these factors correlate with higher prevalence rates of HIV infection among Black youth (Córdova et al., 2016; Harris et al., 2019).

## 1.2. Sexual health conversations

Sexual health conversations constitute an essential early prevention strategy for curtailing the spread of HIV among Black youth. The literature reflects that an increase in communication on topics such as sex and sexual behaviors leads to adolescents practicing healthy sexual behaviors (Boyd et al., 2018; Jemmott, Jemmott, Chittamuru, & Icard, 2019). Usually, Black mothers assume the role of the lead communicator when it is time to engage with their sons and daughters in conversations on sex; however, nowadays, an increasing number of Black fathers are similarly conversing with their children on safe sexual practices (Baker et al., 2018; Zhang, Cederbaum, Jemmott, & Jemmott, 2018). In fact, adolescents are more likely to delay sexual activity, engage with fewer sexual partners, utilize condoms and other forms of birth control, have fewer unplanned pregnancies, and contract STIs at lower rates throughout their lifespan when either of their parents communicates with them about such activities during early adolescence (Alleyne-Green, Grinnell-Davis, Clark, Quinn, & Cryer-Coupet, 2016; Boyd et al., 2018; Jemmott et al., 2019; Zhang et al., 2018). Moreover, there is a positive correlation between HIV dialogues and testing. Specifically, the more frequently adolescents have a dialogue about HIV, the more likely they are to get tested (Boyd et al., 2018). While parent-child dyads are an effective mechanism to reduce HIV infection, an increasing body of literature examines the positive outcomes of adolescents' sexual health conversations with their healthcare practitioners as part of their routine physical examination (Fuzzell, Shields, Alexander, & Fortenberry, 2017). In sum,

discussing sex, sexuality, and youth sexual health leads to positive outcomes among this population and reflects positive long-term implications among youth, regardless of who leads the conversation (Baker et al., 2018; Boyd et al., 2018; Jemmott et al., 2019; Zhang et al., 2018). However, it is still important to consider how their personal agency impacts the manner in which they implement information from their discussions.

## 1.3. Importance of personal agency

Personal agency has been an essential factor in reducing the spread of HIV, particularly as it is a major factor that influences behavioral intention (Conserve et al., 2018; Montano & Kasprzyk, 2015). Personal agency examines the ways in which a person is actively involved in implementing their beliefs to ensure a pre-determined outcome; it includes two factors: perceived control and self-efficacy (Mannell & Jackson, 2014; Montano & Kasprzyk, 2015). Perceived control has been described as the amount of control one has over their behavioral performance and how much one is impacted by external environmental factors that either help or hinder one's ability to complete the actions (Montano & Kasprzyk, 2015). Self-efficacy is replete throughout the HIV literature and, in contrast, is posited as a person's belief in his/her ability to control the outcome of a situation despite various hindrances and obstacles (Bandura, 1982; Montano & Kasprzyk, 2015). When youth have a strong sense of personal agency over their sexual experiences and interactions, they are more likely to employ proactive preventative strategies that aid in maintaining their sexual health (Closson et al., 2018; Dacus et al., 2018). To this end, employing one's sense of personal agency so she/he feels empowered enough to communicate their needs and desires in sexual situations is a critical factor in promoting protective factors that curtail the spread of HIV among Black youth.

## 1.4. Personal agency and health

Personal agency is a key component in improving and maintaining one's overall health and well-being. In fact, higher levels of personal agency correlate with increased rates of self-care beliefs and behaviors, namely, better mental health and frequent engagement with physical exercise (Cartwright, Gibson, & Read, 2018; Groshong, Stanis, Kaczynski, Hipp, & Besenyi, 2017; Pearson, 2006). Cartwright et al. (2018) examined the effect of personal agency on a sample of 50, mostly White, women's recovery from depression. They found that those who employed their sense of personal agency to collaborate with a therapist to work through issues that triggered their depressive symptomology and reduce maladaptive behaviors and those who worked with a psychiatrist to find an anti-depressant that worked well for them were more likely to feel in control of their recovery from depression (Cartwright et al., 2018). The outcome of this study is essential for understanding how populations who generally reflect lower levels of personal agency may employ strategies to aid their own recovery as well as improve their own health and well-being.

Moreover, personal agency is a critical resource for youth in their sexual decision-making (Pearson, 2006). Using the National Longitudinal Study of Adolescent to Adult Health (ADD), Pearson (2006) examined how personal control and self-efficacy among adolescent boys and girls influence their contraceptive risk (engaging in sexual intercourse or not using condoms). The author found that personal control and self-efficacy in sexual negotiation are

significantly associated with safer sex behavior and are often more important for girls than for boys in predicting contraceptive risk. Understanding adolescents' use of personal agency may serve as a protective mechanism against sexual risk behaviors and HIV. Furthermore, personal agency can potentially improve youth's self-worth and help empower them to make healthier decisions. In reducing rates of HIV, more research is needed to investigate how personal agency can be leveraged in HIV prevention. In fact, personal agency may influence youth's HIV risk reduction behaviors in a favorable way.

### 1.5. Personal agency and HIV

Limited, yet promising, this research examines how Black males have utilized their personal agency to practice safe sex to maintain their HIV-seronegative status. Dacas et al. (2018) conducted a qualitative study utilizing focus groups that explored the experiences of 29 BMSM in New York City and found that they exercised personal agency to maintain their HIV-seronegative status. Some of the specific strategies they utilized included facilitating candid conversations with prospective partners regarding their HIV history and status and ensuring consistent and correct condom utilization despite having conversations about their status (Dacus, Voisin, & Barker, 2018). Although Dacus et al. (2018) focused on how BMSM employed their personal agency as a means of harm reduction to remain HIV negative, this study provides promising insight into the ways in which other under-studied populations, namely, Black youth, could exercise their sense of personal agency to maintain their overall sexual health.

The objective of our research was to examine how different factors affect Black youth's personal agency in reducing HIV as well as identify potential targets for future uptake of interventions. Our study focuses on Black youth's perceptions about HIV, whether they are personally concerned about HIV, HIV testing, and other factors that influence their personal agency.

#### 2. Methods

Designed and implemented by public opinion researchers at the Kaiser Family Foundation, the National Survey of Teens and Young Adults on HIV/AIDS assessed the youth's knowledge, stigma, beliefs, and comfortability regarding HIV. This 40-question, web-based survey was conducted with 1437 youths aged between 15 and 24 years, from September 21, 2012 to October 1, 2012. The respondents of the survey are members of the Knowledge Panel—a randomly drawn, representative national panel of households. The members include individuals who were randomly selected to participate via telephone using address-based sampling methods. Knowledge Networks surveys use dual sampling that includes households with the following: 1) listed phone numbers, 2) unlisted phone numbers, and 3) only cell-phone access. The participants completed self-administered mail and web surveys. Households were provided with access to the Internet and hardware if needed. Households that informed recruiters they had a home computer and Internet access were asked to take the survey using their own equipment and Internet connection. They were given incentive points per survey, redeemable for cash, for completing the survey. Panel members who were provided with a laptop, computer, and free Internet access were not eligible for in

the per-survey points-incentive program. Due to the sensitive subject-matter, parents of participants aged between 15 and 17 years were provided with a summary of the survey and had to give consent for their children to participate; the youths also had to ascent to participate. Of the total number of youths contacted, the parents of only 77% allowed their children to participate. Data were weighted to balance the sample demographics to match the national estimates of the national population collected by the Census Bureau in August 2012 using the Current Population Survey on sex, age, education, race, region, and household income. Adjustments for the language spoken at home (English vs. Spanish) were based on the Pew Hispanic Center Survey. All statistical tests of significance account for the effect of weighing.

#### 2.1. Measures

#### 2.1.1. Dependent variable

**2.1.1.1. Personal agency.:** This single-item four-point response scale (ranging from 1 = I don't want to play a role to 4 = a big role) asked, "How much of a role, if any, do you think you can personally play in achieving the goal of an AIDS-free generation?" Item was reverse scored to reflect wanting to play a bigger role.

## 2.1.2. Independent variables

- **2.1.2.1. Social perception of HIV.:** This single-item scale (ranging from 1 = not serious at all to 4 = very serious) asked respondents, "How serious, if at all, of a problem do you think HIV/AIDS is for people your age today?" Item was reverse scored to reflect a more serious problem.
- **2.1.2.2. Personal concern about HIV.:** This single-item scale (ranging from 1 = not concerned at all to 4 = very concerned) asked respondents, "How concerned, if at all, are you personally about HIV/AIDS?" Item was reverse scored to reflect a higher level of concern.
- **2.1.2.3. HIV Testing.:** HIV testing was based on answers from the following question: "Have you, yourself, ever been tested for HIV?" This response was dummy coded 0 if no and 1 if yes.
- **2.1.2.4. HIV epidemic ending in their lifetime.:** This single-item two-point response scale (0 = no and 1 = yes) asked respondents, "Do you think you will see the end of the HIV epidemic in your lifetime, or not?".
- **2.1.2.5. Hearing of an AIDS-Free Generation.:** This single-item four-point response scale (ranging from 1 = nothing at all to 4 = a lot) asked respondents, "How much, if anything, have you heard about the goal of an AIDS-free generation?" Item was reverse scored to reflect hearing more about an AIDS-free generation.
- **2.1.3. Demographic variables**—Demographic variables in the study included youths who reported their age, sexual orientation, and gender. Age and household income were continuous variables; gender was dummy coded 0 if male and 1 if female, and sexual orientation was coded as 1 "heterosexual," 2 "gay," 3 "lesbian," 4 "bisexual," and 5 "other.".

#### 2.2. Data analysis plan

Table 1 presents a stratified sample of the descriptive statistics of Black youth (N = 270). Table 2 presents the bivariate regression analysis between the independent variables—the social perception of HIV, being personally concerned about HIV, HIV testing, hearing about an AIDS-free generation—and the control variables—age, gender, income, and sexual orientation—on the dependent variable personal agency. Table 3 presents a multivariable regression analysis with independent variables—the social perception of HIV, being personally concerned about HIV, HIV testing, hearing about an AIDS-free generation—and the control variables—age, gender, income, and sexual orientation—on the dependent variable personal agency. The entire analysis was weighed and conducted using STATA 15.

## 3. Results

## 3.1. Sample characteristics

Table 1 provides descriptive characteristics for the major study variables. The analytic sample constituted 270 Black youths aged 15–24 years; the mean age was 20. The majority of the participants reported being females (61%). Furthermore, the majority reported being heterosexual (91%) as well. The median household income was between \$30,000 and \$35,000. More than half of the sample (54%) reported they had not done an HIV test within the past 12 months. Only 25% stated they had the personal agency to play a big role in helping end the epidemic. Furthermore, 61% reported that HIV/AIDS was a very serious problem for people of their age. Moreover, 50% reported they were personally concerned about HIV. Furthermore, 54% reported they had never heard about an AIDS-free generation.

#### 3.2. Bivariate regression analysis

Table 3 provides bivariate associations between the primary study variables and the outcome variable of personal agency among 270 Black youths. The results show that the social perception of HIV risk was significantly and positively associated with personal agency (B = 0.27, p < .01) such that Black youths with a higher social perception of HIV risk reported a higher personal agency. Personal concern about HIV was significantly and positively related to personal agency (B = 0.18, p < .02) such that Black youths who had high levels of concern about HIV had higher personal agency. Moreover, hearing about an AIDS-free generation was positively associated with personal agency (B = 0.27, p < .01). Believing the HIV epidemic would end in their lifetime was statistically significant and negatively associated with personal agency (B = 0.99, p < .01) was statistically significant and positively associated with personal agency.

#### 3.3. Multiple regression analysis

The overall model was statistically significant: R2 = .28F (12, 246) = 000, p < .001. The results highlighted a statistically significant and positive relationship between hearing about an AIDS-free generation and their role in helping to achieve it (p 0.30; p < .001). Moreover, the results also revealed a statistically significant relationship between the social perception of HIV risk and Black youth's role in helping achieve an AIDS-free generation (p 0.21;

p < .011). For every one-unit increase in the social perception of HIV risk, there was a 21% increase in youth efficacy in wanting to help achieve an AIDS-free generation. The results revealed a statistically significant relationship between being personally concerned about HIV and youth's personal agency (p 0.14; p < .001). For every one-unit increase in the youth being personally concerned about HIV, there was a 14% increase in their personal agency. Furthermore, there was a statistically significant and negative relationship between youth believing the HIV epidemic will end in their lifetime and Black youth's personal agency ( $\beta$  –0.32; p < .01). Black youths from higher-earning households had higher agency in believing they could help achieve an AIDS-free generation ( $\beta$  0.03; p < .003). Black youths who self-identified as gay ( $\beta$  0.82; p < .011) or lesbian ( $\beta$  0.95; p < .001) had higher personal agency in believing they could play a role in achieving an AIDS-free generation.

## 4. Discussion

In this sample, we identified social variables such as personal concern and perception about HIV/AIDS, as well as HIV testing among youth, which are associated with personal agency in a national sample of Black youth in the United States. Expanding knowledge about the significant function and impact of these social variables on personal agency among Black youth is warranted. The study findings can inform HIV prevention and intervention programs for this population within their microsystems. The focus of this study is imperative, given the racial and ethnic minority group differences regarding HIV infection among this population. The findings of this study highlight the significance of youth perceptions and concerns about HIV. Our data underscore the need to consider ways to think about developing culturally-tailored interventions to support and promote personal agency among Black youth. Findings from our data contribute to the existing knowledge by identifying information for education campaigns about an AIDS-free generation to foster personal agency and enhance positive beliefs and behaviors to end the AIDS epidemic.

This study found that less than half of the youths reported being tested for HIV within the last year. This suggests that although a solid number of youths were tested, there is a need to focus on this population that is likely unaware of its status due to the lack of HIV testing (Reif et al., 2016). Our data suggested that the majority of the youth reported being heterosexual. There is the possibility that some youths who identify as LGBTQ, i. e., BMSM, could be less likely to report they are not heterosexual and may decide to remain closeted due to societal stigma and social desirability, as noted in previous research (Boyd et al., 2018; McCoy, 2011; Means & Jaeger, 2015). However, youth who self-identified as gay or lesbian had higher personal agency believing they could help achieve an AIDS-free generation. Consequently, Black youth who identify as heterosexual versus LGBTQ may require additional efforts to enhance their personal perception and concern; HIV testing would also be necessary and prudent to their sense of personal agency.

Some of the microsystem-level factors, i.e., peers who likely influence Black youth's personal perception and concern about HIV, could be viewed as positive vehicles for personal agency in terms of their sexual health risk to influence their behavior. Moreover, this sample of youth who had heard about an AIDS-free generation was positively associated with personal agency while believing the HIV epidemic would end in their

lifetime was negatively associated with personal agency. Some studies have focused on the role of individuals having a high standard of personal responsibility to decrease the likelihood of transmitting HIV to others, as associated with reduced sexual transmission risk behavior (O'Leary and Wolitski, 2009). This suggests that interventions based on personal concern about HIV and personal agency, including increasing education about an AIDS-free generation, could be devised with the inclusion of personal responsibility beliefs among persons with low beliefs of self-efficacy.

For our participants, the social factors in this study, including hearing about an AIDS-free generation and their role in helping achieve it among Black youth, may have functioned to promote personal agency. Specifically, Black youths who self-identified as gay or lesbian had higher personal agency in believing they could help play a role in achieving an AIDS-free generation. This finding should be viewed in the context of the high levels of stigma experienced by individuals who identify as heterosexual and may actually be LGBTQ, particularly as it relates to ethnicity, gender, and sexual orientation. Moreover, stigma from family, communities, and health systems is also an important factor in perpetuating negative and subjective norms around sexual risk behaviors for HIV transmission (O'Leary, Horvath, & Rosser, 2013). Further, it is possible that Black youths who self-identified as LGBTQ may feel a deeper sense of advocacy and commitment to create an AIDS-free society that could serve as a foundation to promote the importance of other ways of promoting personal agency, including routine HIV testing and prevention methods, thereby encouraging the youth to demonstrate such positive behaviors.

#### 4.1. Limitations

Limitations should also be considered in the interpretation of our study findings. Our data represent a national sample of Black youth in the United States. Although the findings may be generalizable to the larger population of Black youth, our analytical sample constituted a relatively small number of youths, and the majority of them were not tested for HIV within the last year. Further, the youths who have not been tested for HIV represent a high-risk group for HIV transmission in the United States. The primary objective of this study was to gain an understanding of social factors such as social perception and personal concern in Black youth related to their personal agency to test quantitative hypotheses about factors that could enhance their personal agency and sexual behavior. Future research should include qualitative studies to gain a greater understanding of these factors from the point of view of Black youth. Robust quantitative studies are also needed to formally test for associations between aforementioned social factors, personal agency, as well as personal responsibility and sexual behavior among other populations, including those who engage in substance use or other behaviors (delinquency), have been homeless or exposed to community violence, have histories of trauma and are disproportionately affected by HIV. We did not have data on youth with histories of arrest, incarceration, homelessness, or exposure to violence, who are likely to be at greater risk of HIV transmission and less likely to undergo HIV testing. For example, a review of studies about youths involved with the juvenile justice system, HIV, and substance use noted that substance use is highly associated with and even promotes HIV risk behaviors in justice-involved populations. Some cross-sectional studies in this review suggest that substance use is associated with increased sexual risk behaviors, i.e.,

inconsistent condom use, the number of sex partners, and a history of STIs (Gillman, Yeater, Ewing, Kong, & Bryan, 2018; Tolou-Shams, Harrison, Hirschtritt, Dauria, & Barr-Walker, 2019). Other cross-sectional and longitudinal studies suggest that individual (e. g., histories of violence, sexual victimization, and experiences of childhood trauma) and societal/sociocontextual factors (e.g., community violence and/or trauma) may influence or shape HIV risk (Tolou-Shams et al., 2019; Gillman et al., 2018). Therefore, it is unknown whether participants in our study might have experienced any of these during their enrollment in the study and whether these circumstances could influence their personal agency or HIV risk.

Another limitation is that this is a cross-sectional secondary analysis of national data collected from the general population, and thus, our ability to make causal inferences from the results is limited. We could not assess personal agency over time or how changes in personal perception and concern of HIV, and HIV testing affect personal agency. One methodological limitation includes the use of one-item measures in our analyses. Additionally, similar to many other studies of this type, the use of self-reported data for all the measures is a limitation. It is possible that some of the participants were unwilling to answer some of the questions in a completely truthful manner, especially when responding to items of a sensitive nature. Although an assessment of these factors might be considered a limitation, this study variable was based on self-reported data from a national population of youth and can be considered more generalizable. Additionally, few investigations on personal perceptions and concerns about HIV/AIDS among Black youth have been conducted to assess personal agency. Another limitation is that one may perceive the findings as somewhat limited because the study only focuses on Black youth. Black youth populations are especially affected, given the rates of all new HIV diagnoses in 2016 (CDC, 2017). Therefore, it is pragmatic to employ a targeted focus on this youth population. Future studies should also investigate other variables such as community trauma/violence, racism, discrimination, and/or poverty. Additionally, future studies should use study results such as this in the development of biomedical HIV-prevention interventions (Tolou-Shams et al., 2019). More research is needed in this area to determine causal factors that could lead to the development of interventions addressing HIV-related risk behaviors. Despite these limitations, our findings provide solid information on the context of social factors such as personal perception, concern, and HIV testing associated with personal agency. The findings can be used to provide specific guidance in the design of future HIV prevention and intervention programs with Black youth.

#### 5. Conclusion

In conclusion, our findings highlight a number of themes to explore in future research, including enhancing and fostering personal agency. Furthermore, the findings indicate a noteworthy relationship suggesting that the youth in this study sample are personally concerned about HIV and possess the personal agency to combat this epidemic. Further, the youth endorse the interest in ending this epidemic in their lifetime. Therefore, community-based health and social services that enhance their beliefs in both understanding their individual roles in their health and well-being as well as bolstering their advocacy skills are needed. Specifically, African American youth could benefit from racially and culturally tailored approaches that further leverage their existing efficacy regarding HIV eradication

among this age group. African Americans and Latinos tend to live in areas where there are higher concentrations of poverty, associated with crime and violence. Designing community-level interventions and HIV prevention programs that target youth personal agency may, thus, be a way to curtail HIV infection rates. Lastly, in order to develop evidence-based interventions to reduce the risk of HIV transmission in youth, robust qualitative, quantitative, and mixed-methods studies are needed to identify which of these can be most effectively utilized to facilitate personal agency associated with sexual health behaviors among Black youth.

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Table 1

Descriptive Statistics (N = 271).

Variables	Frequency	Percentage
Age		
15 to 17	76	28%
18 to 24	195	72%
Gender		
Male	104	36%
Female	166	61%
Sexual Orientation		
Heterosexual	239	90%
Gay	5	2%
Lesbian	5	2%
Bisexual	11	4%
Other	5	2%
Income		
34,999\$ and below	163	60%
35,000\$ to 59,000\$	60	22%
60,000\$ to 74,999\$	12	4%
75,000 to 99,999\$	18	7%
100,000\$ and above	18	7%
HIV Testing		
Yes	122	46%
No	144	54%
Personal Agency		
A big role	73	27%
A small role	134	50%
No role at all	45	17%
I don't want to play a role	16	6%
Hearing of an AIDs Free generation		
A lot	26	9%
Some	45	17%
Only a little	52	20%
Nothing at all	145	54%
HIV Epidemic in their lifetime		
Yes	68	25%
No	198	73%
Refused	5	1.11%
Personally Concerned about HIV		
Very Concerned	146	54%
Somewhat Concerned	42	16%
Not too concerned	39	14%

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Variables Frequency Percentage Not at all concerned 44 16% Social Perception of HIV Very serious 196 72% 59 22% Somewhat serious Not too serious 13 5% 3 Not at all serious 1.11%

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Table 2

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Bivariate Regression Analysis on Personal Age	
Bivariate Regression Analysis on Personal Age	ncv.

Personal Agency	Coefficients	SE	P-Values	95% CI
Social Perception of Risk	0.27	0.11	0.01 **	[0.06-0.49]
Personal Concerns about HIV	0.18	0.08	0.02 **	[0.02-0.34]
Heard about an AIDS-Free Generation	0.27	0.07	0.01 ***	[0.13-0.41]
Ending the Epidemic	-0.37	0.16	0.02 **	[-0.69-0.01]
HIV Testing				
No Yes (reference)	-0.11	0.23	0.61	[-0.58-0.34]
Age	-0.01	0.03	0.77	[-0.01-0.05]
Gender				
Male Female (reference)	-0.27	0.18	0.13	[-0.64-0.10]
Sexual Orientation Heterosexual (reference)				
Gay	0.82	0.26	0.02 **	[0.31–1.34]
Lesbian	0.99	0.15	0.01***	[0.68-1.30]
Bisexual	-0.55	0.53	0.29	[-1.60-0.49]
Other	0.17	0.11	0.14	[-0.05-0.39]
Household Income	0.02	0.01	0.13	[-0.01-0.05]

<sup>\*</sup>p < .05

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<sup>\*\*</sup> p < .01

<sup>\*\*\*</sup> p < .001

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 $\label{eq:Table 3} \mbox{Multiple Regression Analysis on Personal Agency ($N=270$)}.$ 

Variables	Coefficients	SE	P > t	95% CI
Personal Agency				
Heard about an AIDS-Free Generation	0.29	0.07	0.01 ***	[0.15-0.44]
Social Perception of Risk	0.21	0.08	0.01**	[0.05-0.37]
Personal Concerns about HIV	0.14	0.07	0.01**	[-0.14-0.21]
HIV Epidemic Ending in Lifetime	-0.32	0.15	0.04**	[-0.61-0.02]
HIV Testing	-0.15	0.17	0.38	[-0.49-0.19]
Age	0.00	0.02	0.88	[-0.05-0.04]
Gender				
Female (reference)	-0.24	0.14	0.09	[-0.53-0.04]
Sexual Orientation				
Gay	0.83	0.32	0.01**	[0.19–1.46]
Lesbian	0.95	0.19	0.01 ***	[0.57–1.34]
Bisexual	-0.35	0.30	0.23	[-0.93-0.23]
Other, please specify	0.12	0.19	0.53	[-0.25-0.48]
Income	0.03	0.01	0.01 ***	[0.01–0.06]

<sup>\*</sup>p < .05

<sup>\*\*</sup> p < .01

<sup>\*\*\*</sup> p < .001.