



# HHS Public Access

Author manuscript

*Res Nurs Health*. Author manuscript; available in PMC 2020 February 01.

Published in final edited form as:

*Res Nurs Health*. 2019 February ; 42(1): 8–28. doi:10.1002/nur.21930.

## Project GOLD: A pilot randomized controlled trial of a novel psychoeducational HIV/STI prevention intervention for heterosexually-active Black youth

**Bridgette M. Brawner, PhD, MDiv, APRN<sup>1,\*</sup>, Loretta Sweet Jemmott, PhD, FAAN, RN<sup>2</sup>, Gina Wingood, ScD<sup>3</sup>, Alicia J. Lozano, MS<sup>1</sup>, Alexandra L. Hanlon, PhD<sup>1</sup>**

<sup>1</sup>Department of Family and Community Health, University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania, United States of America

<sup>2</sup>Department of Nursing, College of Nursing and Health Professions, Drexel University, Philadelphia, Pennsylvania, United States of America

<sup>3</sup>Department of Sociomedical Sciences, Mailman School of Public Health, Columbia University, New York, New York, United States of America

### Abstract

Black youth account for the largest number of new HIV infections among heterosexual youth. Mental illness and difficulties in emotion regulation contribute to increased reports of HIV/sexually transmitted infection (STI) risk-related sexual behaviors in this group. Yet limited interventions exist to address this affective component of the sexual decision-making process. The purpose of this paper was to describe the trial design, research challenges, and baseline characteristics from a study designed to fill this gap. Project GOLD was a pilot randomized controlled trial of a psychoeducational HIV/STI prevention intervention designed to address the role of mental illness and emotion regulation in HIV/STI risk among heterosexually-active Black youth aged 14 to 17 ( $N = 108$ ). Challenges encountered in the research process warrant further attention in future research (e.g., disagreement among the regulatory bodies on parental permission requirements). The most common mental health diagnoses were Recurrent Major Depressive Disorder (15.7%) and current substance abuse (7.4%). Participants reported higher levels of emotional suppression, and adaptive methods of emotion management, than culturally inappropriate expressions of anger or sadness. They also reported a mean age of 13.6 at first vaginal sex, used condoms 66% of the time for vaginal sex, and had an average of 3 sexual partners in the past 6 months. More than one-quarter (26.9%) had sex with more than one person in the same day. These findings indicate intervention is crucial for this population. The forthcoming trial evaluation will indicate the promise of such interventions in reducing HIV/STI infections in this key population.

[ClinicalTrials.gov Identifier:](#)

\*Corresponding author University of Pennsylvania School of Nursing, 418 Curie Blvd., 4th Floor, Room 419, Philadelphia, PA 19104-4217, 215-898-0715 (office), 215-746-3374 (fax), brawnrb@nursing.upenn.edu.

**Conflict of Interest Statement:** The authors declare no conflicts of interest.

<https://clinicaltrials.gov/ct2/show/NCT03348813?term=mental+health&e&type=Intr&cond=Hiv&titles=HIV%2FSTI+Prevention+Among+Black+Adolescents+With+Mental+Illnesses&rank=1>

## Keywords

Black; emotion regulation; HIV; intervention; mental illness; sexually transmitted infection; youth

---

## Introduction

Sexually transmitted infections (STIs), including HIV, remain a primary global public health concern, especially among our youth. While infections such as Chlamydia and Gonorrhea can be cured with medication, the human cost of under treatment and re-infection is disconcerting with complications such as infertility and increased susceptibility to HIV acquisition (Fleming & Wasserheit, 1999; Mathur, Mullinax, & Santelli, 2017). Moreover, as we work to find a cure for HIV, prevention remains a primary tool to curb the epidemic. While HIV/STI rates are despairingly high among sexual minorities, rates among heterosexual populations also necessitate explicit attention.

Black females aged 13 to 24 in the United States are diagnosed with HIV at a rate 3.8 times that of their White counterparts; most of these infections are attributable to heterosexual contact (Centers for Disease Control and Prevention [CDC], 2016a). Moreover, Black females and males aged 15 to 19 have Gonorrhea rates 11.3 and 16.4 times the rates of their White female and male counterparts, respectively (CDC, 2016b). The majority of the work with Black males in this demographic focuses on young men who have sex with men—this is well justified given that young Black men who have sex with men are currently at the epicenter of the HIV epidemic (CDC, 2016a). However, data on young heterosexual Black males are increasingly absent from the literature, which hinders our ability to understand and design interventions to reduce risk in this demographic. We are not arguing that one population should be privileged over another, but rather, joining others to advocate for knowledge to continue to be generated for *all* Black youth given widening HIV/STI inequities (Bowleg et al., 2017).

It is well known that Black youth in the United States are disproportionately affected by HIV/STIs, yet individual behavior alone cannot fully explain the disparity. In addition to sociostructural conditions known to fuel HIV/STI transmission (e.g., poverty, lack of comprehensive sexual health education), a growing body of research documents the role of factors such as mental illness, psychological distress, and emotion regulation in sexual risk behaviors (Braje, Eddy, & Hall, 2015; Brawner et al., 2017; Brown et al., 2017). In other words, the psychological sequelae of mental illnesses like depression and anxiety (e.g., loneliness, impulsivity), the experience of psychological distress in response to internal and/or external conflict, and one's ability to regulate his/her emotions may affect the decisions Black youth make about sex and relationships.

One experiencing depressive symptoms may feel lonely and/or isolated and desire connection with another person. While his/her intention may not be to engage in sexual

activity, if the person they seek connection with wants to have sex, he/she may decide to have sex to achieve connection and mitigate the underlying feelings of loneliness and isolation (Brawner, Gomes, Jemmott, Deatrck, & Coleman, 2012). Thus, there is an affective component to the sexual decision-making process, wherein the decisions one makes about whether or not to have sex, use condoms, etc., is influenced by one's mood, feelings and attitudes. Moreover, data consistently show that Black youth who fall into these categories engage in more risk behaviors than their peers, such as non-condom use and an increased number of sexual partners (Brawner et al., 2012; Donenberg, Emerson, Brown, Houck, & Mackesy-Amiti, 2012; Morrison-Beedy, Grove, Ji, & Baker, 2017). Reports of both concurrent and sequential sexual partnerships are also high in this demographic (Brawner et al., 2017); such sexual partnerships are noted to more rapidly transmit HIV/STIs (Adimora et al., 2013).

Despite these findings, traditional HIV/STI prevention interventions are cognitively based and typically do not include affective components. We do not know whether these interventions are effective for youth with mental illnesses and/or those who experience psychological symptoms or difficulty with emotion regulation. Comparable interventions specifically designed for youth experiencing mental illnesses and/or psychological symptoms have proven to be effective in decreasing sexual activity and increasing consistent condom use (Brown et al., 2014; Brown et al., 2017). Yet so few of these interventions exist. The purpose of this paper was to describe the trial design, research challenges, and baseline characteristics from a study designed to fill this gap.

## Methods

This study was approved by Institutional Review Boards (IRBs) at the University of Pennsylvania, the Philadelphia Department of Public Health, and the School District of Philadelphia. The participants provided written, informed consent as parental permission was deemed not to be required. In Pennsylvania, youth aged 14 and older can legally consent to both HIV/STI testing and mental health treatment (Juvenile Law Center, 2006), thus study participants met legal age of consent criteria for the research procedures. Despite initial disagreements, it was ultimately decided that requiring parental permission would violate participants' rights to privacy and confidentiality, particularly for those whose parents/guardians were unaware that they were engaging in sexual activity and/or receiving mental health treatment. See Brawner and Sutton (2018) for an in-depth discussion of the process the research team underwent to reach this determination with assistance from the approving IRBs and the Juvenile Law Center (a non-IRB-affiliated youth-legal expert firm in Philadelphia).

## Design

“Project GOLD: We are Kings and Queens” (Project GOLD) was developed to mitigate the relationship between psychological/affective state and sexual risk. The novel program offers unique emotion regulation content to address the relationship between mental illness, emotion regulation and HIV/STI risk behaviors. A description of the intervention and formative research to develop the curricula are published elsewhere (Brawner, Abboud,

Reason, Wingood, & Jemmott, under review). The study was a pilot randomized, investigator-blind, permuted block trial of a psychoeducational HIV/STI prevention intervention. The curriculum was designed to be delivered over two days (three hours per day), with eight, 45-minute modules. The face-to-face, group-level format accommodated six to eight participants per group. The activities targeted behaviors, as well as cognitive, psychological, affective, and social processes associated with HIV/STI risk. Our ultimate intent was to design a program that would: a) promote consistent condom use, b) reduce the number of sexual partners, c) promote routine HIV/STI testing, and d) promote abstinence as an alternative to sex for those who engaged in sexual behavior to meet affective needs.

The study was guided by a psychosocial expansion of the Theory of Planned Behavior (Ajzen, 1991), nested in a social determinants of health framework. For the psychoeducational aspects, we integrated tenets of cognitive behavioral therapy (CBT) to help participants solve current problems and modify dysfunctional thinking and behavior (Beck, 1976). The intervention was framed in this way to provide a comprehensive examination of how factors such as psychological distress, emotion regulation, gender role socialization, poverty and attitudes and beliefs toward HIV/STI risk-related sexual behaviors influenced HIV/STI risk among Black youth. Black youth aged 14 to 17 were assigned in a 1:1 allocation ratio, blocking on level of depression severity ascertained by the Patient Health Questionnaire-9 (Kroenke, Spitzer, & Williams, 2001) and gender. The aim was to estimate the effect of the targeted intervention on consistent condom use (primary outcome), sexual activity, the number of concurrent and sequential sexual partners, and laboratory confirmed HIV/STIs at 3-, 6- and 12- month follow-up assessments. The two arms were: 1) the HIV/STI prevention intervention, or 2) the general health control condition (see Figure 1). When feasible, HIV/STI prevention and general health cohorts were run in the same week (or as close thereafter as possible) to avoid the effect of history bias in participant exposures. The intent was to deliver the intervention on site at the community-based mental health provider agencies where participants were recruited to explore the feasibility and acceptability of the intervention and promote sustainability in community settings should it be proven to be efficacious.

Given that the intent was to pilot test the intervention, the focus of statistical analyses was on estimation not testing, although testing will be performed in an exploratory manner. Thus, a sample of 108 participants was sufficient (HIV/STI prevention arm,  $n = 52$ ; general health control arm,  $n = 56$ ). An eight-member youth community advisory board, comprised of members of the target demographic, oversaw the study activities and provided feedback on the investigators' interpretations. The youth were recruited from local community-based mental health providers and high schools by flyers and word of mouth; parents/guardians provided signed letters of permission for their attendance at meetings. The "Project GOLD" title was initially devised from the investigators' interpretations of the study's preliminary data. The youth community advisory board agreed with the nomenclature and endorsed its cultural relevance. GOLD is not an acronym, but rather reflects the youth community advisory board's request to capitalize the letters to emphasize "royalty and self-worth" in the intervention.

## Recruitment and eligibility criteria

The study was conducted in Philadelphia, PA where rates of heterosexual HIV transmission remain high (Philadelphia Department of Public Health, 2017). Recruitment for the pilot randomized controlled trial (RCT) occurred from August 2014 through September 2016. The target sample size was 128 ( $n = 64$  in each arm). We enrolled participants on an ongoing basis, completing 3-, 6- and 12-month follow-up assessments. Participants were initially recruited from a variety of sources including community-based mental health providers, high schools, community partners (e.g., recreation centers) and provider referrals.

Inclusion criteria were: 1) aged 14 to 17 years old, 2) self-identify as Black (inclusive of African American, Caribbean-American, etc.), 3) currently receiving outpatient psychiatric services from a community-based mental health provider, 4) have been at client at the participating community-based mental health provider for at least one month, 5) have had vaginal sex in the past 3 months (given the focus on heterosexually active youth), 6) able to provide signed informed consent, 7) able to speak, read, and write in the English language, and 8) plan to be in the Philadelphia area for the next 12 months (see Table 1). Participants were excluded for cognitive deficits that would limit their ability to complete the study procedures (i.e., active psychosis, developmental disability; this was assessed by trained staff at the time of screening), active suicidality or if they had unstable contact information (i.e., no land line/mobile phone; this was done for intervention scheduling purposes).

## Recruitment challenges and strategies to resolve them

The original intent was to explicitly focus the sample to youth currently receiving outpatient mental health treatment by targeting recruitment in community-based mental health providers. However, we encountered several barriers which substantially delayed accrual, necessitating expansion of the inclusion criteria to accomplish the study aims. These challenges also required additional partnerships with outside agencies and changes to the original study protocol to meet the research objectives.

First, there was a protracted, 14-month timeline for full review and approval of the protocol. The study required approval by multiple entities, including the funding source, all of which did not agree on the proposed protocol implementation with this vulnerable population. The need for parental permission and conducting HIV testing without notifying parents/guardians were primary sources of concern. At the request of the local IRBs, we contacted the Juvenile Law Center to conduct a youth-focused third-party review of the protocol to help support a decision. The attorneys provided the service free of charge and concluded that the study's consent provisions were consistent with the Mental Health Procedures Act and the Health Information Portability and Accountability Act; see (Brawner & Sutton, 2018). Second, at the time of enrollment the census for the target demographic at the ten partnering provider sites was relatively low, and some agencies only had one Black youth who met the preliminary screening criteria—the intervention was designed to be delivered in groups of six to eight. Our community partners at these sites described how the client demographics fluctuated on a monthly, and sometimes weekly, basis, which led to the discrepancy between the number of potential participants presumed to be in care and those actually on site at the time of recruitment. Lastly, given high mental health acuity and social burden among some

members of the target population, some of the interested participants could not be reached for enrollment due to concerns including incarceration, foster home placement, unstable contact information (for both participants and their designated contacts) and multiple competing demands (e.g., last minute shifts for work, responsibilities to care for their own children and/or siblings).

Thus to accomplish the study aims with an adequate sample, we made three primary changes to the study protocol: 1) the intervention sessions were run at the first author's institution, bringing youth together across multiple sites to meet the minimum group size of six, 2) the recruitment approach was modified to include online and social media study promotion, as well as face-to-face recruitment at public venues (e.g., concerts, transportation stops, shopping centers) to reach a broader audience, and 3) the inclusion criteria were expanded to include Black youth regardless of mental health diagnosis or treatment status. The modified inclusion criteria are highlighted in Table 1.

We expanded the inclusion criteria under the philosophy of a “walking well” theory derived from our decade-long research with the target demographic. In this work, we have noted that many of Philadelphia's Black youth are exposed to multi-level stressors (e.g., limited educational and community resources, trauma, violence, poverty). Some of these youth do not experience any adverse psychological or emotional effects of these stressors. Others, who we consider to be the “walking well”, experience psychological distress and struggle to regulate their emotions in the face of these stressors but are not engaged in clinical treatment—and sometimes do not desire to do so because of stigma or prior negative experiences with mental health treatment. Further, we believe that there are youth who: 1) meet clinical criteria for psychiatric diagnoses but have not been screened and/or engaged in care, or 2) experience clinically significant/meaningful levels of psychological distress that are not captured by our current screening practices because the measures have not been normalized in samples with adequate representation of Black youth. Thus, we expanded the inclusion criteria presuming that youth who were not in care faced similar multi-level stressors as those in care, and may have comparable psychological and emotional symptom experiences. Moreover, and in line with other researchers in this area, we believe that it is these affective concerns (e.g., sadness, impulsivity, guilt), not solely the clinical diagnosis of a mental illness, that increase HIV/STI risk among Black youth.

Resultantly, within each intervention condition there were youth who were recruited from community-based mental health providers (in treatment) and the general community (not in treatment). To ensure accurate categorization of participants' outpatient mental health treatment status for the analyses, those recruited from general community locations were asked whether or not they were currently receiving mental health treatment, and if so, the name of the program. Those who self-reported current treatment were categorized in the community-based mental health provider group. The protocol modification enables us to report on the number of youth in and out of care who meet clinical diagnostic criteria for mental illnesses, as well as those experiencing psychological distress and trouble with emotion regulation.

## Procedures

Interested participants were screened for eligibility by telephone or in person using a structured screening script. Those meeting these preliminary inclusion criteria were scheduled for the diagnostic assessment visit. At Visit 1, participants consented and underwent a structured diagnostic interview using the MINI Neuropsychiatric Interview (Sheehan et al., 1998) to determine clinical diagnosis, if any, and to rule out exclusionary conditions. Those ineligible after the MINI were thanked for their time and not included in the study.

Those eligible immediately underwent a structured demographic interview (e.g., age, physical health history, personal and family mental health history), provided detailed locator information so that we could follow them longitudinally (e.g., persons aged 18 and older who could contact them, locations where they socialized), were randomized to their intervention condition and were scheduled for Visit 2. At Visit 2, participants completed the baseline survey (e.g., Child Emotion Management Scale [Zeman, Shipman, & Penza-Clyve, 2001], sexual risk attitudes and behaviors), provided a urine sample for Chlamydia and Gonorrhea testing, and received the Session 1 intervention content. They returned for intervention Session 2 two weeks later where they received the final intervention content, completed the immediate post survey (e.g., CEMS, sexual risk attitudes), received a resource guide with key curriculum elements to reinforce the messaging, and were offered to have their mouths swabbed for HIV testing.

There was a “Rites of Passage” Ceremony at the end of Session 2 to celebrate participants’ completion of the intervention and investment in preserving their sexual health. Participants then returned at 3-, 6-, and 12-months to repeat the study measures and HIV/STI testing. Figure 2 shows the study visit diagram. As compensation, participants could receive up to \$200 over the one-year study period. They received \$65 after the second intervention session, and then \$30, \$45, and \$60 respectively for the 3-, 6-, and 12-month follow-up visits. No compensation was provided for Visit 1 as this visit was used to determine RCT eligibility. The follow-up incentive amount was increased over time to facilitate retention.

Given the extensive protocol delays, it was not feasible to follow each participant through the 12-month follow-up as stated in the original study timeline. The funding agency agreed to provide a 12 month “low-cost” extension to facilitate accomplishment of the study aims. In a low-cost extension, a limited amount of funds is provided to support the research (e.g., participant compensation, staff salaries) in addition to extending the time period for the research activities (e.g., enrollment, data cleaning and analyses). Thus instead of the trial ending in December 2015, it ended in December 2016. At the funder’s request, we continued intervention delivery until September 2016 which allowed for the enrollment of more participants into the trial, while also ensuring time to collect at least 3-month follow-up data to facilitate examination of the intervention effects. Consequently, conclusions to be drawn from the 6- and 12-month follow-up data will be limited as those samples are substantially smaller.

### Laboratory testing procedures

For Chlamydia and Gonorrhea testing, 15 to 20 cubic centimeters of urine were collected from each participant and transferred to Aptima tubes® for transport and testing by the Philadelphia Department of Public Health. Results were reported to the study's ordering physician via secure fax, and the study nurse practitioner contacted participants to notify them of their STI status. Those who tested positive were encouraged to receive free treatment through the local Health Department or from their primary care provider; authorization for medical release was signed at the time of consent to confirm treatment. Those who could not be reached or did not receive treatment were referred to the Philadelphia Department of Public Health STD Control Program as required by local statutes. HIV testing was performed as an oral swab by our AIDS Service Organization partner using the OraQuick ADVANCE® Rapid HIV-1/2 Antibody Tests. This was a feasibility portion of the study thus HIV testing was not required for participation. The protocol indicated that positive results would be sent for confirmatory testing and then linked to care in accordance with the partnering AIDS Service Organization's policies and procedures.

### Data collection and analysis

The study measures are presented in Table 2. Of note, the depression assessment (Patient Health Questionnaire-9; PHQ-9) and two of the emotion management scales (anger and sadness dysregulation) demonstrated minimally acceptable reliability with Cronbach's  $\alpha$  ranging from .51 to .65. This may reflect the fact that the normative sample used to develop these measures was different from the population included in the RCT, and also supports our supposition that some Black youth experience and express psychological distress differently than the general population (i.e., depression manifesting as anger and not sadness). Computer-assisted personal interviews (CAPI) were used to collect the demographic and behavioral data which were managed in Questionnaire Design Studio® data warehouse. Study visit information and HIV/STI data were managed in FileMaker Pro 12.

For this paper, descriptive statistics were used to characterize demographic, mental health and emotion regulation, and sexual risk variables at baseline. Means, standard deviations, medians, and interquartile ranges (IQR) were used to describe continuous variables, and frequencies and percentages were used to describe categorical variables. Chi-square or Fisher's exact tests were used to examine differences in demographic, mental health and emotion regulation, and sexual risk variables between participants in the HIV and general health conditions; differences between participants currently receiving treatment from community-based mental health providers or members of the general community within the assigned conditions were also examined. Two-sample t-tests were used to compare normally distributed continuous variables across the two groups; nonparametric Wilcoxon Mann-Whitney tests were used to compare non-normally distributed continuous variables. Statistical significance was taken at the 0.05 level, recognizing that the intent of this work was to describe differences in characteristics by group. All analyses were accomplished using SAS Version 9.4 (SAS, 2013). To evaluate the RCT, we will measure change from baseline in consistent condom use (primary outcome), the number of sexual partners, and laboratory confirmed HIV/STIs.



## Results

A total of 109 participants were eligible. One participant presented with imminent suicide risk at the baseline visit (on completion of the PHQ-9 right before the start of the intervention session). This individual was escorted for emergency evaluation and was discontinued from the trial in accordance with the study protocol. The final RCT sample was 108. Fifty-two participants (48.1%) were assigned to the HIV condition, and the remaining 56 (51.9%) were assigned to the general health condition. Demographics, sexual risk characteristics, and mental health and emotion regulation of the sample by intervention condition are presented in Tables 3 and 5. Tables 4 and 6 highlight the findings, broken down by intervention condition and whether participants were currently receiving treatment from community-based mental health providers or members of the general community. The mean participant age was 15.8 years ( $SD = 0.97$ ; see Table 3). Most were male (62.0%) and lived in a house that their parent/guardian owns or rents (87%). There was an average of 2 ( $SD = 1.13$ ) adults and 3 ( $SD = 1.85$ ) children per household. More than half (55.6%) believed their family income was about the same as other people they knew. There were no statistically significant demographic differences between the intervention conditions (see Table 3), or between those in mental health treatment versus those in the general community (see Table 4).

### Sexual risk

On average, participants were 13 to 14 years old at their first sexual encounter (see Table 3). The large majority reported using condoms sometimes (41.7%) or every time (40.7%) they had sex in the past 3 months; the mean proportion of condom use for vaginal and anal sex was 0.7 ( $SD = 0.40$ ), and 0.6 ( $SD = .45$ ), respectively. The lowest proportion of condom use was reported for oral sex (Mean [ $M$ ] = 0.1;  $SD = 0.34$ ). Participants reported a median of 4 (Interquartile range [IQR] = 2.0, 6.0) vaginal and 3 (IQR = 2.0, 5.0) oral sex partners, and a median of 1 (IQR = 1.0, 2.0) anal sex partner since initiating sexual intercourse. About one in three participants (34.3%) reported sexual partner concurrency—having sex with someone while already in a sexual relationship with someone else—with a median of 2 (IQR = 2.0, 3.0) lifetime concurrent sexual partner encounters. Nearly half (45.4%) endorsed having sex with more than one person in the same month, and 26.9% reported having sex with more than one person in the same day. Forty-four percent had ever been tested for HIV. Almost one in ten (9.3%) tested positive for Chlamydia; one person (0.9%) tested positive for Gonorrhea.

Participants in the general health condition were significantly more likely to report having sex with more than one person in the same month (55.4% vs. 34.6%,  $p = 0.02$ ; see Table 3) than those in the HIV condition. For the HIV condition (see Table 4), compared to those in mental health treatment, those in the general community: were younger at first anal sex ( $M_{age} = 13$  [ $SD = 1.62$ ] vs.  $M_{age} = 15$  [ $SD = 0.50$ ],  $p = 0.03$ ); used condoms more frequently in the past 3 months ( $p = 0.01$ ), including a higher proportion of condom use for oral sex ( $M = 0.3$  [ $SD = 0.48$ ] vs.  $M = 0$  [ $SD = 0.00$ ],  $p = 0.01$ ); and had fewer reports of prior HIV testing (33.3% vs. 64.0%,  $p = 0.03$ ). For the general health condition, compared to those in mental health treatment, those in the general community: had fewer oral sexual partners ( $M$

= 3.8 [SD = 6.81] vs.  $M = 8.6$  [SD = 6.09],  $p = 0.001$ ); and a higher proportion of condom use for vaginal sex ( $M = 0.8$  [SD = 0.33] vs.  $M = 0.5$  [SD = 0.41],  $p = 0.04$ ).

### Mental health and emotion regulation

The primary diagnoses were depressive disorders and current substance abuse (see Table 5). The average PHQ-9 score was 2.9 (SD = 2.95), indicating no depression in the past two weeks. Three percent self-reported suicidal ideation on the PHQ-9 (“Thinking that you would be better off dead or that you want to hurt yourself in some way”) and were assessed for suicide risk using the Columbia Suicide Severity Rating Scale (Posner K, 2008). However, participants in the general health condition were significantly more likely to meet criteria for suicidality on the MINI compared to those in the HIV condition (23.2% vs. 7.7% respectively,  $p = 0.03$ ). For the HIV condition (see Table 6), compared to those in the general community, participants at community-based mental health providers reported a higher PHQ-9 score ( $M = 4.0$  [SD = 2.75] vs.  $M = 2.4$  [SD = 2.71],  $p = 0.03$ ). Additionally, for the general health condition, compared to those in the general community, more participants at community-based mental health providers had low suicidality ranks (36.0% vs. 9.7%,  $p = 0.03$ ; see Table 6). While not statistically significant, more participants in the general community met diagnostic criteria for conditions such as current Panic Disorder without agoraphobia (2 vs. 1,  $p > .99$ , HIV condition), past Major Depressive Disorder (3 vs. 2,  $p > .99$ , general health condition), recurrent Major Depressive Disorder (4 vs. 1,  $p = 0.35$ , HIV condition; 8 vs. 4,  $p = 0.52$ , general health condition) and current substance abuse (4 vs. 0,  $p = 0.11$ , HIV condition).

On the CEMS, participants on average reported higher anger coping ( $M = 2.2$ ; SD = 0.48) than inhibition ( $M = 2.0$ ; SD = 0.52) or dysregulation ( $M = 1.7$ ; SD = 0.56). Similarly, the average for sadness coping ( $M = 2.3$ ; SD = 0.49) was higher than sadness inhibition ( $M = 2.1$ ; SD = 0.61) or dysregulation ( $M = 1.4$ ; SD = 0.47). Altogether, this indicates higher levels of adaptive methods of emotion management, as well as emotional suppression, than culturally inappropriate expressions of anger or sadness. Of note, in comparing the two emotions, there was more dysregulation of anger than sadness ( $M = 1.7$ ; SD = 0.56 vs.  $M = 1.4$ ; SD = 0.47). There were no statistically significant differences between those in the HIV and general health conditions, or in mental health treatment versus those in the general community on the emotion regulation variables.

### Discussion

The influence of affective processes (e.g., sadness, impulsivity) on the decisions individuals make about sexual behaviors is well documented. Yet few interventions exist that merge evidence-based HIV/STI prevention strategies (e.g., sexual partner negotiation skills) with psychological strategies (e.g., Cognitive Behavioral Therapy techniques) to reduce HIV/STI risk. Black youth at risk for HIV/STIs were successfully enrolled into a pilot RCT of a psychoeducational HIV/STI prevention intervention specifically designed to address the role of mental illness and emotion regulation in HIV/STI risk. The sample included an underserved population largely absent from HIV/STI prevention literature—Black youth receiving outpatient mental health treatment.

Participants reported several behaviors that increased their risk for HIV/STIs. In comparing our sample to other Black, heterosexual high school-aged youth in Philadelphia, we noted that our participants engaged in more risk behaviors than their counterparts (CDC, 2018). The reports of concurrent sexual partners are most concerning. Moreover, 10% of the sample tested positive for an STI. Among participants in the HIV condition, those from the general community sample also had fewer reports of prior HIV testing. While we are unable to definitively explain this finding, we do know that Philadelphia providers have established unique partnerships where AIDS service organizations provide on-site HIV testing at community-based mental health provider programs. Thus increased HIV testing within the mental health sample may reflect success of these efforts, as well as the benefits of integrating mental health and physical health services, especially for youth. Additional efforts are needed toward novel integration of HIV/STI prevention programming and mental health treatment to reduce HIV/STI risk among Black youth, including those with mental illnesses or other affective concerns (Brawner et al., 2017). Reports of condom use in our sample, however, were relatively high. More than 80% reported using condoms sometimes or every time they had sex in the past 3 months. While 100% condom use would be ideal to prevent HIV/STIs, these numbers are encouraging and can continue to be reinforced in intervention content. The key will be to promote continued condom use when relationship dynamics change, as researchers note condom use diminishes as trust develops and/or youth “fall in love” (Teitelman, Tennille, Bohinski, Jemmott, & Jemmott, 2011).

In some instances, participants in the general community reported more mental health concerns and sexual risk behaviors than those in mental health treatment. This supports our “walking well” theory that there are Black youth in the general population who may experience psychological symptoms, along with the resultant sexual risk consequences of those symptoms. We believe that the components of Project GOLD that were designed to address affective components of the sexual decision-making process (e.g., sadness leading to condomless sex to relieve emotions) may be beneficial to the larger population of Black youth, regardless of mental health treatment status. Additionally, the averages for anger dysregulation were higher than those for sadness dysregulation, indicating that some Black youth may have more culturally inappropriate expressions of anger than sadness. This aligns with our postulation that the experience of psychological symptoms may manifest differently in some populations, calling for additional considerations in our mental health screening, diagnosis and treatment procedures. Moreover, inhibition/suppression of anger and sadness among Black youth should be attended to to prevent future complications (Folk, Zeman, Poon, & Dallaire, 2014).

Reports of suicidal ideation also warrant further attention. Nearly one in four participants in the general health condition met clinical criteria for suicidality. In the overall sample, 3% reported suicidal ideation in the past 2 weeks, and 16% met clinical criteria for suicidality. Researchers report that some Black youth encounter multiple stressors, such as community violence and underfunded educational systems, yet often do not have adequate resources to help buffer against those stressors (Jones & Neblett, 2017; Turner, Shattuck, Hamby, & Finkelhor, 2013). This may lead to subclinical presentations of psychological distress or trouble with regulating emotions. Additionally, mental illnesses are often underdiagnosed or misdiagnosed by providers in this population, with stark disparities in receipt of treatment

(Brawner & Waite, 2009; Lindsey, Chambers, Pohle, Beall, & Lucksted, 2013). Or, Black youth and/or their families may have different conceptions about mental illnesses and their treatment (Paidipati, Brawner, Eiraldi, & Deatruck, 2017). Suicide risk assessment and intervention is an important consideration for those working with Black youth.

For others working with this demographic, it is important to note that we encountered substantial time delays and difficulties recruiting a clinical sample for this research. Part of the delay came from working with multiple IRBs that did not all agree on the study protocol; several others have faced similar challenges (Kaur, 2013; Mammel & Kaplan, 1995). In Brawner and Sutton (2018), we provide an in-depth description of the IRB challenges faced and measures undertaken to resolve them; this publication may be particularly useful for individuals conducting sexual health research with youth and/or making determinations about the necessity of parental consent waivers. Partnering with a non-IRB affiliated youth legal expert was a novel strategy (suggested by the local IRBs), and helped reach resolution to move the research forward. The scientific, legal, and ethics communities must continue to partner together to ensure an adequate balance between knowledge development and human subjects protections.

Additionally, we were fortunate that a low-cost extension was granted to facilitate our ability to accomplish the study aims. When resources are available, it is crucial that researchers receive adequate time and funding to conduct community-engaged research. These projects typically require extensive time commitments and can often experience unforeseen delays (Ross et al., 2010), such as those described in this paper. This is particularly true when investigators undergo iterative processes to incorporate input from the target community, which can change planned study procedures. In our case, our youth advisors and participants in our preliminary work repeatedly indicated that parental permission requirements would be a barrier to their participation, thus we staunchly advocated for them despite the encountered delays.

Another barrier was identifying members of the target population who were actively engaged in mental health treatment. Our key stakeholders, including community-based mental health program directors and frontline staff, attributed the low census of youth in the target demographic to a trend in local behavioral health treatment where they are able to actively engage and retain children and adults, but struggle with youth. Other researchers have discovered that stigma, patient-provider relationships, and the quality of mental health services are barriers to mental health care, including among youth (Brawner & Waite, 2009; Substance Abuse and Mental Health Services Administration, 2015). Lastly, some Black youth in Philadelphia face substantial psychological and social challenges that interfere with their daily lives along with their ability to participate in longitudinal research studies. Many were interested in the study and believed participation would be beneficial for themselves and/or others, however, factors such as criminal justice system involvement, family conflict leading to foster care placement, childcare responsibilities, and employment demands were barriers to participation. This is similar to what others conducting research with racial/ethnic minorities have discovered (George, Duran, & Norris, 2014). With advances in social media and online research, innovative online strategies can be implemented to ensure that study samples include populations that may have difficulty attending in-person study visits, as well

as to deliver intervention content to these groups (Stevens et al., 2017). Such generation of new knowledge from underserved populations and convenient dissemination of effective intervention strategies to these groups may help to reduce HIV/STI disparities.

In expanding the inclusion criteria, we will be able to analyze our “walking well” theory. The baseline data, however, support the theory given that there were no statistically significant differences in mental health diagnoses between the community-based mental health provider and general community groups; the expectation would have been to see significant differences if one presumed that fewer general community youth would meet diagnostic criteria. However, in some instances, more participants from the general community met diagnostic criteria for different conditions (e.g., Recurrent Major Depressive Disorder) than those in mental health treatment. By including a spectrum of Black youth, from the psychologically and emotionally healthy to those receiving outpatient mental health treatment for clinical diagnoses, we will be able to determine whether targeting HIV/STI prevention intervention content to incorporate affective needs is a beneficial strategy for Black youth. With this change, however, we will have to explore intervention effects by mental health diagnosis and treatment status in the longitudinal analyses. It is also interesting that participants had high levels of adaptive methods of emotion management co-occurring with emotional suppression. One might have expected to see lower levels of emotional suppression among individuals with more adaptive methods to cope with their emotions. This paradox calls to question whether participants’ chosen coping methods were health promoting (e.g., exercise to relieve stress) or detrimental (e.g., drug/alcohol consumption, sex to relieve stress) as surmised in previous research (Brawner et al., 2017).

## Conclusions

A sample of 108 heterosexually-active Black youth participated in a pilot RCT of a psychoeducational HIV/STI prevention intervention. The novel intervention contributes to HIV/STI prevention science by addressing affective components of the sexual decision-making process. The number of positive STI diagnoses at baseline, alongside participants’ reports of HIV/STI risk-related sexual behaviors, indicate the need for further intervention with this demographic. Given the association between mental illness, emotion regulation, and sexual risk behaviors, such intervention programs may be effective ways to reduce HIV/STI transmission for this key population. Pending the results of the forthcoming pilot study evaluation, we plan to test Project GOLD in a larger efficacy trial. If the face-to-face, group-level format proves to be effective, future adaptations can leverage technology for online delivery to engage hard-to-reach demographics and a broader audience of Black youth at risk for HIV/STIs.

## Acknowledgements:

The authors are grateful to the study participants, and thank the Made Aware with Care (MAC) research team and youth community advisory board for their assistance with the study. Trial registration: [NCT03348813](https://www.clinicaltrials.gov/ct2/show/study/NCT03348813).

**Funding Information:** This research was funded by the Centers for Disease Control and Prevention (Minority AIDS Research Initiative) grant # U01PS003304 awarded to Dr. Bridgette M. Brawner. The research was also supported by a grant from the Penn Mental Health AIDS Research Center (PMHARC), a National Institutes of Health-funded program (P30MH097488), to Dr. Brawner. Its contents are solely the responsibility of the authors

and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the National Institutes of Health.

## References

- Adimora AA, Schoenbach VJ, Taylor EM, Khan MR, Schwartz RJ, & Miller WC (2013). Sex ratio, poverty, and concurrent partnerships among men and women in the United States: A multilevel analysis. *Annals of Epidemiology*, 23(11), 716–719. doi: 10.1016/j.annepidem.2013.08.002 [PubMed: 24099690]
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (Fourth ed.). Washington, DC: American Psychiatric Association.
- Azjen I (1991). *The Theory of Planned Behavior*. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Beck AT (1976). *Cognitive Therapy and the Emotional Disorders*. New York, NY: Penguin Books.
- Bowleg L, del Río-González AM, Holt SL, Pérez C, Massie JS, Mandell JE, & A. Boone C. (2017). Intersectional epistemologies of ignorance: How behavioral and social science research shapes what we know, think we know, and don't know about US Black men's sexualities. *The Journal of Sex Research*, 54(4–5), 577–603. [PubMed: 28287844]
- Braje SE, Eddy JM, & Hall GCN (2015). A comparison of two models of risky sexual behavior during late adolescence. *Archives of Sexual Behavior*, 45(1), 73–83. doi: 10.1007/s10508-015-0523-3 [PubMed: 25925897]
- Brawner BM, Abboud S, Reason J, Wingood G, & Jemmott LS (under review). The development of an innovative, theory-driven, psychoeducational HIV/STI prevention intervention for heterosexually-active Black adolescents with mental illness
- Brawner BM, Gomes MM, Jemmott LS, Deatrick JA, & Coleman CL (2012). Clinical depression and HIV risk-related sexual behaviors among African-American adolescent females: Unmasking the numbers. *AIDS Care*, 24(5), 618–625. doi: 10.1080/09540121.2011.630344 [PubMed: 22292603]
- Brawner BM, Jemmott LS, Wingood G, Reason J, Daly B, Brooks K, & Lanier Y (2017). Feelings matter: Depression severity and emotion regulation in HIV/STI risk-related sexual behaviors. *Journal of Child and Family Studies*, 26(6), 1635–1645. doi: 10.1007/s10826-017-0674-z
- Brawner BM, & Sutton MY (2018). Sexual health research among youth representing minority populations: To waive or not to waive parental consent. *Ethics & Behavior*, 28(7), 544–559. doi: 10.1080/10508422.2017.1365303
- Brawner BM, & Waite RL (2009). Exploring patient and provider level variables that may impact depression outcomes among African American adolescents. *Journal of Child Adolescent Psychiatric Nursing*, 22(2), 69–76. doi: 10.1111/j.1744-6171.2009.00175.x [PubMed: 19490277]
- Brown LK, Hadley W, Donenberg GR, DiClemente RJ, Lescano C, Lang DM, . . . Oster D. (2014). Project STYLE: A multisite RCT for HIV prevention among youths in mental health treatment. *Psychiatric Services*, 65(3), 338–344. doi: 10.1176/appi.ps.201300095 [PubMed: 24382603]
- Brown LK, Whiteley L, Houck CD, Craker LK, Lowery A, Beausoleil N, & Donenberg G (2017). The role of affect management for HIV risk reduction for youth in alternative schools. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56(6), 524–531. doi: 10.1016/j.jaac.2017.03.010 [PubMed: 28545758]
- Centers for Disease Control and Prevention. (2016a). HIV/AIDS: HIV Among Youth Retrieved May 22,, 2018, from <http://www.cdc.gov/hiv/group/age/youth/>
- Centers for Disease Control and Prevention. (2016b). Sexually Transmitted Disease Surveillance 2015 Retrieved December 1, 2017, from <https://www.cdc.gov/std/stats15/std-surveillance-2015-print.pdf>
- Centers for Disease Control and Prevention. (2018). Youth Risk Behavior Survey: Philadelphia, PA 2017 Results Retrieved November 2, 2018, from <https://nccd.cdc.gov/youthonline/App/Results.aspx?LID=PA>
- Donenberg GR, Emerson E, Brown LK, Houck C, & Mackesy-Amiti ME (2012). Sexual experience among emotionally and behaviorally disordered students in therapeutic day schools: An ecological examination of adolescent risk. *Journal of Pediatric Psychology*, 37(8), 904–913. doi: 10.1093/jpepsy/jss056 [PubMed: 22467883]

- Fleming DT, & Wasserheit JN (1999). From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sexually Transmitted Infections*, 75(1), 3–17. [PubMed: 10448335]
- Folk JB, Zeman JL, Poon JA, & Dallaire DH (2014). A longitudinal examination of emotion regulation: Pathways to anxiety and depressive symptoms in urban minority youth. *Child and Adolescent Mental Health*, 19(4), 243–250.
- George S, Duran N, & Norris K (2014). A systematic review of barriers and facilitators to minority research participation among African Americans, Latinos, Asian Americans, and Pacific Islanders. *American Journal of Public Health*, 104(2), e16–e31. doi: 10.2105/ajph.2013.301706
- Jones SCT, & Neblett EW (2017). Future directions in research on racism-related stress and racial-ethnic protective factors for Black youth. *Journal of Clinical Child & Adolescent Psychology*, 46(5), 754–766. doi: 10.1080/15374416.2016.1146991 [PubMed: 27145002]
- Juvenile Law Center. (2006). *Consent to treatment and confidentiality provisions affecting minors in Pennsylvania* (2nd Edition ed.). Philadelphia, PA: Juvenile Law Center.
- Kaur S (2013). How IRBs make decisions: Should we worry if they disagree? *Journal of Medical Ethics*, 39(4), 224–229. doi: 10.1136/medethics-2011-100439 [PubMed: 22982492]
- Kroenke K, Spitzer RL, & Williams JBW (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613. doi: 10.1046/j.1525-1497.2001.016009606.x [PubMed: 11556941]
- Lindsey MA, Chambers K, Pohle C, Beall P, & Lucksted A (2013). Understanding the behavioral determinants of mental health service use by urban, under-resourced Black youth: Adolescent and caregiver perspectives. [journal article]. *Journal of Child and Family Studies*, 22(1), 107–121. doi: 10.1007/s10826-012-9668-z [PubMed: 23355768]
- Lowe B, Kroenke K, Herzog W, & Grafe K (2004). Measuring depression outcome with a brief self-report instrument: Sensitivity to change of the Patient Health Questionnaire (PHQ-9). *Journal of Affective Disorders*, 81(1), 61–66. [PubMed: 15183601]
- Mammel KA, & Kaplan DW (1995). Research consent by adolescent minors and institutional review boards. *Journal of Adolescent Health*, 17(5), 323–330. [PubMed: 8924437]
- Martin A, Rief W, Klaiberg A, & Braehler E (2006). Validity of the Brief Patient Health Questionnaire Mood Scale (PHQ-9) in the general population. *General Hospital Psychiatry*, 28(1), 71–77. [PubMed: 16377369]
- Mathur S, Mullinax M, & Santelli JS (2017). Prevention of Sexually Transmitted Infections Among Adolescents In Cherry AL, Baltag V & Dillon ME (Eds.), *International Handbook on Adolescent Health and Development: The Public Health Response* (pp. 183–205). Cham: Springer International Publishing.
- Morrison-Beedy D, Grove L, Ji M, & Baker E (2017). Understanding the “why” for high-risk behavior: Adolescent girls’ motivations for sex. *Journal of the Association of Nurses in AIDS Care*, 28(6), 877–887. doi: 10.1016/j.jana.2017.06.012 [PubMed: 28784584]
- Paidipati CP, Brawner B, Eiraldi R, & Deatrick JA (2017). Parent and Family Processes Related to ADHD Management in Ethnically Diverse Youth. *Journal of the American Psychiatric Nurses Association*, 23(2), 90–112. doi: 10.1177/1078390316687023 [PubMed: 28076687]
- Philadelphia Department of Public Health. (2017). *AIDS Activities Coordinating Office Surveillance Report, 2016* Retrieved December 1, 2017, from <http://www.phila.gov/health/pdfs/aaco/HIV%20Surveillance%20Report-2016web.pdf>
- Posner K BD, Lucas C, Gould M, Stanley B, Brown G, et al. (2008). *The Columbia Suicide Severity Rating Scale*. New York, NY: Columbia University.
- Ross LF, Loup A, Nelson RM, Botkin JR, Kost R, Smith GR, & Gehlert S (2010). The challenges of collaboration for academic and community partners in a research partnership: Points to consider. *Journal of Empirical Research on Human Research Ethics*, 5(1), 19–31. doi: 10.1525/je.2010.5.1.19 [PubMed: 20235861]
- SAS. (2013). *SAS (Version 9.4)*. Cary, NC.
- Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, . . . Dunbar GC (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.); The development and validation of a

structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry*, 59(Supplement 20), 22–33.

Stevens R, Gilliard-Matthews S, Dunaev J, Todhunter-Reid A, Brawner B, & Stewart J (2017). Social media use and sexual risk reduction behavior among minority youth: Seeking safe sex information. *Nursing research*, 66(5), 368–377. [PubMed: 28858145]

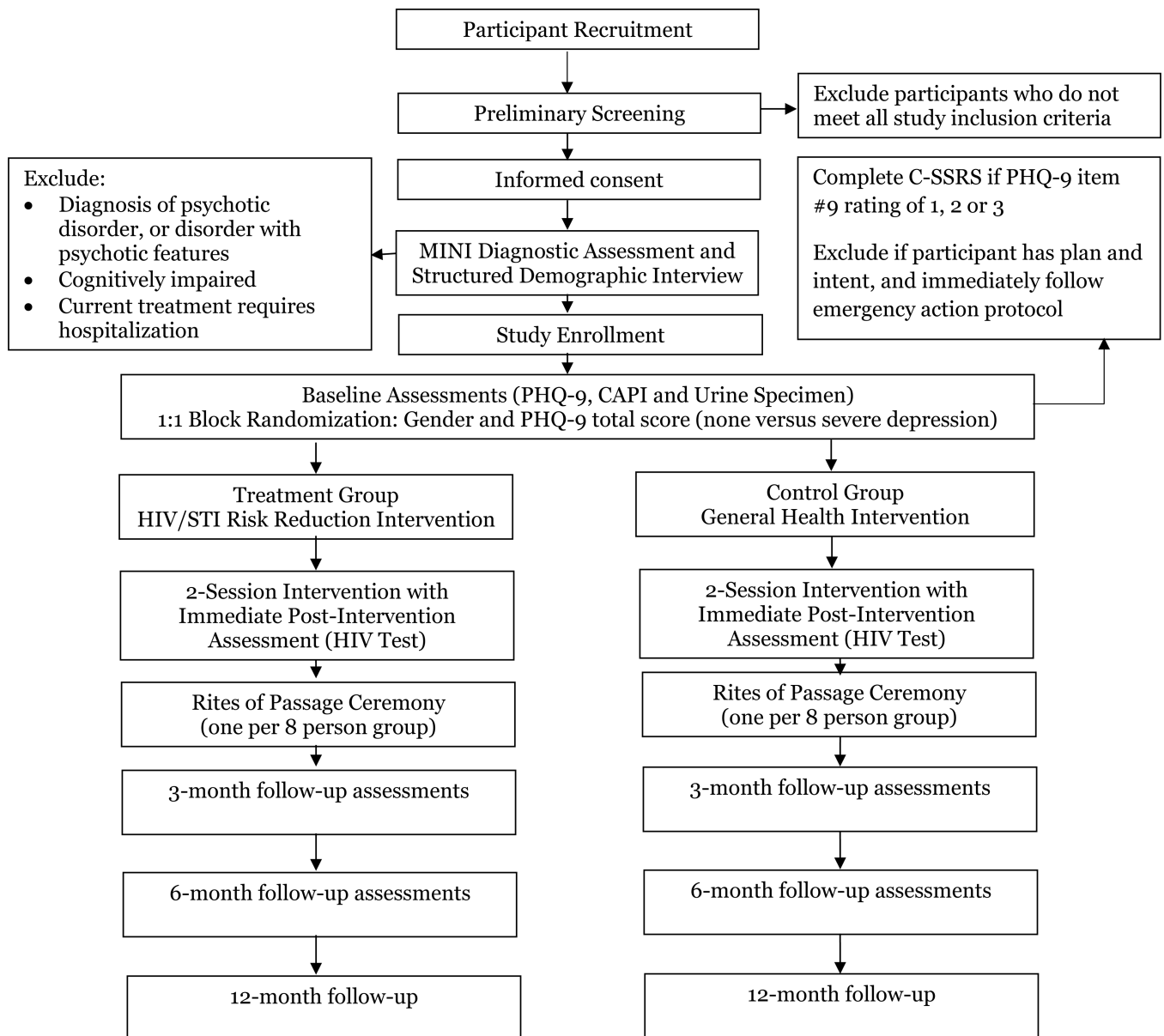
Substance Abuse and Mental Health Services Administration. (2015). Racial/ethnic differences in mental health service use among adults Retrieved December 1, 2017, from <http://www.samhsa.gov/data/sites/default/files/MHServicesUseAmongAdults/MHServicesUseAmongAdults.pdf>

Teitelman AM, Tennille J, Bohinski JM, Jemmott LS, & Jemmott JB (2011). Unwanted unprotected sex: Condom coercion by male partners and self-silencing of condom negotiation among adolescent girls. *Advances in Nursing Science*, 34(3), 243–259. doi: 10.1097/ANS.0b013e31822723a3 [PubMed: 21822072]

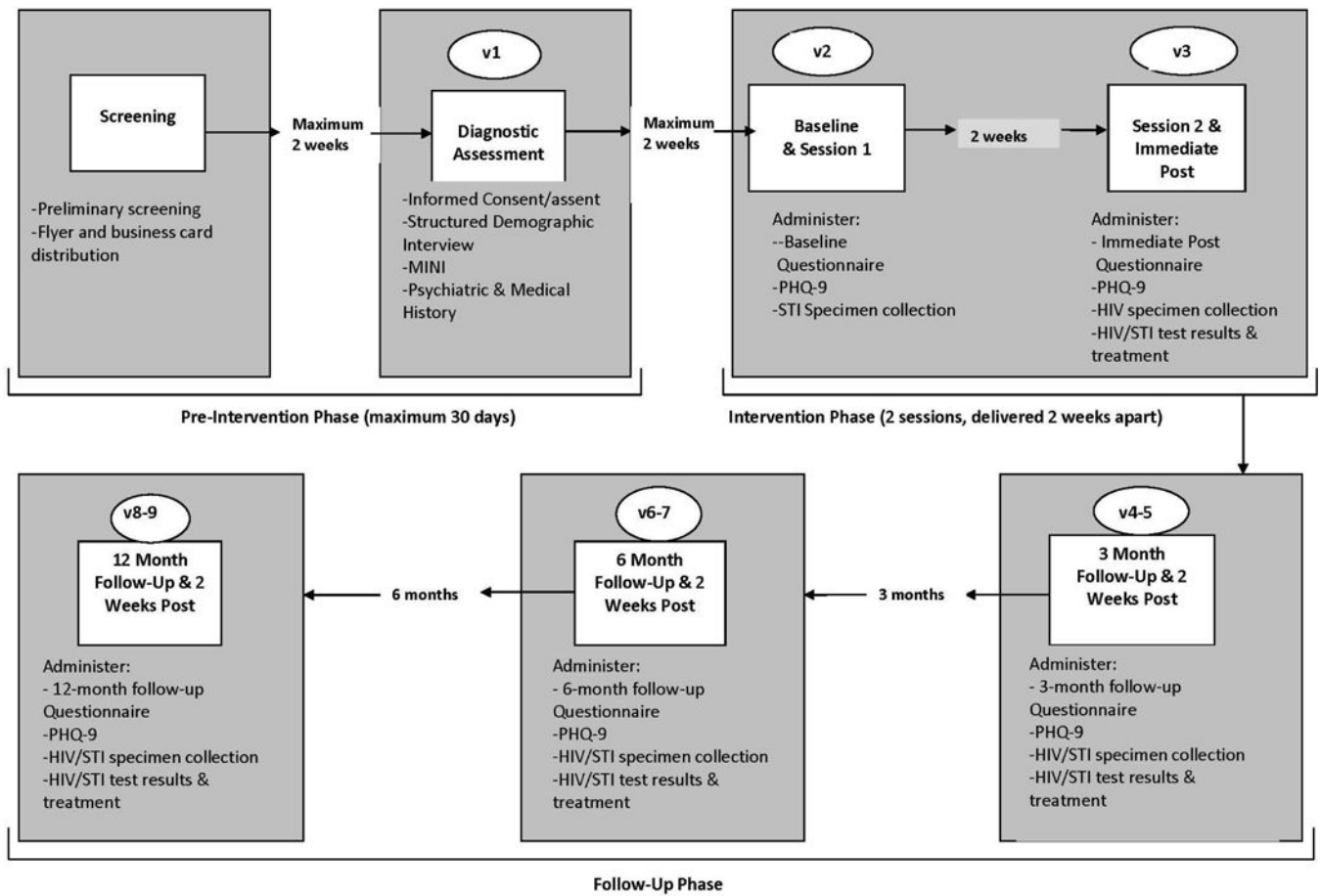
Turner HA, Shattuck A, Hamby S, & Finkelhor D (2013). Community disorder, victimization exposure, and mental health in a national sample of youth. *Journal of Health and Social Behavior*, 54(2), 258–275. doi: 10.1177/0022146513479384 [PubMed: 23525045]

Zeman J, Shipman K, & Penza-Clyve S (2001). Development and initial validation of the Children's Sadness Management Scale. *Journal of Nonverbal Behavior*, 25(3), 187–205.





**Figure 1.** Study design. This figure illustrates the study design and flow of participants through the study activities. *Note.* PHQ-9 = Patient Health Questionnaire-9; CAPI = computer-assisted personal interview.



**Figure 2.** Study visit diagram. This figure illustrates the timeline of the participants’ study visits, and the activities completed at each visit. *Note.* PHQ-9 = Patient Health Questionnaire-9.

**Table 1.**

## Original and Modified Inclusion and Exclusion Criteria

| Original  | Modified                               |
|---|--|
| <b>Inclusion Criteria</b>   |  |
| Aged 14 to 17 years old   |  |
| Self-identify as Black (inclusive of African American, Caribbean, Kenyan, etc.)                         |  |
| Currently receiving outpatient psychiatric services from a community-based mental health provider       | Removed                                |
| Have been a client at the participating community-based mental health provider for at least 1 month     | Removed                                |
| Have had vaginal sex in the past 3 months   | Changed to “have ever had vaginal sex” |
| Able to provide signed informed consent   |  |
| Able to speak, read and write in the English language   |  |
| Plan to be in the Philadelphia area for the next 12 months  |  |
| <b>Exclusion Criteria</b>   |  |
| Diagnosis of a psychotic disorder (i.e., Schizophrenia) or a disorder with psychotic features           |  |
| Cognitive deficit that would impair ability to complete study procedures                                |  |
| Actively suicidal (PHQ-9 item #9 rating of 1, 2 or 3 with plan and intent) or requiring hospitalization |  |
| Unstable contact information (homeless or no permanent address, or no land line or mobile phone)        |  |

Table 2.

## Project GOLD Study Measures

| Variable(s)                                 | Measurement   | Description  |
|---|---|--|
| Demographics                                | Investigator items  | Demographic data collected included age, gender, current residence, grade in school and socioeconomic indicators (e.g., perceived family income compared to others).   |
| <b>Mental Health and Emotion Regulation</b> |   |  |
| Psychiatric Diagnosis                       | The Mini-International Neuropsychiatric Interview (M.I.N.I.) English version 6.0.0 Sheehan et al., 1998 | The MINI served as the primary instrument for diagnostic case ascertainment. The fourteen module instrument is a short structured diagnostic interview for Diagnostic and Statistical Manual of Mental Disorders psychiatric disorders (APA, 2000) which takes about 30 minutes to complete; the study began before the DSM-V was available. Advanced research assistants were trained to conduct the structured interviews.   |
| Depression Screening                        | Patient Health Questionnaire-9 (PHQ-9) Kroenke et al., 2001   | The Patient Health Questionnaire-9 (PHQ-9) is a 9-item self-report depression assessment with acceptable reliability, validity, sensitivity, and specificity, and is a useful tool in provider recognition of major depression in addition to subthreshold depressive disorders (Lowe, Kroenke, Herzog, & Grafe, 2004; Martin, Rief, Klaiberg, & Braehler, 2006). The instrument scores each of the 9 DSM-IV depression diagnostic criteria as “0” (not at all) to “3” (nearly every day). Total scores range from 0 to 27, and depression severity is assessed as follows: 0–4= “none”, 5–9= “mild depression”, 10–14= “moderate depression”, 15–19= “moderately severe depression”, and 20–27= “severe depression”. The instrument had minimally acceptable reliability in the current study (Cronbach’s $\alpha$ = .65).  |
| Suicidal Ideation and Intention             | Columbia-Suicide Severity Rating Scale (C-SSRS) Posner et al., 2008                                     | Suicidal ideation and intention were determined from the Columbia-Suicide Severity Rating Scale (C-SSRS). The C-SSRS is a brief, low-burden clinician-administered questionnaire designed to assess and track suicidal ideation and behavior (e.g., suicide attempts, wish to die, thoughts of suicide, plan and intent). The tool is widely used in clinical research and is recommended by the FDA to assess suicidality in clinical trials. All participants who endorsed suicidal ideation on the PHQ-9 were assessed using the C-SSRS.  |
| Emotion Regulation                          | The Children’s Emotion Management Scale (CEMS) Zeman et al., 2001                                       | The Children’s Emotion Management Scale (CEMS) was used to assess self-reported sadness (11 items) and anger (12 items) management. The Likert scale ranked items as 1 (hardly ever), 2 (sometimes), or 3 (often) in response to three subscales for: 1) Inhibition, emotional suppression (e.g., “I get sad inside but I don’t show it”); 2) Dysregulated Expression, culturally inappropriate emotional expression (e.g., “I say mean things to others when I am mad”); and 3) Emotion Regulation Coping, adaptive methods of emotion management (e.g., “When I am feeling sad, I do something totally different until I calm down”). Higher scores reflect more of the construct. The Cronbach’s $\alpha$ in this sample were acceptable (with the exception of the anger and sadness dysregulation subscales): anger inhibition (.71), anger dysregulation (.63), anger coping (.70), sadness inhibition (.80), sadness dysregulation (.51), and sadness coping (.69). |
| <b>Sexual Risk</b>                          |   |  |
| Proportion of Condom Use                    | Investigator item   | Continuous variable calculated by dividing the number of intercourse acts with condoms by the total number of intercourse acts. This measure of consistent condom use was calculated independently for each type of sexual act (e.g. vaginal, anal and/or oral sex).   |
| Number of Sexual Partners                   | Investigator items  | Continuous variables calculated in response to a question about the number of sexual partners participants had in the past 3-, 6- and 12-months. Sexual partner concurrency was also measured as a dichotomous variable in response to questions about whether they had sex with more than one person in the same month and/or day, and if they had sex with someone while already in a sexual relationship with someone else. There was also a continuous measure of the number of times they had sex with someone while already in a sexual relationship with someone else.  |
| Laboratory Confirmed HIV/ STIs              | DNA amplification tests on urine specimens OraQuick ADVANCE® Rapid HIV-1/2 Antibody Tests               | Dichotomous variable. Diagnosis of Chlamydia trachomatis (CT) and Neisseria gonorrhoea (GC) was made based on DNA amplification tests on urine specimens. Participants provided an on-site first-void urine specimen of approximately 15 to 20 cc. Diagnosis of HIV was made based on laboratory confirmation following a positive OraQuick ADVANCE® Rapid HIV-1/2 Antibody Tests. This rapid HIV antibody tests detects antibodies to HIV-1 and HIV-2 within 20 minutes. Saliva was swabbed between the teeth and upper and lower gum by a certified HIV tester and counselor from the partner AIDS Service Organization.   |
| Sexual Activity                             | Investigator item   | Dichotomous variable to assess whether participants continued to engage in vaginal, anal and/or oral sex.  |

**Table 3.**

Participant Demographic and Sexual Risk Characteristics at Baseline (N = 108)

| Characteristic  | Overall Sample<br>(N = 108)                   | Assigned Condition                 |                                    | p <sup>*</sup>    |
|---|---|------------------------------------|------------------------------------|-------------------|
|   |   | HIV<br>(N = 52)                    | GH<br>(N = 56)                     |                   |
| <i>Demographics</i>   |   |                                    |                                    |                   |
| Age [Mean (SD)] [Median (IQR)]  | 15.78 (0.97)<br>16.00 (15.0, 16.5)            | 15.81 (0.91)<br>16.00 (15.0, 16.0) | 15.75 (1.03)<br>16.00 (15.0, 17.0) | 0.76              |
| Gender [N(%)]   |   |                                    |                                    | 0.92              |
|   | Male  | 67 (62.0%)                         | 32 (61.5%)                         | 35 (62.5%)        |
|   | Female  | 41 (38.0%)                         | 20 (38.5%)                         | 21 (37.5%)        |
| Living Status [N(%)]  |   |                                    |                                    | 0.30              |
|   | In a house that my parent/guardian owns       | 50 (46.3%)                         | 28 (53.9%)                         | 22 (39.3%)        |
|   | In a house that my parent/guardian rents      | 44 (40.7%)                         | 16 (30.8%)                         | 28 (50.0%)        |
|   | In an apartment that my parent/guardian rents | 8 (7.4%)                           | 5 (9.6%)                           | 3 (5.4%)          |
|   | In a shelter                                  | 2 (1.9%)                           | 1 (1.9%)                           | 1 (1.8%)          |
|   | Other   | 4 (3.7%)                           | 2 (3.9%)                           | 2 (3.6%)          |
| Grade in School [N(%)]  |   |                                    |                                    | 0.56              |
|   | 9 <sup>th</sup>                               | 23 (21.3%)                         | 11 (21.2%)                         | 12 (21.4%)        |
|   | 10 <sup>th</sup>                              | 38 (35.2%)                         | 22 (42.3%)                         | 16 (28.6%)        |
|   | 11 <sup>th</sup>                              | 22 (20.4%)                         | 11 (21.2%)                         | 11 (19.6%)        |
|   | 12 <sup>th</sup>                              | 16 (14.8%)                         | 6 (11.5%)                          | 10 (17.9%)        |
|   | Other   | 4 (3.7%)                           | 1 (1.9%)                           | 3 (5.4%)          |
|   | Missing                                       | 5 (4.6%)                           | 1 (1.9%)                           | 4 (7.1%)          |
| Number of Adults in Household<br>[Mean (SD)] [Median (IQR)] (n = 103)   | 2.05 (1.13)<br>2.00 (1.0, 2.0)                | 2.20 (1.06)<br>2.00 (2.0, 3.0)     | 1.90 (1.19)<br>2.00 (1.0, 2.0)     | 0.19              |
| Number of Children in Household<br>[Mean (SD)] [Median (IQR)] (n = 103) | 2.62 (1.85)<br>2.00 (1.0, 4.0)                | 2.53 (1.83)<br>2.00 (1.0, 3.0)     | 2.71 (1.88)<br>2.00 (1.0, 4.0)     | 0.62              |
| Family Income Compared to Others You Know<br>[N(%)]                     |   |                                    |                                    | 0.55              |
|   | A lot more than other people I know           | 7 (6.48%)                          | 2 (3.9%)                           | 5 (8.9%)          |
|   | More than other people I know                 | 20 (18.5%)                         | 12 (23.1%)                         | 8 (14.3%)         |
|   | About the same as other people I know         | 60 (55.6%)                         | 29 (55.8%)                         | 31 (55.4%)        |
|   | Less than other people I know                 | 11 (10.2%)                         | 6 (11.5%)                          | 5 (8.9%)          |
|   | A lot less than other people I know           | 1 (0.9%)                           | 0 (0.0%)                           | 1 (1.8%)          |
|   | Missing                                       | 9 (8.3%)                           | 3 (5.8%)                           | 6 (10.7%)         |
| <i>Sexual Risk</i>  |   |                                    |                                    |                   |
| Age at First Vaginal Sex [Mean (SD)]<br>[Median (IQR)] (n = 96)         | 13.56 (1.73)<br>14.00 (13.0, 15.0)            | 13.68 (1.99)<br>14.00 (13.0, 15.0) | 13.46 (1.50)<br>14.00 (13.0, 15.0) | 0.55              |
| Age at First Anal Sex [Mean (SD)]<br>[Median (IQR)] (n = 17)            | 14.18 (1.42)<br>15.00 (13.0, 15.0)            | 14.09 (1.58)<br>15.00 (12.0, 15.0) | 14.33 (1.21)<br>14.50 (13.0, 15.0) | 0.73              |
| Age at First Oral Sex [Mean (SD)]<br>[Median (IQR)] (n = 75)            | 13.51 (1.61)<br>14.00 (12.0, 15.0)            | 13.86 (1.40)<br>14.00 (12.0, 15.0) | 13.20 (1.74)<br>14.00 (12.0, 14.5) | 0.07              |
| Number of Vaginal Sex Partners [Mean (SD)] [Median (IQR)] (n = 88)      | 5.48 (6.63)<br>4.00 (2.0, 6.0)                | 4.40 (3.95)<br>3.00 (2.0, 5.5)     | 6.38 (8.16)<br>4.00 (2.0, 7.0)     | 0.15 <sup>^</sup> |

| Characteristic  | Overall Sample<br>( <i>N</i> = 108) | Assigned Condition              |                                 | <i>p</i> <sup>*</sup> |
|---|-------------------------------------|---------------------------------|---------------------------------|-----------------------|
|   |                                     | HIV<br>( <i>N</i> = 52)         | GH<br>( <i>N</i> = 56)          |                       |
| Number of Anal Sex Partners [Mean (SD)]<br>[Median (IQR)] ( <i>n</i> = 16)  | 1.75 (1.39)<br>1.00 (1.0, 2.0)      | 1.80 (1.55)<br>1.00 (1.0, 2.0)  | 1.67 (1.21)<br>1.00 (1.0, 2.0)  | 0.90 <sup>^</sup>     |
| Number of Oral Sex Partners [Mean (SD)]<br>[Median (IQR)] ( <i>n</i> = 66)  | 5.03 (5.81)<br>3.00 (2.0, 5.0)      | 4.00 (4.11)<br>2.50 (1.0, 5.0)  | 5.89 (6.85)<br>3.00 (2.0, 7.5)  | 0.37 <sup>^</sup>     |
| How Often Condoms Were Used in the Past 3 Months [ <i>N</i> (%)]  |                                     |                                 |                                 | 0.64                  |
| Never   | 13 (12.0%)                          | 6 (11.5%)                       | 7 (12.5%)                       |                       |
| Sometimes   | 45 (41.7%)                          | 19 (36.5%)                      | 26 (46.4%)                      |                       |
| Every time  | 44 (40.7%)                          | 23 (44.2%)                      | 21 (37.5)                       |                       |
| Missing   | 6 (5.6%)                            | 4 (7.7%)                        | 2 (3.6%)                        |                       |
| Proportion of Condom Use for Vaginal Sex<br>[Mean (SD)] [Median (IQR)] ( <i>n</i> = 66)                                 | 0.66 (0.40)<br>1.00 (0.33, 1.0)     | 0.64 (0.42)<br>0.92 (0.2, 1.0)  | 0.67 (0.39)<br>1.00 (0.42, 1.0) | 0.77 <sup>^</sup>     |
| Proportion of Condom Use for Anal Sex<br>[Mean (SD)] [Median (IQR)] ( <i>n</i> = 13)                                    | 0.58 (0.45)<br>0.67 (0.0, 1.0)      | 0.65 (0.44)<br>0.83 (0.25, 1.0) | 0.47 (0.51)<br>0.33 (0.0, 1.0)  | 0.58 <sup>^</sup>     |
| Proportion of Condom Use for Oral sex<br>[Mean (SD)] [Median (IQR)] ( <i>n</i> = 53)                                    | 0.14 (0.34)<br>0.0 (0.0, 0.0)       | 0.13 (0.34)<br>0.0 (0.0, 0.0)   | 0.15 (0.35)<br>0.0 (0.0, 0.0)   | 0.74 <sup>^</sup>     |
| Sex with More Than One Person in the Same Month [ <i>N</i> (%)]   |                                     |                                 |                                 | 0.02                  |
| Yes   | 49 (45.4%)                          | 18 (34.6%)                      | 31 (55.4%)                      |                       |
| No  | 57 (52.8%)                          | 34 (65.4%)                      | 23 (41.1%)                      |                       |
| Missing   | 2 (1.9%)                            | 0 (0.0%)                        | 2 (3.6%)                        |                       |
| Sex with More Than One Person in the Same Day<br>[ <i>N</i> (%)]  |                                     |                                 |                                 | 0.59                  |
| Yes   | 29 (26.9%)                          | 13 (25.0%)                      | 16 (28.6%)                      |                       |
| No  | 77 (71.3%)                          | 39 (75.0%)                      | 38 (67.9%)                      |                       |
| Missing   | 2 (1.9%)                            | 0 (0.0%)                        | 2 (3.6%)                        |                       |
| Sex with Someone Else While in a Relationship<br>[ <i>N</i> (%)]  |                                     |                                 |                                 | 0.10                  |
| Yes   | 37 (34.3%)                          | 14 (26.9%)                      | 23 (41.1%)                      |                       |
| No  | 68 (63.0%)                          | 37 (71.2%)                      | 31 (55.4%)                      |                       |
| Missing   | 3 (2.8%)                            | 1 (1.9%)                        | 2 (3.6%)                        |                       |
| Number of Times You Had Sex with Someone Else While in a<br>Relationship [Mean (SD)]<br>[Median (IQR)] ( <i>n</i> = 31) | 4.13 (8.14)<br>2.00 (2.0, 3.0)      | 3.09 (2.17)<br>2.00 (2.0, 4.0)  | 4.70 (10.06)<br>2.00 (2.0, 3.0) | 0.67 <sup>^</sup>     |
| Number of Partners in the Past 6 Months<br>[Mean (SD)] [Median (IQR)] ( <i>n</i> = 91)                                  | 3.04 (3.79)<br>2.00 (1.0, 3.0)      | 2.41 (2.96)<br>2.00 (1.0, 3.0)  | 3.64 (4.38)<br>2.00 (1.0, 4.0)  | 0.24 <sup>^</sup>     |
| Ever Been Tested for HIV [ <i>N</i> (%)]  |                                     |                                 |                                 | 0.52                  |
| Yes   | 48 (44.4%)                          | 25 (48.1%)                      | 23 (41.1%)                      |                       |
| No  | 59 (54.6%)                          | 27 (51.9%)                      | 32 (57.1%)                      |                       |
| Missing   | 1 (0.9%)                            | 0 (0.0%)                        | 1 (1.8%)                        |                       |
| Tested Positive for Chlamydia [ <i>N</i> (%)]   |                                     |                                 |                                 | 0.74                  |
| Yes   | 10 (9.3%)                           | 4 (7.7%)                        | 6 (10.7%)                       |                       |
| No  | 98 (90.7%)                          | 48 (92.3%)                      | 50 (89.3%)                      |                       |
| Tested Positive for Gonorrhea [ <i>N</i> (%)]   |                                     |                                 |                                 | >.99                  |
| Yes   | 1 (0.9%)                            | 0 (0.0%)                        | 1 (1.8%)                        |                       |
| No  | 107 (99.1%)                         | 52 (100%)                       | 55 (98.2%)                      |                       |

*Note.* GH = General Health;

\* *p*-values based on two-sample t-tests for normally distributed continuous variables, Fisher's exact tests were used for categorical variables with cells containing less than 5 participants, and Chi-square tests for all other categorical variables;

^ *p*-values based on non-parametric Wilcoxon Mann-Whitney test for non-normally distributed continuous variables.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

**Table 4.** Participant Demographic and Sexual Risk Characteristics at Baseline at Each Location, Stratified by Assigned Condition (N = 108)

| Characteristic   | Assigned Condition                              |                                       |   |                                       | p*   |
|--|---|---------------------------------------|---|---------------------------------------|------|
|  | HIV (N = 52)                                    |                                       | GH (N = 56)                                     |                                       |      |
|  | Community Based Mental Health Provider (N = 25) | General Community (N = 27)            | Community Based Mental Health Provider (N = 25) | General Community (N = 31)            |      |
| <i>Demographics</i>  |   |                                       |   |                                       |      |
| Age [Mean (SD)]<br>[Median (IQR)]                                  | 15.88 (0.73)<br>16.00<br>(15.0, 16.0)           | 15.74 (1.06)<br>16.00<br>(15.0, 17.0) | 15.92 (1.15)<br>16.00<br>(15.0, 17.0)           | 15.61 (0.92)<br>16.00<br>(15.0, 16.0) | 0.28 |
| Gender [N(%)]  |   |                                       |   |                                       | 0.43 |
|  | Male  | 18 (66.7%)                            | 13 (52.0%)                                      | 22 (71.0%)                            |      |
|  | Female  | 11 (44.0%)                            | 9 (33.3%)                                       | 9 (29.0%)                             | 0.15 |
| Living Status [N(%)]   |   |                                       |   |                                       | 0.43 |
|  | In a house that my parent/guardian owns         | 13 (52.0%)                            | 15 (55.6%)                                      | 10 (40.0%)                            |      |
|  | In a house that my parent/guardian rents        | 6 (24.0%)                             | 10 (37.0%)                                      | 13 (52.0%)                            | 0.51 |
|  | In an apartment that my parent/guardian rents   | 3 (12.0%)                             | 2 (7.4%)  | 0 (0.0%)                              |      |
|  | In a shelter                                    | 1 (4.0%)                              | 0 (0.0%)  | 1 (4.0%)                              |      |
|  | Other   | 2 (8.0%)                              | 0 (0.0%)  | 1 (4.0%)                              |      |
| Grade in School [N(%)]   |   |                                       |   |                                       | 0.08 |
|  | 9 <sup>th</sup>                                 | 6 (24.0%)                             | 5 (18.5%)                                       | 4 (16.0%)                             |      |
|  | 10 <sup>th</sup>                                | 8 (32.0%)                             | 14 (51.9%)                                      | 8 (32.0%)                             | 0.44 |
|  | 11 <sup>th</sup>                                | 9 (36.0%)                             | 2 (7.4%)  | 5 (20.0%)                             |      |
|  | 12 <sup>th</sup>                                | 2 (8.0%)                              | 4 (14.8%)                                       | 6 (24.0%)                             |      |
|  | Other   | 0 (0.0%)                              | 1 (3.7%)  | 0 (0.0%)                              |      |
|  | Missing   | 0 (0.0%)                              | 1 (3.7%)  | 2 (8.0%)                              |      |
| Number of Adults in Household [Mean (SD)] [Median (IQR)] (n = 103) | 1.92 (1.00)<br>2.00<br>(1.0, 2.0)               | 2.46 (1.07)<br>2.00<br>(2.0, 3.0)     | 1.96 (1.66)<br>2.00<br>(1.0, 2.0)               | 1.86 (0.64)<br>2.00<br>(1.0, 2.0)     | 0.07 |



| Characteristic   | Assigned Condition                              |                                       |   |                                       |                    |
|--|---|---------------------------------------|---|---------------------------------------|--------------------|
|  | HIV<br>(N = 52)                                 |                                       | GH<br>(N = 56)                                  |                                       |                    |
|  | Community Based Mental Health Provider (N = 25) | General Community (N = 27)            | Community Based Mental Health Provider (N = 25) | General Community (N = 31)            |                    |
| Number of Children in Household [Mean (SD)] [Median (IQR)] (n = 103) | 3.00 (2.18)<br>2.00<br>(2.0, 4.0)               | 2.08 (1.29)<br>2.00<br>(1.0, 3.0)     | 2.70 (2.27)<br>2.00<br>(1.0, 4.0)               | 2.72 (1.56)<br>2.00<br>(2.0, 4.0)     | 0.96               |
| Family Income Compared to Others You Know [N(%)]                     |   |                                       | **  |                                       | 0.87               |
|  | A lot more than other people I know             | 1 (4.0%)                              | 3 (12.0%)                                       | 2 (6.5%)                              |                    |
|  | More than other people I know                   | 6 (24.0%)                             | 3 (12.0%)                                       | 5 (16.1%)                             |                    |
|  | About the same as other people I know           | 13 (52.0%)                            | 16 (59.3%)                                      | 17 (54.8%)                            |                    |
|  | Less than other people I know                   | 4 (16.0%)                             | 2 (7.4%)  | 3 (9.7%)                              |                    |
|  | A lot less than other people I know             | 0 (0.0%)                              | 0 (0.0%)  | 0 (0.0%)                              |                    |
|  | Missing   | 1 (4.0%)                              | 2 (7.4%)  | 4 (12.9%)                             |                    |
| <i>Sexual Risk</i>   |   |                                       |   |                                       |                    |
| Age at First Vaginal Sex [Mean (SD)] [Median (IQR)] (n = 96)         | 13.87 (2.36)<br>14.00<br>(13.0, 15.0)           | 13.48 (1.50)<br>14.00<br>(13.0, 14.0) | 13.57 (1.08)<br>14.00<br>(13.0, 14.0)           | 13.38 (1.78)<br>14.00<br>(12.0, 15.0) | 0.64               |
| Age at First Anal Sex [Mean (SD)] [Median (IQR)] (n = 17)            | 15.25 (0.50)<br>15.00<br>(15.0, 15.5)           | 13.43 (1.62)<br>13.00<br>(12.0, 15.0) | 14.25 (1.50)<br>14.00<br>(13.0, 15.5)           | 14.50 (0.71)<br>14.50<br>(14.0, 15.0) | 0.80               |
| Age at First Oral Sex [Mean (SD)] [Median (IQR)] (n = 75)            | 14.18 (1.38)<br>14.00<br>(13.0, 15.0)           | 13.56 (1.38)<br>13.50<br>(12.0, 15.0) | 13.24 (1.99)<br>14.00<br>(12.0, 15.0)           | 13.17 (1.59)<br>14.00<br>(12.0, 14.0) | 0.92               |
| Number of Vaginal Sex Partners [Mean (SD)] [Median (IQR)] (n = 88)   | 4.38 (4.32)<br>3.00<br>(2.0, 5.0)               | 4.42 (3.63)<br>4.00<br>(1.0, 6.0)     | 6.38 (5.63)<br>5.00<br>(2.0, 7.0)               | 6.37 (9.80)<br>4.00<br>(2.0, 7.0)     | 0.50 <sup>^</sup>  |
| Number of Anal Sex Partners [Mean (SD)] [Median (IQR)] (n = 16)      | 1.25 (0.50)<br>1.00<br>(1.0, 1.5)               | 2.17 (1.94)<br>1.50<br>(1.0, 2.0)     | 1.75 (1.50)<br>1.00<br>(1.0, 2.5)               | 1.50 (0.71)<br>1.50<br>(1.0, 2.0)     | >.99 <sup>^</sup>  |
| Number of Oral Sex Partners [Mean (SD)] [Median (IQR)] (n = 66)      | 3.20 (2.57)<br>2.00<br>(1.0, 5.0)               | 4.80 (5.20)<br>3.00<br>(1.0, 5.0)     | 8.56 (6.09)<br>7.50<br>(3.5, 15.5)              | 3.75 (6.81)<br>2.00<br>(1.0, 3.0)     | 0.001 <sup>^</sup> |
| How Often Condoms were Used in the Past 3 Months [N(%)]              |   |                                       | 0.01  |                                       | 0.70               |
|  | Never   | 6 (24.0%)                             | 0 (0.0%)  | 4 (16.0%)                             | 3 (9.7%)           |

| Characteristic  | Assigned Condition                              |                                    |   |                                    | p*                                 |                   |
|---|---|------------------------------------|---|------------------------------------|------------------------------------|-------------------|
|   | HIV<br>(N = 52)                                 |                                    | GH<br>(N = 56)                                  |                                    |                                    |                   |
|   | Community Based Mental Health Provider (N = 25) | General Community (N = 27)         | Community Based Mental Health Provider (N = 25) | General Community (N = 31)         |                                    |                   |
| Sex with More Than One Person in the Same Month [N(%)]  | Sometimes                                       | 10 (40.0%)                         | 9 (33.3%)                                       | 11 (44.0%)                         | 15 (48.4%)                         | 0.32              |
|   | Every time                                      | 7 (28.0%)                          | 16 (59.3%)                                      | 8 (32.0%)                          | 13 (41.9%)                         |                   |
|   | Missing   | 2 (8.0%)                           | 2 (7.4%)  | 2 (8.0%)                           | 0 (0.0%)                           |                   |
| Proportion of Condom Use for Vaginal Sex [Mean (SD)] [Median (IQR)] (n = 66)                              |   | 0.60 (0.44)<br>0.79<br>(0.10, 1.0) | 0.73 (0.39)<br>1.00<br>(0.5, 1.0)               | 0.51 (0.41)<br>0.50<br>(0.0, 1.0)  | 0.79 (0.33)<br>1.00<br>(0.50, 1.0) | 0.04 <sup>^</sup> |
|   |   | 0.33 (0.58)<br>0.00<br>(0.0, 1.0)  | 0.83 (0.24)<br>1.00<br>(0.67, 1.0)              | 1.00 (0.00)<br>1.00<br>(1.0, 1.0)  | 0.11 (0.19)<br>0.00<br>(0.0, 0.33) | 0.13 <sup>^</sup> |
|   |   | 0.00 (0.00)<br>0.0<br>(0.0, 0.0)   | 0.31 (0.48)<br>0.00<br>(0.0, 1.0)               | 0.11 (0.29)<br>0.00<br>(0.0, 0.03) | 0.18 (0.39)<br>0.00<br>(0.0, 0.0)  | 0.80 <sup>^</sup> |
| Sex with More Than One Person in the Same Day [N(%)]  | Yes   | 9 (36.0%)                          | 9 (33.3%)                                       | 15 (60.0%)                         | 16 (51.6%)                         | 0.48              |
|   | No  | 16 (64.0%)                         | 18 (66.7%)                                      | 8 (32.0%)                          | 15 (48.4%)                         |                   |
|   | Missing   | 0 (0.0%)                           | 0 (0.0%)  | 2 (8.0%)                           | 0 (0.0%)                           |                   |
| Sex with Someone Else While in a Relationship [N(%)]  | Yes   | 6 (24.0%)                          | 7 (25.9%)                                       | 8 (32.0%)                          | 8 (25.8%)                          | 0.91              |
|   | No  | 19 (76.0%)                         | 20 (74.1%)                                      | 15 (60.0%)                         | 23 (74.2%)                         |                   |
|   | Missing   | 0 (0.0%)                           | 0 (0.0%)  | 2 (8.0%)                           | 0 (0.0%)                           |                   |
| Number of Times You Had Sex with Someone Else While in a Relationship [Mean (SD)] [Median (IQR)] (n = 37) |   | 2.71 (1.80)<br>2.00<br>(1.0, 4.0)  | 3.75 (2.87)<br>2.50<br>(2.0, 5.5)               | 2.13 (0.64)<br>2.00<br>(2.0, 2.5)  | 6.42 (12.90)<br>2.00<br>(1.5, 5.0) | 0.63 <sup>^</sup> |
|   |   | 2.95 (4.09)<br>2.00<br>(1.0, 3.0)  | 1.91 (1.16)<br>1.00<br>(1.0, 3.0)               | 4.41 (4.40)<br>3.50<br>(2.0, 6.0)  | 2.96 (4.33)<br>2.00<br>(1.0, 3.0)  | 0.07 <sup>^</sup> |

| Characteristic                       | Assigned Condition                              |                            |            |   |                            |      |
|--------------------------------------|---|----------------------------|------------|---|----------------------------|------|
|                                      | HIV<br>(N = 52)                                 |                            |            | GH<br>(N = 56)                                  |                            |      |
|                                      | Community Based Mental Health Provider (N = 25) | General Community (N = 27) | * p        | Community Based Mental Health Provider (N = 25) | General Community (N = 31) | * p  |
| Ever Been Tested for HIV [N(%)]      |   |                            | 0.03       |   |                            | 0.28 |
|                                      | Yes   | 16 (64.0%)                 | 9 (33.3%)  | 12 (48.0%)                                      | 11 (35.5%)                 |      |
|                                      | No  | 9 (36.0%)                  | 18 (66.7%) | 12 (48.0%)                                      | 20 (64.5%)                 |      |
|                                      | Missing   | 0 (0.0%)                   | 0 (0.0%)   | 1 (4.0%)  | 0 (0.0%)                   |      |
| Tested Positive for Chlamydia [N(%)] |   |                            | >.99       |   |                            | >.99 |
|                                      | Yes   | 2 (8.0%)                   | 2 (7.4%)   | 3 (12.0%)                                       | 3 (9.7%)                   |      |
|                                      | No  | 23 (92.0%)                 | 25 (92.6%) | 22 (88.0%)                                      | 28 (90.3%)                 |      |
| Tested Positive for Gonorrhea [N(%)] |   |                            | **         |   |                            | 0.45 |
|                                      | Yes   | 0 (0.0%)                   | 0 (0.0%)   | 1 (4.0%)  | 0 (0.0%)                   |      |
|                                      | No  | 25 (100%)                  | 27 (100%)  | 24 (96.0%)                                      | 31 (100%)                  |      |

Note. GH = General Health;

\* p-values based on two-sample t-tests for normally distributed continuous variables, Fisher's exact tests were used for categorical variables with cells containing less than 5 participants, and Chi-square tests for all other categorical variables;

^ p-values based on non-parametric Wilcoxon Mann-Whitney test for non-normally distributed continuous variables;

\*\* could not calculate p-values due to zero rows

**Table 5.**

Participant Mental Health Diagnoses and Emotion Regulation by Assigned Conditions at Baseline (N = 108)

| Measure  | Overall Sample<br>(N = 108) | Assigned Condition |                 | p *               |
|--|-----------------------------|--------------------|-----------------|-------------------|
|  |                             | HIV<br>(N = 52)    | GH<br>(N = 56)  |                   |
| <i>Mental Health Diagnoses</i>                               |                             |                    |                 |                   |
| Total PHQ-9 Score [Mean (SD)]                                | 2.92 (2.95)                 | 3.17 (2.82)        | 2.67 (3.07)     | 0.17 <sup>^</sup> |
| [Median (IQR)] (n = 107)                                     | 2.00 (0.0, 5.0)             | 2.00 (1.0, 5.0)    | 2.00 (0.0, 4.0) |                   |
| Thoughts of Better Off Being Dead [N(%)]                     |                             |                    |                 | 0.80              |
|  | Yes                         | 3 (2.8%)           | 2 (3.9%)        | 1 (1.8%)          |
|  | No                          | 104 (96.3%)        | 50 (96.2%)      | 54 (96.4%)        |
|  | Missing                     | 1 (0.9%)           | 0 (0.0%)        | 1 (1.8%)          |
| Current Panic Disorder without Agoraphobia [N(%)]            |                             |                    |                 | 0.67              |
|  | Yes                         | 5 (4.6%)           | 3 (5.8%)        | 2 (3.6%)          |
|  | No                          | 103 (95.4%)        | 49 (94.2%)      | 54 (96.4%)        |
| Current Agoraphobia without History of Panic Disorder [N(%)] |                             |                    |                 | 0.50              |
|  | Yes                         | 2 (1.9%)           | 0 (0.0%)        | 2 (3.6%)          |
|  | No                          | 106 (98.2%)        | 52 (100%)       | 54 (96.4%)        |
| Panic Disorder with Current Agoraphobia [N(%)]               |                             |                    |                 | >.99              |
|  | Yes                         | 1 (0.9%)           | 0 (0.0%)        | 1 (1.8%)          |
|  | No                          | 107 (99.1%)        | 52 (100%)       | 55 (98.2%)        |
| Past Major Depressive Disorder [N(%)]                        |                             |                    |                 | 0.72              |
|  | Yes                         | 8 (7.4%)           | 3 (5.8%)        | 5 (8.9%)          |
|  | No                          | 100 (92.6%)        | 49 (94.2%)      | 51 (91.1%)        |
| Current Major Depressive Disorder [N(%)]                     |                             |                    |                 | >.99              |
|  | Yes                         | 2 (1.9%)           | 1 (1.9%)        | 1 (1.8%)          |
|  | No                          | 106 (98.1%)        | 51 (98.1%)      | 55 (98.2%)        |
| Recurrent Major Depressive Disorder [N(%)]                   |                             |                    |                 | 0.12              |
|  | Yes                         | 17 (15.7%)         | 5 (9.6%)        | 12 (21.4%)        |
|  | No                          | 91 (84.3%)         | 47 (90.4%)      | 44 (78.6%)        |
| Suicidality [N(%)]   |                             |                    |                 | 0.03              |
|  | Yes                         | 17 (15.7%)         | 4 (7.7%)        | 13 (23.2%)        |
|  | No                          | 91 (84.3%)         | 48 (92.3%)      | 43 (76.8%)        |
| Suicidality (Rank) [N(%)]                                    |                             |                    |                 | 0.11              |
|  | Low (1 – 8 points)          | 16 (14.8%)         | 4 (7.7%)        | 12 (21.43%)       |
|  | Moderate (9 – 16 points)    | 5 (4.6%)           | 2 (3.9%)        | 3 (5.4%)          |
|  | Not Suicidal                | 87 (80.6%)         | 46 (88.5%)      | 41 (73.2%)        |
| Past Manic Episode [N(%)]                                    |                             |                    |                 | >.99              |
|  | Yes                         | 5 (4.6%)           | 2 (3.9%)        | 3 (5.4%)          |
|  | No                          | 103 (95.4%)        | 50 (96.2%)      | 53 (94.6%)        |
| Past Hypomanic Episode [N(%)]                                |                             |                    |                 | >.99              |
|  | Yes                         | 4 (3.7%)           | 2 (3.9%)        | 2 (3.6%)          |
|  | No                          | 104 (96.3%)        | 50 (96.2%)      | 54 (96.4%)        |

| Measure   |     | Overall Sample<br>(N = 108) | Assigned Condition |                | P*   |
|---|-----|-----------------------------|--------------------|----------------|------|
|   |     |                             | HIV<br>(N = 52)    | GH<br>(N = 56) |      |
| Past Hypomanic Symptoms [N(%)]                        |     |                             |                    |                | >.99 |
|   | Yes | 7 (6.5%)                    | 3 (5.8%)           | 4 (7.1%)       |      |
|   | No  | 101 (93.5%)                 | 49 (94.2%)         | 52 (92.9%)     |      |
| Social Anxiety Disorder [N(%)]                        |     |                             |                    |                | >.99 |
|   | Yes | 3 (2.8%)                    | 1 (1.9%)           | 2 (3.6%)       |      |
|   | No  | 105 (97.2%)                 | 51 (98.1%)         | 54 (96.4%)     |      |
| Current Obsessive-Compulsive Disorder [N(%)]          |     |                             |                    |                | 0.67 |
|   | Yes | 5 (4.6%)                    | 3 (5.8%)           | 2 (3.6%)       |      |
|   | No  | 103 (95.4%)                 | 49 (94.2%)         | 54 (96.4%)     |      |
| Post-Traumatic Stress Disorder [N(%)]                 |     |                             |                    |                | 0.61 |
|   | Yes | 3 (2.8%)                    | 2 (3.9%)           | 1 (1.8%)       |      |
|   | No  | 105 (97.2%)                 | 50 (96.2%)         | 55 (98.2%)     |      |
| Alcohol Abuse [N(%)]                                  |     |                             |                    |                | >.99 |
|   | Yes | 1 (0.9%)                    | 0 (0.0%)           | 1 (1.8%)       |      |
|   | No  | 107 (99.1%)                 | 52 (100%)          | 55 (98.2%)     |      |
| Current Substance Dependence [N(%)]                   |     |                             |                    |                | 0.06 |
|   | Yes | 5 (4.6%)                    | 0 (0.0%)           | 5 (8.9%)       |      |
|   | No  | 103 (95.4%)                 | 52 (100%)          | 51 (91.2%)     |      |
| Current Substance Abuse [N(%)]                        |     |                             |                    |                | >.99 |
|   | Yes | 8 (7.4%)                    | 4 (7.7%)           | 4 (7.1%)       |      |
|   | No  | 100 (92.6%)                 | 48 (92.3%)         | 52 (92.9%)     |      |
| Lifetime Mood Disorder with Psychotic Features [N(%)] |     |                             |                    |                | >.99 |
|   | Yes | 2 (1.9%)                    | 1 (1.9%)           | 1 (1.8%)       |      |
|   | No  | 106 (98.2%)                 | 51 (98.1%)         | 55 (98.2%)     |      |
| Current Mood Disorder with Psychotic Features [N(%)]  |     |                             |                    |                | 0.48 |
|   | Yes | 1 (0.9%)                    | 1 (1.9%)           | 0 (0.0%)       |      |
|   | No  | 107 (99.1%)                 | 51 (98.1%)         | 56 (100%)      |      |
| Current Psychotic Disorder [N(%)]                     |     |                             |                    |                | 0.48 |
|   | Yes | 1 (0.9%)                    | 1 (1.9%)           | 0 (0.0%)       |      |
|   | No  | 107 (99.1%)                 | 51 (98.1%)         | 56 (100%)      |      |
| Lifetime Psychotic Disorder [N(%)]                    |     |                             |                    |                | 0.48 |
|   | Yes | 1 (0.9%)                    | 1 (1.9%)           | 0 (0.0%)       |      |
|   | No  | 107 (99.1%)                 | 51 (98.1%)         | 56 (100%)      |      |
| Current Bulimia Nervosa [N(%)]                        |     |                             |                    |                | >.99 |
|   | Yes | 2 (1.9%)                    | 1 (1.9%)           | 1 (1.8%)       |      |
|   | No  | 106 (98.1%)                 | 51 (98.1%)         | 55 (98.2%)     |      |
| Lifetime Antisocial Personality Disorder [N(%)]       |     |                             |                    |                | 0.67 |
|   | Yes | 5 (4.6%)                    | 3 (5.8%)           | 2 (3.6%)       |      |
|   | No  | 103 (95.4%)                 | 49 (94.2%)         | 54 (96.4%)     |      |
| <i>Emotion Regulation</i>                             |     |                             |                    |                |      |

| Measure                           | Overall Sample<br>( <i>N</i> = 108) | Assigned Condition               |                                  | <i>p</i> <sup>*</sup> |
|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------|-----------------------|
|                                   |                                     | HIV<br>( <i>N</i> = 52)          | GH<br>( <i>N</i> = 56)           |                       |
| CEM Anger Subscales [Mean (SD)]   |                                     |                                  |                                  |                       |
|                                   | [Median (IQR)]                      |                                  |                                  |                       |
| Inhibition ( <i>n</i> = 107)      | 1.96 (0.52)<br>2.00 (1.5, 2.25)     | 2.03 (0.53)<br>2.00 (1.75, 2.5)  | 1.91 (0.51)<br>1.88 (1.50, 2.25) | 0.22                  |
| Dysregulation ( <i>n</i> = 107)   | 1.73 (0.56)<br>1.67 (1.33, 2.0)     | 1.76 (0.62)<br>1.67 (1.33, 2.33) | 1.70 (0.51)<br>1.67 (1.33, 2.0)  | 0.57                  |
| Coping ( <i>n</i> = 107)          | 2.22 (0.48)<br>2.25 (2.0, 2.5)      | 2.24 (0.52)<br>2.25 (2.0, 2.75)  | 2.20 (0.45)<br>2.00 (2.0, 2.5)   | 0.68                  |
| CEM Sadness Subscales [Mean (SD)] |                                     |                                  |                                  |                       |
|                                   | [Median (IQR)]                      |                                  |                                  |                       |
| Inhibition ( <i>n</i> = 108)      | 2.08 (0.61)<br>2.00 (1.75, 2.5)     | 2.09 (0.63)<br>2.00 (1.5, 2.63)  | 2.07 (0.59)<br>2.00 (1.75, 2.5)  | 0.84                  |
| Dysregulation ( <i>n</i> = 106)   | 1.43 (0.47)<br>1.33 (1.0, 1.67)     | 1.42 (0.47)<br>1.33 (1.0, 1.67)  | 1.44 (0.47)<br>1.33 (1.0, 1.67)  | 0.85                  |
| Coping ( <i>n</i> = 104)          | 2.27 (0.49)<br>2.20 (2.0, 2.6)      | 2.23 (0.50)<br>2.20 (1.8, 2.6)   | 2.31 (0.48)<br>2.20 (2.0, 2.6)   | 0.40                  |

Note. GH = General Health;

\* *p*-values based on two-sample *t*-tests for normally distributed continuous variables, Fisher's exact tests were used for categorical variables with cells containing less than 5 participants, and Chi-square tests for all other categorical variables;

<sup>^</sup> *p*-values based on non-parametric Wilcoxon Mann-Whitney test for non-normally distributed continuous variables

**Table 6.** Participant Mental Health Diagnoses and Emotion Regulation at Baseline by Recruitment Location within Each Assigned Condition (N = 108)

| Measure  | Assigned Condition   |                                   |  |                                    | p                 |
|--|--|-----------------------------------|--|------------------------------------|-------------------|
|  | HIV<br>(N = 52)  |                                   | GH<br>(N = 56)   |                                    |                   |
|  | Community<br>Based<br>Mental<br>Health<br>Provider<br>(N = 25) | General<br>Community<br>(N = 27)  | Community<br>Based<br>Mental<br>Health<br>Provider<br>(N = 25) | General<br>Community<br>(N = 31)   |                   |
| Total PHQ-9 Score<br>[Mean (SD)]<br>[Median (Q1,Q3)] (n = 107) | 4.00 (2.75)<br>4.00<br>(1.0, 6.0)                              | 2.41 (2.71)<br>1.00<br>(1.0, 3.0) | 3.04 (3.49)<br>2.00<br>(0.0, 6.0)                              | 2.37 (2.68)<br>2.00<br>(0.0, 3.0)  | 0.82 <sup>^</sup> |
| Thoughts of Better Off Being Dead [N (%)]                      | Yes 2 (8.0%)<br>No 23 (92.0%)<br>Missing 0 (0.0%)              | 0 (0.0%)<br>27 (100%)<br>0 (0.0%) | 0 (0.0%)<br>25 (100%)<br>0 (0.0%)                              | 1 (3.2%)<br>29 (93.6%)<br>1 (3.2%) | >.99              |
| Current Panic Disorder without Agoraphobia [N (%)]             | Yes 1 (4.0%)<br>No 24 (96.0%)                                  | 2 (7.4%)<br>25 (96.6%)            | 1 (4.0%)<br>24 (96.0%)   | 1 (4.0%)<br>30 (96.8%)             | >.99              |
| Current Agoraphobia without History of Panic Disorder [N (%)]  | Yes 0 (0.0%)<br>No 25 (100%)                                   | 0 (0.0%)<br>27 (100%)             | 2 (8.0%)<br>23 (92.0%)   | 0 (0.0%)<br>31 (100%)              | 0.19              |
| Panic Disorder with Current Agoraphobia [N (%)]                | Yes 0 (0.0%)<br>No 25 (100%)                                   | 0 (0.0%)<br>27 (100.0%)           | 1 (4.0%)<br>24 (96.0%)   | 0 (0.0%)<br>31 (100%)              | 0.45              |
| Past Major Depressive Disorder [N (%)]                         | Yes 3 (12.0%)<br>No 22 (88.0%)                                 | 0 (0.0%)<br>27 (100%)             | 2 (8.0%)<br>23 (92.0%)   | 3 (9.7%)<br>28 (90.3%)             | >.99              |
| Current Major Depressive Disorder [N (%)]                      | Yes 1 (4.0%)<br>No 24 (96.0%)                                  | 0 (0.0%)<br>27 (100%)             | 0 (0.0%)<br>25 (100%)  | 1 (3.2%)<br>30 (96.8%)             | >.99              |

| Measure                                      | Assigned Condition                              |                            |   |                            | P*         |      |
|--|---|----------------------------|---|----------------------------|------------|------|
|  | HIV (N = 52)                                    |                            | GH (N = 56)                                     |                            |            |      |
|  | Community Based Mental Health Provider (N = 25) | General Community (N = 27) | Community Based Mental Health Provider (N = 25) | General Community (N = 31) |            |      |
| Recurrent Major Depressive Disorder [N(%)]   | Yes   | 1 (4.0%)                   | 4 (14.8%)                                       | 4 (16.0%)                  | 8 (25.8%)  | 0.52 |
|  | No  | 24 (96.0%)                 | 23 (85.2%)                                      | 21 (84.0%)                 | 23 (74.2%) |      |
| Suicidality [N(%)]                           | Yes   | 1 (4.0%)                   | 3 (11.1%)                                       | 8 (32.0%)                  | 5 (16.1%)  | 0.21 |
|  | No  | 24 (96.0%)                 | 24 (88.9%)                                      | 17 (68.0%)                 | 26 (83.9%) |      |
| Suicidality (Rank) [N(%)]                    | Low (1 – 8 points)                              | 2 (8.0%)                   | 2 (7.4%)  | 9 (36.0%)                  | 3 (9.7%)   | 0.03 |
|  | Moderate (9 – 16 points)                        | 1 (4.0%)                   | 1 (3.7%)  | 1 (4.0%)                   | 2 (6.5%)   |      |
| Past Manic Episode [N(%)]                    | Not Suicidal                                    | 22 (88.0%)                 | 24 (88.9%)                                      | 15 (60.0%)                 | 26 (83.9%) | >.99 |
|  | Yes   | 2 (8.0%)                   | 0 (0.0%)  | 1 (4.0%)                   | 2 (6.5%)   |      |
| Past Hypomanic Episode [N(%)]                | Yes   | 1 (4.0%)                   | 1 (3.7%)  | 1 (4.0%)                   | 1 (3.2%)   | >.99 |
|  | No  | 23 (92.0%)                 | 27 (100%)                                       | 24 (96.0%)                 | 29 (93.6%) |      |
| Past Hypomanic Symptoms [N(%)]               | Yes   | 1 (4.0%)                   | 1 (3.7%)  | 1 (4.0%)                   | 1 (3.2%)   | 0.31 |
|  | No  | 24 (96.0%)                 | 26 (96.3%)                                      | 24 (96.0%)                 | 30 (96.8%) |      |
| Social Anxiety Disorder [N(%)]               | Yes   | 1 (4.0%)                   | 2 (7.4%)  | 3 (12.0%)                  | 1 (3.2%)   | 0.19 |
|  | No  | 24 (96.0%)                 | 25 (92.6%)                                      | 22 (88.0%)                 | 30 (96.8%) |      |
| Current Obsessive-Compulsive Disorder [N(%)] | Yes   | 1 (4.0%)                   | 0 (0.0%)  | 2 (8.0%)                   | 0 (0.0%)   | 0.60 |
|  | No  | 24 (96.0%)                 | 27 (100%)                                       | 23 (92.0%)                 | 31 (100%)  |      |



| Measure   | Assigned Condition                              |                            |   |                            | P*         |
|---|---|----------------------------|---|----------------------------|------------|
|   | HIV (N = 52)                                    |                            | GH (N = 56)                                     |                            |            |
|   | Community Based Mental Health Provider (N = 25) | General Community (N = 27) | Community Based Mental Health Provider (N = 25) | General Community (N = 31) |            |
| Post-Traumatic Stress Disorder [N(%)]                 | Yes   | 2 (8.0%)                   | 1 (3.7%)  | 2 (8.0%)                   | 0 (0.0%)   |
|   | No  | 23 (92.0%)                 | 26 (96.3%)                                      | 23 (92.0%)                 | 31 (100%)  |
|   |   |                            |   |                            | 0.23       |
| Alcohol Abuse [N(%)]                                  | Yes   | 2 (8.0%)                   | 0 (0.0%)  | 1 (4.0%)                   | 0 (0.0%)   |
|   | No  | 23 (92.0%)                 | 27 (100%)                                       | 24 (96.0%)                 | 31 (100%)  |
|   |   |                            |   |                            | **         |
| Current Substance Dependence [N(%)]                   | Yes   | 0 (0.0%)                   | 0 (0.0%)  | 1 (4.0%)                   | 0 (0.0%)   |
|   | No  | 25 (100%)                  | 27 (100%)                                       | 24 (96.0%)                 | 31 (100%)  |
|   |   |                            |   |                            | **         |
| Current Substance Abuse [N(%)]                        | Yes   | 0 (0.0%)                   | 0 (0.0%)  | 2 (8.0%)                   | 3 (9.7%)   |
|   | No  | 25 (100%)                  | 27 (100%)                                       | 23 (92.0%)                 | 28 (90.3)  |
|   |   |                            |   |                            | >.99       |
| Lifetime Mood Disorder with Psychotic Features [N(%)] | Yes   | 0 (0.0%)                   | 4 (14.8%)                                       | 2 (8.0%)                   | 2 (6.5%)   |
|   | No  | 25 (100%)                  | 23 (85.2%)                                      | 23 (92.0%)                 | 29 (93.6%) |
|   |   |                            |   |                            | >.99       |
| Current Mood Disorder with Psychotic Features [N(%)]  | Yes   | 0 (0.0%)                   | 1 (3.7%)  | 1 (4.0%)                   | 0 (0.0%)   |
|   | No  | 25 (100%)                  | 26 (96.3%)                                      | 24 (96.0%)                 | 31 (100%)  |
|   |   |                            |   |                            | >.99       |
| Current Psychotic Disorder [N(%)]                     | Yes   | 0 (0.0%)                   | 1 (3.7%)  | 0 (0.0%)                   | 0 (0.0%)   |
|   | No  | 25 (100%)                  | 26 (96.3%)                                      | 25 (100%)                  | 31 (100%)  |
|   |   |                            |   |                            | >.99       |
| Lifetime Psychotic Disorder [N(%)]                    | Yes   | 0 (0.0%)                   | 1 (3.7%)  | 0 (0.0%)                   | 0 (0.0%)   |
|   | No  | 25 (100%)                  | 26 (96.3%)                                      | 25 (100%)                  | 31 (100%)  |
|   |   |                            |   |                            | >.99       |

| Measure  | Assigned Condition                              |                            |   |                            | P*        |
|--|---|----------------------------|---|----------------------------|-----------|
|  | HIV (N = 52)                                    |                            | GH (N = 56)                                     |                            |           |
|  | Community Based Mental Health Provider (N = 25) | General Community (N = 27) | Community Based Mental Health Provider (N = 25) | General Community (N = 31) |           |
| Current Bulimia Nervosa [N(%)]                   | Yes   | 0 (0.0%)                   | 1 (3.7%)  | 0 (0.0%)                   | 0 (0.0%)  |
|  | No  | 25 (100%)                  | 26 (96.3%)                                      | 25 (100%)                  | 31 (100%) |
| Lifetime Antisocial Personality Disorder [N (%)] | Yes   | 1 (4.0%)                   | 0 (0.0%)  | 1 (4.0%)                   | 0 (0.0%)  |
|  | No  | 24 (96.0%)                 | 27 (100%)                                       | 24 (96.0%)                 | 31 (100%) |
| Lifetime Antisocial Personality Disorder [N (%)] |   |                            |   |                            |           |
| Yes  | 3 (12.0%)                                       | 0 (0.0%)                   | 1 (4.0%)  | 1 (3.2%)                   | 0.10      |
| No   | 22 (88.0%)                                      | 27 (100%)                  | 24 (96.0%)                                      | 30 (96.8%)                 | >.99      |
| CEM Anger Subscales [Mean (SD)] [Median (IQR)]   |   |                            |   |                            |           |
| Inhibition (n = 107)                             | 2.00 (0.59)                                     | 2.06 (0.47)                | 1.92 (0.49)                                     | 1.90 (0.53)                | 0.70      |
|  | 2.00 (1.75, 2.5)                                | 2.00 (1.75, 2.25)          | 1.75 (1.5, 2.25)                                | 2.00 (1.5, 2.5)            |           |
| Dysregulation (n = 107)                          | 1.87 (0.69)                                     | 1.67 (0.53)                | 1.72 (0.51)                                     | 1.69 (0.52)                | 0.26      |
|  | 2.00 (1.0, 2.33)                                | 1.67 (1.33, 2.0)           | 1.67 (1.33, 2.0)                                | 1.67 (1.33, 2.0)           |           |
| Coping (n = 107)                                 | 2.18 (0.62)                                     | 2.30 (0.41)                | 2.15 (0.46)                                     | 2.24 (0.44)                | 0.43      |
|  | 2.25 (1.75, 3.0)                                | 2.25 (2.0, 2.75)           | 2.00 (1.75, 2.5)                                | 2.25 (2.0, 2.5)            |           |
| CEM Sadness Subscales [Mean (SD)] [Median (IQR)] |   |                            |   |                            |           |
| Inhibition (n = 108)                             | 2.14 (0.71)                                     | 2.05 (0.55)                | 2.03 (0.61)                                     | 2.10 (0.59)                | 0.60      |
|  | 2.25 (1.5, 2.75)                                | 2.00 (1.75, 2.5)           | 2.00 (1.75, 2.5)                                | 2.00 (1.75, 2.5)           |           |
| Dysregulation (n = 106)                          | 1.47 (0.52)                                     | 1.38 (0.42)                | 1.40 (0.52)                                     | 1.48 (0.43)                | 0.54      |
|  | 1.33 (1.0, 1.67)                                | 1.33 (1.0, 1.67)           | 1.33 (1.0, 1.67)                                | 1.33 (1.0, 1.67)           |           |
| Coping (n = 104)                                 | 2.20 (0.60)                                     | 2.25 (0.39)                | 2.24 (0.55)                                     | 2.37 (0.41)                | 0.71      |
|  | 2.20 (1.6, 2.6)                                 | 2.20 (2.0, 2.6)            | 2.20 (2.0, 2.6)                                 | 2.30 (2.1, 2.7)            |           |

Note. GH = General Health;

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

\*  $p$ -values based on two-sample  $t$ -tests for normally distributed continuous variables, Fisher's exact tests were used for categorical variables with cells containing less than 5 participants, and Chi-square tests for all other categorical variables;

$\downarrow$   $p$ -values based on non-parametric Wilcoxon Mann-Whitney test for non-normally distributed continuous variables;

\*\* could not calculate  $p$ -values due to zero rows