PRINCIPAL INVESTIGATOR: Jennifer T. Tran, Ph.D. & José A. Bauermeister, Ph.D.

PROTOCOL TITLE: Sexual and Gender Minority Emerging Adults Eliciting Narratives (SEEN)

INTRODUCTION AND PURPOSE:

In the U.S., emerging adults (EA; ages 18-24) are a particularly vulnerable population for mental health concerns, including an increased rate of death by suicide and high rates of mental health symptoms (e.g., depression and anxiety). Youth who identify as sexual and/or gender minorities (SGM) are three times as likely to have made a suicide attempt compared to their heterosexual peers. The transition into adulthood for SGM EA in the United States, along with stressors of stigma experiences as a sexual minority and/or gender minority, may contribute to the disproportionate mental illness risk, specifically depression, suicidal ideation, anxiety, and substance use compared to their peers (Swann et al., 2020; Tan et al., 2017). These disparities are especially pronounced in SGM EA of color (racial/ethnic minorities). SGM communities of color are disproportionately affected by mental health outcomes of depression, anxiety, and suicide risk compared to their peers due to multilevel experiences of stigma at the intersections of ethnicity, race, gender, and sexual orientation. As a critical health disparity population designated by NIH, it is crucial to develop and test interventions that address SGM communities' social and behavioral health, particularly those with multiple marginalized identities.

Critical Narrative Interventions (CNI) are group-based interventions that provide a space for narratives developed by marginalized communities to prompt dialogue intra- and inter-personally and stoke new thoughts, ideas, and actions to promote change. CNIs include various narrative forms, such as photography, digital stories, graphic novels, comics, and film. In a scoping review (Botfield et al., 2018), digital storytelling as a CNI for culturally diverse young people explored issues of racism and sexual and gender identity discrimination (Harris, 2013), sexual reproductive health promotion for U.S. Native American young people (Markus, 2012), and health promotion for positive youth development in Alaskan Native young people (Wexler et al., 2013). Each of these studies reported that developing digital stories was an empowering process, including increased knowledge, self-efficacy, and confidence. The increase in self-empowerment through participation in the critical narrative intervention was also replicated in photovoice studies (Budig et al., 2018). In a recent study, researchers followed up with photovoice participants in Spain to explore their experiences (Budig et al., 2018). Female participants experienced changes in empowerment through increased knowledge and skills, a change in self-perception, and access to resources. Participants noted that after developing their story they felt empowered to speak their truth and seek out social support (Budig et al., 2018).

Critical Narratives (CNs) have typically involved a group format as an intervention; however, CNs have the potential to be scalable and incorporated as an elicitation strategy for increasing empowerment (gaining knowledge and skills and increasing self-esteem) and seeking out social support as an individual strategy.
This pilot study will explore individual critical narratives (CNs) for SGM EA of color feasibility as a scalable strategy to 1) increase self-empowerment, 2) elicit intentions to seek social support, and 3) address psychological outcomes (i.e., depression, anxiety, self-esteem, empowerment, and psychological well-being).

Participants for this pilot are emerging adults living with depression who self-identify as both an SGM and a racial/ethnic minority. Participants will develop a critical narrative based on their randomized condition: photo-novella or digital story (determined to be methods that are easily scalable digitally).

> Photo-novella, or the use of photographs to tell a story, has been used as a group intervention (photovoice) and as an individual narrative intervention. Photographs as a voice or narrative have been found in a recent systematic review to be effective in participant empowerment, community change, knowledge acquisition, and reaching policymakers.
>
> Digital Stories visually represent first-person narratives that utilize present-day digital culture. Digital stories ask participants to tell a story by creating a short (3-minute) autobiographical vignette synthesizing written text, still and moving imagery, voice, and sound. Digital stories include multiple sensory contexts (e.g., text, spatial, visual, verbal,

and gestures) to convey meaning and can be interpreted on different levels by storytellers and listeners. In a review of digital stories for health promotion, digital stories were found to improve confidence, motivation, behavior change, and/or social change.

At the end of the pilot study, we will provide a voluntary space as a gallery for the critical narratives to be displayed and open to the public. The gallery will be optional for participants who wish to display their critical narratives.

OBJECTIVES:

Our primary objective is to identify the potential use of critical narratives as an elicitation strategy to increase empowerment (e.g., increase in self-esteem), and improve mental health symptoms (e.g., decrease in depression and anxiety, and increase in psychological well-being) in vulnerable populations of SGM individuals of color living with depression. Our secondary objective is to assess the feasibility, acceptability, and appropriateness of critical narratives (photo-novella and digital storytelling) for SGM EA of color. Our specific aims are:

1. Examine the experiences of discrimination and acceptance of SGM EA of color living with depression in their community,
2. Evaluate the impact of CN on empowerment (e.g., self-esteem) and mental health outcomes (depression, anxiety, and psychological well-being) of SGM individuals of color.
3. Understand the acceptability, appropriateness, and feasibility of critical narrative development as a strategy for SGM EA of color.

Outcomes

The study has two primary outcomes addressed in Aim 1 and Aim 2.

To identify the potential use of critical narratives to elicit empowerment, we will first examine the current experiences of SGM EA of color. Therefore, aim 1 will examine the experiences of stigma (e.g., discrimination) and acceptance of SGM EA of color living with depression and how this may impact mental health treatment seeking in the community. We will conduct in-depth interviews with participants at baseline using an in-depth interview protocol which will include open-ended questions to examine the unique experiences of SGM EA living with multiple marginalized identities (sexual and gender minority, person of color, and living with a mental illness). Utilizing a semi-structured interview protocol, participants will be asked questions about how they identify (i.e., racially/ethnically, sexual identity, and gender identity), their experiences as an LGBTQ+ person in their culture, and their experiences as SGM EA of color in the United States.

Aim 2 will evaluate the impact of CN assignment (photo-novella or digital storytelling) in its ability to address the primary outcomes of :

1) Mental health measures:
    a. decrease depression symptoms utilizing the Patient Health Questionnaire (PHQ-9),
    b. reduce anxiety symptoms utilizing the Generalized Anxiety Disorder-7 (GAD-7),
    c. increase psychological well-being using the Flourishing Scale,
2) Empowerment measures:
    a. increase self-esteem using the Rosenberg Self-Esteem Scale,
    b. increase empowerment utilizing the Rogers empowerment scale,

We will also note the effect of CN assignment to address secondary outcomes of:

3) Stigma as a known barrier to mental health treatment seeking:
    a. decrease internalized mental health stigma using internalized stigma of mental illness (ISMI-9) scale.
    b. decrease in intersectional minority stress using the LGBTQ+ POC Microaggressions Scale-Brief (LGBTQ+ PCMS-B).
4) Intentions to seek care and social support:
    a. increase in positive attitudes to seeking mental health care using the Attitudes Toward Mental Health Treatment (ATMHT) scale as a secondary outcome of increased empowerment.
    b. increase in intentions to seek out social support as a secondary outcome of increased empowerment.
5) Social Connection
    a. Increase in the general sense of belonging using the General Belongingness Scale (GBS)
    b. Increase in perceived social support using the Multidimensional Scale of Perceived Social Support (MSPSS)

All of these measures will be collected at baseline and post-intervention.

Aim 3 will address our second objective to assess the acceptability, appropriateness, and feasibility of critical narrative development as an intervention strategy for SGM EA of color. We will conduct in-depth interviews with participants after completing the CNI (photo-novella or digital storytelling), which will assess the participants' acceptability of the critical narrative intervention. Utilizing a semi-structured interview protocol, participants will be asked questions about their experience with the intervention, including how it impacted the participant. Some sample question includes, "Tell me about your experience with creating your narrative," "What did you like (and not like) about this process," and "How has this project impacted you?"

We will also assess the acceptability, appropriateness, and feasibility of CNs for SGM EA of color utilizing several validated measures after participants complete their CN:
1) the acceptability of intervention measure (AIM) to assess the acceptability,
2) the intervention appropriateness measure (IAM) to assess the appropriateness, and
3) the feasibility intervention measure (FIM) to assess feasibility.

BACKGROUND:
The transition into adulthood for sexual and gender minority (SGM) emerging adults (EA; ages 18-24) in the United States, along with stressors of stigma experiences as a sexual minority and/or gender minority, may contribute to the disproportionate mental illness risk (e.g., depression, suicidal ideation, anxiety, and substance use) and decreased mental health treatment compared to their peers (Swann et al., 2020; Tan et al., 2017). These mental health differences are especially pronounced in SGM EA of color (racial/ethnic minorities; Mereish et al., 2021).

There is a need to develop interventions for SGM EA of color that empower them to seek out support and treatment for their mental health concerns. Narratives or storytelling is a fundamental experience formed by individuals to understand and make sense of the world around them. The creation of personal narratives has been associated with several health benefits, including an increased sense of self-efficacy, increased social support, and improved mental and physical health. Critical Narrative Intervention (CNI) is a distinct approach for marginalized communities to create a group narrative that has been found to increase empowerment and social support for participants. Recent CNI research methods have focused on sexuality and sexual health, mothering and substance use, and reproductive justice.

However, the use of CNs as an elicitation strategy has not been examined for increasing mental health treatment seeking within SGM EA of color; therefore, this pilot study will examine CNs from SGM EA of color and it's the potential to increase empowerment (including self-efficacy) and reduce mental health symptoms (depression and anxiety) as an elicitation strategy for increasing intentions to seek support (personal and professional). The proposed pilot study will also examine the feasibility, acceptability, and appropriateness of critical narratives as a strategy for SGM racial/ethnic minorities and address mental health disparities.

CHARACTERISTICS OF THE STUDY POPULATION:

1. Target Population and Accrual:
The target population for this study includes sexual and gender minority emerging adults of color who identify as living with depression in the United States. For the proposed study, we expect to screen about 200 individuals over the 6 months and consent and randomize 30 participants in a 1:1 assignment.

2. Key Inclusion Criteria:
1) identify as a sexual minority; (2) live in the United States; (3) identify as a person of color; (4) be aged 18-24 years; (5) have a smartphone and or computer access; (6) identify as living with moderate to severe depression as indicated on the PHQ-9 (score of 10 or higher); and (7) do not report suicidal ideation in the past month.

3. Key Exclusion Criteria:
(1) Identifies as cisgender heterosexual man or woman, (2) Does not live in the United States; (3) Identifies as non-Hispanic white or Caucasian; (4) Is not between the ages of 18-24 years (inclusive) (5) Does not have access to a smartphone or computer (6) Plan to move out of the United States for the next six months (7) Does not consent to study procedures (8) Meets criteria for an unmanaged psychotic disorder (9) meets criteria for none to mild depression on the PHQ-9 (score of 9 or less), and/or (10) reports suicidal ideation in the past month.

4. Subject Recruitment and Screening:
We will leverage recruiting participants from a concurrent study testing the preliminary efficacy of a digital intervention to reduce suicidal ideation among sexual and gender minority emerging adults in the United States. The Suicide Prevention Intervention for Vulnerable Emerging Minorities (IRB Protocol: 849500) recruits and screens similar participants as the current pilot study (emerging adults ages 18-24 who identify as a sexual and gender minority). Participants who answer the Suicide Prevention Intervention eligibility screener also indicate if they may be interested in participating in other studies. Given our inclusion criteria, we hope to contact participants excluded from the Suicide Prevention Intervention and invite them to screen for this pilot study. We will contact individuals via email and ask if they would be interested in the current critical narrative pilot study. Individuals will receive a link or QR code to complete the eligibility screener.

We will also utilize social media to reach the population living within the United States on sites including Facebook, Instagram, and Dating Apps (i.e., grindr). Ads targeting within social media sites will allow us to specify the age range and other sociodemographic characteristics of individuals who will see the ads based on the information they provide in their online profiles. We will develop ads that promote our target population's interest by including diverse images of youth (i.e., images of different ages, portraying diverse race/ethnicity), as well as using ad-targeting specific to socio-demographic characteristics (e.g., delivering Facebook/Instagram ads only to youth living in our regions based on their age, race/ethnicity and sex) and interests (e.g., TV shows with LGBT themes).

Ads will link interested individuals to the study's eligibility screener to verify their eligibility. We have recruited through these platforms for over a decade with a significant track record of demonstrated success. We plan to use lessons learned from these efforts to guide the implementation of our proposed recruitment strategy.

If necessary, we will leverage our connections in the national LGBTQ+ community and conduct in-person or e-mail recruitment and word-of-mouth referrals. We will also hang flyers in local areas including on campus, businesses, and public spaces (as allowed).

The eligibility screener will be a REDCap survey that asks participants to fill out demographic information related to inclusion and exclusion criteria. The eligibility screener will also ask participants to provide contact information (Name, phone number, email address, preferred contact method, and time of day available for contact) for a study member to reach out to them if they are eligible and to schedule a baseline visit. The screener will also ask for participants to provide their longitude and latitude to be eligible for the study. This information will be used to confirm that they are eligible and live within the United States.

5. Early Withdrawal of Subjects:
Retention during a longitudinal study is expected to be 80% or greater. Participation in the study is voluntary; therefore, a participant may withdraw from the study at any time by communicating with the study team via phone or email. The research team member will work to communicate and keep in touch with participants throughout the study. However, if the research team member is unable to reach a participant after extensive attempts or the participant fails to attend follow-up visits, the participant may be withdrawn from the study.

6. Vulnerable Populations:
This research study does not include children, pregnant women, fetuses, neonates, or prisoners.

7. Populations vulnerable to undue influence or coercion:
Using online recruitment methods where the intervention is not pitched by a recruiter minimizes the risk of potential coercion. Instead, SGM EA of color can choose and click on the recruitment advertisement and decide if they wish to learn more. Similarly, staff will be trained to discuss all elements of the consent process with potential participants. Consent documents will fully explain the study procedures, potential risks, and potential benefits. Participants will also be reminded that the study participation is voluntary and that refusing to participate in the study or withdrawing from the study is an option at any time.

STUDY DESIGN:
Critical narratives have not been examined for addressing psychological outcomes (e.g., depression, anxiety, self-esteem, empowerment, psychological well-being) within SGM EA of color; therefore, this pilot study will examine the use of CNIs to impact SGM of color psychological outcomes. Prior literature has shown that CNIs have the potential to increase

empowerment, self-efficacy, and social support as a prevention strategy for mental health. The study design will utilize mixed methods to address two aims:

Aim 1) Examine the experiences of discrimination and acceptance of SGM EA of color living with depression and its impact on seeking mental health treatment,

Aim 2) Evaluate the change in psychological and well-being outcomes (depression, anxiety, self-esteem, empowerment, and psychological well-being) of SGM individuals of color after each CNI assignment.

Aim 3) Understand the acceptability, appropriateness, and feasibility of critical narrative development as an intervention for SGM EA of color.

Below is a timeline of the study, including study assessments and how they address one of the three aims:

Critical Narrative Intervention Timeline and Study Design			
Month(s)	*Timepoint*	*Measure/Study Procedure*	*Aim(s) Addressed*
1-6	Recruitment	Eligibility Screener	N/A
2-8	Baseline	Baseline Survey (n=30) Individual Interview (n=30) Randomization Photo-novella, n=15 Digital storytelling, n=15	Aim 2 Aim 1
3-10	1-month	1-Month Follow-up Survey (n=30) Individual Interview (n=30)	Aim 2 and Aim 3 Aim 3

The entire study will last about 10 months from recruitment to final collection of all critical narratives. A participant's time in the study will last about one month from enrollment during baseline to completion of the post-intervention visit and presentation of their critical narrative.

METHODS:

1. Study Instruments:

Potential participants interested in participating in the study will first complete an eligibility screener. Those participants that are deemed eligible based on inclusion/exclusion criteria will be contacted by a study team member to schedule a virtual baseline visit.

Participants will complete 2 online surveys during the study: at baseline and after completion of the critical narrative development (about 1 month after initial enlistment into the study). Assessments will take 20-25 minutes to complete. The primary goal of the two surveys will be to assess the preliminary effectiveness of the critical narratives at impacting depression, anxiety, self-esteem, psychological well-being, and empowerment. All surveys will be housed and implemented through REDCap. Below is a table of the measures utilized in the surveys.

Construct	**Measure**	**Description**	**Citation**	**Time Point**	
				Baseline	*1-Month*
Depression Symptoms	Patient Health Questionnaire (PHQ-9)	The PHQ-9 is a 9-item depression symptom checklist scored from 0 to 3 on a Likert scale of "not at all" to "nearly every day." The PHQ-9 has demonstrated high internal reliability ($\alpha = .88$) and test-retest reliability ($\alpha = .94$)	Kroenke, K., Spitzer, R.L., & Williams, J.B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606-613.	X	X
Anxiety Symptoms	Generalized Anxiety Disorder (GAD-7)	The GAD-7 is a 7-item measure designed to assess anxiety symptoms scored from 0 to 3 on a Likert scale of "not at all" to "nearly every day," with total scores ranging from 0 to 21. The	Spitzer, R.L., Kroenke, K., Williams, J.B., & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7.	X	X

		GAD-7 is valid with intercorrelations with the PHQ-2 (r = .64) and the Rosenberg Self-Esteem Scale (r = .43) and has good reliability (α = 0.89; Lowe et al., 2008).	*Archives of internal medicine, 166*(10), 1092-1097.		
Psychological Well-being	Flourishing Scale (FS)	The FS is an 8-item assessment that measures respondent's self-perceived success in critical areas such as relationships, self-esteem, purpose, and optimism. Higher scores represent an individual with many psychological resources and strengths.	Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2009). New measures of well-being: Flourishing and positive and negative feelings. *Social Indicators Research, 39*, 247-266.	X	X
Self-Esteem	Rosenberg Self-Esteem Scale	A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be unidimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.	Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.	X	X
Empowerment	Empowerment Scale - Rogers	The Empowerment Scale is a 25 - item measure with 5 domains (Self-esteem and efficacy, power and powerlessness, optimism and control over the future, community activism and autonomy, and righteous anger).	Rogers, E. S., Ralph, R. O., & Salzer M. S. (2010). Validating the empowerment scale with a multisite sample of consumers of mental health services. *Psychiatric Services, 61*, 933–936	X	X
Sense of Belonging	The General Belongingness Scale (GBS)	GBS is a12-item measure, rated on a 7-point Likert scale, to assess a general sense of belonging. The two subscales are: Acceptance/Inclusion and Lack of Rejection/Exclusion.	Malone, G. P., Pillow, D. R., & Osman, A. (2012). The General Belongingness Scale (GBS): Assessing achieved belongingness. *Personality and Individual Differences*, *52*(3), 311–316. https://doi.org/10.1016/j.paid.2011.10.027	X	X
Mental Illness Stigma	Internalized Stigma of Mental Illness – 9 Item version (ISMI-9)	The ISMI-9 contains 9 items which produce a total score ranging from 1-4. 1.00-2.00: minimal to no internalized stigma, 2.01-2.50: mild internalized stigma, 2.51-3.00: moderate internalized stigma 3.01-4.00: severe internalized stigma	Hammer, J. H., & Toland, M. D. (2017). Internal structure and reliability of the Internalized Stigma of Mental Illness Scale (ISMI-29) and brief versions (ISMI-10, ISMI-9) among Americans with depression. *Stigma and Health, 2*, 159-174. doi: 10.1037/sah0000049	X	X

LGBTQ+ of Color Stigma	LGBTQ+ POC Microaggressions Scale-Brief (LGBTQ+ PCMS-B)	LGBTQ+ PCMS-B is a 12-item measure used for assessing intersectional minority stress in LGBTQ+ POC populations. The measure has three scales: Racism in LGBTQ communities, Heterosexism in racial/ethnic minority communities, and Racism in Dating and Close Relationships.	Huynh, K. D., Bricker, N. L., Lee, D. L., & Balsam, K. F. (2022). Development and validation of the LGBTQ+ POC Microaggressions Scale—Brief (LGBTQ+ PCMS-B). *Stigma and Health.*	X	X
LGBTQ+ of color Identity Affirmation	The Queer People of Color Identity Affirmation Scale (QPIAS)	Preceding the QPIAS was an explanation that each item concerns the participant's identity as an "LGBQA+" "ethnic/racial minority person." Participants rate their agreement with the 12-items on a 7-point scale (1-very strongly disagree,7- very strongly agree). QPIAS has two subscales: (a) Identity-Based Growth and (b) Identity Cohesion.	Ghabrial, M. A., & Andersen, J. P. (2021). Development and initial validation of the Queer People of Color Identity Affirmation Scale. *Journal of Counseling Psychology, 68*(1), 38–53. https://doi.org/10.1037/cou0000443	X	X
Intersectional Anticipated Discrimination	Intersectional Discrimination Index - Anticipated Discrimination (InDI-A)	The InDI-A is a 9-item measure for measuring intercategorical intersectional analyses of anticipated discrimination for individuals with multiple marginalized identities.	Scheim, A. I., & Bauer, G. R. (2019). The Intersectional Discrimination Index: Development and validation of measures of self-reported enacted and anticipated discrimination for intercategorical analysis. *Social Science & Medicine, 226*, 225–235. https://doi.org/10.1016/j.socscimed.2018.12.016	X	X
Attitudes Towards Mental Health Treatment	Attitudes Towards Mental Health Treatment (ATMHT)	The ATMHT is comprised of 20 items intended to reflect how positive or negative one's attitudes are toward professional mental health treatment and is a modified version of the 29-item Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPHS; Fischer & Turner, 1970). The ATMHT scale asks about the extent of agreement on a four-point Likert scale, ranging from strongly disagree (1) to strongly agree (4), with statements such as: "Most mental health professionals have negative beliefs about the mentally ill," High scores on the ATMHT (scores range from 20–80) reflect more positive attitudes about seeking mental health treatment.	Conner, K. O., Rigg, K., Yu, L., Meng, H., Pilkonis, P., Brown, C. (2018). Psychometric properties of the Attitudes Toward Mental Health Treatment Scale (ATMHT). Journal of Cultural Diversity, 25(1), 23–31.	X	X
Perceived Social Support	Multidimensional Scale of	MSPSS is a 12-item measure of perceived adequacy of social	Zimet, G.D., Dahlem, N.W., Zimet, S.G., &	X	X

	Perceived Social Support (MSPSS)	support from three sources: family, friends, & significant other; using a 5-point Likert scale (0 = strongly disagree, 5 = strongly agree).	Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41.		
Acceptability	Acceptability of the Intervention Measure (AIM)	The Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM; Weiner et al., 2017) are four-item measures of implementation outcomes that are often considered "leading indicators" of implementation success (Proctor et al., 2011). The AIM, IAM, and FIM demonstrated strong psychometric properties in a series of three studies conducted by Weiner et al. (2017). Specifically, the measures demonstrated content validity, discriminant content validity, reliability, structural validity, structural invariance, known-groups validity, and responsiveness to change.	Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health and Mental Health Services Research, 38,* 65-76. doi: 10.1007/s10488-010-0319-7 Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Science, 12*(108), 1-12. doi: 10.1186/s13012-017-0635-3		X
Appropriateness	Intervention Appropriateness Measure (IAM)				X
Feasibility	Feasibility of the Intervention Measure (FIM)				X

Participants will also complete 2 individual interviews during the study: baseline and one month. Interviews will take about 45-60 minutes to complete. The baseline interview will utilize a semi-structured protocol to examine the unique experiences of SGM EA of color living with multiple marginalized identities (sexual and gender minority, person of color, and living with a mental illness). The second interview, one month after the intervention's completion, will assess the participants' acceptability of the critical narrative intervention, including their experiences and how it impacted them. All interviews will be audio recorded and transcribed verbatim for analysis.

2. Group Modifications:
No changes will be made to the study instruments. We are using validated scales for our primary outcomes and mechanisms of change.

3. Method for Assigning Subjects to Groups:
After consent and completion of baseline activities (survey and interview), eligible participants will be randomized into one of two CNI groups (the photo-novella or the digital storytelling) within REDCap in a 1:1 ratio.

4. Administration of Surveys and/or Process:
Participants will receive two surveys throughout the entire study. At baseline, participants will complete a baseline survey that will last approximately 20-25 minutes via REDCap. At the one-month follow-up visit, participants will complete a follow-up survey that will last approximately 20-25 minutes.

5. Data Management:
We will implement several strategies to offset the risks of loss of confidentiality related to trial participation and survey data collection. Participants' contact information will be kept in password-protected computer files only accessible to research staff. We will need to collect a valid e-mail address to reimburse participants for their time (i.e., study incentives) and for internal auditing purposes. To ensure we have sent participants their incentives, we will keep the e-mail addresses in a list to be stored in a password-protected server. Contact information/personal identifiers will be collected and stored separately from other survey and intervention data.

Survey and intervention data will be identified using alphanumeric study participant ID numbers, which will be unrelated to the participants' names or email addresses. Data collected through surveys and the web intervention will be automated to download onto a secure university server. All survey data will be secured using an SSL 256-bit encryption. SSL encryption is the standard for all web-based transactions that include any identifiable information, including names, addresses, and credit card numbers. Phone numbers and email addresses will be provided to contact the PIs and the IRB.

Survey data files are protected behind HIPAA-compliant web servers at the University of Pennsylvania and may not be viewed/accessed by third parties (unless there is explicit mal-intent to obtain the data (e.g., hacking)). Data exports will be converted into an SPSS working file. Access to data will be on a role-based standard; only those study staff that require access to identifying data to complete their study-related roles will be allowed access. Study staff have been trained in security and confidentiality procedures.

Contact information will be held in a password-protected database on a secure university server, accessible only by study staff. This contact information will be held separately from baseline and follow-up survey data, which will contain only the participants' study identification numbers. The contact information (name, email address, and phone number) in the database will be destroyed at the end of the study and will never be associated with the study data collected.

Subject Follow-up:
Participants provide consent for the research team to retain email addresses and phone numbers for participant follow-up. During the baseline visit, participants will be scheduled for a 1-month follow-up visit, including an interview, survey, and final submission of the critical narrative. A week before the scheduled 1-month follow-up, a research team member will reach out to the participant to confirm the 1-month study visit via phone, e-mail, or text as indicated in the participant's preferred contact method. A research team member will reach out every two days for confirmation until received from the participant. This will aid in ensuring confirmation of the scheduled follow-up and retention of participants at the follow-up time point.

STUDY PROCEDURES:

Detailed Description:
The research activities involve a two-arm pilot enrolling a sample of 30 participants who identify as SGM, POC, and living with moderate to severe depression. After consent and completion of the baseline survey (15-20 min) and interview (45-60 min), participants will be randomized into one of two critical narrative interventions: photo-novella (n=15) or digital storytelling (n=15).

All participants will be given the same two prompts for their narrative intervention asking, "Share an experience of when you have felt seen as an SGM Person of Color." AND "share an experience of when you have felt unseen as an SGM person of color."

Photo-Novella: Participants in the photo-novella intervention will be asked to tell their story through 12 photographs and a caption (6 for the first prompt and 6 for the second prompt). Participants will be instructed to take a photograph answering the two prompts. Participants may use their smartphones or digital camera to capture their photographs. Participants may also edit their photographs using photo-editing software for aesthetics. Participants will also be asked to provide a short caption (no more than two sentences) explaining their photograph and provide a title for their work. Participants will be provided with a basic guide on photography and how to "snap a picture."

Digital Story: Participants in the digital storytelling intervention will be asked to tell their story in 3-6 minutes (two videos total, 1-3 minutes each) utilizing a video format which can include still or moving images, sound, music, and voiceover. Participants will be provided with a guide on software or applications that they can use to create their stories. Participants will be provided with a manual or basic guide to digital stories for their reference. Participants

will be provided with guidance on expectations of the video, including format, length, quality, and closed captions for accessibility.

At the baseline visit after the survey and interview, participants will be randomized into one of the two intervention conditions (photo-novella or digital story). Once the participant is randomized, they will be provided with the electronic manual (based on their intervention). The research team member will provide guidance on what to expect (i.e., how many photos to take and what the prompt is) and go over the manual with the participant. The participant will then be given the opportunity to ask questions.

The participants will be given one month to complete their narrative and be asked to digitally submit their work to the research team during the 1-month visit. Participants will also be given the opportunity to present their work at a gallery (but not required to), which will be scheduled later (about ten months from the date of the first enrollment). The gallery and participation in the gallery are entirely voluntary and will not affect participation in the study.

A week before the scheduled 1-month follow-up, a research team member will reach out to the participant to confirm the 1-month study visit via phone, e-mail, or text as indicated in the participant's preferred contact method. A research team member will reach out every two days for confirmation until received from the participant.

Participants will receive a link via email a day before their one-month follow-up visit to complete a follow-up survey (15-20 mins). During the one-month follow-up, a research team member virtually on Zoom will conduct a follow-up interview (45-60 mins) asking participants about their experience of creating their critical narrative piece. At the one-month follow-up, research team members will review the final critical narratives of the participants digitally. Two days before the one-month follow-up, participants will receive a link via email to a Box folder (that is HIPAA compliant) where they can upload their photos/videos.

The participants will be notified of the gallery date and invited to attend. The gallery is optional and does not impact participation in the study.

Use of Deception:
Not applicable. This study does not utilize deception.

Statistical Analysis:
Prior to conducting our multivariate analyses, we will examine study variables using descriptive statistics and test for differences across demographic characteristics (e.g., race/ethnicity, age, education) using t-tests, ANOVAs, and Chi-squares, as appropriate. As participants will be randomized to the two groups, systematic baseline differences are not expected; however, if some parameters differ across conditions at baseline, they will be included as covariates in subsequent multivariate models.

As appropriate, we will compare differences from baseline to the 1-month outcomes across our outcome measures using t-tests and Chi-squares. We will also estimate the effect size of our interventions to aid us in determining the future sample size needed for a larger study on the intervention.

Power analysis
Due to the exploratory nature of this study, a power analysis was not conducted for an a priori sample size. However, we will be conducting in-depth interviews until we reach saturation. Typical saturation for in-depth interviews is determined as between 9-17 participants (Hennink & Kaiser, 2022), therefore, we will recruit a total of 30 participants (15 participants for each condition).

RISK/BENEFIT ASSESSMENT:

1. Risks:
The potential risks to participants are detailed as follows: Some participants may be uncomfortable answering questions about their past and/or current mental health, psychiatric symptoms, or risk behaviors (e.g., sexual behavior, substance use). Participants may also feel uncomfortable answering questions about their sexual attractions or their sexual and gender identity. However, it is important to note that an emotional discomfort is an event encountered routinely in daily life, and potential discomfort would likely not exceed what is typically encountered in these youths' experiences. All information

used in enrollment and recruitment describing the research activities will include a detailed description of the content and expected participation of the respondent, such that the respondent is aware of the nature of the questions to be included in the surveys.

2. Benefits:
SGM EA of color in the study may benefit through the process of developing their critical narratives with the potential to reflect on their experiences and behaviors. Furthermore, participation in the proposed study could potentially benefit participants in a few important ways. It is possible that the interview about their experiences and/or the CNI activity may be cathartic in nature as it may be the first time or opportunity allowing SGM EA of color to speak about their experiences. Others will benefit because the study will result in increased knowledge about narrative interventions to address mental health disparities among SGM EA of color and can inform interventions to address mental health concerns at large. In sum, the potential benefits of the research far outweigh the risks for the participants.

3. Subject Privacy:
Informed consent documents will inform research participants of the need to keep answers to questions confidential. Participants will have the option to refuse to answer or skip any questions on the surveys that they are uncomfortable answering. They will also be informed about the limits of confidentiality as it relates to imminent suicide risk or risk of imminent harm to others and the need to enact emergency procedures to ensure their safety and the safety of others. Psychological distress is a potential risk to SGM EA during the completion of the interviews or surveys, during the creation of their narratives, and during post-intervention visits (about one month after baseline).

We will need to collect a valid e-mail address to reimburse participants for their time (i.e., study incentives) and for internal auditing purposes. To ensure we have sent participants their incentives, we will keep the e-mail addresses in a list to be stored in a password-protected server. In addition, we will use participants' email, IP address, browser/operating systems, and time is taken to complete the survey to flag potential fraudulent/suspicious cases. We will crosscheck email and IP addresses through web applications (e.g., Facebook, IP lookup), yet we will not keep any of this information or link it to any behavioral data. We have taken this approach in prior studies and written on its importance for web survey research. Once identified, we will email suspicious cases and ask for clarification. If verified, we will treat each case as unique; otherwise, we will disqualify the case and not use the entered data.

Data will be stored in a secure environment, and all data files will have strong password protection. Access to data will be on a role-based standard; only those study staff that require access to identifying data to complete their study-related roles will be allowed access. All study staff will be trained in security and confidentiality procedures and will sign a confidentiality agreement before receiving access to any participant data. Contact information used to confirm participation will be held in a password-protected database on a University of Pennsylvania secure server, accessible only by study staff.

4. Subject Confidentiality
All participant data will be de-identified before analysis, and access to this information will only be available to research staff or on password-protected computer files. Audio recordings of participant interviews will be transcribed and de-identified and then destroyed to eliminate audible identification of subjects. Participants' contact information will be kept in a locked office accessible only to the research staff and on password-protected computer files housed within University servers.

How will confidentiality of data be maintained? Check all that apply.

☒ Paper-based records will be kept in a secure location and only be accessible to personnel involved in the study.

☒ Computer-based files will only be made available to personnel involved in the study through the use of access privileges and passwords.

☒ Prior to access to any study-related information, personnel will be required to sign statements agreeing to protect the security and confidentiality of identifiable information.

☒ Whenever feasible, identifiers will be removed from study-related information.

☐ A Certificate of Confidentiality will be obtained, because the research could place the subject at risk of criminal or civil liability or cause damage to the subject's financial standing, employability, or liability.

☐ A waiver of documentation of consent is being requested, because the only link between the subject and the study would be the consent document and the primary risk is a breach of confidentiality. (This is not an option for FDA-regulated research.)

☒ Precautions are in place to ensure the data is secure by using passwords and encryption, because the research involves web-based surveys.

☒ Audio and/or video recordings will be transcribed and then destroyed to eliminate audible identification of subjects.

☐ Other (specify):

Data will be kept for five years after the completion of the study (de-identified). Photos/videos of the narratives from participants will be kept for five years after the completion of the study. If participants choose to participate in the optional gallery after study completion, photos/videos will then be kept indefinitely. Please note that the gallery is an artistic endeavor and not an extension of the research (e.g., no data will be collected during/about the gallery).

Data from participants who fill out the eligibility survey – but are not eligible/do not enroll in the study will be kept within REDCap (HIPAA compliant survey application) until the completion of the study. Once the stud has been completed, this data will then be deleted.

We will implement several strategies to offset the risks of loss of confidentiality related to data collection. To minimize the risk of participants feeling uncomfortable about answering personal questions, we will use self-completed online surveys for many of our assessments. Participants will input the answer to the question themselves and will be able to refuse to answer any question that makes them uncomfortable on either the self-report assessments or the in-depth interview. In interviews, participants will not be named and any additional reference to people and/or locations will be masked to increase their privacy. Once audio recordings of interviews have been transcribed and de-identified, they will be destroyed to prevent any audible identification of participants.

5. Protected Health Information

Participant-protected health information (PHI) will be collected, including Name, Telephone Number, IP address, and Electronic Mail address, for contacting participants throughout the study, including follow-up reminders. PHI of participants' date of birth will be utilized to determine age for eligibility (inclusion). Participants will also be audio recorded during their interviews. All interviews, after being transcribed and de-identified, will be destroyed.

6. Compensation:

Our incentive schedule will encourage assessment and interview completion, increasing the rates to encourage the completion of future study visits.

- At baseline for the completion of the survey and interview, participants will receive $30.
    - To confirm eligibility at baseline, longitudinal and latitude data will be collected and required to receive compensation at baseline.
- At one month for the completion of the narrative, survey, and interview, participants will receive $45.

Participants will be paid virtually using Greenphire Virtual Clincards; therefore, we will collect emails from each participant.

7. Data and Safety Monitoring:

The Principal Investigators will provide oversight of all study procedures and quality assurance checks. We have several mechanisms to ensure the security and integrity of the data. The intervention content, questionnaires, and personal information will be secured with role-based security that will provide different types of users with different access privileges. All printed records pertaining to the study containing collected data will be securely stored by the Principal Investigators in a locked metal file cabinet housed in the Department of Family and Community Health. No names or other identifying information appear on data documents or in data files, as the re-contact information will be stored separately. Electronic files and records will be stored in a firewalled, encrypted server at the University of Pennsylvania; only research staff will have access to this directory.

All staff will complete human subjects research training and data safety training as part of their project onboarding. To ensure participants' safety as well as the data’s validity and integrity, only staff with extensive experience with SGM youth and

suicide prevention will be hired. All staff will have signed a confidentiality agreement. The Principal Investigators and Project Director will monitor staff closely. Staff deficient in any aspect of performance will be re-trained, closely monitored for proficiency, and if not adhering to established protocols and procedures, will be terminated. Only designated staff will have access to the data. The Principal Investigators and Co-Investigators will be responsible for disseminating study findings through presentations and publications. The Principal Investigators will also be solely responsible for handling any requests from other investigators to examine the data collected during this study.

If a participant (enrolled) or prospective participant reports suicidality or another intent to harm, we will have to break confidentiality. We will inform the participant of this verbally and within the consent form. We will note that we may need to break confidentiality for their safety if they report suicidality or other intent to harm. This may include contacting emergency contacts that they provide to us, putting them in contact with a study clinician, or calling 9-1-1 to have emergency response service be put in contact with them.

8. Investigator's Risk/Benefit Assessment:
No more than minimal risk: The risks to research participants enumerated above are reasonable in relation to the anticipated critical narrative creation among sexual minorities emerging adults of color. Our study is expected to result in benefit to society since it will provide a basis of knowledge on interventions for fostering participants' social support and empowerment to help them lower their mental health risks. Thus, the unlikely risks entailed by participation in this study are offset by its potential benefits.

INFORMED CONSENT:

1. Consent Process:
Potential participants will be directed to a website that will include a brief description of the study and a link to a short online eligibility screener. Participants will be asked to consent to an eligibility screener. The eligibility screener consent form will first ask the participant to answer yes or no to whether they consent to the screener. The eligibility screener consent will outline the voluntary nature of the survey, the participant's freedom to discontinue the survey at any time, approval to retain email addresses to send incentives, outline the use of the data being collected within the eligibility screener, and procedures to guarantee confidentiality. We will also collect latitude and longitudinal data to confirm the eligibility criteria of the participant living in the United States for eligibility. The data from the eligibility screener will allow us to retain all data from these screeners and compare/contrast who sought to enroll in the pilot study. Potential participants that are eligible based on inclusion criteria will be contacted by a study team member and scheduled for a baseline visit.

During the baseline visit, potential participants will be asked to complete a study consent form and sign it online through REDCap. A study team member will first go through the consent form with the participant and be available to answer any questions. The consent outlines the voluntary nature of the study, the participant's freedom to discontinue the study at any time, and approval to retain data for future research. Participants will also be informed that longitudinal and latitude data will be collected and required for confirmation of eligibility and compensation for the study. Participants will then indicate whether they consent or do not consent to participate in the study by filling out the REDCap form and checking a box of either "Yes, I do consent" or "No, I do NOT consent." Participants that do consent will sign the form electronically and be given the option to receive a signed pdf of their consent form via email.

2. Waiver of Informed Consent:
N/A

RESOURCES NECESSARY FOR HUMAN RESEARCH PROTECTION:
We have both the physical and virtual infrastructure necessary to carry out this project and ensure the protection of human subjects. We have locked filing cabinets to keep paper records, but the default will be using REDCap for data entry. As noted in the protocol, our team is comprised of professionals with expertise in conducting research with youth, sexual and gender minorities, and racial/ethnic minorities through technology-assisted interventions.

References:

Botfield, J. R., Newman, C. E., Lenette, C., Albury, K., & Zwi, A. B. (2018). Using digital storytelling to promote the sexual health and well-being of migrant and refugee young people: A scoping review. Health Education Journal, 77(7), 735–748. https://doi.org/10.1177/0017896917745568

Budig, K., Diez, J., Conde, P., Sastre, M., Hernán, M., & Franco, M. (2018). Photovoice and empowerment: Evaluating the transformative potential of a participatory action research project. BMC Public Health, 18(1), 432. https://doi.org/10.1186/s12889-018-5335-7

Harris A (2013). Animating failure: Digital collaboration at the intersection of sex, race, and culture. Continuum 27: 812–824

Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Social Science & Medicine, 292, 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Markus SF (2012). Photovoice for healthy relationships: Community-based participatory HIV prevention in a rural American Indian community. American Indian and Alaska Native Mental Health Research 19: 102–123.

Swann, G., Stephens, J., Newcomb, M. E., & Whitton, S. W. (2020). Effects of sexual/gender minority- and race-based enacted stigma on mental health and substance use in female assigned at birth sexual minority youth. Cultural diversity & ethnic minority psychology, 26(2), 239–249. https://doi.org/10.1037/cdp0000292

Tan, J. Y., Baig, A. A., & Chin, M. H. (2017). High Stakes for the Health of Sexual and Gender Minority Patients of Color. Journal of general internal medicine, 32(12), 1390–1395. https://doi.org/10.1007/s11606-017-4138-3

Wexler L, Gubrium A, Griffin M, et al. (2013) Promoting positive youth development and highlighting reasons for living in Northwest Alaska through digital storytelling. Health Promotion Practice 14: 617–623