

The Impact of Being a Peer Sexual Health Educator: Lessons Learned from Mobilizing African American Adolescents Against HIV in Flint, Michigan

Charles Senteio, Deborah Yoon, Yiwei Wang, Swetha Jinka, Terrance Campbell, and Palena Elizabeth

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ARTICLE



The Impact of Being a Peer Sexual Health Educator: Lessons Learned from Mobilizing African American Adolescents Against HIV in Flint, Michigan

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ABSTRACT



Although peer-led health education is common, the long-term impact of being a peer educator is under-studied. The purpose of this qualitative study is to investigate the long-term impact of being a peer sexual health educator. The sample consists of African American young adults who had served in this role. Being a peer sexual health educator had perceptual, cognitive, and relational impacts. This study has implications for the design and evaluation of sexual health programs.

KEYWORDS

Peer sexual education; peer sexual health mentors; adolescent health education; youth sexual education; health education

Background

Peers can have a dramatic influence on adolescent and young adults' general health behavior (Aladağ & Tezer, 2009). Peer education for adolescent sexual health is defined as, "the teaching or sharing of health information, values and behaviors by members of similar age or status groups" (Sriranganathan et al., 2012). Peer education programs focused on adolescent healthy relationship awareness and/or sexual health behavior have been used since the early 1980s for three key reasons (Sawyer, Pinciaro, & Bedwell, 1997). First, adolescents use peers as sources of health information and their behavior is influenced by them (Edelstein & Gonyer, 1993). Consequently, educated peers mitigate the risk of sourcing critical health information from ill-informed peers. Further, evidence suggests that adolescents are more likely to adopt recommended, healthy sexual behavior in interventions that use peer educators (Divecha, Divney, Ickovics, & Kershaw, 2012; Mahat, Scoloveno, De Leon, & Frenkel, 2008; Maria, Guilamo-Ramos, Jemmott, Derouin, & Villarruel, 2017). Second, peer education is particularly well-suited for highly sensitive topics and health

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44 behaviors (Jennings, Howard, & Perotte, 2014). When compared to trad-
45 itional didactic educational delivery methods, personal health topics are
46 more effectively addressed through peer-led health promotion activities
47 (Edelstein & Gonyer, 1993). Third, peers are more cost-effective than certi-
48 fied health education practitioners, and cost is an important consideration
49 for many agencies that deliver sexual health programs (Sawyer et al., 1997).

50 Considerable racial disparities persist in sexually transmitted infections
51 (STIs) especially in HIV infection. When compared to White youth,
52 African American youth experience a higher rate of STI and HIV infec-
53 tions. In Michigan, African Americans make up 14% of the state's popula-
54 tion, but they represent 55 percent of all individuals in Michigan living
55 with HIV, and of all Michigan teens diagnosed with HIV between
56 2009--2014, 82% are African American (Michigan Department of
57 Community Health, 2014).

58 STI incidence and prevalence among young adults are associated with a
59 complex combination of psychosocial, cultural, and individual factors
60 (DiClemente, Salazar, Crosby, & Rosenthal, 2005). Consequently, culturally
61 appropriate intervention designs are recommended to promote sexual
62 health education among young African Americans (Veinot, Campbell,
63 Kruger, & Grodzinski, 2013). However, there is a gap in the literature
64 "giving voice" to young African Americans concerning sexual health educa-
65 tion (Kimmel et al., 2013).

66 Investigating the long-term impact of being a peer sexual health educa-
67 tor--by listening to African Americans who served in this role--broadens
68 the lens of program evaluation. This is valuable to help articulate the effect
69 these programs have on the peers themselves; after all, peers are subsets of
70 the target populations. Further, understanding that impact beyond the
71 conclusion of the peer sexual health educator role helps contribute to
72 understanding any lasting impact of the peer educator experience from the
73 perspective of the peer educator.

74 Despite the use of peer education to provide health education for adoles-
75 cents and young adults, very few of these programs evaluate long-term
76 impact on the peers' perspectives and behaviors (Cramer, Ross, McLeod, &
77 Jones, 2015; Heys & Wawrzynski, 2013; Sawyer et al., 1997). Describing the
78 long-term impact on the peer educators themselves is invariably challeng-
79 ing because it is difficult to assess the attitudes, perceptions, and behaviors
80 over time. In fact, most peer health education interventions last for rela-
81 tively short periods of time, many over just one session over the course of
82 a few hours. Consequently, process evaluation measures (i.e., delivery) are
83 most readily obtained at the conclusion of the particular intervention,
84 which is appropriate. But outcome evaluations (i.e., impact) may be admin-
85 istered either directly after, or in several months following the intervention,
86

87 and follow up time varies considerably (Sriranganathan et al., 2012). Given
88 the persistent STI/HIV racial disparities, there is a considerable imperative
89 to understand the long-term impact on African American peer educators,
90 beyond the immediate conclusion of serving in the peer educator role.
91

92 **Objectives**

93
94 The purpose of this study is to examine any long-term impact of being a
95 peer sexual health educator. We explored the perspectives of the African
96 American peer sexual health educators in the HOPE project (HIV/STI
97 Outreach, Prevention, and Education), a Michigan based sexual health edu-
98 cation program. We contacted peer educators between 3 and 5 years after
99 their engagement in the HOPE project.

100 The HOPE project was a CDC-funded (Centers for Disease Control and
101 Prevention), STI-reduction program that ran from 2009– 014 throughout
102 Genesee County, where Flint is located, and Saginaw County, Michigan.
103 The HOPE project was developed and conducted through a community-
104 academic partnership between the YOUR Center, a faith-based nonprofit in
105 Flint, and the Prevention Research Center of Michigan at the University of
106 Michigan School of Public Health (Prevention Research Center - Michigan,
107 2017a). The HOPE project aimed to assess the efficacy of integrating peer
108 sexual health education and technology into an established evidence-based
109 prevention program for STI awareness and prevention, with an emphasis
110 on HIV, among youth ages 18–24. Several peer-reviewed journal articles
111 describe the HOPE project and its outcomes (Kimmel et al., 2013; Unertl
112 et al., 2016; Veinot et al., 2011, 2013). For example, Kimmel et al. (2013)
113 describe how young people perceive school and community-based sexual
114 health education. Veinot et al. (2013) further detail perspectives in the con-
115 text of the use of information and communication technology (ICTs). To
116 the best of our knowledge, this is the first study to examine the impact of
117 sexual health education programs from the perspective of the
118 peers themselves.

119 **Methods**

120
121 We conducted a qualitative study for this exploratory investigation. We
122 used individual semistructured interviews to elicit perceptions by probing
123 specific aspects of impact, informed by peer sexual health education litera-
124 ture and expert practitioners. The interview guide emerged from discus-
125 sions with personnel who helped train and worked closely with the peer
126 mentors, and have maintained contact with them since their role. The
127 questions were refined after reviewing literature on how impact is assessed
128 for STI/HIV programs. We conducted interviews via phone, as some of
129

130 these former Michigan-based peer sexual health educators are now dis-
131 persed throughout the United States. The Rutgers University Institutional
132 Review Board (IRB) approved the study protocol, which included consent
133 procedures (IRB # 17-684M). The study was explained to the participants
134 by the principal investigator (CS), who led each interview. The consent was
135 read, and the participants provided their verbal consent at the start of the
136 interview recording. We did not offer financial compensation to
137 participants.

138 We recruited 11 participants using existing professional and social net-
139 works of YOUR Center personnel, specifically those involved in recruiting
140 and training various participants involved in the HOPE project, specifically
141 the YOUR Center Founder, Co-Founder, and Director. These individuals
142 maintain contact and relationships with the former SeXperts (“X” is capital-
143 ized because the peer mentors wanted the “SeX” initial syllable to be con-
144 spicuous) and PHIMs (peer health information mentors). The study team
145 collaborated with YOUR Center personnel to identify study participants
146 based on peer educator role and diversity of academic and professional
147 experience since their role as peer sexual health educators. Participants
148 were called to arrange phone interviews at a mutually agreed upon time.
149 Three coauthors (CS, YW, SJ) participated in the interviews.

151 **Participants**

152 Our sample consisted of participants from each of the two, distinct peer
153 sexual health educator roles used for the HOPE project: SeXperts and
154 PHIMs. The SeXperts were part of Your Blessed Health (YBH), a YOUR
155 Center STI/HIV education project. The PHIMs were part of a health
156 improvement grant awarded to the Flint Urban League, in collaboration
157 with the YOUR Center and the Prevention Research Center at the
158 University of Michigan School of Public Health. The SeXperts and PHIMs
159 were recruited in Flint via newspaper and radio advertisements and word
160 of mouth throughout area churches, youth organizations, and youth serving
161 organizations.

164 **SeXperts**

165 The HOPE project included a total of 60 SeXperts who worked in a variety
166 of venues across Genesee County. Their ages ranged from 12–18 at the
167 time of starting to serve as peer educators. The SeXperts assisted with: (a)
168 HIV/STI workshops; (b) web radio talk shows; (c) educational theatre (i.e.,
169 skits and mime performances); (d) an annual Women and Girls
170 Reproductive Health Conference; and (e) an annual World AIDS
171 Day event.
172

PHIMs

There were 20 PHIMs, ages 18–24, who worked with the HOPE project. PHIMs increased access and use of sexual health information resources among their peers and enhanced online information literacy to support their peers to be more informed health information consumers (Prevention Research Center - Michigan, 2017b).

Sampling Plan

We used convenience and purposive sampling of former HOPE project peer sexual health educators to include males and females of various ages and levels of participation.

Measures

We developed a semistructured interview guide based on consulting with experts with extensive experience working with African American sexual health education and reviewing literature on the influence of peer-led sexual health education (Aladağ & Tezer, 2009; Badura, Millard, Peluso, & Ortman, 2000; Cramer et al., 2015; Heys & Wawrzynski, 2013; Sawyer et al., 1997). Studies that aim to assess impact of peer-led sexual health programs have measured impact across a number of *personal dimensions*. Some have focused on perceptions and beliefs concerning healthy relationships, including self-esteem in the context of dating, peer, and intimate relationships (Cramer et al., 2015). Others have measured self-esteem, personal development, and changes in sexual behavior (e.g., Sawyer et al., 1997). Further, researchers have measured specific interpersonal skills, such as communication, awareness of diversity, and empathy (Aladağ & Tezer, 2009; Sawyer et al., 1997). We are unaware of measures that incorporate educational and/or career goals. However, our research team and community-based collaborators indicated that we should investigate impact in these areas, as those individuals are experienced in various dimensions of African American youth sexual health. This expert-led insight helped to inform our semi-structured interview guide (Harden et al., 2001). Consequently, our interview guide probed general impact, impact on personal development (i.e., self-esteem, health behavior, social network composition), impact on the participants' educational goals (i.e., programs of study, pursuit of college degrees/certifications), and career pursuits (i.e., working in health education field, working as a clinician or healthcare provider, etc.). See [Appendix A](#) for the semistructured interview guide.

Analysis

We used the Rigorous and Accelerated Data Reduction (RADaR) technique to code, summarize, and condense the interview data collected because

(a) it is well-suited for analysis of different types of qualitative data, specifically interviews; and (b) it is appropriate for small datasets (Watkins, 2017). This technique enabled us to extract the most relevant data, which facilitated us incorporating it into a cohesive presentation of study findings.

RADaR Preparation and Preliminary Analysis

Since the RADaR technique cannot be implemented without preliminary analysis, we meticulously prepared the data sets (Fernald & Duclos, 2005; Guest & MacQueen, 2008; Watkins, 2012, 2017; Watkins & Gioia, 2015). To prepare, each transcript was reviewed by listening to the audio recording of each interview to ensure that all interviews were transcribed thoroughly and accurately. Next, we compiled the responses into a spreadsheet that included pertinent information (e.g., Participant ID, Interview Section, Time Stamp, Response, etc.), the RADaR *All Inclusive Data Table*. This process enabled easy access to most important information collected. In addition, we created the preliminary code book using in vivo codes to preserve participants' meanings and experiences to support the analysis process (Glaser, 1978). The code book included code definitions and representative quotes, which helped guide the analysis. See [Appendix B](#) for the code book.

RADaR Methodology

Once preparation was complete, we deleted responses that were not relevant to our research question. The most relevant information was extracted from the *All Inclusive Data Table* according to the specific interview question being answered, confirming pertinence as it related to the overall research question; any other information that was not pertinent was removed completely. Three members of the research team (YW, SJ, EP) collaborated to develop the *Phase Two Data Table*, each of whom was assigned to one-third of the data. After each team member produced a data table individually, we reviewed the table collectively to ensure that only the relevant data were included in the table. While we worked through and reduced the data, we refined our preliminary coding by highlighting the key portions that may be used as codes, and added notes in a dedicated column in the table. We also continued to refine the code book to encompass the reduced content through research team conversations held both face-to-face and remotely, in order to interpret the data comprehensively. This resulted in the *Phase Two Data Table*. Then, we once again completed a process of inclusion and exclusion by further interpretation of the data. Similar to the previous phase, each team member first worked individually to truncate and code the data for the portions they analyzed previously in

order to develop a deeper interpretation of the data--which resulted in the *Phase Three Data Table*. We then reviewed the data table and collectively resolved disagreements concerning the codes. At this stage, only the pertinent data remained. We (CS, DY, YW) analyzed the data considering the assigned codes, and discussed consolidation of codes, which resulted in the *Phase Four Data Table*. We then discussed meanings of each concept that emerged from the codes as they became more concrete over the course of this process--which resulted in the *Final Phase Data Table*. Individual interpretations were discussed during team meetings to make collective decisions about how to condense or expand relevant preliminary themes, using specific quotes extracted from the initial interview data. Each of these overarching themes were categorized to include quotes along with participant identification numbers and timestamps as part of the *Final Phase Data Table*. As a result, team decisions were the foundation for the *Final Themes*, which represented each overarching theme deduced from the data.

Analytical Framework

We developed a framework to analyze the themes that emerged from the RADaR methodology informed by two distinct, but connected, areas of literature: (a) systematic reviews of HIV/AIDS interventions focused on youth (Kaaya, Mukoma, Flisher, & Klepp, 2002; Paul-Ebhohimhen, Poobalan, & van Teijlingen, 2008; Sani, Abraham, Denford, & Ball, 2016), and (b) impact assessments for programs designed to improve various health and wellness measures for individuals and populations. USAID impact assessment tools were especially useful for generating our framework for impact assessment (Chen, 1997; Cohen et al., 2005). The framework consists of three dimensions of impact: perceptual (attitudes), cognitive (information and awareness), and relational (relationships enabled through conversations).

Results

Sample

The sample consisted of 11 participants ($n=11$), who were interviewed between August and October, 2017. We conducted interviews until we reached saturation of thematic diversity (Corbin & Strauss, 2007; Guest, Bunce, & Johnson, 2006; Ogedegbe, Mancuso, Allegrante, & Charlson, 2003). After participants provided verbal consent, we collected demographic information at the start of each interview. See [Table 1](#) for demographic information of the entire sample. Six participants are former SeXperts (out of a total of 60 SeXperts) while the remaining five are former PHIMs (out of a total of

Table 1. Demographic Information—Entire Sample.

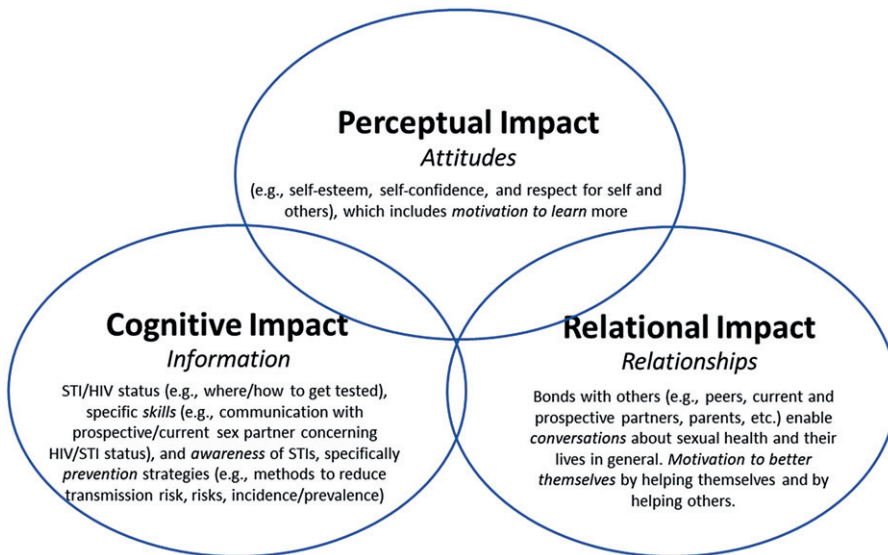
Age as Peer Mentor	Total No.	PHIMs	SeXperts
14–17	6	0	6
18–22	4	4	0
23 and older	1	1	0
Current Age			
20–23	6	0	6
24–27	4	4	0
28 and older	1	1	0
Gender			
Male	2	1	1
Female	9	4	5
Race			
African American	11	5	6
Years as Peer Mentor			
0–2	7	5	1
2+	4	0	5
Sexual Orientation			
Bisexual	1	0	1
Heterosexual	8	4	4
Homosexual	2	1	1
Role			
SeXpert	6	–	–
PHIM	5	–	–
Year of becoming a mentor			
2009–2010	3	1	2
2011–2012	7	2	5
2012+	1	1	0

Note. Total number of participants ($n = 11$)

20 PHIMs). Participants are between 3–5 years removed from their role as peer educators. Their current age ranged from 20–30. All of them are African American and the majority ($n = 9$) are female (identified), which reflects patterns of many peer education programs, in which the majority of peer educators are female (Beshers, 2008). Participants had been peer sexual health educators for two and half years on average, ranging from six months to four years.

Participants report their time as a peer sexual health educator was life-changing. They remain deeply influenced by their experience, not just in terms of sexual information awareness, but also in their lives in general. They describe the impact experience as all-encompassing, because they regard sexual health as holistic, integrated with their emotional, spiritual, and physical health, “Whether it is doing this interview or trying different sexual acts ... It’s all about really just taking care of yourself at the end of the day” (P05, SeXpert). Some express how the experience continues to help motivate them in general, inspiring them to excel beyond their circumstances, “I didn’t wanna be no statistic [sic]. I didn’t wanna be that. I didn’t wanna be that kid, a statistic. I didn’t wanna be that. I refused to be that” (P11, PHIM). Several state that they believe that the information they learned and conveyed to others via various HOPE project activities may have saved lives, “(sexual health) information could possibly save a life” (P01, SeXpert). They state that the experience continues to be

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Online /
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Print



Q15 Figure 1.

transformative, and for some it may have *saved their own life*, “everything that I learned ... you can save a life. You can save many lives. It saved my life” (P06, SeXpert).

Three impact themes emerged from our analysis: perceptual impact, cognitive impact, and relational impact. See Figure 1 “Impact Themes.” Perceptual impact concerns attitudes like self-esteem, self-confidence, and self-respect. This theme also includes motivation to learn more about sexual health, or just learning in general. Cognitive impact concerns information about STIs, including HIV, which include prevention strategies. Last, relational impact concerns interactions and connections with others: peers current or protective partners, parents, etc. Forging and nurturing these relationships are enabled through conversations they are better able to have as a result of their work as peer sexual health educators. These relationships contribute to their motivation, to help themselves and to help others.

Perceptual Impact

I am ultimately in control ... to live my life in a more fluent way that is safer. (P03)

The peer sexual health educator experience enhanced participants’ general perceptions of sexual health, and of themselves; it enhanced their autonomy, “I definitely found that in knowing more, I gained more self-esteem and more awareness and security in myself ... to be sexually healthy is to be on top of everything, and to really take care of your body” (P05, SeXpert). Another participant specifically mentioned influence on their

388 self-esteem, “[being a PHIM] essentially taught me how to have better self-
389 esteem and how to protect myself more” (P08, PHIM). As P08 alludes to
390 in this comment, several participants describe how the experience empow-
391 ered them, to take control of their lives, specifically their bodies,

392 [Being] knowledgeable in this area, knowing about STIs and HIV [enabled me to]
393 have control over my safer sex practices ... knowing that I am ultimately in control,
394 and no one else is in control of my life, of my body. [It] helped me with my
395 confidence because it’s ultimately my life and I have control over it. (P02, SeXpert)

396 This ardent empowerment is illustrated in what one participant describes
397 as “owning” their sexuality. P05 describes how the peer educator experience
398 helped them process and put into context other sexual health information
399 focused on the consequences of having sex, and this context was crucial to
400 their empowerment for their *own* sexuality:

401 Owing your sexuality too is another thing that I appreciated, because as teenagers,
402 we’re taught to stay away from [sex]. But it becomes like a consequence, or
403 something that has a negative effect. Like if you have sex, you’ll get a disease; or if
404 you have sex, you’ll immediately get pregnant. (P05, SeXpert)

405 This information gained through the peer sexual health educator role
406 helped to reinforce that they had choices. They recognized authorship for
407 their own futures. This participant articulates his/her experience as a sexu-
408 ally active teen, and recalled his/her experience favorably as he/she reflects
409 on the experience of their peers who may not have been as aware as he/
410 she was:

411 Man ... honesty, having been sexually active from a young age ... You’re just trying
412 to be so in with the in-crowd. Just because such-and-such is doing it, you wanna do
413 it, but you could be putting yourself at risk trying to be with the in-crowd. It [being
414 a SeXpert] made me cautious, I could be just like another vulnerable [kid] out
415 here ... A [prospective/current partner] could be like, “Oh, no, I’m only with you,”
416 all that pillow talk. I could fall for it and become one step closer to being infected
417 with a STI or HIV. (P01, SeXpert)

418 These perceptions were particularly vital as an adolescent, a critical devel-
419 opmental time in their lives, “ ... and it was just a lot of information that
420 was given to me at a young age that helped me learn how to deviate and
421 learn how to live my life in a more fluent way that is safer” (P03, SeXpert).
422 One former PHIM (P10) reflects upon the person he/she was as a young
423 adult, and how the experience changed him/her as a person, “I was the
424 type that ... I didn’t care about what I messed around with. I didn’t care if
425 they was ugly, fat, Black, White, whatever race ... whatever. I didn’t care. It
426 actually changed me. I will try to stay with one [person] instead of trying
427 to be with two, three at a time. It changed a lot of stuff that I used to do”.

428 As a peer sexual health educator, they believe that they had something
429 tangible to offer, and they perceive that their role was so vital that they
430

431 consider it life-saving; they believe that the information that they provided
 432 to their peers helped to save lives, “Health is just important. We used to
 433 always say that we save lives. We work towards saving a life. One life. It’s a
 434 matter of teaching and it’s a matter of gaining knowledge, but it’s also a
 435 matter of saving the lives of others” (P05, SeXpert).

436 Participants emphatically express how this experience *continues* to be a
 437 positive influence in their lives. This participant describes how the training
 438 and work as a peer educator changed him/her, made him/her more confi-
 439 dent, “My self-esteem was so shot, [prior to becoming a SeXpert] it was so
 440 low, I don’t even think I would be in the same mindset. The person that I
 441 was is a shell, a shadow of the person that I am today. I’m shining so
 442 bright, like a diamond, it’s ridiculous” (P03, SeXpert).

443 Two participants in particular express intense perceptions of influence on
 444 their self-esteem, on their lives based on the challenges they faced at this crit-
 445 ical juncture in their development. They were peer sexual health educators
 446 when life altering decisions are made, and when life altering experiences can
 447 be confronted. P05 expresses how his/her experience as a SeXpert buoyed
 448 his/her confidence to make the decision to leave home state of Michigan to
 449 attend a four year university away from friends and family, “I appreciated it
 450 for bringing me out of my shell and giving me the confidence that I needed
 451 to go to (named university) ... just being more sure of myself in a totally for-
 452 eign place, that’s definitely something that the SeXperts helped me with. So
 453 I’m forever grateful. I am.” Another participant describes how being a peer
 454 sexual health educator helped him/her process his/her own experience with
 455 sexual abuse. P06 articulates how the experience as a SeXpert helped him/her
 456 stop blaming herself, and how he/she resolved to ensure that his/her daughter
 457 will not have to face the experiences that he/she faced:

458 It influenced me a lot. It helped me say, “Don’t feel bad.” [Because of] my childhood
 459 and things that I’ve been through ... it made me feel like, “Why me, why did this
 460 have to happen to me and why did I have to go through this?” And I just felt like a
 461 bad person. But me being a SeXpert, it made me [pause] it’s a feeling that I can’t, I
 462 can’t really explain. It made me feel good about myself and it also taught me that it
 463 wasn’t my fault [pause] what I went through. It wasn’t my fault, ‘cause I blamed
 464 myself for so long. I’m not ashamed anymore. I don’t feel bad anymore about what
 465 I’ve been through. And I know it’s not my fault. I’m comfortable with telling other
 466 people about it. I just try my hardest to do any and everything to make sure my
 467 [own children] would never be in that type of predicament.

468 **Cognitive Impact**

469 *I learned so much. I learned how to protect yourself.* (P01)

470 During peer sexual health educator training, participants acquired informa-
 471 tion about various aspects of sexual health, they also acquired information
 472
 473

474 working in the peer educator role, and they continue applying this know-
475 ledge 3–5 years after the role. Participants recount specific information
476 about various STIs and particular prevention techniques to reduce STI
477 transmission risk. This knowledge persists some years removed from their
478 roles, “We learned about a lot of stuff, different diseases [some I] didn’t
479 know even existed ... HIV, gonorrhea, [were] the main STIs” (P07,
480 PHIM). Another participant speaks to specific information about spikes in
481 incidence, “I learned about a lot of STIs that I didn’t know about [and] the
482 percentage of young people or certain areas where outbreaks [occur]. We
483 learned about how the outbreaks have grown, numbers of times each year,
484 in different areas” (P09, PHIM). A former SeXpert (P06) also speaks of
485 learning about information concerning STI incidence and prevalence, and
486 their effect on individuals and families, “Starting off I didn’t know how
487 sexually transmitted infections was [sic] spreading, how serious it was, how
488 many people in my city that I lived in, actually have sexually transmitted
489 infections ... how serious STIs were, and also what can they do to you.
490 How can it affect your life, how can it affect your family’s life, how can it
491 affect you as far as having kids or anything like that.” Also, discussion and
492 confrontation of sexual and racial stigma had a cognitive impact on partici-
493 pants. Participants shared how they became more open, and less judgmental,
494 concerning sexual orientation, sexual behavior, and perceptions of those
495 living with HIV/STIs, which was particularly germane to them as
496 African Americans.

497 Learning about sexual health and exposure to sexual health information
498 helped to transform them. Participants share how their experience as peer
499 sexual health educators exposed them to issues beyond just sexual health,
500 but mental and physical health. This participant speaks to how trauma can
501 influence health behavior, “I’ve learned a lot about abuse, as far as mental
502 abuse, physical abuse, and emotional abuse; and that they’re all on one
503 level, that one is not greater than the other, and that they really do affect
504 people. So, I would say before [being a] SeXpert, I didn’t believe that other
505 forms of abuse could really have an effect on a person” (P05, SeXpert).

506 *Information Influences Self-Reported Behavior.* Participants reported how
507 the information gained profound impacts their own sexual health behavior,
508 “There is no more unprotected sex, and there is no more multiple partners.
509 There is getting tested” (P08, PHIM).

510 *Embracing Diversity/Dealing with Stigma.* In addition to information con-
511 cerning STI incidence, prevalence, and prevention strategies, they also
512 gained important perspectives on difference and stigma, and understanding
513 diversity. They describe how self-confidence was associated with being non-
514 judgmental, “One thing that I felt was that someone who’s a little more
515 comfortable and more confident in their skin are a little more open to
516

517 being nonjudgmental, and not having negative perceptions about other
 518 people” (P05, SeXpert). P05 elaborates on how being nonjudgmental influ-
 519 enced her thinking beyond sexual identity, to various aspects of identity:

520 So really my perception of everything, I feel, have [sic] changed in terms of
 521 relationships and just being more open and not viewing a certain sexual orientation
 522 or a certain sexual act as something that’s negative or something that’s against what’s
 523 being normal. ‘Cause what’s normal? I learned that there’s no cookie cutter shape for
 524 who we are, and who we love, and who we decide to have relations with. I think I
 525 just learned to not really have a perception, if that make [sic] sense, and then kinda
 526 from what I learned through experience, and to not stereotype, I guess. To not have
 527 preconceived notions about certain things.

528 Participants describe general stigma, and how it can lead to an individual
 529 lacking respect for another, “Stigmas need to be washed away. I learned
 530 that the respect for [another] person’s body is not as high as it should be”
 531 (P08, PHIM). This awareness of diversity helped them recognize the nega-
 532 tive effects of stigmas, which enabled them to approach their peer-educator
 533 work in a nonjudgmental way. This appeared to be a key tenet of their
 534 work. One former SeXpert (P04) describes how important it was to not
 535 just approach their peer-education work free from judgment but also how
 536 doing so in his/her own life benefits him/her:

537 We were always taught never to judge someone’s situation, what they have been
 538 through. You come across so many different people, going through so many different
 539 walks of life that could be potentially different from yours. They have different
 540 beliefs from yours. I am a heterosexual and someone comes to me who is a
 541 homosexual, you know we have different beliefs ... [different] preference, so I can’t
 542 be like I am not going to help this person because they are homosexual and I am
 543 not. You have to take those beliefs out of it and recognize that this is just another
 544 human being that is seeking help. We live in such a judgmental society.

545 Participants believe that their experiences enable them to examine their
 546 own sexuality devoid of stigma, especially critical during sexual identity
 547 development as an adolescent and as a young adult. One former SeXpert
 548 (P05) shares, “I’ve always lived a life that was based on being heterosexual.
 549 But I think one thing that being a SeXpert helped me with was just not
 550 being afraid of being open to other possibilities. If there was a time when I
 551 felt that I wanted to experiment or kinda step out of my own persona to
 552 try different things, then that was fine; but just to do it in a manner that
 553 was still protecting myself and still being aware.” Another specific stigma
 554 addressed concerns those individuals living with an STI. One former
 555 SeXpert (P06) describes how their experience with the HOPE project
 556 included participating in educational events with people living with STIs,
 557 who shared their experience with the peer sexual health educators and
 558 program participants:
 559

560 It helped me a lot. It helped me to don't just judge people. Because we did meet
561 people that had sexually transmitted infections and me just growing up not knowing
562 anything, I thought people with sexually transmitted infections were nasty, they did
563 something wrong. I just thought it was just the nastiest thing in the world. But you
564 never know that unless you have that information. When I first learnt [sic] about it I
565 thought that it was gonna have them depressed and have them down but these
566 people were living their lives. They didn't let that [STI] stop them. They taught
567 us ... to not just judge someone off of their infections.

568 Some participants specifically address stigma that they assert is unique to
569 their African American communities. They suggest how low-resourced
570 communities, such as the communities they came from, are vulnerable to
571 stigma, and how support is needed to address persistent stigmas, "I learned
572 that we need a lot of help, a lot of help. And I'm not just saying Flint. I'm
573 saying the Black community. We need a lot of help. [Because] a lot of stuff
574 is stigmatized" (P08, PHIM).

575 *Filled a Void.* As P08 alludes to in the previous quote, the sexual health
576 information participants acquired impacted them because it filled what
577 they perceive to be a void in their education. A former SeXpert (P03) states
578 how prior to their experience as a peer sexual health educator, television,
579 and media were the sources of sexual health information, and the peer edu-
580 cator role helped them broaden their perspective of what 'sex' was, "I
581 learned that sex was so much more than just the act of sex, because every-
582 thing I learned previous to being a SeXpert was based off of television, was
583 based off of media. But I learned of my sexuality as a whole." Being a peer
584 educator enabled them to answer their unanswered questions. They learned
585 what they perceived to be important information, which they did not have
586 access to at home, in school, or in church.

587 Several participants mentioned how schools specifically do not adequately
588 address sexual health education. A former SeXpert, who shared that he/she
589 attended a predominantly White high school, describes the lack of sexual
590 health education in school in terms of *how* their school approached sexual
591 health education; it was abstinence-based which they perceived
592 as judgmental:

593 The high school that I went to was not within the city (Flint). It's actually a
594 predominantly White institution; and sexual education there was more like
595 abstinence-based. And I felt, I was unable to get a lot of my unanswered questions
596 answered, and [I was unable to] just talk about things that I didn't really wanna
597 necessarily talk about with my parents or other peers. So, I felt that it was good to
598 come to a place where everybody was just so open to what was being said, and what
599 was being asked. It seemed to be sexual education in a way that was free, fun, and
600 nonjudgmental. (P05, SeXpert)

601 Another SeXpert referred to sexual health education not being offered in
602 schools, "I don't think schools nowadays, [have] that much [sexual health]

information” (P06, SeXpert). This former SeXpert also described the imperative of peer sexual health education by referring to the lack of sexual health education in school and the lack of sexual education at home:

It’s something (sexual health education) that I feel like the upcoming generations need. Because like so many kids are having sex at such a young age, and I really feel like they aren’t educated and knowing what they are actually doing ... well the kids I worked with, they were not getting that (sexual health education) at home. They were not even getting the homework support they need at home. (P04, SeXpert)

Another former SeXpert (P02) also suggests that the lack of sexual health education is amplified by the convergence of cultural difference and low-resourced communities, “It’s just not really taught to younger individuals, especially in urban neighborhoods. I know a lot of high schools, they don’t really have sex education anymore. And I know my school in particular did not have sex education. I don’t think parents really talk to their kids about things like that. That’s a topic that parents just doesn’t discuss with their kids.” A former PHIM (P08) describes how African American families and the African American community in general are reticent to discuss sexual health issues, because the very topic remains stigmatized. This perspective helps them illustrate the need for sexual health education in African American communities:

(For African Americans) sex isn’t talked about at home, and sex isn’t talked about [at all]. And when we did programs with adolescents from different races they would say, “Oh yeah sex was talked about in our household, we had the talk with our parents.” African American kids didn’t have that so, they felt more comfortable speaking with us. I feel like sex is kind of crossed out in our community, I just feel like they don’t talk about it. I just feel like – as far as mental health and sex and all that stuff – it’s completely (nonexistent), “We don’t talk about this in this household.” (We may) pray about it, you know, the rituals we’ll do, we’ll do something else besides actually sit down and discuss it. That’s how I feel about the African American community.

Advancing Education and Career Goals. Participants detail how the experience had a dramatic influence on their educational and career goals. Participants share specific career goals and programs of study which the role helped spark, or for some it helped to nurture nascent goals, “At the time, when I was 15 ... I always wanted to help people. And now I major in social work” (P04, SeXpert). Two participants describe how the specific information helped them prepare for clinical training, “Actually I am going to school to be a CNA (Certified Nurse Assistant) right now. I already wanted to be one [prior to being a PHIM] and it just helped me out more ... I’m learning all the diseases and stuff that I already know [about], so it definitely helped me out” (P09, PHIM). A former SeXpert (P06) is a CNA, and his/her experience as a peer sexual health educator helps him/her relate to his/her patients, “It helped me, because right now, I am a

646 certified nurse assistant and I am a dialysis technician. Yes, I am. [Being a
647 SeXpert] helped me to use the knowledge that I got then, even now in the
648 field that I'm in now [nephrology], to help me to influence people. Not
649 just about sexually transmitted infections, because dialysis [is for] kidney
650 failure. But it helped me influence people and give people knowledge about
651 their health as well.”

652 In addition to specific career goals, participants also describe how the
653 experience was a factor in their general pursuit of education. One former
654 PHIM (P08) describes how the experience helped them discover how much
655 they enjoyed working with adolescents, “It (being a PHIM) made me
656 wanna continue, go further [with my education], I wanted to do something
657 to have some kind of influence on adolescents ... to make sure that adoles-
658 cents understand the risk they take, the health factors and the issues that
659 can come from being promiscuous and not being sexually protected. It's
660 opened my eyes to a lot of what was going on in the city and in the world
661 basically.” A former SeXpert (P03) shares how it sparked their passion for
662 working with others:

663 I [found out that I] loved sex education, it was just my niche. I loved talking about
664 it, and I loved talking in front of people. That's how I learned that I love talking in
665 front of people, because all of the various things we did, I found that it was
666 something that I really wanted to continue to do, and educate people as well. It's
667 really turned my life upside down and turned it into something that I think it
668 definitely would not have been had I not been a SeXpert. It has definitely influenced
669 me in so many ways.

671 **Relational Impact**

672 *Just knowing that I had peers around my age to talk to. I looked at them as*
673 *family ... it wasn't like my friends or my other peers. (P06)*

674 The third theme is relational impact. The experience enabled them to forge
675 and nurture important and distinctive relationships with others. They were
676 able to communicate with prospective or current sex partners, and family
677 and friends, which participants recount could be especially challenging as
678 an adolescent. This challenge is exacerbated by a lack of information, or
679 lack of a shared experience, and as peers they perceive that they could
680 relate to each other in ways that were unique, and important.

681 *Talking to prospective/current partners.* The former peer sexual health
682 educators share how the experience enabled them to speak more openly
683 with their current or prospective sexual partners. Clearly, they perceive that
684 their work with facilitating and participating in “uncomfortable” conversa-
685 tions in their peer roles, enabled them to have these conversations in their
686 personal lives, “It made me feel comfortable having a conversation with a
687
688

689 sexual partner, how to actually have the talk with a partner” (P01,
690 SeXpert). Another participant expressed specifically how the role helped
691 them to have specific conversations with their prospective partners,
692

693 Everything I learned, I definitely practice what I preach. And the sexual partners I
694 encountered after [being a] SeXpert, and even during, I would constantly ask
695 questions, “Have you been tested? What is your status? Let’s talk about this. I would
696 appreciate if we both were just more aware of our status, and just being smarter
697 about the sexual decisions that we make.” [I’m not] afraid to confront my partner,
698 let them know, this is something I’m comfortable doing, this is something I’m not
699 comfortable doing. I learned ... to just be open, and to always ask questions, just
700 always be an open book. And I think being young, in the younger generation, it’s
701 hard for us to do that. (P05, SeXpert)

702 Another participant discussed the challenges of having these conversations
703 with prospective sex partners, “It helped me towards my personal life
704 cause ... [I learned that] a lot of males don’t like to go and get tested.
705 Males, do not go to the doctor at all, like at all. So it showed me in my
706 personal life ... the guys that I talk to, [for] one of our dates, we would
707 just go get checked out together, do you know what I’m saying? To walk in
708 and get checked out together cause guys don’t do it, you know what I’m
709 saying? If you [sic] confident enough to go get tested with me, then [I] can
710 take our relationship further. But if a guy don’t wanna go to get tested,
711 that should tell you something” (P09, PHIM). One participant shares how
712 he/she is very direct with these conversations with his/her prospective part-
713 ners, in ways that he/she probably would not be able to if he/she had not
714 had this experience, “[If I was never a PHIM] I probably wouldn’t [be as]
715 straightforward like I am now. Like I’m being blunt with it, ain’t no sugar-
716 coating or beating around the bush with it. No, I wouldn’t be saying like,
717 “What you be doing?” like that. I want to know, “How many partners, and
718 who you screwing?” and all that. I’ll ask. I want to know, “Do you use pro-
719 tection? Do you have multiple partners? When the last time you been
720 tested?” Hmm ... I ask a lot” (P07, PHIM). A former SeXpert (P01) shares
721 that the ability to even have a conversation is a way to further protect
722 themselves, “It made me literally ask those questions [prospective partner’s
723 STI/HIV status]. And if that answer wasn’t what I was looking for, [I]
724 would just walk away, it wasn’t worth it.”

725 *Forged and Nurtured Relationships.* The peer sexual health educators
726 were tasked with discussing topics that were familiar, but generally were
727 not discussed with individuals beyond one’s very close social network, if
728 they were discussed at all. This unfamiliarity actually appeared to breed
729 cohesion and a sense of intimacy among the program participants. The
730 peer educators were tasked with recruiting their peers to events where these
731 topics were discussed, which participants state could be uncomfortable at
times, but that initial discomfort would quickly subside, “Yea sometimes it

732 do be [sic] uncomfortable [sexual health topics]. But, I mean you take your
733 friends with you (HOPE project events) and you blend right in with them.
734 One person gets talking and you comfortable replying to the conversation.
735 Like it's not uncomfortable at all ... especially when it's considering your
736 health" (P07, PHIM). The peer educators were able to have these
737 "uncomfortable conversations," and one former SeXpert (P05) describes
738 how they were able to do this:

739 We (SeXperts) normalized the conversation of sexual health. I feel that that's the
740 biggest takeaway ... having it be just a part of everyday life, not something that you
741 have to avoid. We basically just opened up the whole world of sexual health, and
742 made it a little more easier [sic] for people to live with ... it's not something that's
743 normally talked about and I think we just kind of gave it a voice and kind of gave it
744 a platform.

745 In an earnest way the peer sexual health educators, through their conversa-
746 tions and work at HOPE project events, forged bonds with participants.
747 The relationships that developed were unique, and valuable, "Just knowing
748 that I had peers around my age to talk to. I looked at them as family. We
749 talked to each other, we laughed, we had a good time, and we shared infor-
750 mation with one another. It wasn't like [talking to] my friends or my boss
751 or other peers" (P06, SeXpert). These warm relationships extended beyond
752 peers and other participants, but to staff as well, "I liked how everyone that
753 worked together grew as like a family, I would say. While we were working
754 together, we really bonded with each other. And even people in the office
755 at YOUR Center took the time out to really bond with us, even though we
756 were, you know, just kids. [chuckle] They really took the time out to bond
757 with us, and get to know us, and so I enjoyed just having those con-
758 nections" (P02, SeXpert).

759 One former PHIM stated the importance of shared experience. Being
760 African American, and being from the same community, was critically
761 important to relating to African American adolescents and young adults
762 concerning sexual health, "How can you tell African American adolescents
763 about high sex rate, high STI rate in an urban community if you don't live
764 in the urban community? Or you've never experienced stuff. You can't
765 relate to them in all honesty" (P08, PHIM). For the participants who share
766 their direct experience with trauma, they relate how participation actually
767 helped them relate to other participants.

768 It kinda helped some people because I talk about it [trauma]. It happened repeatedly
769 and repeatedly to the point where I was scared to tell anyone. So as a kid you scared
770 because you don't wanna tell people [sic]. [pause] It's a million kids out there just
771 like that right now. They parents don't even know [sic]. And that's the fucked-up
772 thing about it because these kids are so scared to be able to tell their parents [pause].
773 So, I had to tell people. Yeah, I would tell people because I want people to get to
774 know me, "I come from where y'all come from. I come from the bottom just like

y'all come from the bottom. I done went through some things just like y'all done went through some things. I done experienced some things just like y'all done experienced some things." (P11, PHIM)

Discussion

This paper helps to expand the literature describing the impact of sexual health education programs. We describe how peer sexual health educators are impacted across three specific areas: perceptual, cognitive, and relational. We describe the lasting impact, some years removed from the peer educator role. Clearly these impact outcomes persist as the adolescents and young adults acutely describe how their participation continues to impact their lives. These findings should be considered with how outcomes are defined and evaluated for similar peer sexual health programs.

We explicate both the nature and extent of impact. Interestingly, female participants express confidence and authorship over their bodies in the context of negotiating STI/HIV status and protective practices with current and prospective partners. They "own" their sexuality. Female participants expressed how they are empowered to have very direct conversations with male prospective sex partners about various topics, such as STI/HIV status and what they are comfortable with. They also expressed a keen awareness of how these conversations can be difficult. We take particular note of this. This impact is considerable given the literature on how adolescent females and young adults can face challenges in negotiating these issues with male current/prospective partners. For example, for women across age groups, conversations concerning sex in general can be avoided because these conversations are masculinized, and carry gendered roles (Montemurro, Bartasavich, & Wintermute, 2015; Wang, 2013). The impacts presented through other peer education programs describe how female adolescents are taught to love themselves and their body ultimately reducing their thoughts about negative body image can help to empower them to make better decisions about their sexual health (Crosby et al., 2000).

In addition to offering an in-depth understanding of the long-term impact of being a peer sexual health educator, this study also adds to our existing body of knowledge in the following areas. First, they are important in the context of the considerable literature describing sexual perceptions and behaviors based on communication within familial relationships (Averett & Estelle, 2013; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014). Parents play a role in various areas of adolescent development, including sexual behavior. In many cases, parents take on significant roles in fostering sexual literacy and sexual health information (Shtarkshall, Santelli, & Hirsch, 2007). Level and type of parental supervision and

818 monitoring influences adolescent sexual expression (Romer et al., 1994).
819 Parents can impart information about sexual literacy and sexual health
820 according to particular social, cultural, and religious views, and parental
821 influences are particularly noteworthy in mother-daughter relationships
822 (Hutchinson, 2002). Second, findings contribute to the burgeoning litera-
823 ture concerning sexual health communication within African American
824 families (Crosby et al., 2002; Miller, Kotchick, Dorsey, Forehand, & Ham,
825 1998; Usher-Seriki, Smith Bynum, & Callands, 2008). In addition, these
826 findings are pertinent to researchers and practitioners focused on gender-
827 based intimate partner relationships, especially among African Americans.

828 Findings offer practice implications for sexual health education programs.
829 Despite their overwhelming praise for its impact, participants suggest oppor-
830 tunities to improve sexual health programs. Improvement opportunities cen-
831 ter on expansion by reaching more people. These former peer members were
832 keenly aware of the persistent information need that they sought to fill. They
833 wish that the program could impact even more people, especially given the
834 importance of the topics and the dearth of sexual health information available
835 to adolescents and young adults. Although the sample is entirely African
836 American, and the HOPE project focused on African American communities,
837 former peer sexual health educators express the desire for diversity, across
838 many dimensions. While participants expressed strongly held opinions that
839 being from similar backgrounds enabled them to relate to their peers in
840 meaningful ways, but they suggest that more racial, socio-economic and
841 gender inclusion would make the program even more impactful.

842 Last, we offer a framework for health educators and practitioners to use
843 in developing and evaluating outcomes for sexual health programs.
844 The “three impact themes” analytical framework is informed by extensive
845 literature on measuring impact, the majority of which are informed
846 by health behavior theoretical frameworks. The “three impact themes”
847 framework offers a platform to help facilitate ideas for articulating
848 outcomes for community-academic collaborations focused on sexual health,
849 which can be used to enhance how programs are structured and evaluated,
850 critical to support efforts to secure funding.

851 **Limitations**

852 Since the sample of both former sexual health educator roles was recruited
853 via individuals who helped administer and direct the HOPE project, the
854 sample may be skewed toward positive experiences. Any former peer men-
855 tors who may not have been impacted at all, or were impacted negatively,
856 may not have been contacted or may not have agreed to participate.
857 Further, it follows that the former peer educators remain in contact with
858 key individuals that they have an affinity for, and accordingly an affinity
859
860

861 for the peer educator experience itself. Nevertheless, since this is an assess-
862 ment of impact on the peers, we situate our results in the context of how
863 participation as a peer educator *could impact* adolescent and young adult
864 peers. Just as participation did not result in uniform impact in our sample,
865 it is reasonable to conclude that all HOPE project peer sexual health educa-
866 tors will not share the same experience, and our sample may be skewed
867 toward those who perceive positive impact.
868

869 **Conclusion**

870
871 The effect of being a sexual health peer educator is rarely examined. This
872 novel study offers a unique viewpoint from African American peer sexual
873 health educators years removed from their role. Being a peer sexual health
874 educator had perceptual, cognitive, and relational impacts that were
875 important several years after the role had ended. The effects of sexual
876 health programs on peer educators should be considered when routine
877 program evaluations are planned.
878

879 **Paper Contributors**

880
881 All authors contributed to this paper in various forms. CS and TC initiated
882 the project. CS designed the study, collected data, worked on data analysis
883 and interpretation, and drafted and revised the paper. DY worked on data
884 analysis and interpretation, and secondarily drafted and, with CS, led the
885 paper revisions. YW worked on creating code book, data analysis, and inter-
886 pretation, and provided help in writing a section of the paper. SJ and EP,
887 worked on analyses and interpretation of data, and collection of literature.
888

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Q19 References

- Aladağ, M., & Tezer, E. (2009). Effects of a peer helping training program on helping skills and self-growth of peer helpers. *International Journal for the Advancement of Counselling*, 31, 255–269. doi:10.1007/s10447-009-9082-4
- Averett, S. L., & Estelle, S. M. (2013). Will daughters walk mom's talk? The effects of maternal communication about sex on the sexual behavior of female adolescents. *Review of Economics of the Household*, 12, 613–639. doi:10.1007/s11150-013-9192-y
- Badura, A. S., Millard, M., Peluso, E. A., & Ortman, N. (2000). Effects of peer education training on peer educators: Leadership, self-esteem, health knowledge, and health behaviors. *Journal of College Student Development*, 41, 471.
- Beshers, S. C. (2008). Where are the guys in peer education? A survey of peer education programs related to adolescent sexual health in New York state. *American Journal of Sexuality Education*, 3, 277–294. doi:10.1080/15546120802148010
- Bogart, L. M., & Thorburn, S. (2005). Are HIV/AIDS conspiracy beliefs a barrier to HIV prevention among African Americans? *Journal of Acquired Immune Deficiency Syndromes*, 38, 213–218.
- Q3 Centers for Disease Control and Prevention. (2016). *Diagnoses of HIV infection and AIDS in the United States*. Retrieved from <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2016-vol-28.pdf>
- Q4 Chen, M. A. (1997). *A guide for assessing the impact of microenterprise services at the individual level: AIMS Project Report, USAID/G/EG/MD*. Washington, DC: Management Systems International.
- Cohen, B., Jessor, R., Reed, H., Lloyd, C. B., Behrman, J., & Lam, D. (2005). Conceptual framework for assessing the impacts of microenterprise services. In Cynthia B. Lloyd (Ed.), (pp. 32–63). Washington, DC: National Academies Press.
- Q5 Corbin, J., & Strauss, A. (2007). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). SAGE Publications.
- Q6 Cramer, E. P., Ross, A. I., McLeod, D. A., & Jones, R. (2015). The impact on peer facilitators of facilitating a school-based healthy relationship program for teens. *School Social Work Journal*, 40, 23–41.
- Crosby, R. A., DiClemente, R. J., Wingood, G. M., Cobb, B. K., Harrington, K., Davies, S. L., ... Oh, M. K. (2002). Condom use and correlates of African American adolescent females' infrequent communication with sex partners about preventing sexually transmitted diseases and pregnancy. *Health Education & Behavior*, 29, 219–231. doi:10.1177/109019810202900207
- Crosby, R. A., DiClemente, R. J., Wingood, G. M., Sionéan, C., Cobb, B. K., & Harrington, K. (2000). Correlates of unprotected vaginal sex among African American female adolescents: Importance of relationship dynamics. *Archives of Pediatrics & Adolescent Medicine*, 154, 893–899. doi:10.1001/archpedi.154.9.893

- 947 DiClemente, R. J., Salazar, L. F., Crosby, R. A., & Rosenthal, S. L. (2005). Prevention and control
948 of sexually transmitted infections among adolescents: The importance of a socio-ecological
949 perspective—a commentary. *Public Health*, *119*, 825–836. doi:10.1016/j.puhe.2004.10.015
- 950 DiClemente, R. J., & Wingood, G. M. (1995). A randomized controlled trial of an HIV sexual
951 risk—reduction intervention for young African-American women. *JAMA*, *274*,
Q7 1271–1276. doi:10.1001/jama.1995.03530160023028
- 952 DiClemente, R. J., Wingood, G. M., Rose, E. S., Sales, J. M., Lang, D. L., Caliendo, A. M.,
953 ... Crosby, R. A. (2009). Efficacy of sexually transmitted disease/human immunodeficiency
954 virus sexual risk—reduction intervention for African American adolescent females
955 seeking sexual health services: A randomized controlled trial. *Archives of Pediatrics &
Q8 Adolescent Medicine*, *163*, 1112–1121. doi:10.1001/archpediatrics.2009.205
- 956 Divecha, Z., Divney, A., Ickovics, J., & Kershaw, T. (2012). Tweeting about testing: Do low-
957 income, parenting adolescents and young adults use new media technologies to commu-
958 nicate about sexual health? *Perspectives on Sexual and Reproductive Health*, *44*, 176–183.
959 doi:10.1363/4417612
- 960 Edelstein, M. E., & Gonyer, P. (1993). Planning for the future of peer education. *Journal of
961 American College Health*, *41*, 255–257. doi:10.1080/07448481.1993.9936337
- 962 Fernald, D. H., & Duclos, C. W. (2005). Enhance your team-based qualitative research. *The
963 Annals of Family Medicine*, *3*, 360–364. doi:10.1370/afm.290
- 964 Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*.
Q9 Sociology Press.
- 965 Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experi-
966 ment with data saturation and variability. *Field Methods*, *18*, 59–82. doi:10.1177/
967 1525822x05279903
- 968 Guest, G., & MacQueen, K. M. (2008). *Handbook for team-based qualitative research*.
Q10 Rowman Altamira.
- 969 Hallfors, D. D., Iritani, B. J., Miller, W. C., & Bauer, D. J. (2007). Sexual and drug behavior
970 patterns and HIV and STD racial disparities: The need for new directions. *American
Q11 Journal of Public Health*, *97*, 125–132. doi:10.2105/ajph.2005.075747
- 971 Heys, K. H., & Wawrzynski, M. R. (2013). Male peer educators: Effects of participation as
972 peer educators on college men. *Journal of Student Affairs Research and Practice*, *50*,
973 189–207. doi:10.1515/jsarp-2013-0014
- 974 Hutchinson, M. K. (2002). The influence of sexual risk communication between parents
975 and daughters on sexual risk behaviors. *Family Relations*, *51*, 238–247. doi:10.1111/
976 j.1741-3729.2002.00238.x
- 977 Jennings, J. M., Howard, S., & Perotte, C. L. (2014). Effects of a school-based sexuality edu-
978 cation program on peer educators: The Teen PEP model. *Health Education Research*, *29*,
979 319–329. doi:10.1093/her/cyt153
- 980 Kimmel, A., Williams, T. T., Veinot, T. C., Campbell, B., Campbell, T. R., Valacak, M., &
981 Kruger, D. J. (2013). ‘I make sure I am safe and I make sure I have myself in every way
982 possible’: African-American youth perspectives on sexuality education. *Sex Education*, *13*,
983 172–185. doi:10.1080/14681811.2012.709840
- 984 Logan, T. K., Cole, J., & Leukefeld, C. (2002). Women, sex, and HIV: Social and contextual
985 factors, meta-analysis of published interventions, and implications for practice and
986 research. *Psychological Bulletin*, *128*, 851–885. doi:10.1037/0033-2909.128.6.851
- 987 Mahat, G., Scoloveno, M. A., De Leon, T., & Frenkel, J. (2008). Preliminary evidence of an
988 adolescent HIV/AIDS peer education program. *Journal of Pediatric Nursing*, *23*, 358–363.
989 doi:10.1016/j.pedn.2007.12.007

- 990 Maria, D. S., Guilamo-Ramos, V., Jemmott, L. S., Derouin, A., & Villarruel, A. (2017).
 991 Nurses on the front lines: Improving adolescent sexual and reproductive health across
 992 health care settings: An evidence-based guide to delivering counseling and services to
 993 adolescents and parents. *The American Journal of Nursing*, *117*, 42–51. doi:10.1097/
 994 01.NAJ.0000511566.12446.45
- 995 Michigan Department of Community Health. (2014). 2014 *Epidemiologic Profile of HIV/AIDS in*
 996 *Michigan*. HIV/STD/VH/TB Epidemiology Section. Lansing, MI. Retrieved from http://www.michigan.gov/documents/mdch/2014_Epidemiologic_Profile_of_HIV_11192014_474705_7.pdf
- 997 Miller, K. S., Kotchick, B. A., Dorsey, S., Forehand, R., & Ham, A. Y. (1998). Family com-
 998 munication about sex: What are parents saying and are their adolescents listening?
 999 *Family Planning Perspectives*, *30*, 218–235. doi:10.2307/2991607
- 1000 Montemurro, B., Bartasavich, J., & Wintermute, L. (2015). Let's (Not) talk about sex: The gen-
 1001 der of sexual discourse. *Sexuality & Culture*, *19*, 139–156. doi:10.1007/s12119-014-9250-5
- 1002 Ogedegbe, G., Mancuso, C. A., Allegrante, J. P., & Charlson, M. E. (2003). Development
 1003 and evaluation of a medication adherence self-efficacy scale in hypertensive African-
 1004 American patients. *Journal of Clinical Epidemiology*, *56*, 520–529. doi:10.1016/s0895-
 1005 4356(03)00053-2
- 1006 Prevention Research Center - Michigan. (2017a). HOPE. *University of Michigan Prevention*
 1007 *Research Center*. Retrieved from <http://prc.sph.umich.edu/projects/hope/>
- 1008 Prevention Research Center - Michigan. (2017b). *Peer health information mentors.*
 1009 *University of Michigan Prevention Research Center*. Retrieved from <http://prc.sph.umich.edu/projects/peer-health-information-mentors/>
- 1010 Romer, D., Black, M., Ricardo, I., Feigelman, S., Kaljee, L., Galbraith, J., ... Stanton, B.
 1011 (1994). Social influences on the sexual behavior of youth at risk for HIV exposure.
 1012 *American Journal of Public Health*, *84*, 977–985.
- 1013 Sawyer, R. G., Pinciaro, P., & Bedwell, D. (1997). How peer education changed peer sexual-
 1014 ity educators' self-esteem, personal development, and sexual behavior. *Journal of*
 1015 *American College Health*, *45*, 211–217.
- 1016 Shtarkshall, R. A., Santelli, J. S., & Hirsch, J. S. (2007). Sex education and sexual socializa-
 1017 Q13 39. doi:10.1363/3911607
- 1018 Sriranganathan, G., Jaworsky, D., Larkin, J., Flicker, S., Campbell, L., Flynn, S., ... Erlich,
 1019 L. (2012). Peer sexual health education: Interventions for effective programme evaluation.
 1020 *Health Education Journal*, *71*, 62–71. doi:10.1177/0017896910386266
- 1021 Unertl, K. M., Schaeffbauer, C. L., Campbell, T. R., Senteio, C. R., Siek, K. A., Bakken, S., &
 1022 Veinot, T. C. (2016). Integrating community-based participatory research and informatics
 1023 approaches to improve the engagement and health of underserved populations. *Journal of*
 1024 *the American Medical Informatics Association*, *23*, 60–73. doi:10.1093/jamia/ocv094
- 1025 Usher-Seriki, K. K., Smith Bynum, M., & Callands, T. A. (2008). Mother–daughter commu-
 1026 nication about sex and sexual intercourse among middle- to upper-class African
 1027 American girls. *Journal of Family Issues*, *29*, 901–917. doi:10.1177/0192513x07311951
- 1028 Veinot, T. C., Campbell, T. R., Kruger, D., Grodzinski, A., & Franzen, S. (2011). Drama
 1029 and danger: The opportunities and challenges of promoting youth sexual health through
 1030 online social networks. *AMIA Annual Symposium Proceedings*, *2011*, 1436–1445.
- 1031 Veinot, T. C., Campbell, T. R., Kruger, D. J., & Grodzinski, A. (2013). A question of trust:
 1032 User-centered design requirements for an informatics intervention to promote the sexual
 health of African-American youth. *Journal of the American Medical Informatics Association: JAMIA*, *20*, 758–765. doi:10.1136/amiajnl-2012-001361

- 1033 Wang, X. (2013). Negotiating safer sex: A detailed analysis of attitude functions, anticipated
 1034 emotions, relationship status and gender. *Psychology & Health, 28*, 800–817. doi:10.1080/
 1035 08870446.2012.761340
- 1036 Watkins, D. C. (2012). Qualitative research: The importance of conducting research that
 1037 doesn't "count". *Health Promotion Practice, 13*, 153–158. doi:10.1177/1524839912437370
- 1038 Watkins, D. C. (2017). Rapid and rigorous qualitative data analysis. *International Journal of*
 1039 *Qualitative Methods, 16*, 1–9. doi:10.1177/1609406917712131
- 1040 Q14 Watkins, D. C., & Gioia, D. (2015). *Mixed methods research: Pocket guides to social work*
 1041 *research methods*. Oxford University Press.
- 1042 Widman, L., Choukas-Bradley, S., Helms, S. W., Golin, C. E., & Prinstein, M. J. (2014). Sexual
 1043 communication between early adolescents and their dating partners, parents, and best
 1044 friends. *The Journal of Sex Research, 51*, 731–741. doi:10.1080/00224499.2013.843148

1045 Appendix A

1046 Semistructured Interview Guide—Former SeXperts/PHIMs

1047 Impact of participating as a peer educator in an HIV/STI program

1048 We are specifically interested in understanding the impact that serving as a peer educator has
 1049 had 3–5 years after participation in an HIV/STI health education program (“HOPE Project”).

- 1050 1. Demographics: Age? Racial Identity? Gender Identity? Sexual Orientation? Location
 1051 and Timeframe for participating as a peer educator (age at time of participation)?
- 1052 2. Role and Motivation: What was your specific role: SeXpert or PHIM (Peer Health
 1053 Information Mentor)? Why did you decide to be a peer health mentor? What did you
 1054 learn in becoming a peer health mentor? What did you do as peer health mentor (who
 1055 did you help educate, what did you educate them on)? What did you learn in your
 1056 role as a peer health mentor? What was your compensation? What did you like about
 1057 it? What would you change?
- 1058 3. Impact--General: How did being a peer health mentor impact you? What would be
 1059 different about you if you never were a peer health mentor?
- 1060 4. Impact--3 Areas: How did being a peer health mentor impact you in these 3 areas:
 1061 a. Education: How did participation influence your educational goals? Educational
 1062 choices (i.e., post-high school training, other training/certification)?
 1063 b. Career: How did participation influence your career goals? Career choices?
 1064 c. Personal: How did participation influence your personal life? Your personal habits/
 1065 sexual behaviors? Your skills (interpersonal, awareness of diversity, empathy)?
 1066 Your perceptions (healthy relationships, self-esteem)? Your decisions of how to
 1067 contribute to others (financial contributions, volunteering, serving on boards, etc.)?
- 1068 5. Impact--Benefits: If you were attempting to convince a potential peer educator to par-
 1069 ticipate in a similar peer education sexual health program, what would you tell them?
- 1070 6. Impact--Health Information Seeking (HISB): Recall a recent time when you looked for
 1071 information about sexual health (or health in general), where did you look 1st, and why?
 1072 a. Categories: Internet (General search [via Google], or a specific site); Family and
 1073 Friend/Coworker, Healthcare professional, Traditional media (books, brochures,
 1074 magazine, library)
 1075 b. Sharing: Have you shared what you found with anyone else? If so, who? If not,
 why and who would you share this information with?
7. Is there anything else you'd like to tell me about how your experience as a peer health
 mentor has impacted you?

Appendix B

Q16 Impact of Being a Peer Sexual Health Educator Data Codebook

Code No.	Codes	Description/Examples
1	Things learned in becoming a SeXpert	What did a participant learn in becoming a SeXpert?
1.1	Learn to feel comfortable having a conversation with a sexual partner	<i>It helps to have a conversation ... To make you feel comfortable having a conversation with a sexual partner.</i> [Psex01, 06:57]
1.2	Learn to feel comfortable having a sexual conversation in general	<i>Psex05: [21:16]Well, 'I've learned that the topic of sex is definitely not something that we are gonna be able to sweep under the rug forever ... having it become more regulated and more of a normalized conversation.</i> <i>Psex05: [22:08] in 'society's norms, 'it's not something 'that's normally talked about. 'It's not a conversation to be had at the table. And I think we just kind of gave it a voice and kind of gave it a platform, to kinda sum it up.</i>
1.3	Learn new knowledge (e.g., sexual health, community statistics)	Learning new knowledge about sexual health such as how to practice safe sex, etc. <i>Psex04: [7:23] Just about the STI, STD, and it made me more aware of my surroundings with them giving you the statistics on the community and how many people are affected and things of that nature.</i>
1.4	Learn to be aware and to protect oneself	Learning to be aware and cautious about one's actions. For example, <i>I would say that knowledge is power and I 'don't think you learning about something encourages you to engage in that activity. It just makes you more conscious and aware of what could happen if you were to do those activities.</i> [Psex02, 12:23]
1.5	Learn to decompartmentalize when talking to people	<i>And my only job is to help you and I cannot help you if 'I'm judging you. So for me, personally, professionally, it helped me in every form or fashion. Personally, professionally and anything in between, every single time I'm having a conversation with somebody, 'I've learned to de-compartmentalize because my job is to assist you and I cannot assist you if 'I'm thinking from a one biased viewpoint, standpoint of everything. I cannot do that. So 'it's definitely assisted me in every form or fashion.</i> [Psex03, 43:35]
1.6	Learn to be truthful	<i>It is best to be truthful with each other. This stuff 'that's come out anyway. So You have a good if you want to have a friend or a good partner.</i> [Psex10, 36:11]
2	General impact of being a SeXpert	How did being a SeXpert impact a participant? What would be different if they never were SeXperts? For example, <i>if I never been a "sexpert" I wouldn't have made the relationships I made with other people, and I 'wouldn't be knowledgeable ...</i> [Psex02, 29:48]
3	Impact in education/knowledge	
3.1	Impact in educational goals	How did participation influence a participant's educational goals? For example, <i>Actually I am a CNA so I kinda ... 'I'm going to school for it right now. So 'it's like, 'I'm learning all the diseases and stuff that I already knew from the book, so it definitely helped me out in the long run.</i> [Psex09, 16:34]
3.2	Impact in educational choices	How did participation influence a participant's educational choices?
4	Impact in career	
4.1	Impact in career goals	How did participation influence a participant's career goals?
4.2	Impact in career choices	How did participation influence a participant's career choices? For example, <i>So 'that's one thing that I definitely enjoyed about Sexperts that continued into my career choice because directing, being able to take on a different persona, but still get a word of ... A message out there to go reach people in a form of a play or a skit 'that's still giving information is something that I'd definitely continue ...</i> [Psex05, 34:17]

(continued)

Continued.

Code No.	Codes	Description/Examples
5	Impact in personal life	
5.1	Impact in habits/sexual behaviors	How did participation influence a participant's habits/sexual behaviors? For example, <i>It was basically about not endangering yourself because of the diseases and stuff that's going on.</i> [Psex07, 11:37]
5.1.1	Motivation to learn more (not just sexual health information)	<i>It made you wanna learn more. Not even just about sexual stuff, it made you wanna learn more about everything. It made you wanna dig deeper because a lot of this stuff ...</i> [Psex01, 18:55]
5.2	Impact in skills	How did participation influence a participant's skills (interpersonal, awareness of diversity, empathy, etc.)? For example, <i>'I've known how to express, "Well, we need to get tested," or, "We need to have protection" ...</i> [Psex03, 37:52]
5.3	Impact in perceptions	How did participation influence a participant's perceptions of healthy relationships, self-esteem, etc.? For example, <i>As far as self-esteem, I definitely found that in knowing more, I gained more self-esteem and more awareness and security in myself.</i> [Psex05, 41:24]
5.4	Impact in decisions of contributing to others	How did participation influence a participant's decisions of how to contribute to others (financial contributions, volunteering, serving on boards, etc.)? Learn the necessity to inform and educate other people. For example, <i>I would always make sure I was signed up for different volunteer opportunities, because 'it's something that I learned from Sexperts and wanted to bring over with me into adulthood ...</i> [Psex05, 31:18]
5.5	Helpful in the process of coming out	<i>Well, being a sexpert helped me in the process of coming out because, prior to being a sexpert, I was very lackful of most education in anything concerning sexuality.</i> [Psex03, 6:55]
5.6	Making new connections and friends	<i>They really took the time out to bond with us, and get to know us, and so I enjoyed just having those connections. And I saw Tamara ... 'Let's see ... I saw her, like, a few months ago and it was still like, "Oh, I 'haven't saw you in so long." 'It's still like that bond was still there.</i> [Psex02, 21:24]
6	Benefits	How did a participant benefit from participation? How would a participant convince another person to be a peer educator? For example, <i>'it's a matter of teaching and 'it's a matter of gaining knowledge, but it's also a matter of saving the lives of others.</i> [Psex05, 45:48]
7	Value of knowledge [Empowerment through knowledge]	Major importance of what was learned was repeated as value of the information in real life for everyone <i>Psex03: [4:43] I was just enthralled by the conversation, I was getting so much education about it ... I felt like it was such a need for youth to be able to talk to people and bridge that gap between the sexual communication for people to understand better about their health. I understood that.</i>
8	Washing away stigmas	A lot of stuff is stigmatized, and those stigmas need to be washed away. I learned that the respect for a person's body is not as high as it should be. [Psex08, 20:49]
9	Realizing the knowledge that should be taught in schools [Decreasing void of sexual information]	I don't think schools nowadays, period, accept that much information. [Psex06, 14:48]