

EMPOWERING MINDS AND BODIES:
THE EFFECTIVENESS OF A PEER-LED SEXUAL HEALTH EDUCATION
PROGRAM FOR YOUTH

By

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Abstract

This study analyzes the effectiveness of El Rio Health Reproductive Health Access Project's (RHAP's) peer-led sexual health education workshops for youth called Pizza Protection Parties. Youth ages 14-24 in Tucson, Arizona attended a Pizza Protection Party at a Youth Reengagement Center with Goodwill Industries of Southern Arizona and then participated in a focus group to share their perspectives about the workshop. This study gained youth insight from pre-test and post-test knowledge surveys, an online survey after the workshop, observation notes, and focus group responses. Youth participants viewed the Pizza Protection Party and peer-led education as a useful experience to learn about sexual health topics and resources available in their community. Participants obtained new sexual health knowledge as reflected by focus group responses and the knowledge surveys. Youth also provided suggestions for how to improve the Pizza Protection Party with more in-depth sexual health information as well as changes to make the workshop more inclusive and engaging. RHAP can utilize these perspectives to improve the effectiveness and quality of Pizza Protection Parties as peer-led sexual health education for youth.

Introduction

Traditional, abstinence-only sexual health education fails to meet the current needs of young people. In the traditional model, sexual health education is presented after young people start being sexually active (Vliet & Raby, 2016). There are also limited state requirements to include sexuality content in schools that encompass medically accurate sexual and reproductive health (SRH) information including HIV and contraceptives (Hall et al., 2016). Delayed and incomplete education denies youth necessary knowledge to make informed decisions if they choose to engage in sexual activities.

Due to the gaps left by the abstinence-only model, peer education has been promoted as an alternative sexual health education model to encourage safe sex behaviors and positive health outcomes in youth. Peer education is defined as “a form of teaching and/or sharing information, values, and behaviors by members of similar age and/or status groups” (Peterson et al., 2020). According to the social learning theory, young people are viewed as role models that can promote intended behavioral changes for their peers (Abdi & Simbar, 2013). Youth view peer educators resembling their age and social characteristics as more credible and relatable. Peer educators also increase comfort surrounding stigmatized topics such as SRH (Benton et al., 2020; Layzer et al., 2017; Son et al., 2018). The peer education model may provide a more comprehensive education for youth highlighting topics of abstinence, sexually transmitted infections (STIs), contraception, consent, healthy relationships, gender identity, and sexuality.

There is limited evidence for longitudinal behavioral changes and health benefits with respect to peer-led sexual health education for youth (Benton et al., 2020; Layzer et al., 2014; Layzer et al., 2017). However, several peer-led programs have found short-term benefits for participants using qualitative data collected from focus groups, surveys, and interviews (Benton

et al., 2020; Layzer et al., 2014; Layzer et al., 2017; Son et al., 2018). Across several peer-led sexual health education programs, youth participants reported increased knowledge about novel sexual health topics that they see as applicable to their lives (Layzer et al., 2014; Layzer et al., 2017; Son et al., 2018). Youth also communicated positive attitudes towards peer-led sexual health education and safe sex behaviors (Layzer et al., 2014; Layzer et al., 2017; Son et al., 2018). Youth participants were engaged more actively and asked more detailed questions during peer-led sexual health education workshops (Benton et al., 2020). In these programs, youth also claim that it was less awkward to learn information about sex from peers compared to adult educators (Layzer et al., 2017; Son et al., 2018). An explanation for these positive outcomes could justify the use of peer educators as reliable and trusted role models.

Due to evidence regarding the effectiveness of peer-led education, the Reproductive Health Access Project (RHAP) utilizes a peer model of sexual health education to reach young people in the community of Tucson, Arizona. RHAP is a SRH program partnered with El Rio Health, a community health center in Tucson, and Advocates for Youth, a not-for-profit advocacy organization for SRH equity. The purpose of RHAP is to increase youth access to SRH services and education (El Rio RHAP). Youth ages 14-24 can receive free or low-cost sexual health services including birth control, STI testing and treatment, pregnancy testing, and pregnancy options counseling at El Rio RHAP clinics. A group of trained young people ages 14-24, called the Youth Leadership Team, are actively involved in project development and implementation including peer-led education. Peer leaders present sex education presentations at clinics to inform patients of their service options and applicable sexual health information. Peer leaders also lead sexual health education workshops called Pizza Protection Parties at community-based organizations serving youth in Tucson. Pizza Protection Parties take a deep

dive into sexual health topics including birth control, STIs, and healthy relationships with evidence-based SRH information and interactive activities.

RHAP utilizes peer-led education to provide SRH information and decision-making skills to youth in Tucson. Although RHAP aims to reduce negative health outcomes including unintended pregnancy and STIs, RHAP's educational efforts focus on empowerment of youth to take charge of their reproductive health. RHAP aims for youth-centered and engaging education that provides support, information, and resources for youth to make informed choices. To improve RHAP's sexual health education, there is a need for qualitative research evaluating the effectiveness of Pizza Protection Parties using youth perspectives.

This research project aims to evaluate RHAP's peer-led sexual health education materials for youth and identify concrete ways to improve the quality of the materials using feedback from young people. Evaluation of the Pizza Protection Party about birth control, STIs, and healthy relationships will be accomplished by conducting 3 focus groups with youth at Goodwill Industries of Southern Arizona and receiving their feedback. Goodwill Industries of Southern Arizona has Youth Reengagement Centers in Tucson that assist youth ages 16-24 with finding education and employment in the community. There are two Youth Reengagement Centers partnered in this research: Goodwill Metro Youth Center and Goodwill REC Center. By engaging young people in sexual health education evaluation, the objective of this research is to uncover youth perspectives regarding the quality of the Pizza Protection Party. This study will identify elements of RHAP's sex education curricula and activities that are most effective for youth and areas for improvement. Effectiveness will be determined by young people's engagement, sexual health knowledge improvement, and their perceptions of the usefulness of the material.

Methodology

Recruitment

I organized three Pizza Protection Parties and focus groups in partnership with Goodwill REC Center and Goodwill Metro Youth Center. Youth ages 14-24 of any gender identity or ethnicity could partake in the study. Each subject was expected to participate in the study for a maximum of two hours. The sexual health education session, called a Pizza Protection Party, was one of those hours and led by two RHAP peer leaders. The other hour was for the focus group. It was an expectation that participants participate in both the Pizza Protection Party and focus group.

I provided flyers, recruitment scripts, and consent documents to Goodwill staff to distribute to young people. RHAP posted the flyer and study description on their Instagram. Staff at Youth on Their Own, a dropout prevention program serving youth experiencing homelessness in Tucson, shared the flyer and description of the study with youth through email. Interested participants contacted me or Goodwill staff about the study.

Goodwill staff or I registered 11-12 interested subjects for each Pizza Protection Party and focus group. Subjects at least 18 years old in this study completed a consent form. Subjects under the age of 18 years completed an assent form, and their parent or legal guardian completed the parental permission form. All documents were in English, and there was a version of the parental permission form in Spanish. Subjects returned completed consent, assent, and/or parental permission forms to me through email prior to the study, in person to Goodwill staff, or in person to me on the day of the study. If subjects completed forms with Goodwill staff, staff then emailed me digital copies of the forms or gave them to me in person. Dr. Louise Roth, my thesis advisor, stored consent documents in her office at the University of Arizona. There

were a total of 7-10 participants that attended and participated in each Pizza Protection Party and focus group session.

Some issues arose during the recruitment process. Due to Goodwill staff's established relationship with youth, it was easier for staff to recruit youth and walk them through the registration and consent process. However, since I did not interact with all youth, some participants registered even though they did not fit the inclusion criteria. There were six Spanish-speaking participants in one session that did not speak or understand English. Although there was an adult translator present, the translation of the presentation and focus group questions was incomplete and possibly inaccurate as RHAP did not provide the translator. For this reason, I omitted all data collected from these six participants from this study.

For their time, participants received a \$20 Walmart gift card for participating in the Pizza Protection Party and an additional \$20 Walmart gift card for participating in the focus group. RHAP provided rides with Uber or Lyft to and from the session to participants 18 years or older upon request.

Pizza Protection Party and Focus Groups

The Pizza Protection Parties and focus groups occurred in a space at Goodwill Metro Youth Center or REC Center. On the day of each Pizza Protection Party and focus group, two RHAP employees or volunteers presented the Pizza Protection Party for an hour, as is standard for Pizza Protection Parties in the community. Peer leaders served pizza to participants before the presentation. Participants also received a care package with condoms, lube, and RHAP promotional materials. The presentation included group agreements, an anonymous pre-test knowledge survey, a Reproduction Plan activity, a presentation about birth control, STIs, and

healthy relationships, a condom demonstration, a Reproductive Race game, and an anonymous post-test knowledge survey which are all standard at Pizza Protection Parties.

Group agreements are a set of rules created by peer leaders and Pizza Protection Party participants that aim to make participants more comfortable in the space. A peer leader writes and displays Group Agreements on a large sticky note pad or white board. Examples of Group Agreements are “Confidentiality” and “Judgement-Free Space”. The pre-test knowledge survey asks questions about birth control methods, STIs, and other sexual health topics. The pre-test survey contains the same questions as the post-test survey given at the end of the Pizza Protection Party. The pre-test and post-test are in Appendix A. After participants finish the pre-test, participants complete a Reproduction Plan worksheet which asks questions about their future goals with respect to their SRH. The Reproduction Plan worksheet is in Appendix B.

The PowerPoint presented by peer leaders includes information about birth control methods and their effectiveness, STI testing and treatment, consent and healthy relationships, and RHAP services and programs. Within the PowerPoint, the car lot comparison explains birth control effectiveness by comparing lots with different numbers of cars that will break down after buying them. The percentage of cars that will break down reflects the percentage of people on birth control that will become pregnant or birth control effectiveness. When discussing external condoms in the presentation, peer leaders perform a condom demonstration. The presentation also includes two separate true/false activities about birth control and STIs as well as a Planned Parenthood video about how pregnancy occurs and two Amaze videos about birth control and STIs. After the presentation, participants play the Reproductive Race which is a game where terms related to SRH are taped on a wall and participants are in two teams. After a peer leader reads a definition, one participant from each team runs to the wall to grab the matching term. The

team that grabs the correct term first receives a point. The winning team receives a prize which is an El Rio Health hot/cold pack.

I did not collect the Reproduction Plan activity responses or use them for this study. The pre-test and post-test surveys were collected at the end of the Pizza Protection Party. A total of 25 participants attended the Pizza Protection Party.

After the Pizza Protection Party, participants had a 5-minute break. After this break, participants completed a brief, anonymous online Qualtrics survey to assess their perspectives of the Pizza Protection Party. The Qualtrics survey questions are in Appendix C. The study team then led a 30-minute focus group with the 24 participants that continued. The focus group questions are in Appendix D. I recorded the focus group as stated in the consent documents and prefaced during the study. A RHAP member a part of my study team took observation notes during the focus group and Pizza Protection Party.

Analysis

After three focus groups, I transcribed the focus groups using Otter AI, reviewed the transcripts and corrected errors, and removed any identifiable information about participants including names. I destroyed the audio recordings after transcribing them. Then, I analyzed the transcripts to identify common themes or ideas communicated by young people. I also analyzed the Qualtrics free-response questions for common themes and reviewed the pre-test and post-test survey for incomplete responses. If a participant did not mark answers for half or more than half of the questions, I omitted the pre-test and post-test survey for that participant. I marked blank answers within the survey as incorrect.

I used Stata to calculate descriptive statistics including the mean, standard deviation, and frequency. A one-tailed t-test was used for the comparison of means between post-test and pre-test survey scores. I used a criterion of $p < .05$ to determine statistical significance.

Approval

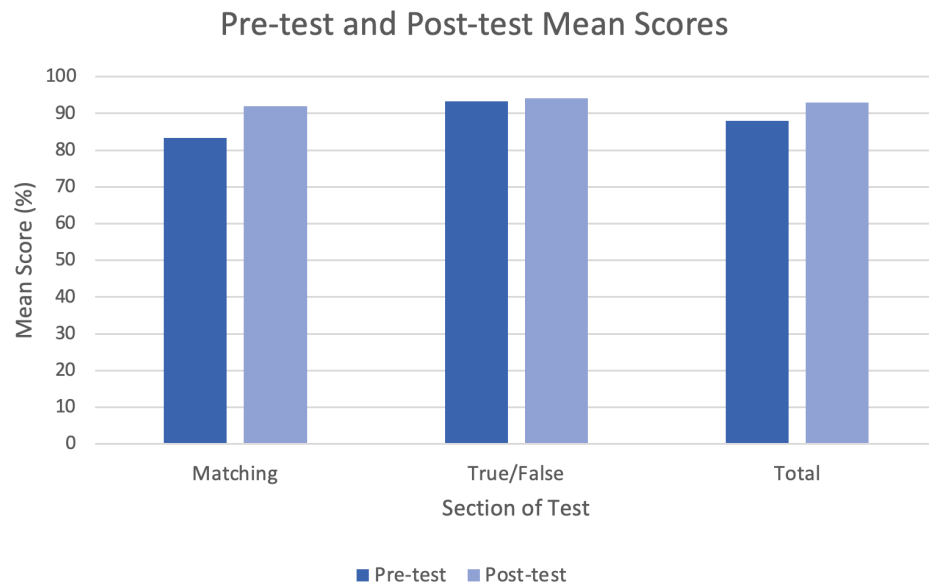
An Institutional Review Board for human subjects research at The University of Arizona reviewed this research project. It found it to be acceptable with state and federal regulations and University policies. The El Rio Health research committee also reviewed and approved this project.

Results

Pre-Test and Post-Test

	Mean Score (%) (SD)	
	Pre-test	Post-test
Matching	83.3 (25.8)	92 (12.6)*
True/False	93.3 (12.5)	94.1 (11.0)
Total	88.1 (16.6)	93.0 (7.4)

Table 1: Pre-test and post-test knowledge survey mean scores (%) for each section of the test (matching and true/false) and total score. *= $p < .05$ in a one-tailed test for difference between post-test and pre-test. (n=15).



Graph 1: Pre-test and post-test knowledge survey mean scores (%) for each section of the test (matching and true/false) and total score. (n=15).

I calculated pre-test and post-test knowledge survey scores as frequency or percent correct. Table 1 and Graph 1 display the mean scores for the matching section, true/false section, and total (matching and true/false) of both the pre-test and post-test to assess improvement. I omitted one question (Question b. of the true/false section) of the pre-test and post-test due to ambiguous wording. Of the total participants in the study, one Pizza Protection Party participant did not complete the survey because they left before the focus group. I omitted three participants' responses because they left more than half of the survey questions blank. I omitted six additional responses because they were completed by the Spanish-speaking participants. In total, I analyzed the pre-test and post-test knowledge survey for 15 participants. I calculated significance by a one-tailed t-test for the difference between pre-test and post-test knowledge survey scores. The improvement for matching scores were significant with $p < .05$. Although mean scores improved for the true/false section and total survey, this difference was not statistically significant. The matching section concerns different methods of birth control while the true/false section

encompasses common misconceptions of birth control and STIs. Statistical significance in improvement for the matching section score could indicate that peer leaders taught the information about birth control methods more effectively than other information. While there is lack of confidence that there is an improvement in knowledge for the true/false section and entire test, the lack of statistical significance may be due to the small sample size.

Qualtrics Survey

	Number of Participants	Percent of Participants (%)
Gender		
Female	8	61.5
Male	4	30.8
Non-Binary	1	7.7
Ethnicity		
American Indian or Alaska Native	1	7.7
Hispanic or Latino	6	46.2
White	4	30.8
White/Hispanic or Latino	2	15.4
Age		
18	3	23.1
19	3	23.1
20	2	15.4
21	1	7.7
22	1	7.7
24	3	23.1

Table 2: Demographic data including race, ethnicity, and age for Qualtrics survey participants. (n=13).

10 participants did not complete the Qualtrics survey at a Pizza Protection Party (including the Spanish-speaking participants) because I forgot to administer it during the session. Two additional participants did not submit responses in the Qualtrics survey. In total, 13

participants submitted the Qualtrics survey. The Qualtrics survey obtained demographic data about participants which can be seen in Table 2. Demographic data is missing for the 2 participants did not complete the survey.

		Number of Respondents (n)	Mean Rating (SD)
1	Please rate the overall quality of the RHAP peer leaders at this Pizza Protection Party.	13	4.5 (0.7)
2	The reproductive plan helped me reflect on my goals.	12	4 (1.1)
3	The reproductive race game was a good way for me to learn this content.	13	3.9 (1.0)
4	Peer leaders helped me learn about sexual health.	12	4 (0.9)
5	The car lot activity helped me understand birth control effectiveness	13	3.8 (1.2)
6	The presentation was a good way for me to learn about birth control.	13	4.2 (1.0)
7	The presentation was a good way for me to learn about STIs.	13	4.23 (1.0)
8	The presentation was a good way for me to learn about consent.	12	4.2 (1.1)
9	The length of the workshop was good for its content.	13	4.2 (1.0)
10	The video about how pregnancy happens was useful to me.	13	4.2 (0.9)
11	The AMAZE video about birth control was useful to me.	12	3.8 (1.3)
12	The AMAZE video about STIs/STDs was useful to me.	13	4 (1.2)
13	I felt comfortable asking questions and discussing these topics in this space.	13	3.9 (1.1)
14	I feel comfortable accessing reproductive health services at El Rio Health.	13	4 (1.0)

Table 3: Mean ratings in the online Qualtrics survey. Participants rated their agreement with each statement on a scale of 1 to 5 where 1= Poor, 2= Fair, 3= Satisfactory, 4= Good, 5= Excellent for Statement 1. 1= Strongly disagree, 2= Disagree, 3= Neither agree nor disagree, 4= Agree, 5= Strongly agree for Statements 2-14. Number of respondents (n) varies as some participants chose “not applicable” (N/A) for the statement.

Table 3 shows the mean rating and number of participants for each statement in the ranking portion of the Qualtrics survey. Mean rankings indicate that participants mostly agreed with the statements. Some outlier responses occurred which could have skewed the means to lower values. Statement 5 had only one ranking of 1. Statements 2, 7, and 13 each had one ranking of 2. Notably, majority of participants did not select N/A for Statements 11, 12, and 13 which were about the Amaze and Planned Parenthood videos. However, due to technical difficulties, peer leaders did not show videos consistently at every Pizza Protection Party, so many participants should have selected N/A for these statements. As a result, I interpret these results with caution.

Free responses in the Qualtrics survey asked participants what they liked about the session and how they would make the session better. Participants viewed interactive activities like the reproductive race game, true/false activities in the presentation, and surveys positively. In addition, the open and friendly environment that did not require participation was another aspect that they enjoyed. A few participants also mentioned incentives such as the food, pizza, and care packages as something they liked about the session. Participants discussed ways in which peer leaders could improve which they restated during the focus group. More peer interaction was another quality they wanted to improve including having name tags. One person stated that they would have liked to have descriptions of what each contraceptive does and its side effects.

Focus Group Responses

I divided responses from the focus groups into eight themes after analysis. A total of 24 participants participated in the focus groups. However, because I did not transcribe or analyze

the Spanish-speaking participants responses, I only analyzed 18 participants' responses for the following themes.

Inadequate High School Sex Education

Many participants stated they did not receive sex education in school, or the information provided in these classes lacked important information. Their education did not discuss information about birth control in detail or in an understandable manner. Instead of learning about sexual health in the school setting, many participants claimed to learn most of this information outside of school or by teaching themselves. One participant stated, "it (their sex education class) didn't really give a lot of information... what I know most of now is mostly because I taught myself what I should know." When participants received sex education, the education between participants varied considerably. For example, some people received education about birth control, and some people only learned about reproductive anatomy. Many participants had not seen a condom demonstration before, although a few had seen a demonstration. One participant also claimed the sex education conveyed stigma and negativity for women; "they weren't really helping girls as much I think they're like putting them down in a way." Out of all participants, only one person said they received comprehensive, inclusive sexual health education.

Peer Leaders as Educators

Majority of participants thought that peer leaders were more beneficial as educators for sexual health topics than traditional adult educators. Reasons for this perspective included that young people are more comfortable around people of similar age. A participant said, "I feel like if it was adults, people wouldn't be so open. It might make people more uncomfortable. I feel like it's more comfortable being around people similar age." Peers were also more relatable and

knew how to explain things better. A couple people did not prefer peer educators but acknowledged it was a personal preference.

Participants noted many positive characteristics of the peer leaders in the Pizza Protection Parties including being knowledgeable, non-judgmental, friendly, positive, outgoing, interactive, respectful, and funny. However, participants did discuss how the capabilities of peer educators could have been better. They wanted the peer educators to be more prepared to deal with technology issues such as switching through the slides. Also, participants would have liked the public speaking abilities to be improved including speaking more clearly, having more confidence, and being less monotoned. One participant stated, “At times I felt like they (the peer leaders) were speaking too quietly or stuttering too much like looking at the paper.” Although participants noticed peer educators were nervous sometimes, some peers were not critical of this and thought it made them more relatable. Another request was for peer leaders to better handle awkwardness and laughter; “I noticed a few of us were giggly and like laughing at a few of the concepts and the condom and all that kind of stuff. So maybe just reinforcing that like, this is all natural, it's going happen eventually, we just have to learn how to do it safely and take care of ourselves.”

New Knowledge

Participants indicated that they obtained new knowledge from the presentation and that the presentation was clear to understand and helpful. Some participants claimed that most of the information in the presentation was new information to them. When asked about something new they learned, one participant stated, “I was going to say everything in this presentation, except for like, the fact that condoms exist.” Participants liked that the workshop created an open and non-judgmental space for learning.

Participants gained a lot of knowledge about birth control including learning more about birth control options. Some said they did not know the ring or patch were potential options. One participant liked the pictures or models of birth control methods passed out during the presentation as it helped them “know what every single thing looked like.” Another visual element people liked was the Planned Parenthood video about pregnancy, which they said they usually aren’t taught. However, peer leaders did not display the Amaze and Planned Parenthood videos for all participants due to technical challenges. One participant mentioned gaining knowledge from the relationships and consent portion of the presentation, “I felt that that made me better understand, like how unhealthy relationships should look for a general idea.” Participants mentioned pizza as another benefit outside of knowledge gained.

Ways to Improve Information

Participants discussed many elements of sexual health that were missing and that they were interested in learning about. With respect to birth control, participants wanted to learn more about the how birth control works physiologically or how it interacts with the body to prevent pregnancy as well as possible side effects. One participant commented on this, “For the birth control and like describing it, like I wish you guys did like more of a description of what it did. Like the side effects... Like how goes through the body, like how it works, like what it does.” Another participant mentioned curiosity about the role of hormones, “I just kind of want to know like how those hormones end up blocking everything, like maybe the science behind it, to explain a little bit further.” Another participant mentioned that they would like to learn more details about the menstrual cycle and ovulation.

Some other pieces of information participants wanted included clarification about why the pull out method isn’t very effective. A participant said, “They should talk about the pull out

method and how you can still get pregnant with precum and stuff, because that's an important factor too." Although people liked the birth control methods and pictures passed around, they said they wanted more ways to visualize methods including a Nexplanon model and a condom size chart.

Out of the methods, participants wanted more information about the vaginal contraceptive ring. Someone explained why the ring should be explained more clearly:

"I feel like a lot of people get really nervous not really knowing what to do... So just knowing that how it's properly used and to know the proper way to do it, without hurting yourself or causing an infection, it might make them feel less scared."

Participants were interested in learning about more methods than discussed in the presentation. They mentioned wanting information about vasectomies, "tube tying" or tubal ligation, dental dams, and abortion. Another suggestion to improve was for peer leaders to share their own experiences using the birth control methods, if they have any; "one of the peers can talk about it and be like, how they liked it... That way it's like more of not just we know about it and we see what it looks like. But now we know somebody who's had it."

Participants discussed how the information about STIs was helpful and understandable but stated there could have been more information included. They wanted to know about possible symptoms of STIs, clearer definitions of which STIs are curable and which are not curable but manageable, and different ways of catching STIs. A participant thought it was important to state that if neither person has an STI, they cannot get it from each other. Another participant mentioned why we should emphasize all types of sexual relationship have risk of getting STIs, not just heterosexual ones.

“Maybe talking about like and how, even though you may not have the risk of getting pregnant, you could still have the risk of same-sex getting STDs, because they mainly talk about when it's a male and a female. But with a lot of the youth nowadays, a lot of them are with the same sex or with people who are transitioning.”

Participants wanted more information about consent and healthy relationships. However, they did not give details about what kind of information they would like to see. Another desired topic was sex toys and how to properly clean them.

Perceptions of Activities

Participants enjoyed the activities during the Pizza Protection Party and appreciated the interactive components. They found the Group Agreements to be “valid”, make the audience more comfortable particularly when there was a non-judgment agreement, and a good way to remind people of best practices in a space.

A majority of participants also perceived the Reproduction Plan as beneficial because it made them think about their goals and what they want. One participant stated, “I liked it because it is something we have to think about as youth and just kind of plan out our lives around it. It just kind of affirmed my goals and what I wanted to do for myself.” Participants viewed it as a self-explanatory and simple activity. A participant mentioned that the Reproduction Plan was not inclusive of people who already have children; “I know it is targeted to younger people who most likely don't have children, but it was a little confusing for people who do have children.”

Participants viewed the car lot comparison positively and thought it was a simple explanation that helped visualize the effectiveness of birth control.

Many participants found the condom demonstration to be useful as they had never seen a condom demonstration before, but there was some confusion on the steps. Participants were confused by the air gap at the top of the condom and wanted clarification of the proper way to do this step. Someone explained their uncertainty about this part of the condom demonstration; “I’ve heard something like if you don’t pinch it (the air gap on the top of the condom) then there can be air in there... I don’t know I guess like maybe more explanation for this.” Someone also wanted the penis to be more realistic because the one used in the demonstration was wooden and more difficult to put on and remove the condom. Overall, participants thought how to put on a condom was important to teach the group even though it was awkward.

The Reproductive Race was one of the parts of the Pizza Protection Party participants enjoyed the most. Participants stated that it was fun as well as helped them recall information, identify information they need to learn more about, and get people involved. One person explains why it was a good way to learn the content in an interactive environment, “It makes everyone more comfortable... everyone seems to be more open when you’re laughing and it’s funny.” On the other hand, some people did not like the fast-paced nature of the race and found it to cause pressure and anxiety. Also, participants found the wording of some of the term definitions to be confusing. Suggested improvements to this activity were changing the wording on some confusing prompts, using a buzzer instead of running, standing farther from the wall, and receiving help from people on their team.

Due to participants’ preference for interactive activities, expanding activities will help improve engagement. Activities suggested by participants were sexual health Jeopardy, Family Feud, charades, trivia questions on a beach ball, and lotería (bingo).

Gender Bias

Participants recognized gender bias within the information presented in the Pizza Protection Party. Participants mentioned that the presentation has more information that is useful for “women” or people with a uterus including information about hormonal birth control. Participants want to know more about more “male” birth control options such as vasectomies as well as “male” anatomy or reproductive anatomy of people with penises. One participant commented on this bias,

“It’s just with birth control, it’s usually just pointed towards women. I think it should be also included and started with men. You know, with the vasectomy, he (another participant) had no idea what that was. And that’s something like, I feel like a man should know what it is. So I feel like we should start getting men more involved in that type of stuff. Start including like birth control for them too.”

In addition, some participants believed the presentation was catered towards heteronormative sexual relationships and wanted more representation of different sexualities and gender identities. When asked how we could make this space more comfortable, a participant answered, “I think being more colorful, since there could be people who are pride or transgender and stuff like that. Representing color and other people, other sexualities, would make it a little bit more exciting.”

Sexual Health Resources

Participants appreciated that the Pizza Protection Party connected them to accessible and confidential resources at El Rio and RHAP. One participant stated what they liked about the workshop:

“I think part of what I liked was just the fact that we didn’t just talk about what things are, but we talked about resources and where to get it and how it’s easy to get. Because not a lot of people know. And the fact that we have a program where people can get it without parents’ consent. I know nowadays versus when I was a lot younger it was a lot harder to get it without parent permission. So knowing that we can feel safe and still do what we think is right no matter what other people think makes us feel safer to go to people who are in that profession.”

Participants recalled the AZ Shine Line and Instagram as easy ways to connect with RHAP and shared that we should advertise the AZ Shine Line more. Participants recognized social media as an important tool for outreach to youth and suggested RHAP create a TikTok as well as advertise more with non-digital media such as posters.

A participant liked the Planned Parenthood video because it was an organization they recognized and could refer to for future support. They found these resources highlighted existing support in the community that they can utilize if needed. They would appreciate knowing more resources at El Rio including resources for pregnant people, sexual assault survivors, and people over the age of 24. They also requested more resources outside of health care including general community resources for housing, education, and professional development.

Length of Presentation

All participants expressed that the presentation was adequate in length or could have been longer to expand on the information provided.

Observation Notes

Observation notes indicated some aspects of participant engagement and attentiveness throughout the Pizza Protection Parties. There were several participants distracted during the workshop including being on phones, sleeping, having side conversations, and drawing. However, there was engagement such as nodding, asking questions, and making comments. Participants asked many questions about birth control options particularly concerning the IUD and emergency contraception. Also, participants participated in the true/false activity for the birth control and STI introductions in the presentation. There was also a lot of visible engagement during the condom demonstration and Reproductive Race as participants were participating, paying attention, and laughing. During the Reproductive Race, there was some rowdiness, negative comments about knowledge, and confusion on wording of prompts. External distractions at each Pizza Protection Party included noises in other rooms and people walking in and out of the workshop.

Limitations

There were many limitations to this study. There was a small sample size in the focus group (n=18), Qualtrics survey (n=13), and pre-test and post-test (n=15). Not all participants that participated in the focus group completed the Qualtrics survey and knowledge surveys. In the focus group, a few people did not speak at all. More focus groups should be conducted to increase the sample size and reliability of results. Participants should complete all sections of the study in the future to ensure maximal data.

In addition to the small sample size, there was an overrepresentation of people who identified as female in the Qualtrics survey and likely the focus group. All participants were 18 years or older probably due to the parental permission requirement for youth under 18. RHAP

provides Pizza Protection Parties to youth 14-24, so this study lacks perspectives of youth 14 to 17 years old, who are vital to education efforts. In future studies, participants should include youth 14 to 17 years old and more diverse in gender identity. There were many challenges encountered in recruiting participants, which were discussed in the Methodology section of this paper.

The RHAP peer leader presenters also varied across the three sessions of Pizza Protection Parties due to schedule conflicts. This could change the delivery and quality of the Pizza Protection Party, which could lead to variation in responses from participants. Since I presented at one session and conducted the focus group, participants could have responded with incomplete honesty. Future studies should have consistent presenters that are different from the leader of the focus groups.

Technology issues during the Pizza Protection Party, including issues playing videos and screen mirroring, impeded the flow of the presentation and activities. Inconsistent delivery of the three educational videos across the sessions makes it difficult to determine whether these videos were useful. This also contributed to participants' view of the peer leaders as unprepared and technologically incapable. The study team should be more prepared to navigate technology issues and visit sites earlier to practice setting up the presentation.

There were also issues with administration of the surveys. In addition to missing survey responses, some participants did not follow instructions for filling out the surveys. I observed that some participants in the first session filled out the pre-test and post-test knowledge survey at the same time. In these cases, the post-test results do not truly reflect what participants have learned unless they returned and corrected responses. In the first session, some people completed the Qualtrics survey prior to the end of the Pizza Protection Party because I gave them the QR

code for the survey at the beginning of the session. The Qualtrics survey results completed prior to the end are also not reflective of accurate perceptions of the workshop. After observing this at first session, I distributed post-test knowledge surveys and QR codes for the Qualtrics survey after the Pizza Protection Party. Some people left more than half of the pre-test and post-test questions blank, so I omitted their responses from the analysis.

Discussion and Conclusion

Despite these limitations, this study demonstrates that RHAP's Pizza Protection Party provides effective peer-led sexual health education for youth in an open and judgement-free learning environment. In the focus group, participants indicated that they learned useful information about sexual health. Participants also showed significant improvements in knowledge about methods of birth control in the post-test. Although improvement across the entire knowledge survey was not statistically significant, a greater sample size may show significance. Participants were engaged at the Pizza Protection Party, as they asked questions and comments and obtained a lot of information.

Due to the lack of comprehensive sexual health education in high school, this Pizza Protection Party is a useful resource for youth in the community and may bridge gaps in sexual health knowledge. Given that the Pizza Protection Party was effective for youth in this study, it should continue to be offered for youth at community-based organizations. Insight from this research can also be utilized to improve this Pizza Protection Party so it is more tailored to a youth audience, encourages youth engagement, and addresses gaps in knowledge. Below is a list of the most effective elements of the Pizza Protection Party and a list of action items to improve the workshop.

Most Effective Elements of the Pizza Protection Party:

- Peer leaders as positive modalities to communicate sexual health information
- Interactive activities including the Reproductive Race and Reproduction Plan
- Overview of a variety of birth control methods
- Visual representations including the birth control images/models, car lot comparison, and condom demonstration
- Group agreements in making a more comfortable space
- Connections to sexual health resources for youth at and outside of El Rio Health
- Incentives including the pizza and care packages

Action Items to Improve the Pizza Protection Party:

- Provide participants with nametags.
- Offer more professional development and leadership trainings to increase peer leaders' organizational, public speaking, and troubleshooting skills.
- Incorporate more interactive activities and less lecture material to increase youth attentiveness and involvement.
 - Develop new sexual health games such as Jeopardy and lotería.
- Discourage external distractions such as phone use and side conversations during the group agreements.
- Increase length of presentation with more in-depth information about birth control, STIs, and healthy relationships including:
 - Birth control's physiological function and side effects
 - More details about the pull out method and vaginal contraceptive ring
 - Information about vasectomies, tubal ligation, dental dams, and abortion

- Personal anecdotes about birth control from peer leaders
- Utilize more visual materials such as a Nexplanon implant.
- Expand the inclusivity of the content to people with penises as well as different gender identities and sexualities.
- Provide more in-depth explanations for the steps of the condom demonstration.
- Improve the wording of the Reproductive Race definitions and adjust the rules to be less intimidating such as allowing help from the team or using a buzzer instead of running.
- Include information about sex toys.
- Highlight more community resources for sexual health and general wellbeing.
- Expand outreach with TikTok and posters.

As RHAP implements these changes, it will be critical to continue to evaluate Pizza Protection Parties with surveys and focus groups. RHAP peer leaders can use this research to not only improve the Pizza Protection Party but design other sexual health education materials for youth that support youth knowledge and interests. Additionally, these findings contribute to the existing body of knowledge regarding most effective peer-led sexual health education practices and can be utilized by other organizations using peer-led sexual health education. Youth perspectives in this study provide critical insight for sexual health education that embodies RHAP's mission: to empower youth with the information needed to make informed decisions about their sexual and reproductive health.

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Appendix A

Youth Contraceptive Survey Pre-test and Post-test**

YOUTH CONTRACEPTIVE SURVEY POST-TEST (SIDE A)

KNOWLEDGE, ATTITUDES, AND MYTHS/FACTS ABOUT BIRTH CONTROL

Thanks for participating today! We want to see what teens and young adults already know about birth control and sexually transmitted infections/diseases (STIs/STDs). After today's event, we will ask you to fill out another survey to see what you learned. This survey is ANONYMOUS – that means we don't collect your name and there is no way for us to match your answers to you.

1. Match the birth control method to the description. Use each description only once.

Method	Answer	Description
Abstinence		a. This is a sticker that goes on the skin every week for 3 weeks to prevent pregnancy.
Condoms		b. This emergency birth control—also called the morning after pill—can be taken up to 5 days after having unprotected sex to reduce the risk of getting pregnant.
Withdrawal		c. This implant is a very small rod inserted under the skin of the upper arm to provide birth control. It's invisible and prevents pregnancy for 4 years.
The pill		d. This is the only 100% effective method of preventing pregnancy and STDs.
The patch		e. A doctor inserts this small, T-shaped device into the uterus to prevent pregnancy for 3 to 12 years.
Depo-Provera		f. This is a shot in the arm, butt, inner thigh or stomach every 3 months to prevent pregnancy.
NuvaRing		g. This method requires the partner with a penis to pull out before ejaculating every time you have sex, but it is not very effective at preventing pregnancy.
Nexplanon		h. This is a small, flexible ring that is inserted into the vagina once a month to help prevent pregnancy.
IUD		i. This is a medicine that must be taken every day to prevent pregnancy.
Plan B		j. This is the only method that reduces the risk of STIs/STDs. It also helps to prevent pregnancy, but works best if used with another form of birth control.

2. The following is a list of statements about preventing pregnancy and sexually transmitted infections/diseases (STIs/STDs). Some of the statements are true and some are false. Please check whether you think each statement is true or false.

Statements	True	False
a. A person of any age, including teenagers, can buy condoms from the store		
b. It is possible to get pregnant anytime you have unprotected sex.		
c. You can get pregnant the first time you have sex.		
d. If you use birth control as a teen, you can still get pregnant later when you want to have a baby.		
e. You can get STDs/STIs from oral sex, vaginal sex, AND anal sex.		
f. There are birth control options for teens and people with vaginas that do not require a vaginal exam.		
g. IUDs are safe for teens and people who have never been pregnant.		
h. You can always tell if your partner has an STD because you can see the symptoms.		
i. Condoms and abstinence are the two methods that prevent or reduce the risk of STIs/STDs.		
j. You need a prescription to buy emergency contraception, or Plan B.		

**Pre-test and post-test had the same questions and format

Appendix B

Reproduction Plan

Think in advance about parenthood and have a plan in mind. Fill out the questions below with your responses. This document will not be collected.

1. Do you think you might have a family one day?
2. If so, when do you think that might be? (in age)
3. On a scale of one to ten (one being not important and ten being the most important), how important is it to you not to have a family before you plan to?
4. If you are currently sexually active, what are you doing to prevent pregnancy?
5. What is important to you in a pregnancy prevention method? (i.e. privacy, side effects, etc.)
6. What kind of relationship do you want to have with someone you have children with?

Appendix C

Qualtrics Survey

These survey questions were in Qualtrics. Participants completed the survey on their phones after the Pizza Protection Party.

Description of survey:

Thank you for participating in El Rio RHAP's Pizza Protection Party. We are eager to know more about what you think! We will use the feedback you provide below to make our Pizza Protection Parties even better. Your responses will be private. Please do not write your name or email in this survey.

1. Please rate the overall quality of the RHAP peer leaders at this Pizza Protection Party on a scale of 1 to 5. (5= Excellent, 4=Good, 3=Satisfactory, 2= Fair, 1= Poor)

INSTRUCTIONS Please circle your response to questions #2 - #14. Rate the statement on a 1 to 5 scale: (1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree N/A=Not applicable)

2. The reproductive plan helped me reflect on my goals.
3. The reproductive race game was a good way for me to learn this content.
4. Peer leaders helped me learn about sexual health.
5. The car lot activity helped me understand birth control effectiveness.
6. The presentation was a good way for me to learn about birth control.
7. The presentation was a good way for me to learn about STIs.
8. The presentation was a good way for me to learn about consent.
9. The length of the workshop was good for its content.
10. The video about how pregnancy happens was useful to me.
11. The AMAZE video about birth control was useful to me.
12. The AMAZE video about STIs/STDs was useful to me.
13. I felt comfortable asking questions and discussing these topics in this space.
14. I feel comfortable accessing reproductive health services at El Rio Health.
15. Name 2 things that you liked about this session:
16. Name 2 things that would make this session better:
17. If you have any other comments or suggestions about how to improve our Pizza Protection Parties, please write them here:

Appendix D

Focus Group Questions

1. Sex Education

- a. Just by a show of hands, how many people had some type of sex education class in school in the past 5 years?
- b. For those who had sex education at school, what did you think about the classes? Did they provide helpful information?
- c. What information in the Pizza Protection Party was not included in your school's sex education classes? Please give some examples.

2. Perceptions of PPP

- a. What did you like about this Pizza Protection Party? What did you dislike?
- b. Do you prefer sex education for young people to be taught by peer leaders/educators like (Peer Leader 1) and (Peer Leader 2) or an adult educator?
 - i. Why do you have this preference?
 - ii. What are some characteristics or traits you liked about the peer leaders today? What did you dislike? What characteristics would you like peer leaders to have?
- c. Raise your hand if the presentation provided you with new information you did not previously know about birth control, STIs, or healthy relationships.
 - i. What is something new you learned?
 - ii. Now let's talk specifically about what you learned about birth control methods like the IUD, birth control pill, Nexplanon, and patch.
 1. Was the explanation of effectiveness using the car lot comparison easy to understand? Did it help you understand birth control effectiveness more? Please explain.
 2. Are there any methods of birth control we need to explain more clearly? Was any information confusing?
 - iii. Was the information about STIs and how to reduce risk of getting STIs useful? What information was confusing and should be explained better?
 - iv. Was the information about consent and healthy relationships helpful?
 - v. What information is missing from this presentation about sexual health that you would like to learn more about?
- d. Now, I would like to talk about the organization of the Pizza Protection Party.
 - i. What did you like or dislike about the group agreements at the beginning of the Pizza Protection Party? Did the group agreements make you feel more or less comfortable throughout the Pizza Protection Party? Why or why not?
 - ii. What did you like or dislike about the Reproduction Plan activity?
 - iii. Were the Planned Parenthood and AMAZE videos helpful sources of information? Why or why not?
 - iv. Was the condom demonstration useful? Why or why not?
- e. Was the Reproductive Race game a good way to learn about this content?

- i. What did you like or dislike about the game? What would you change about it?
 - ii. What type of games are most fun and engaging for young people to learn about sexual health?
- f. Did you think the length of the Pizza Protection Party was good for the material?
- g. What are some ways we can improve this Pizza Protection Party?
- h. How can we make this learning space more comfortable for young people like you?
- i. We also have Pizza Protection Parties about healthy relationships and consent as well as using technology safely. Are there any other topics in sexual and reproductive health you would like to see in a peer-led sex education session?
- j. After attending the Pizza Protection Party, is it clear how you can access more information about RHAP and our clinics? Can anyone name some ways you can do this?