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Reducing Sexual Risk among Racial/ethnic-minority Ninth Grade Students: Using Intervention Mapping to Modify an Evidenced-based Curriculum

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INTRODUCTION

Despite declines in teen births in the United States,[1] disparities remain in teen births and sexually transmitted infections (STIs). In 2014, birth rates among female Blacks and Hispanics 15 to 19 years of age exceeded those among Whites (34.7, 38.0, and 17.2 per 1000, respectively).[2] Rates of *Chlamydia* infection among Black and Hispanic youth 15 to 19 years old exceeded rates among Whites (4151, 1084, and 742 per 100,000, respectively),[3] as did rates of HIV infection among Black and Hispanic youth compared with Whites (38.2, 7.9, and 1.9 per 1,000, respectively).[4] These outcomes adversely affect economic costs[5, 6] and adolescents' future lives.[7-9]

Nationally, 25% of ninth graders are sexually experienced, with higher percentages of racial/ethnic minority ninth graders reporting sexual debut than White ninth graders.[10] Early sexual debut increases the risk for ineffective condom and contraceptive use.[11] Furthermore, 10% of ninth graders experience dating violence, increasing their risk for pregnancy and STIs.[12]

Although school-based sexual health education programs may reduce sexual risk behaviors,[13] few specifically target racial/ethnic minority ninth graders. The U.S. Department of Health and Human Services Office of Adolescent Health (OAH) review of evidence-based teen pregnancy prevention programs includes three school-based programs targeting this population: *Reducing the Risk*, *Safer Choices*, and *Teen Outreach Program*.[14] However, these programs were all developed more than a decade ago, and they lack important sexual health education innovations, such as the use of technology to engage learners,[15] instruction on highly effective contraception (including long-acting reversible contraception [LARC]), and the integration of dating violence prevention, despite strong associations between dating violence and sexual risk behavior.[16]

Given the need for a "next generation" of age-appropriate, culturally sensitive sexual health education curricula, we used a theory- and evidence-based approach, *Intervention Mapping (IM)*,[17] to adapt an effective sexual health education curriculum, *It's Your Game … Keep It Real! (IYG)*, originally developed for racial/ethnic minority middle school students, to better serve the needs of racial/ethnic minority ninth graders. *IM* is a systematic framework that helps program developers utilize theory, empirical findings, and community input throughout the program-planning process. Originally published in 2001, *IM* has been implemented globally

to address multiple health promotion topics, including obesity prevention, chronic disease management, cancer screening and prevention, violence prevention, and sexual health.[17] *IM* was used to develop the original *IYG* program.

IM also provides a systematic approach for *adapting* evidence-based programs for a new context and/or population. Program planners face multiple challenges when adapting an existing program – for example, protecting essential elements that made the original program effective and incorporating formative research so that the adapted program meets the needs of the new context and population. *IM Adapt* – a simplified application of *IM* designed specifically for program adaptation[18] – provides guidance on how to use theory, empirical findings, and community input to adapt an evidence-based program for a new context and/or population while retaining essential elements that made the original program effective. Using a systematic approach also helps ensure that the adapted program is age-appropriate, culturally sensitive, and responsive to the needs of the new population. Here, we describe the use of *IM Adapt* to guide the adaptation of *IYG* for a new context and population: racial/ethnic minority ninth grade high school students. Elaboration of the specific steps involved in program adaptation may provide a useful model for other practitioners to follow and contribute to the limited literature on systematic theory- and evidence-based approaches for adapting sexual health education curricula.

METHOD

IM Adapt comprises six steps: (1) Conduct a needs assessment to describe the health problems and associated risk behaviors for the new target population and create a revised logic model of the problem. (2) Identify evidence-based interventions that address the needs of the new population; characteristics of these effective programs may guide the adaptation process. (3) Assess the fit of the original program for the new context and/or population in terms of behavioral and environmental outcomes, determinants, and change methods; it is important to identify and retain essential elements that made the original program effective. (4) Modify materials and activities in the original program to better fit the new context and/or population. (5) Plan for implementation, making modifications, if needed, to fit the new context and/or population. (6) Plan for program evaluation. Key tasks for each step are described in detail below.

PARTICIPANTS

The planning team included behavioral scientists, epidemiologists, and a child psychologist, guided by a Youth Advisory Group (30 African American and Hispanic students in grades 9 through 12 from two high schools located in urban communities with high teen birth rates). The Youth Advisory Group provided feedback throughout Steps 1 through 6 and assisted in the adaptation and development of new activities in Step 4. During the Step 1 needs assessment, we conducted a youth risk behavior survey with students (n = 979) at the two high schools. Survey participants were female (52%), African American (68%), and Hispanic (30%); almost one-third (29%) were in the ninth grade. In Step 6, we conducted a pilot test of the adapted curriculum with ninth grade students at the two high schools. Pilot study participants (n = 241; mean age, 15.1 years) were female (54%), African American (68%), and Hispanic (32%). Including youth input during the adaptation process helped to ensure that the adapted curriculum would be relevant and engaging for the target audience.

RESULTS

Step 1. Conduct a needs assessment to describe the health/behavior problems; develop a logic model for the problem.

We conducted a needs assessment with racial/ethnic minority ninth graders and modified the original logic model of the problem from *IYG* to reflect the needs of the new population. We identified teen pregnancy, STIs, and HIV infection as the primary sexual health problems that racial/ethnic minority ninth graders face.[3,19,20] Associated quality-of-life issues mirrored those of the original population.[5,9,21-23] Risk behavior data collected from racial/ethnic minority ninth graders in the target setting revealed high percentages of sexually experienced students; low rate of condom and contraceptive use, including LARC; frequent substance use before sex; experience of dating violence; and low rate of use of sexual health testing services, all risk behaviors similar to those of racial/ethnic minority middle schoolers.[24] Furthermore, 10% of ninth graders reported engaging in nonconsensual sex in the past year; fewer than 5% reported receiving the human papillomavirus (HPV) vaccine.[25] Thus, dating violence and HPV vaccination behaviors were added to the logic model.

Regarding environmental factors, about 10% of ninth graders reported exposure to violence in the past year,[10] which is associated with sexual risk behavior.[26] This factor was added to the logic model. Poor parent-child communication and parental monitoring,[27] limited sexual health

counseling,[28] and policies restricting minors' access to sexual and reproductive health services[29] were applicable to ninth graders and were retained in the model.

Psychosocial determinants of the risk behaviors among ninth graders, including low levels of knowledge, skills, self-efficacy, outcome expectations, and perceived susceptibility, were similar to those in the original population.[30,31] Focus groups conducted with youth in the target population, and discussions with school personnel and community members, revealed limited knowledge of and negative perceptions about LARC and HPV vaccination, and limited knowledge of and skills for active sexual consent. We added these factors to the model.

Figure 1 depicts the revised logic model of the problem for the new target population. Most of the original model remained valid, indicating that *IYG* is a promising sexual health education program to adapt for racial/ethnic minority ninth graders.

Step 2. Search for evidence-based interventions.
The planning team previously developed *IYG* as a sexual health education curriculum for racial/ethnic minority middle schoolers.[32] Based on social influence models,[33,34] *IYG* comprises 24 lessons for seventh and eighth graders that address psychosocial determinants of sexual behavior and healthy dating relationships. It includes six take-home activities for students and parents to complete together. Evaluated in two randomized controlled trials*, IYG* has been demonstrated to delay sexual initiation, reduce sexual risk behavior, and reduce dating violence among racial/ethnic minority seventh graders followed into ninth grade.[32,35,36] *IYG* is recognized by OAH as an evidence-based teen pregnancy prevention program,[14] and by the National Institute of Justice as a promising dating violence prevention program.[37]

We reviewed *Me & You: Building Healthy Relationships*, a dating violence prevention program for racial/ethnic minority sixth graders adapted from *IYG*. *Me & You* comprises 13 classroom and computer-based lessons that address psychosocial factors related to dating violence. The program has been demonstrated to reduce dating violence among racial/ethnic minority sixth graders followed into seventh grade.[38]

We also reviewed the three effective school-based sexual health education programs mentioned above: *Reducing the Risk*, *Safer Choices*, and *Teen Outreach Program*. Based on social influence models, each

program has been demonstrated to reduce sexual risk behavior among ninth graders followed into grade 10 and/or grade 11.[39-41]

Collectively, our review of these programs (content, methods, and delivery) helped guide the adaptation of *IYG* to serve the needs of the new population.

Step 3: Assess the fit and plan adaptations.
The original *IYG* targeted five behavioral outcomes: (1) choosing not to have sex; (2) using condoms correctly and consistently; (3) using an effective method of contraception with condoms; (4) getting tested for HIV infection, STI, and pregnancy; and (5) having healthy friendships and dating relationships. Each behavior was subdivided into performance objectives to specify exactly what a student needs to do to perform the behavior.[17] These behaviors were retained in the adapted program. However, given the low rate of use of effective contraception identified in the needs assessment, we expanded the behavioral outcome and performance objectives for contraception to include selecting, obtaining, and maintaining effective contraception (**Table 1,** Behavioral Outcome 3). We revised the behavioral outcome for getting tested to focus comprehensively on accessing sexual and reproductive health care services, and we expanded the healthy relationships outcome to encompass dating violence prevention and active sexual consent (**Table 1,** Behavioral Outcomes 4 and 5). Performance objectives for these behaviors were modified after a review of evidence-based programs, input from the Youth Advisory Group, and a literature review.

The original *IYG* included environmental outcomes related to parent-child communication and parental monitoring. Although parental influence was salient for ninth graders (**Figure 1**), school personnel indicated that parental involvement would be challenging in ninth grade. Thus, we decided to exclude parent-child activities from the adapted program.

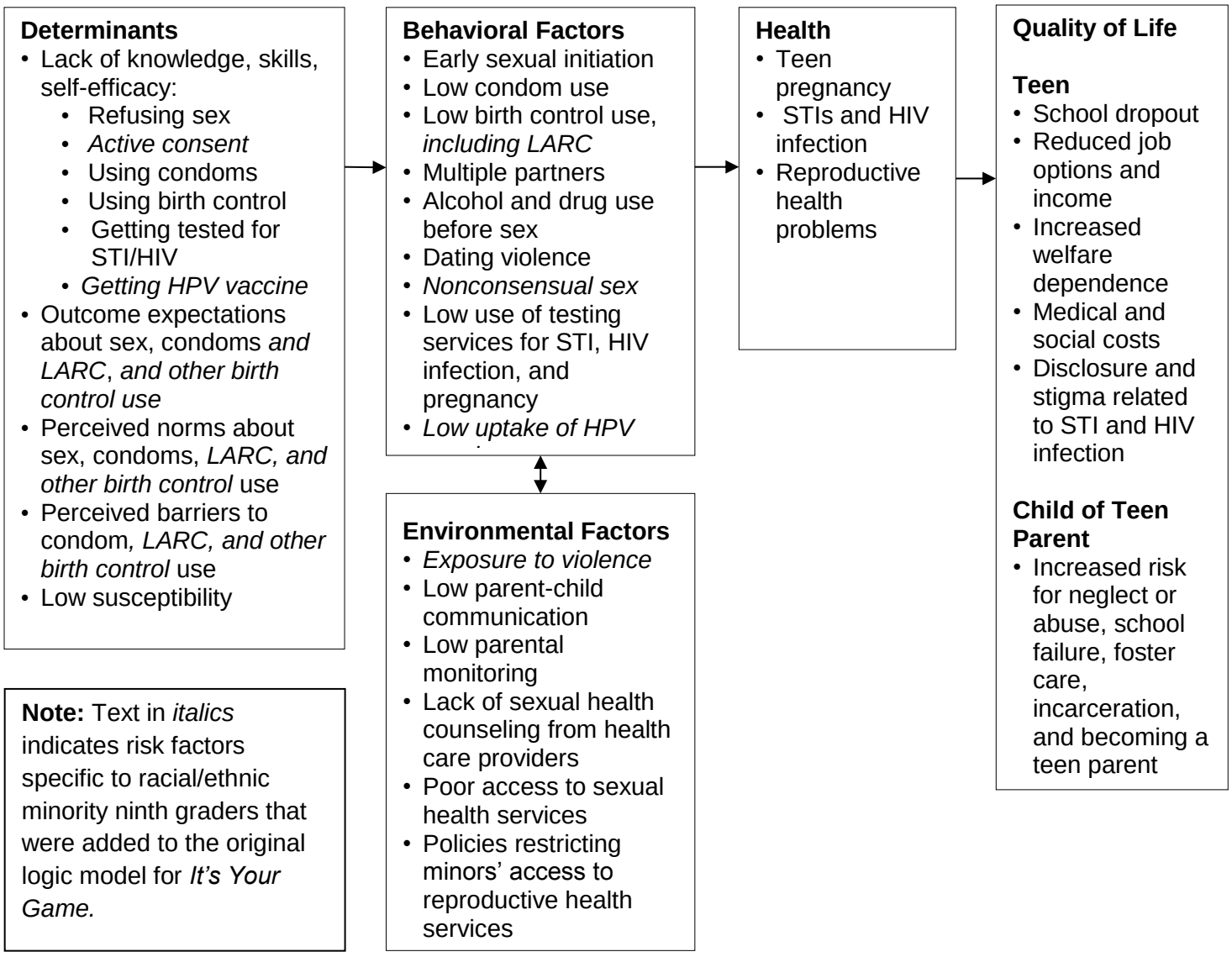

Figure 1. Logic model of the problem for racial/ethnic minority ninth grade students

Table 1. Behavioral Outcomes and Performance Objectives for the Adapted Program[a]

Behavioral Outcomes **The student will:**	**Associated Performance Objectives**
1. Choose not to have sex.	Decide not to have sex. Communicate personal limits regarding sex. *Suggest alternative activities to sex with your partners.* Avoid situations that could lead to sex. Refuse to have sex.
2. Use condoms correctly and consistently if having sex.	Make the decision to use condoms. Buy or obtain a free condom. Carry condoms. Negotiate the use of a condom with every partner. Use a condom correctly. Maintain condom use with every partner every time you have sex.
3. Use *LARC or other effective contraceptive method* along with condoms if having sex.	Make decision to use *LARC or other effective method of contraception.* *Talk to parent/guardian or trusted adult about LARC or other contraceptive method.* *Make appointment with provider who is willing to prescribe LARC to teens.* *Talk to provider about LARC or other contraceptive method.* Select and obtain appropriate *LARC or other contraceptive method.* *Monitor how chosen LARC or other contraceptive method is working.* *Maintain use of chosen LARC or other contraceptive method.* *Use condoms along with chosen LARC or other contraceptive method.*
4. *Go to a clinic for sexual and reproductive health services (HPV vaccination, LARC or other birth control method, and HIV/STI/pregnancy testing), if*	*Decide to access sexual and reproductive health services.* *Make an appointment at a local clinic that provides appropriate sexual and reproductive health services.* *Ask about and obtain necessary parental consent or paperwork.* *Go to scheduled appointment with necessary paperwork.*

considering have sex or are currently sexually active.	*Speak honestly and openly with provider about sexual history, risks, drug use, and any other personal history information.* *Select and obtain appropriate sexual health and reproductive health services.* *Maintain related behaviors over time.*
5. Have healthy peer and dating relationships *(ie, free of emotional, physical, and sexual violence).*	*Decide to have healthy peer and dating relationships.* *Identify and evaluate own behavior in past and current peer/dating relationships.* *Identify and evaluate peers' and/or dating partners' behavior in past and current peer/dating relationships.* Use effective communication strategies to foster healthy peer/dating relationships *Use active consent (give and obtain) when engaging in sexual behaviors.* *Manage emotional responses (eg, love, anger, anxiety, stress, depression, jealousy) to foster healthy peer/ dating relationships.* *Avoid peers and potential dating partners who engage in unhealthy relationship behaviors.* *Avoid alcohol and drug use.* *Get out of unhealthy peer/dating relationships.* *Manage unhealthy peer/dating relationships that are unavoidable.* *Disclose abusive dating relationships (emotionally, physically, or sexually abusive either in person and/or electronically).* *Access resources to help respond to currently/potentially violent dating relationships.*

[a] Behavioral outcomes and performance objectives added specifically for the new target population are in italics.

We reviewed the match of determinants and change methods. A change method is a general theoretical process used to influence behavioral determinants.[17] Content analysis of the *IYG* curriculum indicated that the determinants (eg, knowledge, skills, self-efficacy) and change methods used to influence those determinants (eg, active learning, modeling, skills training) were appropriate for racial/ethnic minority ninth graders because they were similar to those employed in the three identified effective ninth grade interventions. We modified matrices of change objectives for Behaviors 3 through 5 to include the new performance objectives. These matrices specify exactly what needs to change in determinants and

performance objectives to achieve the desired behavioral outcome.[17] **Table 2** presents a partial matrix for contraceptive use.

We then identified methods and applications (ie, how a method is operationalized for a specific context and population) to address the new change objectives. **Table 3** presents sample methods and applications for contraceptive use**.**

The team assessed the delivery and implementation of *IYG* for the new context and population via discussions with school personnel and review of the three evidence-based programs. Scheduling 24 lessons across sequential grades, as in the original *IYG*, would be challenging because of graduation requirements. Two of the three evidence-based programs were fully implemented in ninth grade, supporting implementation of the adapted program solely in ninth grade. The evidence-based programs ranged from 16 to 25 sessions; thus, we determined that the adapted program could be shortened without limiting effectiveness.

Finally, we identified essential elements of *IYG* that made it effective. Based on characteristics of effective sexual health programs,[42] these elements included interactivity, personalization, age and cultural appropriateness, integration of skill-building activities, and reinforcement of key messages. These characteristics were retained in the adapted program.

Table 2. Partial Matrix for Behavioral Outcome 3: Student Will Use Long-acting Reversible Contraception (LARC) or Other Effective Contraceptive Method Along With Condoms If Having Sex

Performance Objectives **The student will:**	**Personal Determinants**			
	Knowledge	**Skills**	**Self-efficacy**	**Outcome Expectations**
PO.1. Make decision to use LARC or other effective method of contraception.	K.1. Describe the personal and partner benefits of using LARC or other contraceptive method.			OE.1. State that using effective LARC or other contraceptive method will offer the best way to prevent pregnancy if having sex.
PO.2. Talk to parent/guardian or trusted adult about LARC or other contraceptive method.	K.2.a. Describe how gaining support from parent/guardian or trusted adult can positivity affect ability to gain access to contraception. K.2.b. List common parental concerns.	S.2. Demonstrate ability to talk to parent about getting LARC or other contraceptive method.	SE.2. Express confidence in ability to discuss LARC or other contraceptive method with parent.	OE.2. State that talking with parent will facilitate adoption of LARC or other contraceptive method.
PO.3. Make appointment with provider who is	K.3. List questions to ask provider/office staff to identify	S.3. Demonstrate the ability to make an appointment with a	SE.3. Express confidence in ability to make an appointment with a	OE.3. State that going to a provider who can prescribe LARC will improve access to

willing to prescribe LARC to teens.	whether they are willing to prescribe LARC.	provider who can prescribe LARC.	provider who can prescribe LARC.	effective reproductive health options.
PO.4. Talk to provider about LARC or other contraceptive method.	K.4. List questions to ask about types of LARC or other contraceptive methods.	S.4. Demonstrate the ability to bring up the topic of and ask questions about contraception and LARC.	SE.4. Express confidence in ability to bring up the topic of and ask questions about LARC or other contraceptive methods.	OE.5. State that bringing up the topic of contraception and LARC methods will result in the provider prescribing the most appropriate LARC or other contraceptive method.
PO.5. Select and obtain appropriate LARC or other contraceptive method.	K.5.a. List benefits/barriers of different LARC or contraceptive methods. K.5.b. List places to fill prescription that are convenient to get to. K.5.c. For LARC, describe procedure to insert LARC device.	S.5. Demonstrate the ability to select and obtain the appropriate LARC or other contraceptive method.	SE.5. Express confidence in ability to select and obtain LARC or other contraceptive method.	OE.5. State that selecting and obtaining appropriate LARC or other contraceptive method will result in higher rates of effectiveness.

PO.6. Monitor how chosen LARC or other contraceptive method is working.	K.6. List side effects of chosen LARC or other contraceptive method. K.6.b. Describe how to tell that LARC or contraceptive method is performing as intended.	S.6. Demonstrate ability to tell that LARC or contraceptive method is performing as intended.	SE.6.a. Express confidence in ability to identify side effects. SE.6.b. Express confidence in ability tell that LARC or contraceptive method is performing as intended.	OE.6. State that evaluating LARC or contraceptive method will result in better health outcomes and greater ease of use.
PO.7. Maintain use of chosen LARC or other contraceptive method.	K.7. List steps to maintaining chosen LARC or other contraceptive method.	S.7. Demonstrate the ability to follow up with provider as needed regarding chosen LARC or other contraceptive method.	SE.7. Express confidence in ability to maintain chosen LARC or other contraceptive method.	OE.7. State that properly maintaining LARC or contraceptive method will ensure its effectiveness and help to reduce or avert potential side effects.
PO.8. Use condoms along with chosen LARC or other contraceptive method.	K.8. State that using LARC or a contraceptive method without a condom does not protect against STIs.	S.8. Demonstrate the ability to negotiate condom use along with LARC or other contraceptive method.	SE.8. Express confidence in ability to use condoms along with LARC or other contraceptive method during sex.	OE.8. State that using condoms along with LARC or other contraceptive method is the most effective way to protect against pregnancy and STIs if having sex.

Table 3. Sample Change Methods and Practical Applications for the Behavioral Outcome 3: Student Will Use Long-acting Reversible Contraception (LARC) or Other Effective Contraceptive Method Along With Condoms If Having Sex

Determinants and Change Objectives	Method (Theory)[a]	Practical Application
Knowledge about types of LARC or other contraceptive methods	Information processing (TIP) Persuasive communication (ELM)	Interactive activity about pros/cons and effectiveness of different birth control methods Mock talk show episode with Ms. IUD to address myths about LARC
Knowledge, skills, and self-efficacy to make a clinic appointment	Modeling (SCT) Discussion (ELM)	Role model video of teen couple accessing health care services and visiting a clinic together Classroom discussion about barriers to visiting a clinic and how to overcome the barriers
Self-efficacy to select LARC or other birth control method	Individualization (TTM)	Students' selection of birth control method they would want to use when they become sexually active
Self-efficacy, outcome expectations, and perceived norms about choosing LARC	Modeling (SCT)	Peer video testimonials from youth who chose to use LARC
Skills and self-efficacy to use condoms along with chosen LARC or other contraceptive method	Guided practice (SCT) Information processing (TIP)	Role plays on negotiating with a partner to use condoms and contraceptive Interactive activity helping a couple negotiate contraceptive use, condom use, and dual protection

ELM, Elaboration Likelihood Model; SCT, Social Cognitive Theory; TIP, Theories of Information Processing; TTM, Trans-theoretical Model.

Step 4: Make adaptations by modifying materials and activities. *IYG* combines group-based classroom lessons with individual computer-based lessons. This delivery mode is ideal for sexual education because it combines norms- and skills-based approaches. Classroom instruction allows teachers to model health-promoting behaviors and elicit group discussion on norms.[42] Integrating computer-based instruction allows students to personalize and practice these health-promoting behaviors, often in tailored situations.[43] We decided to retain this dual delivery mode but included "blended" lessons, which embed computer-based activities into classroom lessons. This blended lesson approach was used in *Me & You*. The planning team named the adapted program *Your Game, Your Life (YGYL)* to reiterate self-empowerment but distinguish it from the original program.

Table 4 presents the modified scope and sequence for *YGYL*. The adapted program comprises fifteen 30-minute lessons: four classroom-only, four computer-only, and seven blended lessons. It integrates group-based classroom activities (eg, role plays, group discussions) with computer-based activities (eg, interactive skills-training exercises) (**Figure 2**). *YGYL* retained *IYG's* self-regulatory decision-making paradigm (*Select*, *Detect*, *Protect*): *select* personal rules or limits, *detect* challenges to your rules, and *protect* your rules by avoiding situations or using refusal skills. Lessons interweave the five behavioral outcomes identified in Task 3. Modified and new activities were reviewed by the Youth Advisory Board to assess comprehension and likability.

Table 4. Scope and Sequence

Lesson No.	Lesson Type	Lesson Title	Lesson Topic and Description
1	Classroom	Your Game, Your Life	Intro to *YGYL*, ground rules, myth busting
2	Classroom	Healthy Dating Relationships	Characteristics of healthy and unhealthy dating relationships
3	Blended[a]	Communicating Effectively	Types of communication strategies, effective communication skills practice
4	Classroom	Consent and Consequences	Characteristics of active consent, skills practice
5	Blended[a]	Keeping Your Relationships Healthy	Dating violence prevention, consequences of unhealthy dating relationships, gender stereotypes, power differentials
6	Classroom	SELECT, DETECT, PROTECT (SDP)	Introduction to SDP theme, identifying personal rules and situations that challenge those rules (related to sex and relationships)
7	Blended[a]	Protecting Personal Rules	Clear NO and alternative actions, consequences of not protecting rules, skills practice
8	Computer	Know Your Body	Anatomy and physiology, reproduction, puberty
9	Computer	Consequences of Pregnancy	Consequences of pregnancy, birth control methods
10	Computer	Pregnancy Risk Reduction	Birth control methods, LARC, identifying effective birth control methods for you
11	Blended[a]	Consequences of HIV and STIs	Consequences of HIV and STIs, importance of HIV/STI testing
12	Computer	Risk Reduction Strategies	Condom knowledge and skills practice, benefits of dual protection
13	Blended[a]	The Clinic Visit	Sexual and reproduction health services (importance, skills around visit, etc.)
14	Blended[a]	More on PROTECT	Protecting personal rules about using condoms and dual protection
15	Blended[a]	Putting it All Together	Curriculum review

[a] Combined classroom and computer lesson.

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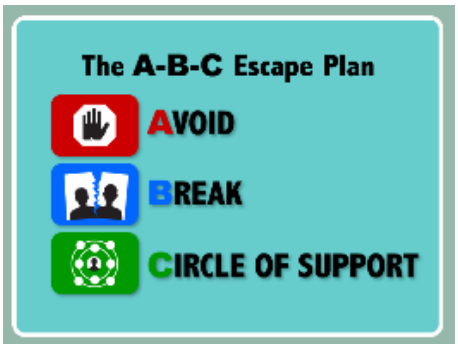

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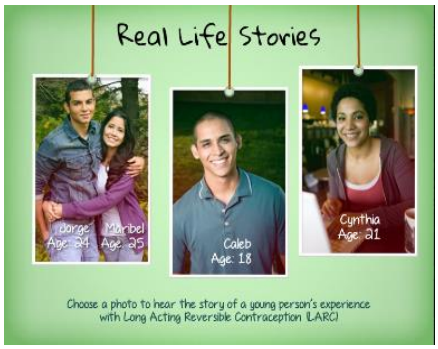

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Figure 2. Examples of computer-based activities. a. Skills training: condom negotiation. b. Skills training: how to get out of an unhealthy relationship. c. Demonstration: condom use. d. Information processing about dual protection. e. Modeling: testimonials from youth who chose LARC. f. Modeling: how to access health care services.

Step 5: Plan for implementation.

We modified the *IYG* teacher training to reflect changes in the adapted program and met with school personnel to schedule classroom time and computer access for program implementation.

Step 6: Plan for evaluation.
In 2014-2015, we conducted a pilot test of *YGYL* with primarily racial/ethnic minority ninth graders in two large, urban high schools in areas with high teen birth rates. After receiving *YGYL*, most students agreed they would use skills learned in the program (93%), had clear personal rules regarding healthy relationships and sex (91%), and were comfortable sharing these rules with their partner (85%). Of 39 students who were in a situation to use the self-regulatory decision-making paradigm, 86% reported using it: more than half in a sexual situation, one-third in a situation with drugs or alcohol, and one-third while online or texting. Most students would recommend *YGYL* to others (87%). These data warrant a more rigorous evaluation of *YGYL* in a randomized controlled trial. Effect evaluation measures would assess the effect of *YGYL* on the targeted behavioral outcomes (eg, delayed sexual initiation, condom and contraceptive use, avoidance of dating violence victimization and perpetration, and utilization of health care services) and related psychosocial outcomes (eg, knowledge, self-efficacy and outcomes expectations for condom and contraceptive use, and healthy dating relationships). Process evaluation measures would assess factors related to reach, dosage, implementation fidelity, and student/teacher satisfaction to guide any additional modifications before broader dissemination.

DISCUSSION

We used the *IM Adapt* framework to modify an existing evidenced-based sexual health education curriculum, originally developed for urban, racial/ethnic minority middle school students, to meet the needs a of new high-risk population – racial/ethnic minority ninth grade students. *IM Adapt* provided guidance on how to incorporate theory, empirical findings, and community input to modify the original program, while retaining elements that made it effective. Input from school personnel and students during the adaptation process ensured that the new program was feasible for implementation in the new context (urban high schools) as well as relevant and engaging for the new population. *IM Adapt* adds to the limited number of theory- and evidence-based frameworks that have been developed for adapting effective sexual health education interventions (eg, the APAPT-ITT model[44] and the Green, Yellow and Red Light Adaptations model)[45] and provides another systematic approach for practitioners to use when

adapting existing teen pregnancy, HIV infection, and STI prevention curricula.

On the basis of findings from the needs assessment, we identified several behaviors that were only partially covered in the original *IYG* program. For example, the American Academy of Pediatrics and the American Congress of Obstetricians and Gynecologists both recommend LARC as front-line birth control for teens.[46,47] Previous studies, including the Contraceptive CHOICE Project conducted in St. Louis, Missouri, indicate that adolescents ages 14 through 17 years are more likely than adolescents ages 18 through 20 years to select an LARC method when they receive detailed contraceptive counseling.[48] Although only a small percentage of US ninth grade students currently report using LARC,[10] it is important to provide ninth graders with information on these highly effective contraceptive methods so that they are familiar with them in later adolescence.

Findings from our needs assessment also reiterated national data indicating that dating violence is prevalent among racial/ethnic minority ninth graders.[10] *IYG* is one of the few evidence-based sexual health education curricula that has demonstrated effectiveness to reduce both dating violence and sexual risk behaviors.[36] In *YGYL,* we included additional activities on active consent, effective communication skills, gender stereotypes, and power differentials to help students have healthier dating relationships and to avoid or get out of unhealthy relationships. These activities were well received by students in the pilot test.

Finally, findings from the needs assessment indicated limited utilization of health care services; thus, we included an entire class session on how to access sexual and reproductive health care services, with interactive activities to address students' knowledge, self-efficacy, perceived norms, and outcome expectations about accessing services.

The original *IYG* program included homework activities for students and parents to complete together. However, high school personnel indicated that parental involvement would be challenging; thus, we did not include take-home activities in *YGYL.* However, given the importance of parent-child communication and parental monitoring for promoting adolescent sexual health,[27] schools may be encouraged to provide supplemental materials or resources to parents to help them connect with their teen.

YGYL represents the “next generation” of age-appropriate, culturally sensitive sexual health education curricula. Given the racial/ethnic disparities in rates of teen pregnancy, HIV infection, and STIs that still exist in the United States, it is important that child advocates and policy makers support school districts in their efforts to implement evidence-based, comprehensive sexual health education curricula that include topics such as contraception and dating violence prevention. National data indicate recent declines in adolescents’ receipt of formal sexual education, including instruction on birth control.[49] Furthermore, federal funding for comprehensive adolescent sexual health programming may be threatened.[50] These factors point to the importance of health education efforts at the local, state, and national levels to support comprehensive sexual health education. Wide-scale implementation of medically accurate, age-appropriate, and culturally sensitive school-based sexual health education curricula, such as *YGYL,* can play an important role in reducing adolescent sexual health disparities in the United States.

CONCLUSION

Using a theory- and evidence-based framework, *IM Adapt,* we adapted an existing effective sexual health education program for middle school students for a new population while retaining essential elements that made the original program effective. Input from school personnel and students throughout the adaptation process helped ensure that the adapted program would be suitable for implementation in the new context, as well as engaging and responsive to the needs of ninth grade racial/ethnic minority students. Wide-scale dissemination of age-appropriate, culturally sensitive school-based sexual health education curricula, such as *YGYL,* may help reduce racial/ethnic disparities in adolescent sexual health.

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