

A Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention Program
(FACE-UP)—Providing Pregnancy Prevention Strategies for At Risk Youth

Ashley Turner
UMass College of Nursing

Capstone Chair: Terrie Black DNP, MBA, CRRN, FAHA, FAAN

Capstone Committee Member: Karen Kalmakis PhD, MPH, FNP-BC, RN

Capstone Mentor: Davene White MPH, NNP, RN

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Abstract

Problem: Teen pregnancy often results in a variety of economic and social costs for the adolescents and their children. Despite recent declines, teen pregnancy rates continue to be the highest in the United States versus other industrialized nations. **Purpose:** Evaluate the efficacy of an educational intervention DNP project, called the Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention Model (FACE-UP), in providing pregnancy prevention strategies to at-risk high school students in Washington, D.C. The goal of this educational intervention was to decrease risk behavior patterns and increase knowledge to empower student participants. **Method:** The Realityworks' Healthy Choices Curriculum was implemented in a class of ninth grade students, 9 males and 17 females over a nine-week period. Additionally, a Parent Seminar was held to improve communication between parents and their children on love, relationships, and sex using the Parent-Child Communication Basics Curriculum. Pre- and post-test assessments, student surveys, and parent surveys were used to evaluate the intervention. Paired Samples t-test with comparisons were used for pre- and post-assessment comparison. **Findings:** There was no significant decrease in sexual risk factors based on sexual activity and contraception use, although 30% of students stated that they were less likely to have sexual intercourse during the next year. Although the Parent Seminar had a lower participation rate than expected, 75% of parents stated that the seminar helped them to understand the importance of communication.

Keywords: teen pregnancy prevention, school-based, community-based

Introduction and Background

In the United States, although it is a public health problem, unintended pregnancy has not been given much attention. There is a lack of consistent policy guidelines, along with contradictory sexuality education throughout the nation (Taylor & James, 2011). Unintended pregnancy affects all parties involved, but when it affects adolescents, the effects are more detrimental to the individual and society. According to the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics data, in 2013, the United States' teen pregnancy birth rate decreased by 52 percent in 20 years' time, yet the country's overall pregnancy rate remains the highest of any other industrialized nation at 24.2 per 1,000 women aged 15-19 years (Azar, 2012; CDC, 2016; Koh, 2014).

One of the aims of the Healthy People 2020 initiative is to decrease the overall rate of adolescent pregnancy (U.S. Department of Health and Human Services, 2017). In Washington, D.C., there is a mandated requirement that schools provide sexual health education, HIV education, and that parents must be involved in the sex and/or HIV education (Montgomery, Folken, & Seitz, 2014). According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2015), teen births in Washington, D.C. declined from 1,880 in 2010 to 637 in 2013. Despite the progress in teen birth rates, more work is needed.

The challenge for teen pregnancy prevention in Washington, D.C. is to integrate preventive reproductive health services into school-based health education programs. Clinical and school-based encounters should focus on pregnancy prevention that targets at-risk youth (U.S. Department of Health, Office of the Assistant Secretary for Planning and Evaluation, 1999). These statistics suggest a disconnect between Washington D.C. youth and risky sexual behavioral patterns.

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Problem Statement

Adolescents are at risk of pregnancy in the poorest wards of Washington, DC as indicated by high rates of teen births and results from adolescents' lack of knowledge of primary prevention measures, lack of awareness among community residents, health care providers, program managers, and policy makers, and lack of social and financial resources due to unemployment, gentrification, homelessness, history of teen pregnancy, peer pressure, and access to birth control. This educational intervention, called the Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention Program (FACE-UP) model, addresses this problem through the implementation of a school-based teen pregnancy prevention project.

Organizational “Gap” Analysis of Project Site

The project site was at the SEED Public Charter School of Washington, D.C. (SEED DC). SEED DC is known as the nation's first college-preparatory, public boarding school with females and males. As the school is located within one of the D.C. wards with the highest teen pregnancy rates and the students live at the school for five days out of the week, the students may be more at risk for exhibiting behavioral risk factors.

Review of the Literature

A search of articles was performed using the databases of the Cumulative Index to Nursing and Allied Health literature (CINAHL), PubMed, and the Public Health Nursing Journal. The Medical Support Headings (MeSH) terms included *teen pregnancy prevention*, *community-based*, and *school-based*. The criteria for the literature search included English language, full-text articles, published in peer reviewed journals between 2006 and 2016. Exclusion criteria was defined as non-English, outside the set timeframe, abstracts, and commentary articles. There were 220 articles retrieved from the search, but after elimination of

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duplicates and commentary articles, nineteen articles were found to contain specific components of the proposed teen pregnancy prevention project. This review included a randomized controlled trial, a quasi-experimental design, a pretest-posttest study, a prospective longitudinal design, a retrospective cohort study, six systematic reviews, a correlational study, a qualitative interview, a report, a logic model, a policy brief, an integrative literature review, and two guidelines. The Johns Hopkins Nursing Evidence and Level and Quality Guide (nd) was utilized to determine the level and strength research studies. This literature review included various themes that support the use of a school-based teen pregnancy prevention project.

Risk Changing Behaviors

It was commonly agreed that teen pregnancy prevention programs should focus on changing the risk behaviors of adolescents (Michigan Quality Improvement Consortium, 2014; Kirby, Roller, & Wilson, 2007; Oman, Merritt, Fluhr, and Williams, 2015; Hoskins & Simons, 2015). The Michigan Quality Improvement Consortium (MQIC) Guideline on “Prevention of Pregnancy in Adolescents 12-17 Years” (2014) states that trust must first be established between the adolescent and counselor to foster change. An assessment of a teen’s risks and readiness to make behavior changes is necessary to adapt counseling techniques (MQIC, 2014). Teaching methods and activities that were designed to change behaviors and are appropriate to youth’s culture and developmental age should be employed (Kirby et al., 2007). Kirby et al. (2007) reported evidence of their assessment tool for the effectiveness of sex education programs. Changing student attitudes and perceptions is a key component of effective teen pregnancy prevention program interventions (Oman et al., 2015). In their prospective longitudinal design, Hoskins and Simons (2015) suggest that prevention programs’ involvement of adolescents’ peers may offset risky sexual behaviors that could lead to teen pregnancy.

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Planning for the Future

The second theme of teen pregnancy prevention involves future planning based on a person's priorities and goals with regards to life and children. The MQIC (2014) emphasizes teen goals and future plans through assessment of implications, consequences, and adverse outcomes associated with pregnancy in relationship to life goals. As a part of future planning, the MQIC (2014) also mentions discussing abstinence, condom use, long-acting reversible contraceptives (LARCs), and other birth control methods. In their evidence-based guideline of unintended pregnancy prevention, Taylor and James (2011) focuses on the concept of primary prevention strategies for future planning which include defining health goals, assessment and screening of lifestyle choices, counseling methods on contraceptive goals, and a contraceptive failure plan.

Youth Development

Youth development activities such as mentoring programs, tutoring and access to higher education, recreational activities, vocational and job skills training, and community service opportunities have also been noted to foster future growth and maturity into adulthood (MQIC, 2014; Kirby et al., 2007, Sieving et al., 2011; Gavin, Catalano, David-Ferdon, Gloppen, & Markham, 2010). According to the MQIC guideline (2014), this fostering begins with establishing trust, as well as conversing with the adolescent in a way that models being their advocate for making healthy relationships. Kirby et al. (2007) states that it is beneficial to implement activities to recruit and retain youth and overcome barriers to their involvement in teen pregnancy prevention programs. Also, using a youth development framework to guide adolescent health services nurtures the strengths of adolescents and foster opportunities positive social development (Sieving et al., 2011). In their review of positive youth development

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programs that promote adolescent sexual and reproductive health, Gavin et al. (2010) found that 50% of the effective programs addressed social bonding; cognitive, social, and emotional competence; belief in the future, and self-determination.

Community Support

Community support is imperative in building a public health program with the aim of working with youth (Kirby et al., 2007; Hulton, 2007; Hillis et al., 2010; Maria, Markham, Bluethmann, & Mullen, 2015). At least minimal support from stakeholders, such as local decision makers and policymakers, business leaders, and organizations should be secured while establishing a teen pregnancy prevention program (Kirby et al., 2007). Hulton (2007) derived that the perspectives of the student, parent, teacher, and administrator should be involved throughout the entire development of the program from a logic model for a school-based program evaluation. Parental involvement is emphasized a great deal within the articles. Hillis et al. (2010) determined from their retrospective cohort study of 4,648 women who reported on childhood family strengths, that program interventions that are intended to strengthen the family are likely to improve decision making about teenage sexual and reproductive health as evidenced. Also, Maria et al. (2015) completed a systematic review of US parent-based interventions to determine effect of parent-child communication on behavioral change; it was determined that parent-based teen sexual health interventions improve communication and reduce sexual behaviors

Social support is another trait that should be incorporated into intervention programs, including peer norms and parental involvement; these are amongst the greatest influencers of risky sexual behavior in adolescents (Danawi et al., 2016; Lee et al., 2014). From their literature review, Lee et al. (2014) affirmed that African American adolescents have higher substance

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abuse rates than other cultural groups, and parental involvement facilitates effective communication between parents and children about future family planning and sexuality issues.

Type of Prevention Program

With the Teen Pregnancy Prevention Initiative, introduced by President Obama, more interests grew in developing comprehensive programs (Koh, 2014). Stanger-Hall and Hall (2011) and Oman et al. (2015) stated that abstinence-only education is ineffective in preventing teenage pregnancy and may actually be contributing to the high teenage pregnancy rates in the United States. Craft, Brandt, and Prince (2016) completed a case study of eleven qualitative interviews identifying needs and barriers for program sustainability. For program sustainability school is a positive place to implement a teen pregnancy prevention program because it is designed to reach youth in an environment where they spend much of their time.

Students are more successfully able to receive timely information on comprehensive, reproductive health education in a school setting (Minguez, Santelli, Gibson, Orr, & Samant, 2015). Minguez et al. (2015) utilized a quasi-experimental design comparing reproductive health indicators among students with school health centers and without school health centers. Also, in their comparison of comprehensive teen pregnancy prevention programs versus abstinence-only programs, Oman et al. (2015) suggested that comprehensive programs are more effective in establishing attitude and behavior changes about sexual activity, as it relates to differences in male and female empowerment of sexuality practices and peer norms.

Oringanje et al. (2016) addressed the evidence base of pregnancy prevention strategies around the world, in their level one systematic review of randomized controlled trials; it was found that multiple interventions with a combination of educational and contraceptive-based interventions were the most effective in lowering the risk of unintended pregnancy among

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adolescents. Lopez, Bernholc, Chen, and Tolley (2016) identified school-based interventions to improve contraceptive use among adolescents in their systematic review. Of eleven trials, their results showed that interventions promoting sexually-transmitted disease/infection (STD/STI) and prevention emphasized condom use and a range of contraceptive methods, but the quality evidence was low. School-based health center data (N=88) from California was analyzed to investigate the role of school and community factors as a cross-sectional design by Bersamin, Fisher, Gaidus, and Gruenewald (2016). Resources, need, and political ideas were associated with community involvement and a significant association between teen pregnancy and SBHCs existed—yet the direction of the cross-section effect is not clear as a level 3. Mason-Jones et al. (2016) also evaluated the effects of school-based sexual and reproductive health programs on risky behaviors in their systematic review of RCTs. The results of this article indicated schools are good place to provide contraceptive and reproductive health services, but there is not much evidence that curriculum-based education alone is effective in improving prevention outcomes. Behavior change, prevention intervention for adolescents, and community and/or parental involvement were found to be common components of successful prevention programs.

Theoretical Framework

The intervention that was implemented was a school-based pregnancy prevention project focusing on adolescent health, educational and community-based programs, family planning, and sexually transmitted infections. The idea was to influence attitudes and future life planning for delay of sexual activity through education and behavior interventions. Therefore, the theoretical framework that was chosen as a basis for this intervention was the Theory of Reasoned Action (TRA) (Family Health International, 1996).

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The Theory of Reasoned Action was developed to explain why humans behave the way they do and explain predictors of the behavior. The theory links an individual’s beliefs, attitudes, and intentions to voluntary behaviors (Family Health International, 1996). In review of other programs aimed at teen pregnancy and sexually transmitted prevention, an adolescent’s beliefs about sex, values, attitudes, and intentions were most related to sexual behavior (Doswell, Braxton, Cha, & Kim, 2011). In their research of TRA, this is what Guilamo-Ramos, Jaccard, Dittus, Gonzalez, and Bouris (2008) (*Figure 1*) stated on how adolescents decide to perform a behavior by doing one or more of the following: “they think about the advantages and disadvantages of enacting the behavior, they consider the normative pressures to perform the behavior, they take into account their ability to perform the behavior and the obstacles that may impede behavioral performance, they consider the social images they will project if they perform the behavior, and they consider how the behavior ‘feels’ to them emotionally and affectively” (p. 32).

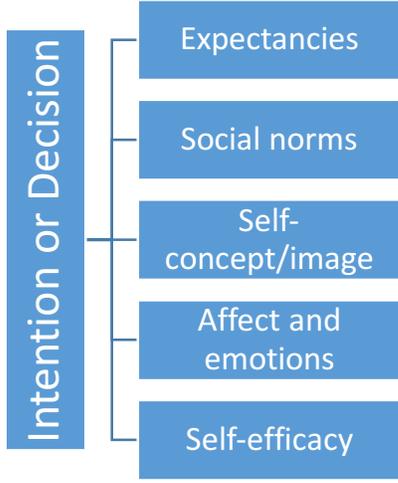


Figure 1. Determinants of Behavioral Intentions for

Adolescent Sexual Behavior as depicted by Guilamo-Ramos et al. (2008).

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The pregnancy prevention intervention aimed to achieve demonstrated attitudes, behavior, and knowledge to empower participants with prevention strategies. The examination of TRA assisted the DNP student in understanding the reasons why adolescents maintain risky behaviors and the best methods to educate them based on their choices. As the theory suggests this project sought to utilize a curriculum that addressed normative beliefs about teen pregnancy and provided education on the consequences of teen pregnancy to change attitudes. Doswell et al. (2011) says that interventions should be aimed toward engaging adolescents' attitudes away from early sexual behaviors. It would seem wise to focus an intervention that leads to less positive attitudes toward engagement in early sexual behaviors (Doswell et al., 2011).

Project Design and Methods

Setting and Resources

Description of the group, population or community.

The teenage pregnancy prevention project was proposed to benefit adolescent females and males less than 20 years old, that attend a public charter school located in one of the poorest wards of Washington, D.C. with the highest teen birth rates. These youths in grades 9 to 12 report 28.2% are sexually active, with 11.0% reporting sexual intercourse before the age of 13; 13.8% had sexual intercourse with four or more persons during their lifetime; 33.4% did not use a condom during their last sexual intercourse; and 92% of girls did not use birth control (CDC, 2016). As stated by the D.C. Department of Health (2016), Wards 8 and 7 had the highest number of teenage births in 2014, as shown in a hot spot analysis. The intervention will take place within Ward 7.

Project site and sample.

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As previously stated, the teen pregnancy prevention project occurred at the SEED Public Charter School of Washington, D.C. (SEED DC). SEED DC was established in 1998; the school offers students unique learning opportunities with support services 24 hours a day, 5 days a week. As a part of the student support services offered by SEED DC, the Health and Wellness Suite is available to students, as well as counseling services. Of note, Unterman, Bloom, Byndloss, and Terwelp (2016) observed that SEED high school students exhibited risky behaviors more often than students from other charter school and public school experiences within D.C., in their six-year evaluation of SEED DC.

The project participants included ninth grade students enrolled within two health education classes. There were nine females and seventeen males who were involved in the project. The DNP project was designed to be integrated within classrooms.

Evidence of stakeholder support.

The DNP student, in conjunction with the sponsoring University's Public Health Programs, implemented the teen pregnancy prevention model. The Director of the Public Health Programs gave consent and willingness to assist with the project. The Principal of the school was also notified of the project's plan for implementation and was willing to support the project's success. The Director of Student Support Services from SEED DC was the main facilitator at the school.

Facilitators and barriers.

Although an implementation plan may be put into practice, barriers and facilitators of the plan must be taken into consideration. As stated by Demby et al. (2014) it is imperative to assess potential barriers and facilitators at each level of implementation, while examining how they could hinder or assist carrying out the plan. One facilitator of the teen pregnancy prevention

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project was an abundance of stakeholder involvement that contributed to the success of the program model. Increased awareness and involvement of the sponsoring University's Director of Public Health Programs to allow the project in partnership with the DNP student and the staff of the school to permit the project to be held at their school. Without their buy-in the quality improvement project would not have come to fruition.

Another facilitator of the DNP project was the recruitment and participation of the ninth grade students and their parents. It was the aim of this project to represent the future of school-based health education by adapting specific models including Rapid Assessment for Adolescent Preventive Services (RAAPS) (Possibilities for Change, 2015), the Life Course Health Plan (Nebraska Department of Health and Human Services [NDHHS], 2012), the Realityworks' (Realityworks, 2016) pregnancy prevention curriculum, and the Parent-Child Communication Basics Curriculum for parents (Advocates for Youth, 2008). Recruitment of students for health education and parents for the Parent Seminar happened through human resources of SEED DC and capital resources of the aforementioned tools.

Lastly, the main barrier during project implementation was a lack of engagement of some of the students and parents. Being that the project was the first time the DNP student led teaching initiatives without any prior implementation plan to follow, there was some uncertainty of effective engagement of the students. According to Realityworks (2017), today's youth are motivated by doing, want immediate feedback, and use technology to gain a better understanding; therefore, they lack soft skills, such as communication, leadership, ownership, and teamwork, for future employability. Performance improvement feedback received from some of the students and the health education teacher was to make the lessons more interactive. In the DNP student's attempt to provide opportunities to interact with the facilitator as well as

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amongst each other, some resistance was received from some students to participate. Parents participated in the Parent Seminar as it was facilitated, but many wanted skills to be taught on how to talk to their teens about sex rather than just on communication.

Goals, Objectives, and Expected Outcomes

The overall goal of the DNP project was to prevent pregnancies by providing primary prevention strategies to adolescent females and males in the ninth grade, while promoting empowering attitudes of future life plans. The goals, objectives, and expected outcomes of the project were identified as follows (*Table 1*):

Table 1

Project Goals, Objectives, and Expected Outcomes

Goals	Objectives	Expected Outcomes
Change the behavior patterns of female and male participants.	Assess risk behaviors and educate students through integration of various prevention strategies.	There will be a 40% decrease in risky behaviors after implementation of prevention strategies.
Elicit parental knowledge on their ability to communicate with their child about healthy, intimate relationships.	Parents of FACE-UP participants partake in a seminar to receive effective communication strategies.	30% of parents will acquire communication skills that improve their ability to talk to their own children about love, sex, values and relationships.

Measurement Instruments

To measure the outcomes of this DNP project the following instruments were used: the Rapid Assessment for Adolescent Preventive Services (RAAPS) (Possibilities for Change, 2015) (*Appendix A*) was completed at the beginning and the end of the project implementation for pre- and post-test assessments, student surveys (*Appendix B*) that were created by the DNP student to assess knowledge and opinions of the project, and parent surveys (*Appendix C*) evaluating the

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effectiveness of a Parent Seminar utilizing the Parent-Child Communication Basics Curriculum (Advocates for Youth, 2008). Other tools that were utilized during the nine-week project implementation period included a Life Course Health Plan (NDHHS, 2012) and six lessons from the Realityworks' Healthy Choices: Relationship, Sexuality, and Family Planning Sex Education Curriculum (Realityworks, 2017).

FACE-UP tools.

The Rapid Assessment for Adolescent Preventive Services (RAAPS) is a screening assessment that was developed by nurse practitioners to address the nation's issue with the risky behaviors of teenagers, in accordance with the Healthy People initiative (U.S. Department of Health and Human Services, 2017). It was actually tested first in school-based health centers, of which its effectiveness was noted (Yi, Martyn, Salerno, & Darling-Fisher, 2009). RAAPS addresses all of the top areas of teenage risky behaviors, including sexual behavior. The assessment tool is used worldwide—in 1,934 U.S. organizations and 2,061 international organizations (Possibilities for Change, 2015). The benefits of implementing RAAPS in the FACE-UP model are improvement of practice management, bettering student outcomes, and taking advantage of reimbursement opportunities (Salerno, 2015).

Advocates for Youth (2008) offer a variety of resources on parent-child communication, which is where the Parent-Child Communication Basics Curriculum was obtained. As one of the objectives of the FACE-UP project is for parents to improve their ability to talk to their own children about love, sex, values, and relationships using an evidence-based model, this curriculum was chosen. The method in which communication on body image, peer pressure, and sexuality matters to an adolescent's future well-being and health (Advocates for Youth, 2008).

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The seminar was designed to be a 75-minute session on introductory communication (Advocates for Youth, 2008).

The idea of the Life Course Health Plan is to provide a way for students to state and write down their dreams and goals for their life, that can be as fluid and changing, as their life goes. In more recent years, the life course theory has gained interest amongst the maternal and child health public health community. It is thought that viewing health from a broader perspective, rather than in life stages, will improve outcomes. “Biological, behavioral, psychological, social, and environmental factors contribute to health outcomes across the course of a person’s life” (Fine, Kotelchuck, Adess, & Pies, 2009, p. 3). An ideal life plan tool that the FACE-UP program will utilize should focus on future goals, personal health, personal safety, emotional health, healthy relationships, vaccines, medications, family health history, and what's most important to them, as is outlined in NDHHS’s model (2012).

Realityworks’ Healthy Choices: Relationships, Sexuality and Family Planning Curriculum was originally obtained as a part of an Infant Simulator program by the sponsoring University. Designed for youth ages 15 to 18, the research-based curriculum is comprised of 17 lessons to be given over 45 to 50-minute classes (Realityworks, 2016). Issues addressed by the curriculum include: setting goals, improving self-esteem, using good communication skills, handling peer pressure, male and female reproductive systems, abstinence, contraception, and pregnancy and STD/STI prevention.

Data Collection Procedures

To implement the Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention model (FACE-UP), evidence-based and evidence-informed programs were utilized. After IRB approval was completed and the 2016-2017 school year commenced, operations began

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in October 2016. The actual implementation period took place over nine weeks—from October 2016 to December 2016. Ninth grade males and females were recruited from SEED DC through enrollment in health education classes. There were 130 students enrolled in a health education class during the 2016-2017 school year; therefore, the data of 20% of the target population (26 students from two classes) was analyzed. A letter was devised and mailed to parents informing them of the prevention program, as well as an informational session was held to notify parents on Back to School Night.

Six reproductive health sessions were held over nine weeks for Friendly Adolescent Care Environment participants. Before the first session was initiated, pre- and post-RAAPS assessments and student consents (*Appendix D*), designed by the DNP student, were given to the students. Each session lasted for fifty minutes, and each lesson was derived from Realityworks' Healthy Choices Curriculum. The DNP student integrated each section of the Life Course Health Plan into the lessons. The purpose of the sessions was to provide counseling and health education to participants around identified sexual risk behaviors.

As one of the aims of the DNP project involved improving communication between parents and their children, a Parent Seminar was held. Since a Parent-Teacher-Student Association (PTSA) meeting was already scheduled on the school calendar, the DNP student, with support of the Director of Family and Community Engagement at SEED DC, held the seminar on the same weeknight to increase participation rates. The DNP student educated the audience using the Parent-Child Communication Basics curriculum. Also, free meals were offered to parents as sponsored by SEED DC.

It was the goal of the DNP student for the Friendly Adolescent Care Environment model to be an exemplary program providing prevention services and referrals. The FACE-UP model

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worked with existing services at the charter school and directly with students, parents and the health education teacher to demonstrate the commitment of focusing on reproductive age adolescents.

Cost-Benefit Analysis/Budget

As a part of a larger program, the DNP project was supported by a grant that was awarded to the sponsoring University by the DC Campaign to Prevent Teen Pregnancy. Although there is an electronic version of the RAAPS assessment, this version was not available in time for project implementation, therefore color copies of RAAPS was provided by the DNP student at no expense. Parent seminar paper materials, parent seminar meals, and black and white copies of students surveys were provided at no cost to the DNP student, the agency site, or the University. Black and white copies of the Life Course Health Plan were supplied by the DNP student at the onset of the project; the budgeted amount is detailed in Table 2. Support was obtained from the principal, administrators, health education teacher, and parents about the DNP project. Lastly, guidance was given for implementation to the DNP student from the Director of Student Support Services at SEED DC.

Table 2

Reproductive Health Budget

<u>Supplies</u>		<u>Costs</u>
B&W Copies x28 (Life Course Health Plan)		\$39.18
Color Copies x28 (RAAPS)		\$0
Parent Seminar Paper Materials		\$0
Parent Seminar Meals		\$0
B&W Copies x28 (Student Surveys)		\$0
	TOTAL	\$39.18

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Ethics and Human Subjects Protection

The human subjects that were involved in the project included high school student participants and their parents. The FACE-UP project received approval from the institutional review board process (IRB) of the University agency site began. Parental consent was obtained through a letter that informed about the project and gave parents the option to opt-out their child from participation by mailing it back to SEED DC. All of the data, including the assessments, surveys, and participant information, were stored in a locked cabinet in an office on the sponsoring University's campus. It was planned for the Director of Student Support Services at the school to notify the DNP student of any parental disapproval the week before implementation but none were mailed back. All data was de-identified through exclusion of formal names.

Results/Outcomes

Statistical Procedures

The goals of the DNP project were to assess adolescent risk behavioral factors, educate high school students on reproductive health education, and increase the communication skills of parents to improve their ability to talk to their children about sex. The Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention Program (FACE-UP) model was held at SEED DC over nine weeks. Data was obtained from ninth grade students. Statistical analysis included pre- and post-tests of the RAAPS assessment. Paired Samples t-tests with comparisons was done for pre- and post-assessments using SPSS. Because the assessment tool encompassed multiple common adolescent risk factors, four questions on sexual behavior were utilized for the statistical analysis. Student surveys, which assessed knowledge and opinions of the project, along with parent surveys, which evaluated the effectiveness of the Parent Seminar were analyzed with DataCracker.

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Statistical Analysis

Paired samples t tests.

The RAAPS assessment tool features 21 questions on various risk factors such as safety, nutrition habits, mental health, and sexual behavior. Samples included a pre-test assessment sample (N=26) and post-test assessment sample (N=24). Missing data in the posttests included absences of two students, therefore their questions were omitted. The four questions that were utilized to assess if sexual behavior risk changed as a result of the project interventions included:

1. Have you ever had any type of sex (vaginal, anal, or oral sex)?
2. If you have had sex, did you always use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy?
3. Has anyone ever abused you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or forced you to have sex or be involved in sexual activities when you didn't want to?
4. Have you ever been attracted to someone who was the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual?

Questions #1 and #2 were paired, and #3 and #4 were paired for the pre- and post-data output (*Appendix E, Appendix F*). The first pairing demonstrated that there was no significant decrease in risk behaviors with a mean of $-.0909$ (95% confidence interval, $-.2122, .3940$, $p = .68$). The second pairing showed that there was a decrease of risk behaviors with a mean of $.2083$ (95% confidence interval, $-.4232, .0065$, $p = .57$).

Student surveys.

Although there were initially twenty-six participants, twenty-four ninth grade students took the survey after all scheduled lessons were completed, along with the RAAPS post-

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assessments. Demographic information included: 63% were boys, 38% were girls, ages of students ranged between 14 and 15 years, 83% were African American, 16% identified as multi-racial, and all students were from urban Washington, D.C. The survey consisted of seventeen items in combination of true/false statements, Likert scale questions, demographic questions, and a comment section. Analysis of the survey was done using DataCracker. Significant results that were found included:

- 30% of students stated that they were less likely to have sexual intercourse the next year.
- 43% of students were much more likely to use a condom if they were to have sexual intercourse in the next year.
- 29% of students were “much more likely” to say “no” if a boy/girl was to put pressure on them to do something that was not wanted.

Parent surveys.

Parents of the ninth grade participants were invited to a seminar to increase their communication skills to improve their ability to talk to their children about sex and relationships. Of twenty-six parents, six attended the seminar which included five women and one man. Three members of the SEED DC staff and one FACE-UP member also attended. The DNP student educated the audience using the Parent-Child Communication Basics curriculum. Four (4) evaluation surveys were returned at the end of the seminar. Analysis of the surveys were done using DataCracker. Results that were found included:

- 75% of parents stated that the seminar helped them to understand the importance of communication.

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- “Communicating, being able to talk to my teen, being patient, and to listen to children” were listed as the most helpful parts of the seminar.
- “Money management and debt control, to communicate more with my teen, and life” were topics listed as being would be most useful at future seminars.

Discussion

When the DNP project was first actualized, the original focus was on assessing knowledge of sexual health topics, but the DNP student realized that the high school students had been previously exposed to a sexual health program. Therefore, the focus was changed to assessing behavioral risk factors with the RAAPS assessment. Ultimately the student behavior risk assessments showed that there was not a significant decrease in sexual risk factors based on sexual activity and contraception use, yet sexual abuse occurrence and sexual orientation did indicate a decrease in sexual risk factors. One drawback of the RAAPS assessment was that it limited the participants in answering truthfully due to them only being able to answer Yes or No; the DNP student received a few questions from the students on various subject matters during the assessments. An updated version of RAAPS was created by Possibilities for Change after initial implementation of the original version.

Two other unexpected results of the DNP project involved the Life Course Health Plan and the Parent Seminar. Because of the approach in which the Life Course Health Plan was implemented within the project, the DNP student was unable to completely execute the intervention within the allotted timeframe. Also, the Parent Seminar had a lower participation rate than expected, despite offering free meals and scheduling the event on the same night as a PTSA meeting. Although the DNP project exhibited previously mentioned traits as stated in the literature review, including early intervention, social support, and community linkages, the

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project did not meet all of the projected aims. Perhaps if the project was more long-term, then the desired results would have been achieved.

Conclusion

Unintended pregnancy is an almost forgotten issue in the United States and has negative implications for adolescent parents. The issue of unintended teen pregnancy and the solution of a prevention program were examined. The evidence states that a comprehensive teen pregnancy prevention program is more effective than programs focused on abstinence-only. A proposed program should exhibit particular traits that embrace early intervention, social support including parental involvement, and community linkages. A teen pregnancy prevention project was implemented based on the current science of practice. The DNP project showed the outcomes of no significant decrease in sexual risk factors based on sexual activity and contraception use and a decrease in sexual risk factors related to sexual abuse occurrence and sexual orientation. A longer-term project design with a greater outreach of students is needed to determine the project's true effectiveness. Changing the minds of thousands of teens could better the lives of millions of even younger children.

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Appendix A



1. **In the past 12 months**, have you taken diet pills or laxatives, made yourself vomit (throw up) after eating, or starved yourself to **lose weight**? Yes N
2. Do you eat some fruits and vegetables every day? Yes N
3. Are you active after school or on weekends (walking, running, dancing, swimming, biking, playing sports) for **at least 1 hour, on at least 3 or more days each week**? Yes N
4. When you are driving or riding in a car, truck, or van do you **always** wear a lap/seat belt? Yes N
5. When you do **any** of these activities: ride a bike, rollerblade, skateboard, ride a motorcycle or snowmobile, ski or snowboard, do you **always** wear a helmet? Yes N
6. **During the past month**, have you been threatened, teased, or hurt by someone (on the internet, by text, or in person) causing you to feel sad, unsafe, or afraid? Yes N
7. Has anyone **ever abused** you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or **forced you** to have sex or be involved in sexual activities when you didn't want to? Yes N
8. Have you **ever** carried a weapon (gun, knife, club, other) to **protect** yourself? Yes N
9. **In the past 3 months**, have you smoked any form of **tobacco** (regular or e-cigarettes, cigars, black and mild, hookah, vape pens) or used smokeless tobacco (dip, chew, snus)? Yes N
10. **In the past 12 months**, have you driven a car while texting, drunk or high, or ridden in a car with a driver who was? Yes N
11. **In the past 3 months**, have you drunk more than a few sips of alcohol (beer, wine coolers, liquor, other)? Yes N
12. **In the past 3 months**, have you used marijuana, other street drugs, steroids, or sniffed/huffed household products? Yes N
13. **In the past 3 months**, have you used **someone else's** prescription (from a doctor or other health provider) or any nonprescription (from a store) drugs to sleep, stay awake, concentrate, calm down, or get high? Yes N
14. Have you **ever** had any type of sex (vaginal, anal or oral sex)? Yes N
15. Have you ever been attracted to someone who is the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual? Yes N
16. If you have had sex, do you **always** use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy? Yes N
17. **During the past month**, did you **often** feel sad or down as though you had nothing to look forward to? Yes N
18. Do you have any serious problems or worries at home or at school? Yes N
19. **In the past 12 months**, have you seriously thought about killing yourself, tried to kill yourself, or have you purposely cut, burned or otherwise hurt yourself? Yes N
20. Do you have at least one adult in your life that you can talk to about any problems or worries? Yes N

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21. When you are angry, do you do things that get you in trouble?

Yes N

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Appendix B

Howard University FACE-UP Survey

What is today's date? _____

Do not write your name on this paper. Your answers are private. It is safe to answer honestly. The information that you provide in this survey will be used to improve programs in your school and community. You do not have to answer these questions if you don't want to.

1. Do you feel that being in this program has increased your understanding of the symptoms of sexually transmitted infections?
 Definitely not Not really Sort of Definitely did
2. Do you feel that being in this program has increased your understanding of how HIV is transmitted?
 Definitely not Not really Sort of Definitely did
3. TRUE or FALSE: You can tell if someone has an STD/STI just by looking at them.
 True False
4. TRUE or FALSE: You cannot have an STD/STI if you feel perfectly fine.
 True False
5. TRUE or FALSE: HIV/AIDS is present in blood, semen, and vaginal fluid.
 True False

For the next few questions, please think about the program that you just completed and how it may have influenced you.

Please use the following scale: 1=Not Important, 2=Somewhat Important, 3=Very Important.

6. BEFORE the program, how important did you think it was for someone your age to use a condom if they had sex?..... 1 2 3
7. AFTER the program, how important do you think it is for someone your age to use a condom if they have sex?
8. Would you say that being in the program has made you more or less likely to have sexual intercourse in the next year?
 Much more likely More likely About the same Less likely Much less likely
9. If you were to have sexual intercourse in the next year, would you say that being in the program has made you more likely or less likely to use (or ask your partner to use) a

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condom?

- Much more likely
 More likely
 About the same
 Less likely
 Much less likely

10. As a result of the program, are you more or less likely to be able to correctly explain how to use a condom?

- Much more likely
 More likely
 About the same
 Less likely
 Much less likely

11. As a result of this program, how likely are you to be able to say "no" if a boy/girl puts pressure on you to do something you don't want to do?

- Much more likely
 More likely
 About the same
 Less likely
 Much less likely

12. Overall, I thought the program was:

- Excellent
 Good
 Ok
 Poor
 Very poor

13. Would you recommend the program for other teens?

- Definitely yes
 Probably yes
 Probably no
 Definitely no

The following questions ask about your background. The answers will be used only to describe the types of students completing this survey.

14. Are you a boy or girl?

- Boy
 Girl

15. How old are you? (in years)....._____

16. Which of the following best describes you? (*Check all that apply*)

- African-American/Black
 Asian
 Caucasian/White
 Native American
 Multi-Racial
 Other: _____

17. Please use the following space to share any comments or thoughts you have about the program.

Appendix D

Dear Participant:

Thank you for your participation in the Friendly Adolescent Care Environment for Utilization of a Pregnancy Prevention Program (FACE-UP). FACE-UP was created by Howard University to educate high school students on pregnancy prevention and sexually transmitted infections (STIs). You will receive weekly lessons not only on pregnancy prevention and STIs, but also contraception options, identifying values, communication skills, and goal setting for future plans. You will also be provided the opportunity to receive contraception options and counseling through a Howard University provider on the school's campus.

We look forward to working with you and getting to know you during our time at SEED.

Thank you,

FACE-UP Team

Participant Name/ Signature

Appendix E

Pretest Data

Table E1.

Paired Samples Test

		Paired Differences					
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t
					Lower	Upper	
Pair 1	Have you ever had any type of sex (vaginal, anal, or oral sex)? - If you have had sex, do you always use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy?	.15385	.54349	.10659	-.06568	.37337	1.443
Pair 2	Has anyone ever abused you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or forced you to have sex or be involved in sexual activities when you didn't want to? - Have you ever been attracted to someone who is the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual?	.11538	.51590	.10118	-.09299	.32376	1.140

Appendix E

Pretest Data

Table E2.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Have you ever had any type of sex (vaginal, anal, or oral sex)? & If you have had sex, do you always use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy?	26	.386	.052
Pair 2	Has anyone ever abused you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or forced you to have sex or be involved in sexual activities when you didn't want to? & Have you ever been attracted to someone who is the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual?	26	.088	.669

Appendix F*Posttest Data*

Table F1.

Paired Samples Test

		Paired Differences					t
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		
					Lower	Upper	
Pair 1	Have you ever had any type of sex (vaginal, anal, or oral sex)? - If you have had sex, do you always use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy?	-.09091	.68376	.14578	-.39407	.21225	-.624
Pair 2	Has anyone ever abused you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or forced you to have sex or be involved in sexual activities when you didn't want to? - Have you ever been attracted to someone who is the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual?	.20833	.50898	.10389	-.00659	.42326	2.005

Appendix F*Posttest Data*

Table F2.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Have you ever had any type of sex (vaginal, anal, or oral sex)? & If you have had sex, do you always use a condom and/or another method of birth control to prevent sexually transmitted infections and pregnancy?	22	.092	.682
Pair 2	Has anyone ever abused you physically (hit, slapped, kicked), emotionally (threatened or made you feel afraid) or forced you to have sex or be involved in sexual activities when you didn't want to? & Have you ever been attracted to someone who is the same gender as you are (girl if you are a girl/guy if you are a guy) or do you feel that you are gay, lesbian or bisexual?	24	-.120	.575