

Analysis of Pregnancy Outcomes in the CHAMPS Project

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Office of Adolescent

Health Grant #TP2H000010-01-00

- OAH awarded \$105M annually 2010-2015
 - Tier 1: Replicate evidence-based models
 - Tier 2: Develop and test additional models that include innovative strategies (\$15M annually to 19 organizations)
- Dr. Anita Barbee (PI) along with other KSSWFS Faculty was awarded a \$4.8 million Tier 2 grant in 2010 for 5 years (with a one year no cost extension to complete data collection) to test an innovative approach to TPP

Background

- While teen pregnancy rates have been dropping over the last 30 years, the rate of some groups remain high:
 - African American Youth
 - Hispanic/Latino Youth
 - Foster Youth
 - LGBTQ Youth
- As of January 2009, KY ranked 8th highest in teenage births (51.3 per 1000 in KY vs 41.9 per 1000 national rate) African American rates were even higher at 57 per 1000 (Kost & Henshaw, 2014).

Lots of contributing factors to high teen pregnancy rates

- Public Health focuses most on engagement in high-risk sexual behaviors such as:
 - Having multiple partners (many of whom are older)
 - Lack of consistent use of condoms and other forms of birth control
- Psychology, Social Work, Family Science agree that addressing high risk behavior is essential but not sufficient

Life History Theory

- Impact of living in poverty, in environments with high threats (low safety) and low social and economic opportunities
 - Youth in adverse ecologies creates a feeling of limited life expectancy and increased urgency to reproduce
 - In US racially minoritized communities more likely to live in adverse ecologies due to structural racism which has affected the values in these communities
 - Important not to only engage in TPP programs but also in anti-poverty policies and programs, enhanced economic opportunities and a commitment to anti-racism
 - And TPP programs need to be grounded in that reality and speak to it for the message to be credible with youth from these communities

Developmental Stage: Intimacy vs Isolation

- Youth are individuating from family and focusing on ties with peers including romantic partners
- TPP needs to be attuned to this stage of development and life goals of participants
- The link between their relationship decisions and sexual behavior and the way their lives turn out and whether they reach their life goals or not is an important one



Contextual Level Factors

- Critical Race Theory/Posttraumatic Slave Syndrome
- Life History Theory
- African American Culture Regarding Teen Pregnancy

Love Notes Intervention Content

- Assess own personal and career life goals and if desire to form a family- what an offspring would desire in parents and life
- What influences partner choice, skills to maintain healthy relationships, knowledge and skills to prevent unwanted consequences of sexual engagement, skills to leave relationships safely
- Targets success sequence, pregn attitude

Individual Level Factors

- Attitudes about teen pregnancy
- Belief in success sequence
- Knowledge, skills and motivation to reduce high risk sexual behaviors and avoid teen pregnancy
- Theory of Planned Action; Social Exchange Theory

Intervention Evidence

- In 2010, OAH created a list of 28 effective interventions (Mathematica, 2010)- the best involve comprehensive sex education
- *Reducing the Risk* was developed by Richard Barth, MSW, Ph.D., in CA in 1987
 - The 5th Edition (2011) was utilized for this study
 - One of the first curricula evaluated with a longitudinal follow up (6 months and 18 months), tested on a large group of high school students (N = 758; Kirby, Barth, Leland, and Fetro, 1991).
 - Significant reductions in the onset of intercourse at 18 months for those who had never engaged in sexual intercourse at the pre-test
 - Sexually active youth were more likely than controls to use contraceptives.
 - Studies conducted in Arkansas, Ohio and Kentucky high schools (Hubbard, Giese and Raney, 1998; Zimmerman, et al, 2008)
 - RTR delayed the initiation of sex among youth who had never engaged in intercourse at the pre-test
 - RTR increased condom and contraceptive use among youth that did initiate intercourse after the training.
 - More recent studies (Affainie-Godwyll et al., 2013, Goesling et al., 2014; Reyna & Mills, 2014) found increases in condom and birth control use

More about Interventions

- *Love Notes*, aims to educate youth about healthy relationships while also reducing teen dating violence and risky sexual behavior.
- *Love Notes* is derived from the Prevention and Relationship Enhancement Program (Markman, Stanley & Blumberg, 2010). The Prevention and Relationship Enhancement Program is a relationship marriage education program listed as an evidence-based practice by SAMHSA and OFA.
- Studies have found that IPV is related to sexual risk taking, inconsistent condom use, partner non-monogamy and unplanned pregnancy (Coker, 2007).
- A focus on this destructive dynamic is not emphasized in most teen pregnancy prevention interventions.
- Studies have found *Love Notes* lowered verbal aggression (Adler-Baeder, Kerpelman, Higginbotham, Schramm & Paulk, 2007) and acceptance of violence in dating relationships (Antle, Sullivan, Dryden, Karam & Barbee, 2011)
- First set of analyses found *Love Notes* lowered risky sexual behavior (less initiation of sex, fewer partners, more use of condoms and other forms of bi (Barbee et al., 2016)

Research Questions: Reducing the Risk

- Do participants in the RTR intervention group:
 - Less likely to get pregnant or impregnate someone than participants in the POW control condition three, six, twelve months after the conclusion of the program and cumulatively?

Research Questions: Love Notes

- Do participants in the LN intervention group:
 - Less likely to get pregnant or impregnate someone than participants in the POW control condition three, six, twelve months after the conclusion of the program and cumulatively?

Research Questions: Mediator Roles

- Do negative attitudes toward becoming pregnant as a teen

AND

- Do intentions to organize their lives so that pregnancy comes after schools and establishment of a stable relationship (success sequence)

MEDIATE pregnancy outcomes more for Love Notes (that focuses on success sequence and offers examples of why waiting to have children) than Reducing the Risk?

- What is the direct relationship of those variables on pregnancy outcomes?

Sample

- Inclusion Criterion: Unmarried youth ages 14 to 19 who
 - Had never been pregnant or impregnated anyone
 - Could participate verbally in English
 - Had no cognitive impairment that precluded giving assent or informed
- From September 2011 to March 2014, 109 clusters (39 RtR, 39 LN, and 31 POW) were offered at the 39 CHAMPS camps, which included:
1,448 youth (515 RtR, 511 LN, and 422 POW).

Sample

- Time 1- baseline included 1448 participants
- Time 2- immediate follow up after the intervention included 1378 participants (95% response rate)
- Time 3, 3-month follow-up 1090 questionnaires (75% response rate)
- Time 4, 6-month follow-up 991 questionnaires (68% response rate)
- Time 5, 12-month follow-up 1035 questionnaires (71% response rate)

Sample Continued

- 62% Females
- Mean age 15.7 years
- 82% Recipients of Free or Reduced Lunch
- 88% Black (African or African American)
- 10% Caucasian
- 4.3% Hispanic

Types of Youth Participants

- 74.7% Exclusively Urban
(not refugee or in OOHC)
- 9.3% Refugee
- 15.5% Currently in Out of Home Care (OOHC)
- 21.1% Ever in OOHC
- Between 25% and 38% ever involved with
Child Protective Services
- 16.6% LGBTQ

Setting

- 23 community-based organizations serving youth in West and South Louisville
 - 2 Community Schools
 - 3 CBOs serving Refugees
 - 3 Government and CBOs serving Foster Youth
 - 7 CBO Youth Focused Community Centers
 - 8 Neighborhood Place sites (where 3-6 governmental agencies co-locate services)

Location of CHAMPS Participants' Place of Residence
with Louisville Metro Zip Codes Displayed

Research Design

- The study is a three-arm, cluster randomized controlled trial that collected data at six points (pre-training baseline, immediate post-training, 3, 6, 12, and 24 months post-training).
- All youth ages 14 to 17 received parental consent to participate and assented to participate before the beginning of each CHAMPS camp. As youth reached age 18, they consented to participate in the study. Consent and assent occurred in a similar fashion for all youth.

Research Design

- Randomization occurred at the beginning of each CHAMPS camp to ensure only youth who were present were randomized. A stratified randomization procedure was used to assign youth to clusters based on gender. Youth who were part of a larger household unit were placed in the same cluster, with one youth randomly sampled as the study participant. Intact clusters were then randomized to condition.
- Classes ran simultaneously at each site and received the same name to minimize the potential for students to determine their condition.

CHAMPS! CAMPS

CAMP AGENDA



Day 1

- Registration: 8-8:45 a.m.
- Pretest/Survey: ~9:00 a.m.
- Training: 10:00-5:30 p.m.

Day 2

- Registration: 8-8:45 a.m.
- Training: 9:00-4:30 p.m.
- Posttest/Survey: ~4:30 p.m.

Reducing the Risk



Reducing the Risk: Building Skills to Prevent Pregnancy, STD and HIV (RtR) was developed by Richard Barth, MSW, Ph.D. in California. The training manual is in its 5th Edition and was last published in 2011.

Description of the Reducing the Risk Intervention for Current Study

- Consists of 16 forty-five minute modules. The 16 modules cover risk behaviors, abstinence, HIV and STI prevention, and skills development.
- Adaptations (Langley, et al, 2015)
 - Addition of 6 short videos about reproductive anatomy, abstinence, contraceptives, STIs and making sexual choices
 - *Reducing the Risk* was delivered across two consecutive Saturdays during ten hour periods for 15 hours of intervention time.

Love Notes

- Love Notes educates participants about healthy relationships, including issues of decision-making, communication and conflict resolution, and overall safety, including the prevention of pregnancy and sexually transmitted disease (Pearson, 2011).



Description of the Love Notes Intervention

- *Love Notes* (LN) is a 13-module curriculum designed to educate youth about healthy relationships, including issues of planning, decision making, communication, and conflict resolution; it also aims to reduce teen dating violence and unprotected sex (and thus pregnancy, the spread of sexually transmitted infections [STIs], and injury).
- Adaptations
 - Addition of 4 short videos on reproductive anatomy, abstinence and birth control
 - *Love Notes* was delivered two consecutive Saturdays during ten hour periods for 15 hours of intervention time.
 - Created a tool to emphasize critical points in curriculum

The Power of We



- Created and implemented by the Network Center for Community Change (NC3)
- Focuses on Community Building
- How to find community assets
- How to work together to address community problems

Counterfactual Description

- The *Power of We* helps youth learn more about their neighborhoods, assets in their neighborhoods, and ways to bring about positive community change.
- Youth took a neighborhood walk to gather information about neighborhood assets, watched films such as *Waiting for Superman* to learn how to bring about community change and created a film or piece of artwork to demonstrate what they learned about community building and community change.
- *Power of We* was delivered across two consecutive Saturdays during ten hour periods for 15 hours of engagement time.

Youth Surveys

- Youth are asked a variety of questions that affect youth outcomes such as:
 - ✓ Family and home life experiences
 - ✓ School Performance
 - ✓ Drug use
 - ✓ Sexual behavior and outcomes
 - ✓ Relationship expectations, beliefs, experiences
 - ✓ Neighborhood connectedness
 - ✓ Knowledge questions regarding curriculum

Measures of Dependent Variables

- “To the best of your knowledge, have you ever been pregnant or gotten someone pregnant, even if no child was born?”
- “To the best of your knowledge, have you been pregnant or gotten someone pregnant, even if no child was born in the last 3 (or 6) months?”
- Negative attitudes toward teen pregnancy scale- six items about pregnancy
- Success sequence scale- eight items

12 Month Mark Impact Evaluation

Findings: Love Notes and RTR

- Examined pregnancies across all time periods.
 - 18 pregnancies in *Love Notes* condition (3.51% of 501 youth)
 - 31 pregnancies in *Reducing the Risk* condition (6.14% of 505 youth)
 - 27 pregnancies in *POW* condition (6.49% of 416 youth)
- Found a significant difference between Love Notes and POW $t(915) = 2.02, p = .04, d = .13$ but not between Reducing the Risk and POW on pregnancies, $t(921) = .23, p = .92, d = .015$.

Mediator Effects

- There were direct effects of negative pregnancy attitudes and belief in the success sequence on teen pregnancy
- But the effects of negative pregnancy attitudes was significantly stronger and attitudes about the success sequence was marginally stronger in the Love Notes condition.

Conclusions

- The impact evaluation showed evidence that *Love Notes* significantly reduced pregnancy overall in part due to a significant reduction (compared to the control group) in risky sexual behavior for the first 6 months following the intervention (recent engagement in sexual intercourse, sex without a condom, sex without birth control, number of sexual partners) and a steady reduction in risky sexual behavior across time as well as a change in attitudes about pregnancy and the success sequence.

Support for Love Notes

- Our hypotheses were supported that embedding sex education into a larger curriculum on life planning and healthy relationship formation and maintenance would have a greater impact on a group of racial/ethnic minoritized youth in curbing high-risk sexual behavior and teen pregnancy than either a typical comprehensive sex education curriculum alone or a curriculum aimed at general empowerment.
- We hypothesized that because Love Notes helped youth think about their aspirations for the future and where relationships fit in their overall life goals, encouraged them to have conversations with trusted adults on how to forge a path to independence and how to view romantic partner choices more critically, while also giving them space to contemplate why delaying family formation would be in their own and any future offspring's best interest as well as how to delay family formation, that they might be more likely to reduce risky sexual behavior, which was reported in Barbee et al. (2016), and thus experience fewer pregnancies as reported here.

Some Clues as to Why

- As predicted, analyses of negative attitudes about teen pregnancy found that those feelings were highly associated with pregnancy outcomes at each follow-up period and were most influenced by the Love Notes curriculum overall. Likewise, analyses of the likelihood of adhering to a sequence where family formation occurs after schooling and commitment to a relationship partner found that endorsement of the sequence was associated with pregnancy outcomes.
- Those youth who participated in Love Notes endorsed the success sequence marginally more than youth in Power of We or Reducing the Risk. These results support the life event history theoretical approach (Ellis, [2019](#)) and add evidence that a teen pregnancy program that attends to youth interest in relationship formation, but also to the tough ecology in which youth experience poverty and other forms of oppression, can be effective. Such an intervention gives youth concrete ways of navigating their ecology to increase the chance of reaching their own life goals for meaningful work, relationships, and independence.

Combination is Critical

- As noted earlier, comprehensive sex education is essential for teaching youth **how** to prevent a pregnancy and STIs (e.g., Goesling et al., [2014](#); Kirby et al., 2007). Thus, Love Notes included information about anatomy, abstinence, birth control, and STIs and also how to prevent both pregnancy and STIs (Barbee et al., [2016](#)). However, these findings also support our hypothesis that the messages included in a TPP curriculum need to address **why** postponing pregnancy and family formation might be advantageous.

- Youth watch music videos other dramatizations that remind them how entering into parenthood with someone whom they do not know well, who is incompatible, disrespectful, controlling, or violent can also affect the life of a child.
- All these messages are geared to help youth think about why delaying childbirth is in the best interest for them, their romantic partners, and their future offspring.
- While the positives of being involved in a healthy romantic relationship, safe sexuality, and the joys of parenthood (e.g., being a positive role model, creating a ready-made family, having someone who will love them and look up to them, and perhaps doing so with a loving romantic partner; Cox et al., [2021](#)) are all promoted in Love Notes,
- Also included are the inherent dangers in jumping into a sexual relationship too quickly with someone one barely knows. These dangers include trying to raise a child without the resources of education or another person who will be good to them and their child.
- It is in this context that youth have the opportunity to think about the impact their sexual behavior could have on their own lives:
 - Disease can hurt them or hasten death
 - pregnancy in the teen years can cause delays in schooling (high school, college, trade school, apprenticeships, and other forms of job preparation) and self-sufficiency
 - increase the chances that they and any future offspring will live in poverty.