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Work It Out Together: Preliminary Efficacy of a Parent and Adolescent DVD and Workbook Intervention on Adolescent Sexual and Substance Use Attitudes and Parenting Behaviors

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Abstract

The purpose of the current study was to test an interactive DVD and workbook specifically designed for African-American parents and adolescents (ages 13–18), based on an efficacious face-to-face intervention, to address key factors associated with risk. A total of 170 parent-adolescent dyads were enrolled and randomly assigned to receive either the “Work It Out Together” DVD or a General Health Promotion DVD (HP). Parents and adolescents completed measures of HIV knowledge, self-efficacy, and parenting behaviors. Immediately after receiving the Work It Out Together intervention, parents and adolescents demonstrated higher HIV knowledge and greater HIV prevention self-efficacy. Three months after receiving the Work It Out Together intervention, parents and adolescents reported higher levels of parental monitoring and sexually active adolescents reported higher levels of condom use self-efficacy and a lower rate of recent sex. These outcomes provide preliminary evidence that the “Work It Out Together” DVD impacted individual attitudes and protective parenting behaviors.

Keywords

Adolescent; Parenting; Sexual risk; DVD; Substance use

Introduction

African American young people make up roughly 15 % of the US adolescent population, but account for 60 % of new adolescent HIV cases [1]. African American teens are more likely than White or Latino youth to have had sexual intercourse, initiated sexual activity at an earlier age, and to have more sexual partners [2]. Focusing on factors that serve to protect adolescents, such as the family, will help to reduce these rates. For the majority of adolescents, the family is often the most consistent influence on their behaviors.

Parents and families play an important role in teenagers' sexual attitudes, behavior and contraceptive use [3–7]. Healthy, supportive, close, stable and open relationships with parents, along with supportive relationships with other adults, can insulate youth against intrapersonal, interpersonal, and community factors that drive high-risk behavior [4, 8, 9]. Conversely, poor family functioning may help drive high-risk behaviors. Poor parental monitoring and neglect, low parental availability, a lack of warmth and support, coercive family exchanges, high parental criticism and hostility, poor family communication, and parent-adolescent conflict are all implicated in the etiology and maintenance of substance abuse [10, 11] and sexual risk behavior [12–16]. Notably, parental monitoring and parent-adolescent communication about sexual topics have been the primary parental behaviors linked to reductions in adolescent engagement in sexual and substance use risk behaviors.

In response to these findings, several studies have explicitly targeted communication and parental monitoring in sexual risk prevention programs [17–19]. For example, DiIorio and colleagues [19] demonstrated that a mother–child intervention was effective in increasing rates of condom use among adolescents and mothers' comfort in talking with their adolescents about sex one-year post intervention. Likewise, the addition of a parental monitoring component (IMPACT) to an efficacious intervention for adolescents only (FOK-Focus on Kids) demonstrated the power of parental monitoring in further increasing condom use among adolescents over a 6-month follow-up period [20, 21]. Some interventions have helped mothers to instruct their children in learning more about HIV and how to protect themselves [22, 23] whereas other family-based programs [23] have increased adolescent intentions to avoid or decrease risky behavior. Several others have explicitly targeted African American parents and youth, and similar to prior studies among samples with mixed racial and ethnic identities, have demonstrated significant improvements in parent-adolescent communication, parental monitoring, and adolescent safer sexual behaviors [24–28]. Thus, programs that include caregivers have been able to successfully intervene with urban families; unfortunately, many families, particularly single-parent families, may not have access to these time-intensive interventions. Development of effective prevention interventions that can be flexibly implemented and more widely available will help disseminate important family-based prevention strategies to those who most need them.

A number of sexual health promotion programs, which have used flexible media-based technology, such as video and CD-ROM, have shown promising results [29–34]. Three studies among adolescent girls with video-based interventions targeting HIV/STD and sexual health knowledge and risk reduction strategies were effective in delaying sex, reducing incident STDs, and increasing condom use compared to standard care controls over 3-month follow-up periods, one of which targeted African American females [29, 33, 35]. Notably, only a few studies have examined the impact of parent-based media interventions on parent–child relationships and adolescent sexual behavior. In a sample of low-risk, primarily Mormon adolescents (6th through 8th grade), Miller et al. [31] assessed the efficacy of a six-part take-home video and found an increase in the quality of parent-adolescent sexual communication but no impact on adolescent sexual intentions or behaviors [31]. A study among parents and early adolescents (12–14 years) examined the effect of a home-based HIV information and family problem-solving skill training video and found an improvement in family problem-solving behavior [34]. Saving Sex for Later [32] is a three-

part CD school-based program to promote abstinence attitudes and improve parental sexual communication with pre-teens. Youth whose parents received the CD program reported an increase in family rules and fewer behavioral risks (including sexual possibility situations) [32]. Likewise, the Positive Parenting Program (Triple P) used both a self-directed workbook and video targeting increasing positive parenting strategies (e.g. parental monitoring and parent-adolescent communication). It showed a short term improvement in communication and a reduction in conflict [36]. Finally, two recent programs explicitly targeted African American parents through the use of audio CDs designed to enhance parent adolescent communication and reduce early adolescent sexual and substance use risk behavior [37, 38]. Both programs found improvement in parent-adolescent sexual communication and, O'Donnell's program [37] for adolescent girls in the 6th grade, reduced sexual risk taking behaviors. Thus far, media-based family HIV prevention interventions have primarily targeted children and young adolescents (collectively ages 10–14) with low levels of sexual risk behavior, which ignores older teens who are at relatively higher risk of contracting HIV.

The purpose of the current project was to develop and pilot test an interactive, culturally tailored, DVD and workbook for African American parents and adolescents (ages 13–18) to address key individual and family factors associated with sexual risk behavior. This DVD and workbook are based on a previously developed face-to-face intervention (STYLE; R01MH63008) [39] targeting teens in mental health treatment and their caregivers. The STYLE family based intervention demonstrated initial efficacy in reducing sexual risk behavior among a sample of teens in mental health treatment and their caregivers and compares favorably to other successful intervention programs that are currently being disseminated in a face-to-face format [40]. The Social-Personal Framework for HIV-Risk Behavior, which is consistent with Social Learning Theory, informed the development of the STYLE family-based intervention and emphasizes the relationship between cognitive, emotional and social factors [41, 42]. The interactive DVD and workbook targeting African American adolescents aimed to address all essential constructs and skills of the in-person intervention, but deemphasized the role of mental health treatment. The development of a DVD intervention may increase the likelihood of dissemination to schools, community agencies, or for use by individual families. The use of culturally sensitive media-based technology that is both accessible to families and targets important family constructs can assist in bridging the gap between science, technology, and what is available to the public. Such an intervention currently does not exist and is critically needed for urban minority youth because of their high risk for HIV.

For the current study we conducted a preliminary test of the impact (immediately post-intervention and 3-months after completion) of a family-based HIV prevention Parent–Child Communication/Monitoring DVD and workbook intervention (“Work It Out Together”) compared to a time matched general family health DVD and workbook (General Health DVD). We anticipated that adolescents randomized to the Work It Out Together DVD package relative to those randomized to the General Health DVD intervention would report greater self-efficacy for engaging in safer sexual behaviors (HIV prevention and condom use). We also anticipated that parents and youth who received the Work It Out Together DVD intervention would report higher levels of parental monitoring, more open parent-adolescent sexual communication, and lower acceptance of adolescent sexual behavior

relative to parents and teens randomized to the General Health DVD. We did not expect to find any differences in HIV knowledge across the two conditions, since the same information about HIV was delivered in both interventions. Finally, based on prior work, we anticipated that half of the sample would report being sexually active at baseline and approximately half of those would report sexual activity within the past 90 days. Given these rates of sexual behavior, we did not expect to find any significant differences in the sexual risk outcomes because of the limited power to detect effects. However, we expected that teens randomized to the Work It Out Together intervention would report lower levels of substance use (alcohol and marijuana). Notably, this is a pilot evaluation and therefore all results should be interpreted with caution until further evaluation and replication of study findings.

Methods

Participants

African-American adolescents and their caregivers were recruited from low income neighborhoods and community based organizations (CBO) in Philadelphia, PA and Providence, RI. Fliers and presentations at local CBOs were the primary means of recruitment. Families were contacted for participation after providing the CBO with consent to be contacted by the research study. Adolescents and their caregivers were eligible to participate if the adolescent was 13–18 years of age, identified as African American, and both parties were able to speak English. Parents and adolescents were excluded if they refused participation, self-reported HIV infection (since the intervention is meant to address safety from HIV and does not focus on living with HIV), and/or were cognitively unable to give assent or consent.

Two hundred and thirty-seven adolescent-caregiver dyads were approached for participation in the current study. Of those approached, fifty-four dyads were excluded for either ineligibility ($n = 17$) or were unable to be contacted ($n = 37$). An additional thirteen caregivers refused participation over the phone. A final sample of 170 care-givers and adolescents were enrolled in the study.

Procedures

All study procedures were approved by Institutional Review Boards at each site. After providing consent and assent, adolescents and caregivers completed a baseline assessment and then were randomly assigned to one of two intervention conditions (Work It Out Together or General Health Promotion DVD). Of note, the DVD and workbook content was developed online, but for the purposes of the current study it was delivered via DVD and paper workbooks in order to assess acceptability and other study outcomes within the research facilities. Both DVD interventions had separate and joint components for parents and adolescents and were delivered in approximately 3 h of total time, which included DVD viewing time, individual workbook activities, and joint workbook activities. Care-giver-adolescent dyads were offered to view the series in a single session or over the course of two sessions. Dyads choosing to view the DVDs over two sessions were required to complete the DVD and workbook intervention within 2 weeks of their first session. After completing a

DVD and workbook intervention caregivers and adolescents completed an immediate post-intervention evaluation, and were then reassessed 3 months later.

Work It Out Together Intervention

Techniques and principles from the existing face-to-face family-based intervention: Project STYLE (R01 MH63008) [39] formed the basis for the development of the content for the interactive DVD. The family-based STYLE intervention focused on improving parent-adolescent general and sexual communication, parental monitoring, and adolescent self-efficacy for engaging in HIV prevention behaviors (e.g., negotiating safer sex with partners, avoiding sexual situations, purchasing and using condoms) through the use of didactics, role-plays, and feedback on directly observed communication interactions between parent-adolescent dyads. The research team first developed draft scripts for the DVD prototype modules, which were based on the manualized family based STYLE intervention. The DVD modules matched those of the face-to-face intervention. The role of mental health was deemphasized in the scripting for the Work It Out Together DVD by omitting material concerning the use of psychiatric medications and mental health treatment for youth parents, as well as the relationship between mental health disorders and adolescent risk behavior. The Work It Out Together DVD intervention was developed across a series of focus groups and pilot trials with 22 families over the course of 18 months, in which feasibility and acceptability were examined prior to the randomized trial. Across these focus groups, parents and teens initially provided feedback on developed scripts and scenes, then provided feedback on individual DVD modules, and finally rated the overall DVD package and on a scale of 1 (disliked a lot) to 10 (liked a lot). Average ratings across both parent and teen groups were a 7 or higher indicating high acceptability of the developed product. The complete DVD package targeted adolescent risk-reduction, improved communication, and parental monitoring on two DVDs—one for adolescents ages 13–18 and one for the adult caregivers in their lives.

The DVD package for adolescents used hip-hop music, brief vignettes, real-life scenarios and a fast-paced editing style to deliver messages that were current and personally relevant. It was developed in conjunction with MEE Productions Inc., a minority-owned health communications company that conducts media, marketing, and market research that specializes in developing culturally relevant products for urban and ethnic audiences. The DVD addressed delay of sex, return to abstinence and condom use for adolescents, using a self-directed design that allowed adolescents to choose components relevant to their current situations. For example, younger teens grappling with peer pressure to engage in sexual behavior were directed to the components on delay of sex, while older adolescents who were involved in sexually intimate situations were encouraged to view the condom use component. All filmed vignettes featured 16–18 year old characters (near-peers) in order to appeal to all ages.

The caregiver DVD package included informative vignettes and real-life scenarios to maintain interest and emotionally engage parents. Parents were provided with specific information on adolescent development and on parenting practices (including assertive communication and parental monitoring). In addition to these global aspects of parenting,

the DVD package provided parents with specific insights on how to engage their adolescents in discussions about safer sex; both prior to and after adolescents have become sexually active. In addressing issues relevant for caregivers of both younger and older adolescents, the DVD package allowed for flexibility and provided a constant set of resources that parents and adolescents can turn to throughout the course of adolescence.

Each package (Caregiver and Adolescent) was comprised of three separate but interconnected components: a short film, intervention modules, and workbook, which are described in more detail below.

DVD Short Film—The short film provided a context in which to embed the intervention content through a series of filmed vignettes that centered on a key adolescent character, Tanisha. The film began with a romantic scene between Tanisha and her boyfriend, Joe, in which they are shown kissing and making out in a car. The scene progressed to Tanisha's boyfriend pressuring her to have sex. Finally, after multiple attempts to maintain the relationship but assert her decision to remain abstinent (e.g., Joe continues to pressure her); she exited the car and walked home. The film then showed five related but distinct vignettes, which covered topics including parent-child communication, parental monitoring, and pregnancy and HIV testing. Through this engaging chronicle of a "typical" adolescent's life and her relationships with key figures (parents, boyfriend, friends and peers), the DVD illustrated both effective and ineffective forms of communication from a variety of angles. This film allowed both parents and adolescents to gain perspective on how different communication styles (e.g., assertive versus aggressive) influence a dyad's communication. For example, a scene showing a mother and son (Mom and Joe) exemplified the negative cycle of communication that is perpetuated through Mom's yelling and critical remarks and Joe's disregard (demonstrated through eye-rolling and sarcasm) for his mother's opinion.

Intervention Modules—The remainder of the DVD was divided into "chapters" with corresponding workbook activities (see below). The adolescent and parent chapters are outlined in Table 1. For example, the "Assertive Communication" chapter for parents outlined the three types of communication (i.e., assertive, passive, and aggressive) and provided explicit illustrations of each type. Characters from the short film lead the audience through the chapter, emphasizing the pros and cons of each type of communication and scenes from the DVD short film were referenced. In addition, the video host discussed the importance of good eye contact, body posture (sit or stand up straight), and the space between two individuals, in order to illustrate the impact of these features on communication.

Workbook—The workbooks (separate parent and teen versions) supplemented the DVD's short film and intervention modules. They provided specific activities for parents and teens to practice skills taught within the DVD and joint activities designed to improve communication, parental monitoring and reduce adolescent risk taking. The workbooks began with brief background information about the characters in the short film, in order to increase participants' connection to the characters and storyline. The character profiles also began to identify traits and situations that may be similar to parent and teen experiences. Next, the workbook mirrored the DVD chapters and included a recap of the didactic

information covered in each chapter as well as activities to help the parent and adolescent personalize and practice what they learned.

General Health DVD and Workbook

This time and attention matched control intervention provided didactic instruction and workbook activities that were matched for time, appeal, and format (included separate and conjoint teen and parent components) to the “Work It Out Together” DVD Intervention. It was based on general health promotion areas, which included HIV/STIs, tobacco use, poor sleep hygiene, inadequate physical activity, and dietary patterns that cause disease. It included a series of videos derived from currently available products [e.g., “NOVA Science Now: Sleep” a Frontline film, “This is Your Brain on Tobacco”, and “The Weight of the Nation: Consequences” (which addresses physical activity and nutrition)]. The HIV/STI module (“AIDS Update”) was psychoeducational only and did not contain information on monitoring or parent–child communication about sexual and substance use risk included within this module of the video series.

Measures—Standard instruments were administered to gather demographic data and to assess HIV and substance-use risk behavior, HIV-risk cognitions and attitudes, and family context. These measures were completed at baseline (after consent was obtained), post assessment (immediately following the completion of the DVD and workbook intervention), and 3-months post-intervention using audio computer-assisted self-interview (ACASI). Time to complete the baseline and 3-month assessments was approximately 45 min for parents and teens. Post-assessment took approximately 20 min or less for adolescents to complete and 10 min for parents to complete. Adolescents and parents were compensated for their time completing assessments.

Background Characteristics: Items collected from parents and adolescents included age, gender, race, ethnicity, parent education, single versus dual caregiver status, and household income for purposes of identifying the sample.

HIV Knowledge and Sexual Risk Cognitions (Completed by adolescents at baseline, post, and 3 months; parents completed the HIV knowledge measure at baseline, post, and 3-months. Table 2 indicates the measures used at each assessment): Our brief scales (developed and refined over the past 15 years) to measure HIV-related knowledge and attitudes in public schools have been demonstrated to be reliable [43, 44] and sensitive to educational impact.

- a. HIV Knowledge: A 10-item (true, false, uncertain) scale surveys routes of transmission, casual contact misconceptions, and condom use knowledge. Items are summed to create a total scale. Higher scores indicate greater knowledge across these domains. Internal reliability was 0.66.
- b. The Self-Efficacy for HIV Prevention Scale [45] was developed to assess the extent to which adolescents “could” engage in specific HIV preventive behaviors such as safe sex negotiation with partners and purchasing condoms. This scale is comprised of 12 items and responses range from 1

(very sure) to 4 (couldn't do it). Items are reverse scored such that higher scores indicate greater self-efficacy for engaging in HIV prevention behaviors. Internal reliability was 0.85.

- c. The Self-Efficacy for Condom Use Scale contains 13-items that reflect the context of condom use, such as "could use a condom when I'm very upset" and "could use a condom when my partner doesn't want to" [46]. Items are rated on a scale of 1 "very sure I could" to 4 "very sure I could not". This measure was only examined among those who were sexually active and was reverse scored, such that higher scores indicated greater self-efficacy for using condoms. Alpha for the current sample was 0.96.

Family Context (completed by parents and adolescents at baseline and 3-month follow-up)

- a. Parent-Adolescent Sexual Communication Scale: This measure assesses the process and content of sexual communication between parents and adolescents. Higher scores indicate more open parent-adolescent sexual communication. Youth and parents complete separate versions and internal consistencies between 0.65 and 0.86 have been shown in previous studies [47, 48]. For the current sample, reliability for the adolescent report was 0.74 and for the parent report was 0.58. Given the low reliability for the parent report on this scale, we examined reliability statistics if items were deleted and found that one item ("If my teen talked to me about sex, I would think she/he is doing these things.") decreased the reliability of this scale. We therefore removed this item from the scale which resulted in an alpha of 0.66. This five item scale was used for all subsequent analyses.
- b. Parental Monitoring Questionnaire (PMQ): The PMQ [49] is a 24 item youth and parent report measure designed to assess parental monitoring and sources of parental knowledge (child disclosure, parental knowledge, parental solicitation, and parental control). These monitoring sub-scales have been correlated with adolescent internalizing and externalizing maladjustment, deviant peer relationships, and family discord [49]. For the current sample, alphas for the adolescent and parent reports on the child disclosure, parental knowledge, parental solicitation, and parental control subscales were generally good and ranged from 0.71 to 0.88.
- c. Parental Norms about Sexual Activity: Adolescents' perceptions of parents' degree of approval of adolescent sexual activity was assessed with four items [50]. Items are queried on a scale of 1 "very true" to 5 "very false" with higher scale scores indicating greater parental disapproval for adolescent sexual activity. Internal reliability was 0.78 for this sample.

HIV Risk Behavior/Substance Use (completed by adolescents at pre and 3

months): The Adolescent Risk Behavior Assessment (ARBA) [51] is a computer-assisted structured interview designed specifically for use with adolescents to assess their self-reported sexual and drug behaviors associated with HIV infection.

- a. HIV-Related Behavior: Sexual-risk questions ask about lifetime sexual behavior (i.e., anal, oral, vaginal) and in the past 3 months. For those reporting sexual activity in the past 3-months, frequency of sexual intercourse, number of sexual partners and frequency of condom use are assessed. This information is used to generate the total number of unprotected sexual acts over the 3 month period.
- b. Substance Use: Questions ask about lifetime use of alcohol and marijuana (yes/no).

Data Analysis—The principal outcome measures of treatment success included both continuous and dichotomous measures. Continuous measures were scale variables that were analyzed using independent samples t-tests, with effect sizes calculated using Cohen's *d* (small = 0.20, medium = 0.50, and 0.80 = large). Dichotomous measures were analyzed using Chi square tests for independence and effect sizes were calculated using *r* (small = 0.10, medium = 0.30, and large = 0.50) [52]. Effect sizes >0.30 for Cohen's *d* and >0.20 for *r* were considered meaningful and are discussed below.

Results

Baseline Characteristics

Of the initial 170 dyads recruited and enrolled in the study, eight dyads did not complete the 3-month follow-up assessment and two baseline assessments were lost due to a computer malfunction. These losses resulted in a final sample of 160 adolescents and caregivers (94 %) with complete data across the three assessments and were therefore included in all remaining analyses (see Fig. 1 consort for full details).

Descriptive statistics for participants in each condition are presented in Table 2. In general, adolescents were an average of 15.46 years (*SD* = 1.64). All were African American, with 24 % reporting an additional racial identity. Ethnically, only 5 % of the sample reported a Hispanic/Latino identity. Median household income of the sample was \$45K and 62 % of parents reported being the only caregiver in the home. At baseline, 41 % of the adolescents reported being sexually active. Among those who were sexually active in the previous 90 days, the average number of unprotected sexual acts was 8.13 (*SD* = 16.70) and 48 % of all sexual acts were protected. Furthermore, 42 % of the sample reported having used alcohol and 28 % reported having used marijuana at baseline. There were no significant differences on any of the demographic variables between the conditions (Work It Out Together and General Health). Additionally, there were no significant differences between the two conditions across any of the self-report measures at baseline (see Table 2) and therefore, these were not controlled for in subsequent analyses. Finally, there were no significant differences across the conditions (Work It Out Together and General Health) in the number retained at 3 months ($\chi^2 [1] = 1.51, p > 0.05$; see Fig. 1)

HIV Knowledge and Prevention Self-Efficacy

Table 3 presents means and effect sizes across the two conditions for pre, post, and 3-month outcomes. Immediately following the intervention, adolescents randomized to the Work It

Out Together intervention reported greater self-efficacy for engaging in HIV prevention behaviors relative to those in the General Health condition, $t(158) = 2.28, p < 0.05$. Parents randomized to the Work It Out Together intervention scored higher on HIV knowledge measure relative to those in the control condition at the immediate follow-up, $t(158) = 2.00, p < 0.05$. These differences were not maintained at the 3-month post intervention. However, at 3-months, adolescents who reported sexual activity and were randomized to the Work It Out Together intervention reported greater self-efficacy for using condoms, $t(64) = 2.06, p < 0.05$. In addition to these significant findings, a small to medium effect size ($d > 0.30$) was found between the conditions on adolescent HIV knowledge at the immediate post-test, $t(158) = 1.92, p < 0.10$.

Family Context

In the assessment of parental monitoring, parents randomized to the Work It Out Together intervention reported higher levels of child disclosure, $t(158) = 2.00, p < 0.05$, and parental control, $t(158) = 2.14, p < 0.05$, at the 3-month follow-up. There were no other significant differences across the parenting behaviors at the immediate or 3-month follow-up (see Table 3 for more details). However, in the realm of parental monitoring, small to medium effect sizes were found for adolescent report of parental knowledge, $t(158) = 1.88, p < 0.05$, and parental control, $t(158) = 1.88, p < 0.05$. Additionally, there was a small to medium effect size for adolescent report of parent-teen sexual communication ($d = 0.30$), whereby adolescents in the General Health condition reported more open sexual communication relative to those in the Work It Out Together intervention, $t(158) = 1.90, p < 0.10$.

HIV Risk Behavior/Substance Use

A lower proportion of youth randomized to the Work It Out Together intervention reported marijuana use at the 3 month follow-up, $\chi^2 [2] = 6.45, p < 0.05$; see Table 3. In addition, a small to medium effect size ($r = 0.21$) was found for the comparison of sexually active youth reporting sex in the last 90 days, $\chi^2 [2] = 3.04, p < 0.10$. There were no other differences in the percentage of youth who reported having engaged in any type of sex or alcohol use at the 3-month follow-up.

Discussion

Preliminary outcomes from this study indicate that immediately after receiving the Work It Out Together Intervention, parents and adolescents demonstrated higher HIV knowledge and greater self-efficacy for engaging in HIV prevention behaviors relative to those randomized to the General Health DVD intervention. Additionally, 3 months after receiving the Work It Out Together intervention, parents and adolescents reported higher levels of parental monitoring behaviors (e.g., parental knowledge, parental control, and child disclosure) relative to those participating in the control condition. Among adolescents who reported having ever had sex, those randomized to the Work It Out Together intervention reported higher levels of condom use self-efficacy and a lower proportion reported having engaged in recent sexual activity. Finally, a lower proportion of adolescents randomized to the Work It Out Together intervention reported using marijuana at the 3 month follow-up (24 vs. 40 %). Taken together these outcomes indicate preliminary evidence that the “Work It Out

Together” DVD and workbook program was successful in impacting both individual safer sex attitudes and behaviors and important parenting behaviors that serve to protect youth from engaging in myriad risk behaviors.

Notably, the outcomes of this intervention compare favorably to the Project STYLE program on which it was based [53], as well as other face-to-face family-based interventions targeting sexual and substance use risk reduction among adolescents [54]. Similar to prior family-based interventions, Work It Out Together improved HIV prevention self-efficacy and parental monitoring, but did not lead to a significant increase in the number of youth initiating sexual activity, with a small number of youth ($n = 8$; 5 % of the entire sample) beginning sexual intercourse in this period. Furthermore, this family-based intervention was associated with a reduction of recent sexual activity (among those already sexually active) and appeared to prevent the onset of cannabis use. These effects may have been the result of improved parental monitoring found among those randomized to the Work It Out Together program.

Unlike prior programs and the STYLE family-based intervention, Work It Out Together did not lead to an improvement in parent-adolescent sexual communication nor did it increase condom use. The study was only powered to detect a large effect size in number of unprotected sexual acts, since less than half of the participants were sexually active. In addition, it is unclear how many of these youth may have been using some other form of contraception and therefore did not see the need to use condoms despite reporting higher self-efficacy for using them.

Unexpectedly, an improvement in parent-adolescent sexual communication was not found among those randomized to the Work It Out Together intervention and, in fact, it appears that youth in this group reported a decrease in open sexual communication with their caregivers relative to youth in the General Health condition who reported a slight increase in open sexual communication ($d = -0.30$). There are several potential hypotheses for this unexpected finding. First, the Work It Out Together intervention may have destabilized communication within these dyads causing greater variability and, for some, a decrease in open communication. A similar phenomenon has been found in family systems therapy whereby in an effort to change their behaviors, dyads report more of the targeted behavior as they notice and more accurately report on their unhealthy communication before it changes [55].

A second possibility is that the increase in parental monitoring behaviors, as found among dyads randomized to the Work It Out Together intervention, resulted in a short-term increase in parent adolescent conflict while the adolescent adjusts to new rules and oversight. This initial response may negatively impact communication but again, over time, this impact may diminish and communication may improve.

One final explanation for the lower levels of open communication within those dyads randomized to the Work It Out Together, may be that this relatively brief intervention may not be sufficient to impact the complicated dyadic process of communication, especially around sensitive topics, including sexual discussions. Whereas parental monitoring may be

responsive to specific instruction and guide parents in their individual behaviors, dyadic communication may require more extensive intervention to improve communication skills. As has been highlighted in previous reviews of efficacious universal family-based interventions targeting risk outcomes [54], interventions that have been effective in changing communication have generally required 5–10 h of intervention time with opportunities for dyads to practice skills and receive constructive feedback. Although this intervention appears to impact a number of targeted domains, impacting dyadic communication around sensitive topics may require more time and more directly facilitated intervention by trained professionals. A longer term follow-up period and the use of qualitative methods will be necessary to understand these communication outcomes and to examine the impact of the intervention on sustained abstinence and improving condom use.

This study includes a number of strengths including being derived from an evidence-based theoretically informed intervention (Project STYLE) [53] and being tailored for African American parents and teens. It had separate modules for teens and caregivers, to increase the sense of personalization, as well as joint activities to promote shared learning and the development of health communication. In addition, it addressed issues relevant to both sexually active (condom use) and inactive youth (abstinence) and the design included a time and attention matched comparison group. For research purposes, the intervention was tested using DVDs and workbooks delivered to families individually in the agencies but could be delivered entirely on-line or via computer, increasing its ability to reach families at their convenience. Lastly, the Work It Out Together program was able to impact parental monitoring behaviors, which may confer long term protective effects and delay the onset of adolescent risk behavior. Despite these strengths, the study was limited by a relatively small sample, with a short follow-up period which limited our ability to examine moderation and mediation effects and the impact of the intervention on infrequent behaviors (onset of sex). Given previous studies that have consistently documented the impact of both age and gender on parenting behaviors (e.g., parental monitoring and communication) and adolescent sexual risk behaviors [56–58], these will be important factors to examine in a larger trial of this DVD intervention with a longer follow-up period. Specifically, it is possible that adolescent age and gender moderated intervention effects but unfortunately, the current study sample limited our ability to conduct these analyses. The studies measurement was further limited by the use of self-report measures and did not include any biological outcome indices.

Conclusions

In summary, the Work It Out Together program, targets important family variables and youth behaviors with a relatively brief intervention that can be easily disseminated across a wide variety of contexts (in homes, community centers, school based programs). Notably, this program was delivered with minimal staff support (some assistance with setting up the DVD player and managing occasional DVD player malfunctions) but could be easily self-administered. This type of intervention bypasses the challenge of many face-to-face facilitated group interventions which often have lower levels of retention. Typically fewer than 70 % receive all intervention sessions [54] and so may not receive a sufficient dosage of the intervention to be beneficial. Work It Out Together may be one way to bridge this gap and provide families with a relatively brief, flexible, and evidence-based intervention that

can create positive change in families to reduce risk behavior among adolescents who are at high risk of contracting HIV and other STDs.

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Fig. 1.
Project consort

Table 1

Work it Out Together DVD chapters

Parent	Teen
Main introduction	
Parent introduction	Teen introduction
Ages and stages	Parents on your side
Assertive communication	Communication styles
Talking with teens about tough issues	Assertive communication
Monitoring is checking in	Personal strategies
Safe sex 101	Safe sex 101 and condom use

Table 2

Baseline demographics by intervention condition

	Communication	Health promotion	Test statistic t/χ^2	Effect size d/r	p value
Adolescent report					
Age (years)	15.46 (1.48)	15.46 (1.76)	0.00	0.00	0.99
Gender (% male)	47.0	48.2	0.03	0.04	0.87
Ethnicity (% Latino)	3.6	7.1	5.14	0.18	0.08
Race (%)					
Black/African-American	73.5	70.6	0.18	0.03	0.68
More than one race					
Ever sexually active (% yes)	44.6	40.0	0.36	0.05	0.55
Father figure in home (% yes)	51.8	48.2	0.64	0.06	0.64
Parent report					
Age (years)	45.18	44.06	1.30	0.13	0.26
Gender (% female)	81.7	85.9	0.54	0.06	0.46
Ethnicity (% Latino)	2.4	2.4	0.00	0.00	0.97
Race (%)					
Black/African-American	85.4	90.6	1.08	0.08	0.30
More than one race					
Household income (% \$30,000)	32.9	48.2	3.23	0.16	0.07
High school graduate (% yes)	93.9	92.9	0.06	0.02	0.80

$t = t$ test, $\chi^2 =$ Chi square

Table 3

Observed means, percentages, and effect sizes of outcomes by condition

	Treatment condition				Health promotion				Test statistic		Effect size	
	Communication		3 month M/%		Pretest M/%		Posttest M/%		Posttest t/χ^2	3-month t/χ^2	Posttest d/r	3 month d/r
	Pretest M/%	Posttest M/%	Pretest M/%	3 month M/%	Pretest M/%	Posttest M/%	Pretest M/%	Posttest M/%				
Adolescent self report												
HIV knowledge	5.73	6.71	6.45	5.46	6.18	5.99	1.92	1.46	0.31	0.23		
Self-efficacy HIV prevention	40.58	42.58	42.04	39.65	40.35	40.55	2.28	1.34	0.37*	0.21		
Condom use self-efficacy ^a	48.40	48.66	49.10	47.69	46.84	45.84		2.06	0.19	0.33*		
Parent-teen sexual Comm.	26.90		26.46	28.39		29.09		1.90		-0.30		
Parent norms on sex	14.68		14.58	13.89		13.48		1.67		0.27		
Parental monitoring												
Child disclosure	18.68		18.30	18.06		17.71		0.87		0.14		
Parental knowledge	35.13		34.26	33.86		32.15		1.88		0.30		
Parental control	20.31		20.90	19.41		19.24		1.88		0.30		
Parental solicitation	14.06		14.64	13.94		13.91		0.96		0.15		
Parent self report												
HIV knowledge	6.78	7.61	7.28	6.44	7.15	7.36	2.00	0.41	0.32*	-0.06		
Parent-teen sexual Comm.	35.52		35.70	35.43		34.91		0.90		0.14		
Parental monitoring												
Child disclosure	20.59		21.11	20.10		19.89		2.00		0.32*		
Parental knowledge	37.23		36.95	35.22		35.60		1.21		0.19		
Parental control	23.84		23.81	23.08		22.50		2.14		0.34*		
Parental solicitation	18.59		18.45	18.19		18.85		0.51		-0.08		
Behaviors												
Vaginal/anal/oral sex	41 %		45 %	41 %		44 %		0.87		0.01		
Sex last 90 days ^a	70 %		61 %	73 %		80 %		3.04		-0.21		
# of unprotected acts ^a	8.22		8.64	8.04		8.81		0.03		0.01		
Alcohol use	39 %		44 %	45 %		49 %		0.40		-0.05		
Marijuana use	24 %		24 %	33 %		40 %		6.45		-0.20*		

Of those sexually active

O_p

$\chi^2 = \text{Chi square}$

$t = t \text{ test}$

$p < 0.05$

*

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