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## Perceptions of Substance Use and Sexual Risk Behaviors Among Adolescent Women Involved in Juvenile Justice

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## ABSTRACT

CHOICES-TEEN is a bundled intervention aimed at reducing the risks of unintended pregnancy, sexually transmitted infections, and alcohol and tobacco-exposed pregnancies for adolescent girls involved in the juvenile justice system. We examined youths' (N=22) elicited pros and cons concerning alcohol, tobacco, condom, and contraception use to inform future iterations of CHOICES-TEEN and other prevention programming during a one-arm pilot study. Content analysis was used to identify recurring themes elicited and recorded during a decisional balance exercise with a counselor. The most recurrent pros and cons were factors that directly affected these adolescents, with more immediate consequences. The results provide insight into motivations for engaging in substance use and risky sexual behaviors for these youth, as well as barriers to change.

Key Words: Adolescent; Alcohol; Sexually Transmitted Diseases; Contraception; Juvenile Justice

## INTRODUCTION

Adolescent women involved in the juvenile justice system are faced with multiple overlapping risk factors that lead to an increased likelihood of engaging in high-risk substance use and sexual behaviors and less access to prevention and healthcare resources to reduce these risks (American Academy of Pediatrics, 2011; Broaddus & Bryan, 2008; Jones et al., 2020; Kovensky et al., 2020; Parrish, 2020; Rosengard et al., 2006). These behaviors, which are often exacerbated by a history of trauma or adverse childhood experiences, place them at a higher risk of having a tobacco- or alcohol-exposed pregnancy and contracting sexually transmitted infections (STIs) and HIV than their non-involved counterparts (Belenko et al., 2008; Donenberg et al., 2015; Lawrence et al., 2008; Odgers et al., 2010; Parrish et al., 2020; Rosengard et al.,

2006; Smith et al., 2013). Prior samples of young women involved in the juvenile justice system suggest high levels of risk of pregnancy with over half reporting not using contraception, and a third have been pregnant previously (Barrett et al., 2015; Lawrence et al., 2008; Lederman et al., 2004; Schmiege et al., 2009; Tolou-Shams et al., 2010). The health risks associated with STIs and substance-exposed pregnancies are well established, including premature labor, placental abruption, and fetal growth restriction (Delpisheh et al., 2006; Parrish et al., 2012; Forray et al., 2015; Kulig, 2005; Wiemann & Berenson, 1998). Reducing alcohol and substance-exposed pregnancy and STI risks among youth involved in the juvenile justice system is critically important (Donenberg et al., 2015; Parrish, 2019; Rosengard et al., 2006; Smith et al., 2013).

CHOICES-TEEN (CT) is a three-session bundled risk reduction counseling intervention adapted from the original CHOICES and CHOICES Plus interventions for adult women to reduce these risks (Floyd et al., 2007; Parrish et al. 2019, 2020; Velasquez et al., 2013, 2017). Consistent with the adult intervention, enrolled youth met with a masters-level counselor trained in Motivational Interviewing techniques for two counseling sessions and with an adolescent medicine physician for one session to receive personalized counseling concerning the prevention of pregnancy and HIV/STI. CT was tested in a one-arm pilot study where 25% of adolescent young women who were justice-involved were at risk of an alcohol-exposed pregnancy in the CT pilot study (Parrish et al., 2019) compared with 4.9% of adult women in the Choices Plus study (Velasquez et al., 2017). The results demonstrated that 90% had a reduced risk of alcohol-exposed pregnancy at one month and 71.4% at three months, representing similar outcomes compared with adult women (Floyd et al., 2007; Parrish et al., 2019; Velasquez et al., 2017). Of the participants enrolled in the study as smokers, 68.8% were at a reduced risk of tobacco-exposed pregnancy at 1 month and 47.1% at 3 months (Parrish et al., 2019).

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Given the potential promise of this adapted youth intervention for this underserved population and lack of gender-responsive programming (Parrish et al, 2020), there was a desire to better understand these young women's motivations for changing or engaging in these risk behaviors – alcohol, tobacco, contraception, and condom use – to inform future adaptation and testing of CT and other targeted prevention programming. The current study reports on results from a content analysis of young women's elicited pros and cons for changing health-risk behaviors in their own words from the decisional balance exercise in the first counseling session. This information was elicited after sharing some initial fact sheets concerning these behaviors, but before the counseling session with the adolescent medicine physician. Prior literature elucidating such motivations is dated (Rosenthal et al. 1994) and lacks a holistic examination of the motivations of multiple overlapping risk behaviors in this higher risk population. Understanding the perspectives and motivations of young women involved in the juvenile justice system is essential for developing meaningful and relevant interventions (Belenko et al., 2008; DiClemente et al., 2014; Lawrence et al., 2008; Parrish et al., 2019).

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### METHODS

Adolescent young women were referred to the CT pilot study from community probation sites in a large urban area in Southern United States. Potential participants were screened for the following inclusion criteria: risky alcohol use (>3 drinks per 1 day or >7 drinks per week), tobacco use, and risk of unplanned pregnancy or HIV exposure in the last three months. Due to the lower than anticipated number of youth using tobacco, at 6 months the inclusion criterion was waived. Twenty-two participants were enrolled in the pilot study. The study was approved by the institutional review boards of the participating universities and the involved county's juvenile probation department.

## Data Collection & Analysis

Content analysis was used to analyze the workbook decisional balance activity responses elicited during the first 45-minute counseling session from the 22 participants who received the CT intervention (Hsieh and Shannon, 2005). The decisional balance exercise took 5-10 minutes while the counselor recorded the youth's self-generated, verbalized pros and cons to each behavior in the workbook that they viewed together. Written responses were then entered into a deidentified Excel spreadsheet for analysis. As in previous research examining the pros and cons of alcohol use among young adults, content analysis identified themes within the data (Chacko et al., 2008; Dupree et al., 2016). These themes were classified into units of meaning representing the pros and cons expressed for each of the targeted behaviors (e.g., tobacco use is "relaxing" would be classified as a "pro"). These units were then counted across participants to understand the most frequent pros and cons cited by the participants (Dupree et al., 2016). These pros and cons were also coded into factors driven by interpersonal (how a behavior might affect others) or intrapersonal (how a behavior might affect oneself) characteristics to determine whether participants were more likely to elect external or internal motivating factors as important. A secondary reviewer also completed the content analysis, and themes were discussed to enhance rigor in the analysis.

## RESULTS

Mean age of the participants was 16 years (14-17,  $SD=.89$ ). The sample was racially diverse, with 18% Black, 18% White, 9% American Indian/Native Hawaiian, 4.5% multiracial, and 27% reporting race as Hispanic/Mexican American. The remaining 23.5% reported their race as "don't know." Regarding sexual orientation, 73% self-described themselves as heterosexual and 23% as bisexual. Prior arrests ranged from 1 to 10 or more, with 59% having only 1 or 2.

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3 Prior arrests were reported for the following reasons: 45% assault, 41% petty theft, 27% truancy,  
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5 22% possession of marijuana or other drugs, 18% running away, and 14% trespassing. All youth  
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7 reported substance use in the last 6 months, and among those who smoked tobacco, five were  
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9 daily smokers.  
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11  
12 The most common decisional balance between positives and negatives and their  
13  
14 frequency of endorsement by participants for each target behavior are shown in Figure 1.  
15

### 16 ***Tobacco***

#### 17 *Tobacco Use Pros*

18  
19 Participants overwhelmingly indicated that the pros of tobacco use centered on the  
20  
21 participant directly, as opposed to external influences. The most listed positive for smoking was  
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23 that the participant found it “relaxing” (n = 12 of 16) with many alternatively listing it as “stress  
24  
25 relieving” (n = 6 of 16). Four participants also listed a positive aspect of smoking tobacco was  
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27 that it was a good alternative to more illicit substance use.  
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#### 32 *Tobacco Use Cons*

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34 In the decisional balance activity, participants also described the negative aspects or cons  
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36 of the target behavior. The most common deterrents to smoking listed by the participants were  
37  
38 potential side effects, such as health concerns (n = 14 of 16) and smell (n = 8 of 14).  
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41  
42 **Interpersonal or external factors, such as** “Partner disapproval” and “parental disapproval” were  
43  
44 infrequently identified by the participants as negative aspects of tobacco use with only two and  
45  
46 one of the 16 participants listing them respectively.  
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### 48 ***Alcohol***

#### 49 *Alcohol Use Pros*

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3 Alcohol consumption was one of the primary target behaviors of the intervention.  
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5 Participants again most frequently identified **intrapersonal or internal positives** for alcohol use  
6  
7 such as drinking alcohol is “fun” (n=12 of 16) and that it “lowers inhibitions” (n=8 of 16). Only  
8  
9 two participants identified the **external** influence of “peer pressure” as a reason for continuing  
10  
11 drinking.  
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#### 14 *Alcohol Use Cons*

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17 The most listed deterrent against alcohol use was that it led to “poor decision-making”  
18  
19 (n=12 of 16). **Interpersonal factors such as** “Fighting/aggression” (n=9 of 16) and “parental  
20  
21 disapproval” (n=6 of 16) were also both relatively frequent answers among participants,  
22  
23 indicating that alcohol use decisions were more externally affected as compared to other risky  
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25 behaviors studied.  
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#### 28 *Condom Use*

##### 29 *Condom Use Pros*

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33 Although not all participants responded to both alcohol and tobacco, based on their  
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35 specific target behaviors endorsed at baseline, all participants (n=22) responded to the birth  
36  
37 control module. Participants endorsed “STI prevention” (n=22) as a positive outcome of using  
38  
39 condoms, and all but one participant listed “pregnancy prevention” (n=21) as a pro. Four  
40  
41 participants endorsed pros of condom use related to interpersonal interactions: two listed that  
42  
43 their “partner approves” of condom use, and two listed that condom use “strengthened their  
44  
45 relationship with their partner.”  
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##### 49 *Condom Use Cons*

50  
51 The majority of participants (n=14 of 22) reported that sex “felt different” with condom  
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53 use and listed this as a deterrent. Twelve of the 14 participants said that it felt different for  
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3 themselves, one participant said that it felt different for their partner, and one said it felt different  
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5 for both themselves and their partner. The second most frequently listed deterrent for condom  
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7 usage was that the condom “may break” (n = 10 of 22). Other reported negative aspects of  
8  
9 condom usage, such as “expensive” (n=2) and “not always available” (n=4), were infrequently  
10  
11 reported.  
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### 14 ***Contraception Use***

#### 15 *Contraception Use Pros*

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17 Every participant (n=22) listed “pregnancy prevention” as a positive outcome of  
18  
19 contraceptive use. Contraceptive use was associated with “less anxiety” (n=9), which included  
20  
21 both anxiety about becoming pregnant and repercussions of pregnancy, such as informing  
22  
23 parents and partners of pregnancy.  
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#### 28 *Contraception Use Cons*

29  
30 “Weight gain” (n=13 of 22) was the most frequently reported negative aspect of  
31  
32 contraceptive use. All other identified deterrents were less widely endorsed. The second most  
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34 frequently listed con was “no STI protection” (n=5 of 22). Only two participants reported both  
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36 “weight gain” and “no STI protection” as cons.  
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## 40 **DISCUSSION**

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42 The CT pilot study demonstrated feasibility, acceptability and promise in reducing the  
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44 risk of substance-exposed pregnancy and HIV/STI (Parrish et al. 2019). This study examined the  
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46 behavioral motivations of youth at risk of substance-exposed pregnancy who participated in the  
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48 CT intervention affecting change in substance use and methods of contraception and/or condom  
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50 use. These viewpoints provide valuable insights into the factors affecting health-risk behaviors in  
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52 this population. Additionally, examination of the positive and negative aspects of multiple health  
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3 behaviors as part of a bundled intervention helps to further highlight the themes between risk  
4 behaviors. For example, most youths endorsed the benefits of both contraception and condom  
5 use for preventing pregnancy. This may open a conversation or health message that concurrently  
6 highlights the benefits endorsed by youth, using *both* contraception and condoms to further  
7 minimize the risk of pregnancy and the anxiety of getting pregnant, while also protecting against  
8 STIs. This analysis therefore allows interventions to be tailored more specifically to both this  
9 bundled approach and this population.  
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19       This study also highlights the importance of interpersonal (external) and intrapersonal  
20 (internal) factors that affect decisions regarding risky health behaviors. The analysis  
21 demonstrated that the majority of the beliefs that influenced adolescent women's choices about  
22 smoking cessation, alcohol consumption, birth control, and condom use centered on factors that  
23 influenced them directly, as opposed to factors that affected others. For example, a large  
24 proportion of the participants listed less anxiety about accidentally getting pregnant as a pro for  
25 using birth control, and the most frequently reported con was weight gain. This is in contrast to  
26 previous research on adolescent populations that identified interpersonal and relational factors as  
27 a major theme within decisional balance data (Chacko et al., 2008; Dupree et al., 2016; Kells et  
28 al., 2019). Understanding which factors may have the strongest influence on decision-making  
29 and risk-taking is key for designing brief interventions, as well as for guiding Motivational  
30 Interviewing that can impact readiness and motivation to change. This, in turn, can guide the  
31 development of targeted strategies and educational materials for programs and clinics to address  
32 these behaviors, tailoring them to the specific population of interest.  
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51       The participants' concerns related to weight gain and other side effects of contraception  
52 highlight important clinical considerations. The majority of participants indicating weight gain as  
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3 a negative aspect of birth control demonstrates that concerns about changes in appearance are a  
4 motivating factor among adolescent women, but also suggests a gap in health literacy among the  
5 group. Debunking myths about birth control side effects could be an effective component of  
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10 contraception counseling.

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12 Substance use behavior motivations were more mixed between intrapersonal and  
13 interpersonal motivations. The primary positive motivations for alcohol use were that it was  
14 “fun” and that it “lowers inhibitions,” which suggest a potential peer context, while the cons  
15 were also interpersonal with two of the most prevalent cons including fighting/aggression and  
16 parental disapproval. Changes in alcohol behaviors might then require finding other outlets that  
17 are fun with peers and that do not lead to poor decision-making or make others upset. While the  
18 pros for smoking were that it was “relaxing” and “stress relieving” and therefore more  
19 intrapersonal in nature, they highlight the potential benefit of finding alternative ways to help  
20 youth relax and relieve stress while minimizing the cons of smell and negative health outcomes.  
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33 The weaknesses of this investigation revolve around its small sample size. As a pilot  
34 study, the small sample size raises concerns about the generalizability of these results. Despite  
35 this limitation, the findings of this qualitative content analysis offer important insights into how  
36 to tailor health education and prevention interventions for this specific population.  
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42 Understanding the common motivations for changing or sustaining a health behavior in a  
43 population can also inform potential adjunct bundled intervention components that will support  
44 individuals in their change process. This is done by offering relevant information or access to  
45 other options (e.g., stress management and free condoms that are easily accessible) that are  
46 viable replacements for health risk behaviors with the potential to tip the decisional balance  
47 toward change. While the population involved in this study was small, the universality of  
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3 participants' answers to some questions, combined with the overarching theme of concern for  
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5 self, provides some direction for counselors, social workers, and healthcare professionals  
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7 attempting to counsel adolescent women in the juvenile justice system about their choices.  
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10 Future research should continue to qualitatively examine decisional balance exercises, which are  
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12 frequently a part of Motivational Interviewing interventions, to better understand the populations  
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14 being served so that future interventions can be more specifically tailored to their needs.  
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For Peer Review

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**Figure 1**

*Most Frequent Pros and Cons of Substance Use and Sexual Health Behaviors of Participants*

