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Association of pregnancy attitudes and intentions with sexual activity and psychiatric symptoms in justice-involved youth

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Abstract

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical Approval

All recruitment and study procedures were approved by the Principal Investigator's university and collaborating sites' Institutional Review Boards (and Office for Human Research Protections).

Informed Consent

Informed consent and assent, respectively, was obtained from parents and all study participants prior to enrollment.

CRediT authorship contribution statement

Brooke H. Rosen: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Emily Dauria:** Conceptualization, Methodology, Data curation, Supervision, Formal analysis, Writing – original draft, Writing – review & editing. **Martha Shumway:** Methodology, Writing – original draft, Writing – review & editing. **Jaime Dumoit Smith:** Project administration, Writing – original draft, Writing – review & editing. **Daphne Koinis-Mitchell:** Conceptualization, Writing – review & editing. **Marina Tolou-Shams:** Conceptualization, Methodology, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Supervision, Funding acquisition.

Context: With over one-third of detained girls experiencing teenage pregnancy, it is critical that the juvenile justice system better addresses the sexual and reproductive health (SRH) needs of youth. Although pregnancy attitudes and intentions (PAI) are associated with pregnancy outcomes among the general adolescent population, this relationship has not been examined among justice-involved youth.

Methods: Participants were drawn from a longitudinal study characterizing trajectories of behavioral and reproductive health and recidivism among newly justice-involved youth in a Northeast family court. Baseline and four-month follow-up data from 288 justice-involved youth (JIY) were analyzed to characterize PAI; examine associations between pregnancy intentions and unprotected sexual activity (i.e., no hormonal, intrauterine, or barrier protection against pregnancy); and explore the relationship between pregnancy intentions and psychiatric symptoms.

Results: At baseline, 39% of JIY youth were sexually active, 44% of these youth reported inconsistent condom use and 14% had not used birth control at last sexual intercourse. Nearly half of sexually active youth reported some intent around pregnancy and those with any pregnancy intentions were more likely to report depression, low self-esteem, substance use, and trauma history. Pregnancy intentions at baseline predicted higher rates of unprotected sexual activity at four months (OR: 16.9, CI = 2.48–115.7).

Conclusions: This study highlights the importance of developing and implementing more comprehensive SRH assessments and brief interventions for youth entering the justice system.

Keywords

Justice-involved youth; Adolescent sexual health; Mental health; Pregnancy intentions; Teen pregnancy

1. Introduction

1.1. Background

Teen pregnancy is often associated with significant long-term socioeconomic, developmental, and health consequences for teen parents and their offspring. Globally, teen birth rates have steadily declined since the early 1990s, yet the United States continues to have the highest rate of all industrialized nations (Sedgh et al. 2015). Moreover, substantial demographic disparities in teen birth rates persist nationally (Romero 2016), with more births occurring among youth of color, families of low socioeconomic status, and sexual minority youth (Puzzanchera and Hockenberry 2018; Goldberg et al. 2016). Likewise, these marginalized populations continue to be disproportionately involved in the juvenile justice system, often indicative of economic and psychosocial adversity they experience from an early age (Hockenberry and Puzzanchera 2019; Puzzanchera and Hockenberry 2018). Further compounding these systemic inequities, teen mothers experience lower educational attainment and greater mental health concerns than teens who delay pregnancy, and children born to teen parents experience more adverse health outcomes (e.g., preterm labor and low birth weight), higher rates of entering into the juvenile justice or foster care system, and greater likelihood of becoming teen parents themselves (Hoffman and Maynard 2008; Meade et al. 2008). Teen pregnancy prevention is thus identified as a common public health

goal of federal agencies such as the Centers for Disease Control and the Department of Health and Human Services (Division of Reproductive Health 2016); however, this approach often fails to address broader social determinants of health and it risks devaluing and further stigmatizing the reproductive experiences of underserved youth.

With more than one-third of justice-involved youth (JIY) reporting lifetime pregnancy history, a rate over five times higher than the national average (Golzari et al. 2006; Johnston et al. 2016; P. J. Kelly et al. 2008; Kerr et al. 2009; Kost et al. 2017; Ti et al. 2019), the juvenile justice system can serve as a critical access point for sexual and reproductive health (SRH) interventions. Concurrent with increased rates of pregnancy, JIY also experience much higher rates of psychiatric symptoms, substance use, and trauma exposure than their peers (Conrad et al. 2017; Mcreynolds and Wasserman 2008; Teplin et al. 2002, 2003; Wasserman et al. 2010). Among the general population, several prospective studies have found that certain psychiatric disorders, including anxiety, affective, and conduct disorders (Kessler et al. 1997; Kovacs et al. 1994; Woodward et al. 2001), substance use (Tapert et al. 2001) and trauma or abuse history (Klein 2005; Madigan et al. 2014; Woodward et al. 2001) are associated with higher rates of adolescent pregnancy. Despite the high rates of psychiatric comorbidity in JIY, the associations between mental health factors and pregnancy have not been examined in this population. Further, prior studies have regarded pregnancy occurrence as the only outcome of interest, rather than more fully exploring adolescents' perspectives on the prospect of pregnancy, which are known to impact maternal and neonatal health and well-being (Giordano et al. 2011; Joyce et al. 2000; Mohllajee et al. 2007). Examining the relationship between psychiatric conditions and pregnancy attitudes and intentions (PAI) in JIY is critical to furthering the development of integrated (mental health, substance use and SRH) health interventions for a population that lacks equitable access to health care.

Current research on pregnancy occurrence among JIY remains limited and focuses almost exclusively on detained youth, even though up to 80% of court-involved youth are community-supervised (Hockenberry and Puzzanchera 2019) and thus may have increased opportunities to engage in sexual activity leading to pregnancy. One study to our knowledge has examined pregnancy occurrence among justice-involved, non-detained girls; 13% of the sample was currently or previously pregnant – a rate more than double that of non-justice-involved peers (Sedgh et al. 2015), but still much lower than rates reported among detained girls (Khurana et al. 2011). Thus, first contact with the justice system represents a crucial intercept for early SRH intervention prior to more entrenched justice involvement.

To inform the development of SRH interventions for youth in the justice system, it is important to first evaluate their nuanced and heterogenous attitudes toward pregnancy (P. J. Kelly et al. 2008; Rosengard et al. 2006) and whether these attitudes may predict contraceptive use patterns or pregnancy risk. Examining the association between attitudes and sexual behaviors will lead to a better understanding of intervention options in this population of JIY who experience SRH inequities. Multiple studies have demonstrated the insufficiency of a dichotomized measure of "intended" versus "unintended" pregnancy, and accordingly, research is shifting toward a multidimensional approach to measuring PAI that better captures a range of ambivalent and affective responses to pregnancy (Aiken et al.

2016; Goldberg et al. 2016; Gómez et al. 2019; Kavanaugh and Schwarz 2009; Santelli et al. 2009). There is also a growing appreciation for the need for prospective measurements of PAI among adolescents, given that retrospective peri- or postpartum self-reports of pregnancy intentions differ substantially from preconception pregnancy intentions (Finer et al. 2018; Kavanaugh and Schwarz 2009). Recently, new measures and frameworks have been developed to assess PAI from a more nuanced perspective, though they have been designed and used primarily for females of child-bearing age in the general population and may fail to capture important differences in PAI among other demographics, such as youth, males, and/or those with justice-involvement (Finer et al. 2018; Kavanaugh and Schwarz 2009; Maddow-Zimet and Kost 2020).

To date, little of the PAI research has included JIY, who experience higher rates of pregnancy compared to non-justice-involved peers yet have inequitable access to SRH services (Golzari et al. 2006). Furthermore, the literature has largely focused on attitudes and behaviors of cisgender females, even though cisgender male partners exert a significant influence on sexual practices and their female partners' intentions to conceive (Lohan et al. 2010; Moreau et al. 2013; Rosengard et al. 2005). Teen fatherhood also occurs at higher rates among justice-involved males but their roles in reproduction are often overlooked in SRH interventions (Ott et al. 2019; Shade et al. 2011). Structural forces such as poverty, educational inequities, and racism are drivers of both justice involvement and teen fatherhood, and in turn, teen fatherhood further limits educational attainment and socioeconomic mobility (Fletcher and Wolfe 2012; Thornberry et al. 2000). There is also a growing recognition of the need for gender responsive programming as more girls have entered the justice system and research has identified significant gender differences across multiple domains, including mental health symptomatology, risk factors for justice involvement and types of offenses, and intervention efficacy (Jones et al. 2020; Tam et al. 2019; Tolou-Shams et al. 2021). It is therefore crucial to include justice-involved youth across the gender spectrum in studies exploring PAI.

1.2. Theoretical foundation of current study

PAI are known to be fluid over the course of development, and they represent an individual-level predictor of sexual activity and pregnancy occurrence that is highly shaped by broader societal forces (e.g., economic and racial injustice) (Bartz et al. 2007; Higgins et al. 2012; Kotchick et al. 2001; Moreau et al. 2013; Rosengard et al. 2004; Saleeby et al. 2019). Therefore, PAI in this study are regarded as one part of a comprehensive theoretical framework, ecodevelopmental theory, which calls for a multidimensional understanding of adolescent sexual behaviors through integration of social-ecology theory, developmental theory, and an emphasis on social interactions in shaping individual-level sexual behaviors. This framework guided the conceptualization and development of the parent study (from which the present study is derived) and attempts to understand protective and risk factors for youth in the justice system while considering the critical role of social context and developmental processes (Pantin et al. 2004; Tolou-Shams et al. 2020). Within the ecodevelopmental framework, this study seeks to understand PAI among JIY with the goal of providing or linking to SRH services that follow principles of patient-centered care (i.e.,

care that is respectful of and responsive to individual patient preferences, needs, and values) (Aiken et al. 2016; P. J. Kelly et al. 2008; Ti et al. 2019).

1.3. Study aims and hypotheses

The specific aims of this prospective cohort study are to: 1) Characterize PAI in a sample of first-time JIY who have never been detained, with a particular focus on gender differences; 2) assess whether and how baseline PAI and other variables (including demographics, mental health, substance use, and trauma) predict future sexual activity and contraceptive use; 3) examine the association between psychiatric symptoms and PAI. The first aim of the study was primarily exploratory owing to the paucity of comparable literature with JIY samples. Our additional hypotheses were that: 1) Males would endorse more favorable attitudes toward pregnancy than females (based on prior research indicating that males, particularly those from lower socioeconomic backgrounds, were more likely to view pregnancy favorably and as an indication of masculinity, with less associated responsibility (Lohan et al. 2010)); 2) positive pregnancy intentions, lower socioeconomic status, utilization of mental health services, substance use history, and exposure to trauma would predict more frequent unprotected sexual activity (defined here as sexual activity with no hormonal, barrier, or intrauterine protection against pregnancy) in JIY; and 3) that greater psychiatric symptom burden, particularly internalizing symptoms (anxiety, depression, low self-esteem), would be associated with positive pregnancy intentions.

2. Methods

2.1. Participants

Participants were drawn from a larger longitudinal study (Epidemiological Study Involving Children in the Court: EPICC) that aims to characterize trajectories of substance use, HIV/sexually transmitted infection (STI) risk behavior, psychiatric symptoms, and recidivism among a cohort of youth with first-time justice involvement. Youth (ages 12 to 18 years) were recruited and screened for study eligibility within one month of their first contact with a large juvenile court in the Northeast; baseline data were collected 2014 to 2016. Eligibility requirements included: a first-time delinquency (criminal) or status offense (an act defined as illegal by virtue of being a minor, e.g., underage alcohol use or repeated school absences) with no history of being detained, English language proficiency, and participation of a primary caregiver. Exclusion criteria included: youth with a prior offense, lack of involved caregiver, and cognitive impairment of youth or caregiver that would impede their ability to provide consent or complete assessments. The sample for this study was comprised of a subset of youth who had both baseline (T1) and four-month follow-up (T2) data on the variables of interest (N = 288). For the present subsample analysis, youth were excluded if they reported ‘other’ gender identity or skipped this item (n = 4), if they reported engaging in exclusively same-sex sexual behavior (n = 2), if they had become or gotten someone pregnant in the last four months (n = 4), or if they had greater than 20% missing responses on the PAI scale (n = 11). Additional details regarding methodology of the larger study are published elsewhere (Hirschtritt et al. 2018; Tolou-Shams et al. 2020; Yonek et al. 2019).

2.2. Procedures

Prior to the first court appointment, letters were mailed to caregivers of potential participants as part of standard court paperwork to inform them of the study. At the first court meeting with the intake coordinator, research assistants approached youth-caregiver dyads to assess their interest and eligibility for study participation.

Once consent and assent were obtained, youth and caregivers completed assessments via Audio Computer-Assisted Self-Interview Software (ACASI) at baseline and four-month intervals over two years. These assessments were administered in locations that allowed for privacy and convenience for participants, such as participants' homes, the study's office location, or community locations. Youth and caregivers were assigned separate rooms in which to complete the assessments, or if separate rooms were not available, the research assistants positioned youth and caregiver in a configuration that ensured each participant could not see the other's tablet. If privacy could not be guaranteed in a particular setting, the assessments were postponed. Youth and caregivers were both compensated for their participation at each study timepoint. For this analysis, baseline (designated T1) and first available (four-month) follow-up (T2) were used. All recruitment and study procedures were approved by the Principal Investigator's university and collaborating sites' Institutional Review Board (and Office for Human Research Protections).

2.3. Measures

2.3.1. Demographics—Age, gender identity, race, ethnicity, sexual orientation, lifetime substance use and lifetime sexual activity were self-reported by youth. Youth who reported 'other' gender identity or had missing data for this measure were excluded since this study specifically examines the role of gender in pregnancy intentions and related behaviors, and this small number would preclude further analysis as a subgroup. Family characteristics (i.e., parental figures in home, history of caregiver teen pregnancy, caregiver unemployment, household income and/or public assistance, caregiver level of education), and child welfare involvement were provided by caregivers. First-time offense type (status or delinquent, as defined above) was obtained from court records.

2.3.2. Pregnancy attitudes and intentions—Pregnancy attitudes and intentions were assessed at baseline with a published instrument comprised of eight items (Rosengard et al. 2004). Three 5-point Likert scale items assessed how (1) happy, (2) worried, and (3) upset an adolescent would be if he/she became pregnant or got someone pregnant in the next four months (e.g., 1 = "Not at all worried" to 5 = "Extremely worried"). A Total Pregnancy Attitudes mean score was calculated (two items reverse-scored) (Sullivan and Artino 2013) with higher scores indicating more positive attitudes toward pregnancy ($\alpha = 0.72$).

The instrument also assessed pregnancy intentions via two separate items: (1) how *likely* it was that the participant would become pregnant (or get someone pregnant), and (2) whether the participant was *planning* to become (or get someone) pregnant in the next four months. Responses were measured on a 5-point response scale, ranging from 1 = "Not at all likely/ Definitely not" to 5 = "Extremely Likely/Definitely yes." Responses were dichotomized to classify those who indicated no intention for pregnancy (not planning AND not likely)

and those who indicated any intention for pregnancy (planning OR likely) in the next four months.

Given that youths' pregnancy plans differed significantly from their perceived pregnancy likelihood, we also created four categories to account for different combinations of reported plans and likelihood: "Planning and Likely" (clear positive intentions), "Planning and Not Likely," "Not Planning and Likely" (inconsistent intentions), and "Not Planning and Not Likely" (clear negative intentions). Since there were so few participants in the "Planning and Not Likely" category (n = 4), this group was excluded in further analyses.

2.3.3. Sexual activity and contraceptive practices—The Adolescent Risk Behavior Assessment (ARBA) ascertained youth report of sexual activity and associated health behaviors and outcomes (e.g., contraceptive use, STI [which included chlamydia, gonorrhea, trichomonas, syphilis, genital warts, hepatitis, or HIV], pregnancy) (Donenberg et al. 2001). Lifetime (ever) and past four months (recent) sexual activity was assessed. Sexual activity (defined as oral, anal, or vaginal intercourse) was dichotomized into 'any' versus 'none,' and youth with an affirmative response are referred to as "sexually active." A dichotomous "unprotected sexual activity" variable was created to identify participants who had a higher likelihood of pregnancy occurrence owing to engagement in unprotected sexual activity between T1 and T2. This was defined as sexually active youth who reported using no forms of contraception (hormonal, barrier, or intrauterine methods) during this period OR those who reported inconsistent condom use and no additional form of birth control.

2.3.4. Mental health—Youth mental health history (i.e., psychiatric service use, mental health diagnosis, psychotropic medications, and psychiatric hospitalization) was provided by caregiver report. Youth and their caregivers also completed the Behavior Assessment for Children, Second Edition (BASC-2), a multidimensional self-report scale that assesses emotional and behavioral difficulties (Reynolds 2010). Youth self-report data are reported for internalizing symptoms (anxiety, depression, self-esteem) and caregiver data are reported for youth externalizing and behavioral symptoms (hyperactivity, attention problems, conduct problems, emotional self-control, and executive functioning), consistent with prior literature demonstrating that caregivers are more accurate at assessing their children's externalizing symptoms, while children are more accurate at assessing their own internalizing symptoms (Kolko and Kazdin 1993). BASC-2 scores in these domains were then dichotomized into clinical (t scores ≥ 60) and non-clinical (t scores < 60) level of symptoms. Lifetime traumatic event exposure and posttraumatic stress symptoms (within the last seven days) were assessed at baseline with the nine-item National Stressful Events Survey Post-Traumatic Stress Disorder Short Scale (NSESSS). Responses were dichotomized into any (n = 232) versus no (n = 56) prior exposure to a traumatic event, and for those with trauma exposure, a mean score of all items was calculated to measure level of distress associated with ongoing posttraumatic stress symptoms (from 0 to 4, with higher scores indicated greater symptomatology).

2.3.5. Substance use—The ARBA was also used to measure both lifetime and recent (past four months) history of substance use, including marijuana, alcohol, and other illicit

substances (excluding nicotine). A composite variable was created to capture lifetime and recent use of substances.

2.4. Data analysis

Demographic characteristics were compared between pregnancy intentions groups (both dichotomous and categorical) with *t*-tests for continuous variables and chi-square tests for categorical variables. Descriptive analyses and Mann-Whitney *U* tests were used to compare Total Pregnancy Attitude scores by gender. Chi-square and Fisher's exact tests were used to compare (1) recent sexual activity and contraceptive use behaviors by genders and pregnancy intentions and (2) the association between mental health/substance use (i.e., BASC and NSESSS variables) and pregnancy intentions by gender. A sensitivity analysis for the latter comparison was conducted, given that some youth (n = 28) had BASC-2 validity scores in the "extreme caution range." Two separate binomial logistic regression analyses were conducted to examine the relationship between prospective pregnancy intentions and sexual intercourse. Specifically, the dependent variable in Model 1 was sexual intercourse within the four-month follow-up period and in Model 2 was unprotected sexual intercourse during four-month follow-up. The independent variables were: pregnancy intentions (negative, inconsistent, or positive), gender, age, racial/ethnic minority status, Hispanic/Latinx identification, lifetime substance use, sexually active at baseline, and trauma history. Both models initially accounted for psychiatric variables that were significant in bivariable analyses: depression, substance use, and trauma history. Depression and sexual orientation were found to be non-significant in initial regression analyses, so the analyses were re-run without these two variables. All analyses were performed using SPSS 25.0.

3. Results

3.1. Sample characteristics

3.1.1. Demographics—The sample was comprised of 288 JIY ranging in age from 12 to 17 years, with a mean age of 14.5 years (Table 1). The sample was majority male (55%); 43% Caucasian, 9% African American/Black, 24% Multi-Racial, and 24% Other Racial Background (including American Indian, Asian, Native Hawaiian/Pacific Islander, or other). Regarding ethnicity, 43% of the sample identified as Hispanic/Latinx (Table 1). Youth with status offenses comprised 52% of the sample. Among participants' families, nearly two-thirds of the households received public assistance, nearly half of the primary caregivers were unemployed, and child welfare involvement was reported by 40% of caregivers (Table 1). Compared to the EPICC parent study sample described above (n = 401), this subsample was less likely to be African American/Black, to have a delinquency offense, and to have a non-biological parent as primary caregiver.

3.1.2. Baseline reproductive health and mental health characteristics—At baseline, 39% (n = 109) of youth reported lifetime sexual activity, the frequency of which did not differ by gender (Table 1). Among sexually active youth, 67% (n = 73) reported condom use during last sexual intercourse, only 6% (n = 7) reported lifetime history of STI, and 3% (n = 3) reported having ever been pregnant or impregnated someone.

Nearly one-third of the participants (n = 86) had received a mental health diagnosis or taken psychiatric medications, 60% (n = 173) had utilized psychiatric services, and 13% (n = 37) had been psychiatrically hospitalized (Table 1). History of a traumatic experience was endorsed by 81% (n = 232) of youth (Table 6).

3.2. Attitudes toward pregnancy

On the composite measure of overall attitude toward pregnancy, youth generally reported unfavorable attitudes about the prospect of pregnancy in the next four months, with a median of 1.67 (IQR 1.00 – 2.33) of 5. However, 43% of females and 52% of males reported they would be at least “slightly happy” about pregnancy. Overall attitudes differed as a function of gender, such that male youth reported more positive overall attitudes (median = 1.83) toward future pregnancy than did females (median = 1.33) (p =.002). More positive attitudes toward pregnancy were also associated with a history of sexual activity (p <.0001) and older age (p <.0001). Pregnancy attitudes did not differ by race or ethnicity. Examination of individual factors comprising the overall pregnancy attitude measure (i.e., ‘happy,’ ‘worried,’ and ‘upset’) revealed that males’ more positive overall attitudes toward pregnancy were driven by their report of feeling both happier (p =.033) and less upset (p =.002) about likelihood of pregnancy than females, whereas worriedness about pregnancy did not differ between genders.

3.3. Pregnancy intentions

3.3.1. Dichotomized pregnancy intentions—At baseline, 30% of males and 29% of females reported some degree of ‘pregnancy intention’ (either plans or likelihood) within the next four months. The vast majority (91%) of youth reported no plans for pregnancy, but almost one-third (28%) reported a potential likelihood of pregnancy in the next four months. In sexually active youth, pregnancy intentions were reported by 45% of males and 57% of females, compared to 21% and 9%, respectively, of those who reported lifetime abstinence.

Youth who reported pregnancy intentions were more likely to be older (M age = 15.2 ± 1.33 vs. 14.3 ± 1.55 years) and to report lifetime sexual activity (67% vs. 27%) (Table 1). Those with pregnancy intentions (regardless of lifetime sexual activity) were also more likely than those with no pregnancy intentions to report gay, lesbian, or bisexual orientation (25% vs. 15%) and to have a first-time delinquent offense (58% vs. 44%). Higher rates of pregnancy intentions were associated with mental health history (e.g., lifetime psychiatric diagnosis and psychiatric medication use) and substance use.

Among only sexually active youth, those reporting pregnancy intentions were also more likely to identify as gay, lesbian, or bisexual but otherwise did not differ from those with no intentions.

3.3.2. Categorical pregnancy intentions—We further examined pregnancy intention categorically (positive, negative, and inconsistent) as described in the methods. Youth who indicated positive intentions were more likely to have an unemployed caregiver than those with negative intentions (76% vs. 45%, respectively), and they were more likely than those with inconsistent or negative intentions to live in households receiving public assistance

(91% vs. 53% and 64%) and with caregivers with less than a high school education (55% vs. 19% and 27%) (Table 2). Youth with either positive or inconsistent pregnancy intentions were more likely than those with negative pregnancy intentions to be older (mean age of 15 vs. 14 years-old) and to have a lifetime history of substance use (80% and 71% vs. 41%) (Table 2). Youth with negative pregnancy intentions were less likely to report lifetime history of sexual activity than those with positive or inconsistent intentions (27% vs. 60% and 72%).

3.4. Baseline pregnancy intentions and unprotected sexual activity at four month follow-up

3.4.1. Descriptive analyses—At T2, one-third of the teens (n = 96) reported being recently sexually active, of whom 21 were newly sexually active (Table 3). The majority (69%) reported only one recent sexual partner, with a range of 1–9 recent sexual partners and median of one recent partner. Females reported a median of 7.0 recent sexual encounters, comparable to that of males, who reported a median of 6.0 recent sexual encounters.

A substantial proportion of youth reported using substances during sex (47%), engaging in inconsistent condom use (44%) or no condom use at last sexual encounter (42%), or using no birth control for self or partner (14%). Of those who used birth control, the majority used condoms (65%), followed by oral contraceptive pills (18%) and other methods (18%).

At follow-up, five females reported becoming recently pregnant, and four males reported impregnating someone (3% of the total sample; 9% of those sexually active). Regarding other sexual risk behaviors, none of the participants reported recent STI or involvement in trading sex for drugs, money, or other goods.

3.4.2. Bivariable analyses—Higher rates of sexual activity at T2 were associated with history of lifetime substance use, mental health diagnosis, prior sexual activity, and living in a household that receives public assistance. Participants who reported any pregnancy intentions at baseline were significantly more likely to be sexually active at T2 than those who had not, regardless of gender. Furthermore, consistency of intentions was also associated with rates of sexual activity, such that those who reported either positive or inconsistent intentions engaged in higher rates of sexual activity (52% and 59, respectively) than those who reported negative intentions (23%).

Among sexually active youth, using the dichotomized variable, unprotected sexual activity was associated only with identifying as a racial minority (small subgroup numbers precluded analysis by racial/ethnic categories) and no other demographic characteristics. Those who reported pregnancy *plans* were more likely to engage in unprotected sexual activity than those without plans. However, when stratified by gender, this association between plans and behaviors was only statistically significant for females. In contrast, perceived *likelihood* of pregnancy was not associated with subsequent unprotected sexual activity, regardless of gender. Using the pregnancy intentions categories, youth who reported positive pregnancy intentions were significantly more likely than those with negative (but not inconsistent) intentions to engage in unprotected sexual activity (Table 3).

3.4.3. Binomial logistic regression—Separate logistic regression analyses were conducted to examine the relationship between baseline pregnancy intentions and future (four-month follow-up) (1) sexual activity and (2) unprotected sexual activity, accounting for relevant demographic characteristics, mental health symptoms and substance use. Sexual activity was included as a separate model outcome to assess whether predictors of unprotected sexual activity were distinct from predictors of any sexual activity.

In Model 1, inconsistent pregnancy intentions (OR = 2.7), lifetime sexual activity (OR = 7.1) and substance use (OR = 2.8) were significant predictors of future sexual activity (Table 4). In contrast, Model 2 demonstrated that only pregnancy intentions and lifetime traumatic exposure(s) were predictive of future unprotected sexual activity. Specifically, those with positive intentions were significantly more likely to engage in unprotected sexual activity than those either with inconsistent or negative intentions (OR = 17, CI = 2.48–115.7), while those who endorsed lifetime trauma history were less likely to engage in unprotected sexual activity (OR = 0.03, CI = 0.003–0.39) (Table 5).

Race, ethnicity, age, and gender were not associated with sexual activity (regardless of protection use). Additional gender subgroup analyses were also conducted, and gender did not moderate the relationship between intentions and behaviors. Of note, bivariable analyses indicated an association between trauma history and racial group such that white youth reported higher lifetime traumatic exposure rates than racial/ethnic minority youth (100% vs. 84%), but we were precluded from examining the interaction between race and trauma and interaction effect on unprotected sexual activity to understand this more because of the limited variance in reported trauma among both groups.

3.5. Association of psychiatric symptoms with pregnancy intentions and sexual activity

Youth with any pregnancy intentions versus none were more likely to meet criteria on the BASC-2 for clinical-range symptoms of depression (25% vs. 14%) and impaired self-esteem (22% vs. 10%) as well as a greater lifetime history of substance use (72% vs. 41%) and exposure to trauma (88% vs. 78%) (Table 6). When stratified by gender, pregnancy intentions were not associated with any psychiatric symptoms among males, whereas females reporting pregnancy intentions were significantly more likely than those without intentions to score in the clinical range for depression (41% vs. 21%), impaired self-esteem (38% vs. 15%), hyperactivity (24% vs. 10%), and impaired emotional self-control (32% vs. 16%), as well as higher rates of lifetime substance use (92% vs. 42%), experience of traumatic event (100% vs. 79%) and greater degree of trauma symptoms as measured by the NSESSS (Table 6).

Among only the subset of youth who were sexually active at baseline (n = 109), no associations were identified between pregnancy intentions and psychiatric symptoms, substance use, or trauma history. Unprotected sexual activity was associated with lower rates of trauma history (70% vs. 97%), but not with psychiatric symptoms or substance use history.

3.5.1. Sensitivity analyses—The BASC-2 provides five validity scales, each of which is scored 1 to 3, with 3 indicating “extreme caution” in interpreting results. The chi-square

analyses were repeated after excluding the participants with a 3 on any of the validity scales (n = 28), and any significant differences are denoted with subscript letters in Table 6. The sensitivity analysis yielded very similar findings, with several exceptions: for females, anxiety was now associated with having any pregnancy intentions, whereas there was no longer an association between hyperactivity and pregnancy intentions. The association between trauma exposure and pregnancy intentions was no longer significant in the overall sample, but it remained significant among females.

4. Discussion

To date, few studies have examined pregnancy attitudes and intentions of JIY – and particularly those of male youth – prior to pregnancy. This study addresses an important gap in the literature by characterizing PAI among female and male JIY, a population that lacks equitable access to a comprehensive spectrum of care, including physical, mental, and sexual and reproductive health. The results of this study suggest that JIY have nuanced attitudes toward pregnancy, and while the majority of youth reported no intentions for pregnancy, many engaged in unprotected sexual activity. Furthermore, JIY have high of mental health needs, including psychiatric symptoms, substance use, and trauma history, which were correlated with pregnancy intentions among females in this sample. The first time that a youth has contact with the juvenile court could therefore provide a critical opportunity to link to and/or deliver brief, integrated mental health, SRH, and family planning services where indicated.

The rates of sexual activity in this JIY cohort with a mean age of 14.5 years are lower than those identified in previous work with JIY in detention settings (Teplin et al. 2003) and more closely mirror those in national samples of high school students ages 15–19 (i.e., approximately 40%) (Abma and Martinez 2017; Klein 2005; Martinez and Abma 2020). While there are no national data for sexual activity rates in youth under age 15, the most recent comprehensive national survey (the National Survey of Family Growth) retrospectively assessed age at first sexual intercourse and found that the probability of having ever had sexual intercourse by age 15 was only 11% for females and 16% for males; this rose to 55% for both males and females by age 18 (Abma and Martinez 2017). Although it is difficult to directly compare rates of sexual activity across studies given the wide age variations and inconsistent analytic approaches to age (e.g., using mean versus categorical age variables), these data suggest that this sample of non-detained JIY engage in sexual intercourse at a much higher rate than same-age peers. In turn, in the study by Teplin et al. [2003], detained youth between ages 14–15 report even higher rates of sexual intercourse: 66% in females and 86% in males. This is consistent with the finding that pregnancy rates among JIY are much higher among those who are detained than those living in the community, both of which are higher than youth with no justice involvement (Khurana et al. 2011; Sedgh et al. 2015). Future longitudinal research should examine the nature of this association (i.e., causal versus correlational) to better inform SRH intervention targets for JIY.

In prior research, prospectively-measured ambivalent attitudes predicted greater inconsistency in contraceptive use and higher rates of pregnancy at follow-up (Frost et

al. 2007; Higgins et al. 2012; Rosengard et al. 2004; Schwarz et al. 2007; Zabin et al. 1993), which was replicated in our study. *Inconsistent pregnancy intentions* did not predict unprotected sexual activity in regression analyses, but there was a gradated response: youth with *positive pregnancy intentions* engaged in higher rates of unprotected sexual activity, youth with *negative pregnancy intentions* engaged least frequently in those behaviors and youth with *inconsistent pregnancy intentions* engaged in rates of unprotected sexual activity in between those of youth with positive and negative intentions. Inconsistent intentions related to pregnancy plans and likelihood may reflect a youth's low perceived self-efficacy in their ability to avoid sexual activity or pregnancy (P. J. Kelly et al. 2008; Saleeby et al. 2019; Ti et al. 2019), or may reflect a lack of access to contraceptives and preventive health services (Tam et al. 2019). Moreover, PAI among JIY must be understood within an ecodevelopmental framework that considers their social-ecological context, and further studies should investigate such factors mediating the relationship between PAI and pregnancy occurrence. The findings that males held more favorable attitudes toward pregnancy than females are consistent with studies conducted with other justice-involved populations (e.g., Kelly et al. [2008] in their work with detained youth); but in contrast, pregnancy intentions and unprotected sexual activity did not differ by gender. Future research should examine factors shaping gender differences in pregnancy attitudes among JIY to inform future gender responsive SRH interventions.

The present study also identified associations between psychiatric symptoms and pregnancy intentions, with gender-specific differences. In general, youth with mental health difficulties were more likely to report *any* versus *no* pregnancy intentions. Among females, psychiatric symptoms were much more prevalent in general, and multiple symptom domains (depression, low self-esteem, hyperactivity, impaired emotional self-control, recent and lifetime substance use, and trauma history) were associated with pregnancy intentions, whereas only recent substance use was associated with pregnancy intentions for males. This is consistent with prior research that among girls, depressive and other internalizing symptoms are associated with their engagement in pregnancy risk behaviors (Francis et al. 2015; Kessler et al. 1997; Kovacs et al. 1994). Having a history of trauma exposure was also associated with greater pregnancy intentions, but lower rates of unprotected sexual activity. This finding contrasts with many studies that have found *increased* rates of teen pregnancy among females with trauma exposure (Klein 2005; Madigan et al. 2014; Woodward et al. 2001). A recent *meta*-analysis found that teen pregnancy was associated with childhood physical and sexual abuse specifically, but not other types of trauma (Madigan et al. 2014). Our analysis used a general measure of trauma exposure and symptom severity and did not delineate trauma type or frequency, which might account for our differential findings.

Another notable finding was that youth who reported any pregnancy intentions were more likely to report sexual minority status. A growing body of empirical evidence suggests that sexual minority youth and adults engage more frequently in certain sexual practices (e.g., early sexual debut, higher number of sexual partners) that may impact pregnancy outcomes (e.g., resulting in unintended or mistimed pregnancies), as compared with their heterosexual counterparts (Austin et al. 2008; Charlton et al. 2013, 2018; Goldberg et al. 2016; Leonardi et al. 2019). To our knowledge, however, relatively little is known

about pregnancy intentions among sexual minority youth; thus, more research is needed to effectively address the SRH needs of sexual minority JIY.

4.1. Limitations

The present study has several limitations that warrant discussion. While pregnancy incidence during the four-month follow-up period was high relative to the general adolescent population, the small subsample size precluded the examination of pregnancy rates as a primary outcome. However, since unprotected sexual activity, as defined in this study, is highly correlated with subsequent pregnancy rates (Santelli et al. 2007), the behaviors we examined as outcomes served as a close proxy for likelihood of pregnancy occurrence. Additionally, our sample is drawn from the larger epidemiological cohort and excludes participants with missing T2 data, who were significantly more likely to be African American/Black, to have a delinquent charge, and to have a non-birth parent caregiver. It is important to note, though, that not all of these participants exited the study completely, but rather they were missing self-report data at that timepoint for the variables of interest for the present study, i.e., sensitive information regarding sexual behaviors and substance use. Many factors likely contribute to these incomplete data, including distrust of academic health research related to historical and present systemic abuses of power (particularly when conducted in the setting of the juvenile justice system); resource limitations impacting study participation (e.g., time or schedule flexibility); perceived concern for consequences, and limited direct benefit to participants, among other factors. Additional research by our group has sought to better understand the barriers to research engagement and retention among JIY and explore the potential benefits and ethical considerations of more novel strategies, such as social media, to address this issue (Ramos et al. 2021; Rodriguez et al. 2021). Our sample size also restricted our ability to conduct more comprehensive and robust analyses examining differences in PAI on important characteristics (e.g., an individual's race, ethnicity, or their emotional or behavioral difficulties as measured by the BASC). We were unable to assess outcomes across the comprehensive gender spectrum (i.e., non-binary, gender-fluid, or transgender youth) due to the small number of youth in the sample identifying as gender-diverse. The smaller sample size of sexually active youth also resulted in several data cells with very low n's, yielding wide confidence intervals in logistic regression models. While there was an association between race and trauma exposure, due to limited sample variance, we could not further examine the impact of this interaction on outcomes of interest. Given these limitations, and because this study was conducted in a single state and oversampled female participants, generalizability to other samples of justice-involved community-supervised youth and families may be limited.

5. Conclusions

Given the immediate and long-term personal, social, and economic impacts of teen pregnancy (Hoffman and Maynard 2008; Perper 2010), it is of critical public health importance to improve the delivery of high-quality, patient-centered SRH services for JIY, who have high SRH needs yet limited access to healthcare resources (M. A. Kelly et al. 2018; Tam et al. 2019).

Our study findings highlight the importance of developing integrated reproductive and behavioral health interventions tailored to the needs of JIY, the vast majority of whom are living in the community. This first requires that health care organizations and providers implement systematic screening for justice-involvement among their young patients, as they do for other social determinants of health. Further, practitioners should be aware that assessing pregnancy intentions with a single question is insufficient to capture complex attitudes toward pregnancy. In justice settings, such as the family court, a standardized tool to characterize pregnancy intentions could be administered by court intake staff (e.g., while also receiving a mental health screening tool) to identify which youth may benefit most from linkage to SRH and mental health services. Similar screenings have been implemented in urban federally qualified health centers and pediatric emergency departments and were found to be both feasible and effective (Kvach et al. 2017; Chernick et al. 2012). The field has been increasingly successful at incorporating mental health screening tools within juvenile probation settings (Bowser et al. 2018; Fisher et al. 2018; Vincent 2011), and in one juvenile court setting STI screenings were also successful (Belenko et al. 2009). Thus, in probation, juvenile and family court settings, behavioral health and SRH interventions could be combined to both clarify pregnancy intentions and provide increased awareness of and access to contraceptive options, including long-acting mechanisms, if desired. This approach would engage youth in discussion and promote conscious consideration of their attitudes toward pregnancy, which is especially important for this population, as JIY have reported that lack of adults or peers with whom they could discuss sexual health has shaped their decisions about using contraception (Saleeby et al. 2019). Prior research has also demonstrated the strong relationship between contraceptive attitudes and subsequent use (Brückner et al. 2004; Frost et al. 2007, 2012; Zabin et al. 1993); therefore, such interventions should concurrently assess youths' contraceptive attitudes and address any potential misconceptions regarding contraception use. Further, given the associations identified in this and other studies among mental health needs and pregnancy intentions, attitudes, and sexual behaviors, youth may benefit from more nuanced discussions with health professionals to explore the relationship between their mental health and beliefs or behaviors. Although youth with first-time justice-involvement already carry a higher burden of adversity, mental health conditions, and SRH concerns compared to their non-justice-involved peers, such interventions could transform an initial court contact into an intervention point to empower youth through access to sensitive and gender-responsive health care services.

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Abbreviations:

JIY	Justice-involved youth
SRH	sexual and reproductive health
PAI	pregnancy attitudes and intentions

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Table 1.

Sample Demographics by Dichotomized Pregnancy Intentions.

Characteristic, n (%)	Overall Sample n = 288	Pregnancy Intentions (Plans or Likelihood) Any (n = 84)	None (n = 204)
Age (mean years ± SD)	14.5 (1.54)	15.2 (1.33)	14.3 (1.55)**
Female	129 (44.8)	37 (44.0)	92 (45.1)
Male	159 (55.2)	47 (56.0)	112 (54.9)
Race			
Black, African or Haitian	24 (8.60)	4 (4.9)	20 (10.1)
White	120 (42.9)	38 (46.3)	82 (41.4)
Multi-Racial	68 (24.3)	24 (29.3)	44 (28.1)
Other[a]	68 (24.3)	16 (19.5)	52 (26.3)
Hispanic/Latinx	121 (42.8)	37 (44.6)	84 (42.0)
Non-heterosexual sexual orientationa	51 (18.0)	21 (25.3)	30 (15.0)*
Sexual minority	88 (30.6)	31 (36.9)	57 (27.9)
Status offense	149 (51.7)	35 (41.7)	114 (55.9)*
History of substance use	144 (50.3)	60 (72.3)	84 (41.4)**
History of mental health service use	173 (60.3)	56 (67.5)	117 (57.4)
History of mental health diagnosis	86 (30.0)	33 (39.8)	53 (26.0)*
History of psychiatric medications	86 (30.3)	33 (40.2)	53 (26.2)*
Psychiatric hospitalization	37 (12.8)	16 (19.0)	21 (10.3)*
Lifetime history of sexual intercourse	109 (38.5)	55 (67.1)	54 (26.9)**
Family Characteristics			
Mother figure at home	268 (94.0)	76 (90.5)	192 (95.5)
Father figure at home	140 (49.3)	40 (48.2)	100 (49.8)
Caregiver pregnancy ≤ 18	121 (47.5)	35 (47.9)	86 (47.3)
Family receives public assistance	183 (63.5)	53 (63.1)	130 (63.7)
Primary caregiver unemployment	138 (47.9)	46 (54.8)	92 (45.1)
Annual Household Income			
$0 – $19,999	133 (47.7)	44 (53.7)	89 (45.2)
$19,999 – $49,999	98 (35.1)	24 (29.3)	74 (37.6)
$50,000 – $100,000	36 (12.9)	10 (12.2)	26 (13.2)
> $100,000	12 (4.3)	4 (4.88)	8 (4.06)
Caregiver level of education			
Some high school or less	74 (27.7)	22 (28.6)	52 (27.4)
High school graduate	54 (20.2)	15 (19.5)	39 (20.5)
Beyond high school	139 (52.1)	40 (51.9)	99 (52.1))
Any child welfare involvement	115 (40.1)	37 (44.6)	78 (38.2)
Child welfare removal from home	12 (4.18)	4 (4.82)	8 (3.92)

*Significantly different at $p < .05$.

**Significantly different at $p < .0001$.

[a]Other includes: American Indian, Asian, Native Hawaiian/Pacific Islander, or not listed.

Table 2.

Sample Demographics by Pregnancy Intention Categories.

Characteristic, n (%)	Overall (n = 282)	Positive (n = 21)	Inconsistent (n = 59)	Negative (n = 202)
Age (mean years ± SD)	14.5 (1.55)	15.1 (1.46)	15.2 (1.33)	14.3 (1.55)
Female	127 (45.0)	7 (33.3)	28 (47.5)	92 (45.5)
Male	155 (55.0)	14 (66.7)	31 (52.5)	110 (54.5)
Race				
Black, African or Haitian	23 (8.39)	0 (0)	3 (5.17)	20 (10.2)
White	118 (43.1)	8 (40.0)	28 (48.3)	82 (41.8)
Multi-Racial	67 (24.5)	5 (25.0)	18 (31.0)	44 (22.4)
Other[a]	66 (24.1)	7 (35.0)	14 (15.5)	50 (25.5)
Hispanic/Latinx	117 (42.2)	9 (42.9)	26 (44.8)	82 (41.4)
Non-heterosexual sexual orientation	51 (18.3)	5 (23.8)	16 (27.6)	30 (15.1)
Sexual minority	86 (30.5)	8 (38.1)	21 (35.6)	57 (28.2)
Status offense	146 (51.8)	8 (38.1)	25 (42.4)	113 (55.9)
History of substance use	141 (50.4)	16 (80.0)	42 (71.2)	83 (41.3)[b]
History of mental health service use	169 (60.1)	16 (76.2)	38 (65.5)	115 (56.9)
History of mental health diagnosis	83 (29.5)	9 (42.9)	22 (37.9)	52 (25.7)
History of psychiatric medications	84 (30.2)	9 (45.0)	22 (37.9)	53 (26.5)
Psychiatric hospitalization	35 (12.4)	5 (23.8)	9 (15.3)	21 (10.4)
Lifetime history of sexual intercourse	107 (38.4)	12 (60.0)	41 (70.7)	54 (26.9)[b]
Family Characteristics				
Mother figure at home	264 (94.3)	18 (85.7)	55 (93.2)	191 (95.5)
Father figure at home	138 (49.5)	8 (38.1)	30 (51.7)	100 (50.0)
Caregiver pregnancy ≤ 18	119 (47.4)	8 (44.4)	26 (49.1)	85 (47.2)
Family receives public assistance	179 (63.5)	19 (90.5)[c]	31 (52.5)	129 (63.9)
Primary caregiver unemployment	134 (47.5)	16 (76.2)[d]	28 (47.5)	90 (44.6)
Annual Household Income				
$0 – $19,999	130 (47.4)	13 (65.0)	29 (49.2)	88 (45.1)
$19,999 – $49,999	96 (35.0)	6 (30.0)	17 (28.8)	73 (37.4)
$50,000 – $100,000	36 (13.1)	1 (5.00)	9 (15.3)	26 (13.3)
> $100,000	12 (4.4)	0 (0.00)	4 (6.80)	8 (4.10)
Caregiver level of education				

Characteristic, n (%)	Overall (n = 282)	Positive (n = 21)	Inconsistent (n = 59)	Negative (n = 202)
Some high school or less	72 (27.6)	11 (55.0)[e]	10 (18.9)	51 (27.1)
High school graduate	53 (20.3)	2 (10.0)	12 (22.6)	39 (20.7)
Beyond high school	136 (52.1)	7 (35.0)	31 (58.5)	98 (52.1)
Any child welfare involvement	112 (39.9)	11 (52.4)	23 (39.7)	78 (38.6)
Child welfare removal from home	12 (4.27)	3 (14.3)	1 (1.72)	8 (3.96)[f]

[a] Other includes American Indian, Asian, Native Hawaiian/Pacific Islander.

[b] Significantly different from positive and inconsistent intentions; $p < .0001$.

[c] Significantly different from negative and inconsistent intentions; $p < .01$.

[d] Significantly different from negative intentions; $p < .05$.

[e] Significantly different from negative and inconsistent intentions; $p < .05$.

[f] Cells too small to perform analysis.

Table 3

Sexual Activity and Contraceptive Use Behaviors in Past Four Months.

		Risk Behaviors by Gender				Risk Behaviors by Pregnancy Intentions			
	n	**Overall**	**Female (n = 129)**	**Male (n = 159)**	**n**	**Overall**	**Positive (n = 21)**	**Inconsistent (n = 59)**	**Negative (n = 202)**
Sexually active, n (%)	288	96 (33.3)	49 (38.0)	47 (29.6)	282	92 (32.6)	11 (52.4)	35 (59.3)	46 (22.8)[e]
Sexually active subset									
Sexual encounters, median (IQR)[a]	81	6.0 (3.0–20.5)	7.0 (4.0–22.8)	6.0 (2.0–17.0)	81	6.0 (3.0–20.5)	6.0 (1.0–18.8)	7.0 (5.0–30.0)	6.0 (2.0–16.0)
Sexual partners, median (IQR)	91	1.0 (1.0–2.0)	1.0 (1.0–2.0)	1.0 (1.0–2.0)	87	1.0 (1.0–2.0)	1.0 (1.0–2.0)	1.0 (1.0–2.0)	1.0 (1.0–2.0)
Newly sexually active, n (%)	96	21 (7.29)	10 (7.75)	11 (6.92)	92	20 (21.7)	3 (27.3)	3 (8.57)	14 (30.4)
Substance use during sex (self or partner)	91	43 (47.3)	25 (54.3)	18 (40.0)	87	41 (47.1)	3 (27.3)	20 (62.5)	18 (40.9)
No condom use during last intercourse	94	39 (41.5)	23 (48.9)	16 (34.0)	90	37 (41.1)	8 (72.7)[f]	15 (42.9)[f, g]	14 (30.4)[g]
Inconsistent condom use	96	42 (43.8)	26 (53.1)	16 (34.0)	92	39 (42.4)	8 (72.7)[f]	18 (51.4)[f, g]	13 (28.3)[g]
Birth control user[b]	94				90				
None		13 (13.8)	8 (16.7)	5 (10.9)		12 (13.3)	4 (36.4)	4 (11.8)	4 (8.9)
Condoms		61 (64.9)	25 (52.1)	36 (78.3)[d]		59 (65.6)	4 (36.4)[f]	20 (57.1)[f, g]	35 (76.1)[g]
Oral contraceptive pill		17 (18.1)	8 (16.7)	9 (19.6)		17 (18.9)	0 (0)	6 (17.6)	11 (24.4)
Other		17 (18.1)	12 (25.0)	5 (10.9)		16 (17.8)	3 (27.3)	9 (26.5)	4 (8.89)
Unprotected sexual activity[c]	96	23 (24.0)	10 (20.4)	13 (27.7)	92	21 (22.8)	6 (54.5)[f]	7 (20.0)[f, g]	8 (17.4)[g]
Been or gotten someone pregnant	95	9 (9.47)	5 (10.4)	4 (8.51)	92	9 (9.78)	3 (27.3)	1 (2.86)	5(10.9)[h]

[a] Includes vaginal, oral, or anal sex.

[b] Participants can select more than one. Other methods include: IUD, contraceptive implant, injection, or patch, and withdrawal during sex.

[c] If participant reports: no condom use and no other birth control OR inconsistent condom use when condoms are only form of birth control.

[d] Significantly different at $p < .01$.

[e] Negative intentions significantly different than inconsistent or positive intentions; $p < .0001$.

[f] Positive intentions significantly different than negative intentions but not inconsistent intentions; $p < .05$.

[g] Negative intentions significantly different than positive intentions but not inconsistent intentions; $p < .05$.

[h] Small cell size precludes statistical analysis.

Table 4

Logistic regression results for sexual activity at four-month follow-up; Model 1.

	B	SE	*P*	OR (95% CI)
Gender (Female)	0.33	0.35	0.34	1.40 (0.70–2.79)
Age	0.061	0.13	0.65	1.06 (0.82–1.37)
Racial/ethnic minority	0.23	0.40	0.56	1.27 (0.58–2.76)
Hispanic/Latinx	− 0.19	0.39	0.64	0.83 (0.38–1.80)
Pregnancy Intentions			**0.038**	
Negative	–	–	–	1.00
Inconsistent	0.99	0.41	**0.015**	2.69 (1.21–5.97)
Positive	0.72	0.59	0.22	2.06 (0.65–6.5)
Lifetime substance use	1.01	0.40	**0.011**	2.76 (1.26–6.04)
Sexually active at baseline	1.95	0.39	**<0.0001**	7.05 (3.28–15.1)
Traumatic event history	0.93	0.52	0.073	2.54 (0.92–7.04)

Table 5

Logistic regression results for unprotected sexual activity at four-month follow-up; Model 2.

	B	SE	*P*	OR (95% CI)
Gender	− 0.50	0.69	0.47	0.61 (0.16–2.34)
Age	− 0.28	0.27	0.29	0.76 (0.45–1.27)
Racial/ethnic minority	1.38	0.77	0.073	3.96 (0.88–17.9)
Hispanic/Latinx	− 0.11	0.76	0.88	0.90 (0.20–3.97)
Pregnancy Intentions			**0.014**	
Negative	–	–	–	1.00
Inconsistent	0.69	0.73	0.35	1.99 (0.48–8.28)
Positive	2.83	0.98	**0.004**	16.9 (2.48–115.7)
Lifetime substance use	2.15	1.21	0.075	8.58 (0.81–91.2)
Traumatic event history	− 3.37	1.24	**0.007**	0.034 (0.003–0.39)

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Table 6

Association between Baseline Mental Health Symptoms and Pregnancy Intentions (Plans or Likelihood) by Gender.

	Overall					Male					Female				
	n	**Any (n = 84)**	**None (n = 204)**	X^2	***p***	**n**	**Any (n = 47)**	**None (n = 112)**	X^2	***p***	**n**	**Any (n = 37)**	**None (n = 92)**	X^2	***p***
BASC-2, n (%)[a]															
Anxiety	284	13 (15.5)	21 (10.5)	1.39	0.24	156	3 (6.4)	7 (6.4)	0.00	1.0	128	10 (27.0)	14 (15.4)	2.34	0.14
Depression	283	21 (25.3)	27 (13.5)	5.8	**0.016**	155	6 (13.0)	8 (7.3)	NA[a]	0.36	128	15 (40.5)	19 (20.9)	5.21	**0.022**
Low self-esteem	285	18 (21.7)	20 (9.9)	7.07	**0.008**	157	4 (8.7)	6 (5.4)	NA[a]	0.48	128	14 (37.8)	14 (15.4)	7.76	**0.005**
Hyperactivity	288	23 (27.4)	43 (21.1)	1.34	0.25	159	14 (29.8)	34 (30.4)	0.005	0.94	129	9 (24.3)	9 (9.8)	4.65	**0.031**
Attention problems	287	17 (20.2)	41 (20.2)	0.00	0.99	158	10 (21.3)	28 (25.2)	0.28	0.60	129	7 (18.9)	13 (14.1)	0.46	0.50
Conduct problems	287	26 (31.0)	47 (23.2)	1.91	0.17	158	14 (29.8)	31 (27.9)	0.056	0.81	129	12 (32.4)	16 (17.4)	3.51	0.061
Emotional selfcontrol	288	22 (26.2)	43 (21.1)	0.89	0.35	159	10 (21.3)	28 (25.0)	0.25	0.62	129	12 (32.4)	15 (16.3)	4.15	**0.042**
Executive functioning	288	24 (28.6)	56 (27.5)	0.037	0.85	159	14 (29.8)	36 (32.1)	0.085	0.77	129	10 (27.0)	20 (21.7)	0.41	0.52
Substance use past four	287	53 (63.1)	65 (31.9)	27.3	**<0.0001**	159	24 (52.2)	32 (28.6)	7.94	**0.005**	129	29 (78.4)	33 (35.9)	19.1	**<0.0001**
Substance use lifetime	286	60 (72.3)	84 (41.4)	22.5	**<0.0001**	157	26 (56.5)	45 (40.2)	3.53	0.067	129	34 (91.9)	39 (42.4)	26.3	**<0.0001**
Traumatic Event History	288	74 (88.1)	158 (77.5)	4.30	**0.038**	159	37 (78.7)	85 (75.9)	0.15	0.70	129	37 (100.0)	73 (79.3)	8.96	**0.003**
NSESSS score, mean (SD)[c]	232	1.27 (1.04)	1.03 (1.06)	−1.64	0.10	122	1.03 (0.98)	1.00 (1.03)	0.17	0.87	110	1.51 (1.05)	1.07 (1.10)	− 2.02	**0.046**

[b]Fisher's exact test used to compare groups.

[a]Dichotomized into "clinical" (*t* score ≥ 60) versus "non-clinical" (*t* score < 60) level of symptoms.

[c]*t*−statistics reported.