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Trauma exposure and adolescent attitudes toward having a baby: An exploratory survey ☆,☆☆

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ABSTRACT

Objectives: To examine the association between childhood trauma exposure (i.e., extent of interpersonal trauma experienced in childhood) and attitudes toward teen parenthood.
Study design: We used a cross-sectional sample of 416 urban middle and high school male and female students from Tulsa, OK recruited through a local public school district mailing list. Multinomial logistic regression analyses were used to examine odds of reporting having a baby would make life worse, better, or cause no change according to childhood trauma score.
Results: Approximately 8% of students and their guardians responded to the mailed survey invitation. Among the students, 67% reported having a baby would make their lives worse; 17% reported it would not change their lives much, and 16% reported having a baby would make their lives better. Each increase in trauma score was associated with a 9% increase in reporting an indifferent attitude ($p < 0.001$) and a 15% increase in reporting a positive attitude toward having a baby ($p < 0.01$). After controlling for a wide range of sociodemographic, attitudinal, and sexual history variables, childhood trauma remained associated with a positive attitude toward having a baby ($p<.01$), but not an indifferent attitude toward having a baby.
Conclusions: Greater childhood trauma exposure is associated with indifferent and positive attitudes toward having a baby during adolescence.
Implications: Screening for childhood trauma and utilizing interventions designed to reduce the harmful effects of trauma exposure in childhood may offer a more targeted approach to adolescent pregnancy prevention strategies.

1. Introduction

Although adolescent pregnancy rates in the United States are declining, nearly 20% of women in the United States give birth before age 20, with wide racial, class, and state disparities [1]. The adolescent birth rate is twice as high for Black and Hispanic girls as White girls, and state rates range from fewer than 9 births in Massachusetts to around 30 births per 1000 adolescent girls aged 15 to 19 in Oklahoma and Mississippi [2]. Adolescent births are associated with many adverse outcomes for mothers and children, including greater risk for preterm and low birth weight and infant and maternal mortality [3–5].

In accordance with the cognitive-social model of fertility intentions [6], adolescent attitudes toward pregnancy/having a baby are associated with sexual behaviors such as contraceptive use, which in turn is associated with pregnancy risk [7,8]. Understanding adolescent attitudes about teen parenthood is essential for the development of effective teen pregnancy prevention programs [7]. Although three-quarters of teen pregnancies are unintended [9], a substantial proportion (15%–30%) of adolescents report neutral/indifferent (e.g., not endorsing positive or negative) attitudes toward becoming pregnant [8], which increases risk of pregnancy [10]. Not surprisingly, teens who report a desire for pregnancy are most at risk for a subsequent pregnancy [11,12]. The majority of

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research on adolescent pregnancy attitudes has focused on implications of these attitudes for pregnancy risk, contraception use, or risky sexual behavior; scant research to-date has examined antecedents of these attitudes toward adolescent parenthood.

The current study examines the association between childhood trauma and adolescent attitudes toward having a baby. Exposure to childhood interpersonal trauma (e.g., emotional, physical, or sexual abuse; exposure to domestic violence; loss of a caregiver; etc.) is prevalent among youth [13,14] and associated with a host of mental and physical health risks [15]. Adverse childhood experiences are strong predictors of unintended [16] and adolescent pregnancies [17]. The mechanisms explaining the relationship between childhood trauma and adolescent pregnancies are unclear, however. In this study, we seek to answer the questions: Is childhood trauma exposure associated with adolescent attitudes toward pregnancy? If so, how?

On one hand, adolescents who experienced more childhood adversity may have less ability to self-regulate emotions and behaviors [13,18] that lead to increased risk of pregnancy. For example, childhood sexual abuse has been linked to greater ambivalence toward and inconsistent use of contraceptives among adolescents [19] and more frequent high-risk sexual behaviors like early sexual debut and high numbers of sexual partners [20]. Thus, it may be that childhood trauma exposure is not associated with attitudes about pregnancy in adolescence, but rather with the behaviors that result in adolescent pregnancies. Yet it is also possible that childhood trauma may be associated with adolescent attitudes about having a baby. Childhood trauma is associated with depressive symptoms in adolescence [21], which are associated with mixed or neutral feelings about pregnancy [22]. Adolescents who experienced childhood adversity are more likely to endorse viewing having a baby as a way to improve their lives [23,24]. Therefore, it is also the case that childhood trauma exposure might be associated with increased odds of endorsing indifferent or positive attitudes about having a baby during adolescence. Identifying this relationship is important for teen pregnancy prevention efforts because it provides insights into whether behaviors or attitudes should be the primary target for youth who experienced childhood trauma and are at risk for teen pregnancy.

2. Material and methods

2.1. Sample

This study uses a cross-sectional sample collected in 2011 and consisting of 416 adolescents (40% female) between the ages of 13 and 20 (average age: 15.67), and who reside in Tulsa, Oklahoma. To recruit participants, we sent form letters sent to a random sample of 8000 parents and teens grade 7 through 11 in the participating school district. Participants completed the survey online and were incentivized with their name being placed in a drawing for 1 of 5 iPads once they completed the survey. The IRB from both the study authors' institution and the school district approved the study before data collection commenced.

2.2. Measures

Dependent variable. Attitudes toward teen parenthood is based on a question that asked respondents, "Having a child would: (1) make my life worse; (2) not change my life much; (3) make my life better." Responses were coded into 3 dichotomous variables to allow for significance testing of mean differences for "worse," "same," and "better" responses, although the 3-item pregnancy attitudes variable was kept for multivariate analyses.

Independent variable. Childhood trauma exposure was measured using a short form version of the Traumatic Events Screening Inventory–Child Report Form (TESI-CRF) [25]. The inventory included 7 items assessing interpersonal traumatic life events: crime-related events (i.e., witnessed mugging, stabbing), interpersonal violence (i.e., assaulted with a weapon, domestic violence), and loss of a caregiver. Responses ranged from 0 = never to 3 = many times and were summed to create a scale.

Control variables. Sociodemographic variables included age in years, gender with female = 1, race/ethnicity with dummy variables coded for Black, Hispanic, and American Indian as compared to White as the reference category, family structure with living with both parents = 1 and other living situations = 0. Mother's education was coded so that mother has a college degree = 1 and less education = 0.

Additional control variables for attitudes and behaviors that might influence attitudes toward pregnancy included has ever had sexual intercourse (yes = 1; no = 0); has ever been pregnant/gotten someone pregnant (yes = 1; no = 0); self-esteem measured by the question, "On the whole I am satisfied with myself," (1 = strongly disagree to 4 = strongly agree); parenthood as proxy for adulthood measured by the question, "When a female gets pregnant, it means that she has grown up" (1 = not at all; 2 = somewhat; 3 = completely); and likelihood of college degree measured by the question, "How likely is it that you will…complete a 4-year college degree or more after high school?" (1 = not at all; 2 = somewhat; 3 = very likely).

2.3. Analytic strategy

We conducted descriptive analyses on study variables by pregnancy attitude group. For the continuous variables (i.e., childhood trauma exposure, age, self-esteem, parenthood as proxy for adulthood, and likelihood to complete college degree), we tested for between-group differences using Tukey's HSD post hoc tests. For categorical variables (i.e., race/ethnicity, family structure, mother has college degree, has had sexual intercourse before, and has been pregnant before) we used chi-square tests to determine mean differences. To determine whether childhood trauma exposure is related to pregnancy attitudes, we ran a multinomial logistic regression to compare the no-change group and positive-change group to the negative-change reference group.

3. Results

Of the original 8000, nearly 1800 of the letters were returned to sender with undeliverable addresses. As with similar adolescent research studies on risky behaviors that require parents to mail back signed consent forms [26], our response rate was low; approximately 8% ($n = 416$) of students and their parents returned signed youth assent and parental consent forms and subsequently participated in the study (Table 1).

Differences in pregnancy attitudes by childhood trauma level followed the expected pattern (Table 2). Higher levels of cumulative trauma were associated with increasingly positive attitudes toward pregnancy. Similarly, compared to the reference group (make my life worse) we found that those who believed having a baby would improve their lives were older and were more likely to: have had sexual intercourse and a previous pregnancy, to see parenthood as linked to adulthood, and not believe they would complete a college degree. There were no differences between the reference group and the no-change group on any of the study variables except that those who perceived having a baby as not changing their lives were more likely to see parenthood as linked to adulthood, and less likely to believe they would complete a college degree.

Table 3 presents results from a multinomial logistic regression predicting group differences in attitudes about having a baby. In

Table 1
Sociodemographic characteristics of students in the Tulsa Teen Pregnancy Study in Tulsa, OK, 2011 ($N = 416$)

Age	15.7 (1.7)
Female	40%
Race/ethnicity	
White (r)	37%
Black	34%
American Indian	16%
Hispanic	13%
Lives with both parents	43%
Mother has college degree	39%
Has been pregnant before	5%
Teen parent	3%

All data presented as n (%) or mean +/- SD.

the uncontrolled model, a one-unit increase in trauma exposure was associated with a 9% increase in the odds of endorsing that pregnancy would not change life and a 15% increase in the odds that pregnancy would make life better. In the full model (after adding the control variables) there was no longer an association between childhood trauma and the no-change group. Compared to Whites, Blacks and Hispanics were more likely to endorse that having a baby would not change their lives, as were participants who linked parenthood to adulthood and who expressed less probability of completing a college degree.

For the group endorsing positive attitudes toward having a baby, trauma exposure was associated with attitudes even after the addition of control variables. Age and race/ethnicity were no longer associated with attitudes toward having a baby, but having been pregnant before, viewing parenthood as linked to adulthood, and reporting a lower likelihood of completing a college degree maintained their associations.

4. Discussion

Childhood trauma mattered for adolescent attitudes toward pregnancy, particularly for the attitude that having a baby would make his/her life better. Even after the inclusion of control variables, the association between childhood trauma exposure and positive attitudes toward teen parenthood remained. Interestingly, this was not the case for indifferent attitudes toward having a baby. There was a weak association between childhood trauma and increased risk for reporting that having a baby would not change one's life. This highlights the multidimensional nature of pregnancy attitudes and intentions, and it suggests important insights for application and intervention. The current primary focus of most teen pregnancy prevention programs is to reduce negative adolescent reproductive health outcomes such as pregnancy, childbearing, sexually transmitted infections, sexual activity, and number of sexual partners, and to increase condom and other contraceptive use among teens [27]. Yet our findings revealed three distinct groups of adolescents potentially at risk for teen pregnancy, and strategies to prevent teen pregnancy may need to differ for each group. We suggest that a screening tool for group membership may be useful for a more targeted prevention strategy.

As expected, the majority of adolescents reported that having a baby would make their lives worse. Members of this group may be more likely to want to use contraception, but they may still be at risk for pregnancy. This group appears to fit the profile for most teen pregnancy prevention programs; strategies for this group should follow current best practices and focus on education while promoting consistent and correct use of effective methods of contraception [28].

Among those who do not believe having a baby would make their lives better or worse (i.e., those in the no-change group), strategies might need to entail long-acting reversible contraceptive methods, enhancing critical thinking and emotion regulation skills,

Table 2
Differences in childhood adversity, sociodemographic characteristics, and sexual attitudes and behaviors among students in the Tulsa Teen Pregnancy Study by attitudes about having a baby, 2011 ($N = 416$)

	Having a baby would make my life:			
	Worse ($n = 278$)	Same ($n = 70$)	Better ($n = 68$)	Post hoc[a]
	[%, mean (SD)]	[%, mean (SD)]	[%, mean (SD)]	
Childhood adversity (m, range: 0–15)	3.6 (3.0)	4.5 (3.4)	5.1 (3.8)	*B*>*W*
Neighborhood violence	64%	72%	78%	
Witness violence	46%	65%	57%	
Sexual abuse	22%	21%	21%	
Emotional abuse	34%	36%	43%	
Neglect	12%	15%	18%	
Physical abuse	5%	9%	8%	
CPS intervened				
Age (m, range: 12–20)	15.5 (1.5)	15.7 (2.0)	16.2 (2.0)	*B*>*W*
Female	41%	37%	38%	
Race/ethnicity				
White (r)	42%	20%	32%	
Black	32%	44%	32%	
American Indian	15%	14%	21%	
Hispanic	11%	21%	15%	
Family background				
Lives with both parents	46%	34%	37%	
Mother has college degree	42%	33%	34%	
Sexual behavior and attitudes				
Has had sex before	5%	9%	16%	
Has been pregnant before	1%	7%	19%	
Teen parent	0%	6%	9%	
Parenthood as proxy for adulthood (m, range: 1–3)	1.2 (0.5)	1.4 (0.7)	1.5 (0.7)	*S*>*W*, *B*>*W*
Self-esteem (m, range: 1–4)	3.3 (0.7)	3.2 (0.7)	3.3 (0.8)	
Likelihood of college degree (m, range: 1–3)	2.7 (0.5)	2.5 (0.7)	2.5 (0.7)	*S*<*W*, *B*<*W*

B, Better; *S*, Same; *W*, Worse.
[a] Post hoc tests significant at <0.05.

Table 3
Relative risk ratios from multinomial logistic regression examining the association between childhood adversity and adolescent attitudes about having a baby: Tulsa, OK, 2011 (Reference Category = Worse) ($N = 416$)

	Model 1		Model 2	
	Same RRR (95% CI)	Better RRR (95% CI)	Same RRR (95% CI)	Better RRR (95% CI)
Childhood adversity	1.09 (1.01,1.17)	1.15 (1.07,1.25)	1.06 (0.96,1.16)	1.14 (1.03,1.25)
Age			1.01 (0.85,1.19)	1.12 (0.93,1.34)
Female			0..86 (0.48,1.55)	0..93 (0.50,1.75)
Race (Ref = White)				
Black			2.65 (1.26,5.58)	1.06 (0.50,2.25)
American Indian			1.65 (0.66,4.16)	1.31 (0.55,3.12)
Hispanic			3.36 (1.40,8.08)	1.18 (0.45,3.11)
Lives with both parents			0..75 (0.41,1.38)	0..96 (0.51,1.82)
Mom has college degree			0..99 (0.54,1.80)	1.27 (0.67,2.40)
Has had sex			1.24 (0.42,3.62)	2.01 (0.73,5.51)
Has been pregnant before			4.35 (0.93,20.45)	12.08 (2.99,48.75)
Self-esteem			1.21 (0.79,1.84)	1.55 (0.97,2.46)
Parenthood as a proxy for adulthood			1.67 (1.07,2.60)	2.10 (1.33,3.31)
Likelihood to complete a 4-year degree			0.53 (0.33,.84)	0.52 (0.32,.85)

The first model included only the childhood trauma exposure scale without control variables. The second model included all sociodemographic, attitudinal, and behavioral control variables.

and providing information on the difficulties that teen parents experience to help youth make informed decisions about childbearing, potentially moving some from the "no change" group to the "make my life worse" group. Not using contraception while also not planning to become pregnant can increase risk for substance-exposed pregnancies, delayed prenatal care, and inadequate nutriture [29]. Helping adolescents in this indifferent group to either use an effective contraceptive method or engage in behavioral practices to promote healthy pregnancy could reduce some of the health risks associated with adolescent unintended pregnancy.

Those who reported a positive attitude toward teen parenthood, however, are a unique group. Their pregnancies may not be unplanned or associated with other risky behaviors. Indeed, having a baby may, in fact, make their lives better in some ways. Coleman and Cater [24], for example, reported that teen mothers who planned their pregnancies reported their decisions as highly rational because their children contributed to a dramatic improvement in their lives through adult status and a new sense of purpose and identity in life. Because childhood trauma remained a strong predictor of a positive attitude toward teen parenthood after controlling for background characteristics, we argue that this group may be an appropriate target for intervention. Trauma-informed care for adolescents who would like to become pregnant may help them to identify available supports that may be useful to them. Moreover, a trauma-informed approach could make them aware of the unexpected ways in which pregnancy and pregnancy-related care can sometimes be triggering and retraumatizing. It is also possible that utilizing methods found to be successful in reducing the harmful effects of trauma exposure in childhood, such as trauma-informed cognitive behavioral therapy [30] or mindfulness training [31], may also reduce the proportion of teens who perceive that having a baby would improve their lives. Among youth who ultimately go on to become teen parents, these strategies may be useful to help them build self-regulation and coping skills [32] and reduce the intergenerational transmission of trauma [33].

Several study limitations should be noted. First, the survey was conducted in 2011, was cross-sectional, and participation was low. Caution should be taken so as to not over-generalize findings due to the possibility of nonresponse or selection bias in the sample [34]. Additionally, small cell sizes preclude an in-depth investigation of how specific types of childhood exposures were associated with attitudes about having a baby, but it would be useful to examine whether these findings are driven by one or more specific types of trauma exposure.

Still, this study makes contributions to the field by introducing the potential link between early childhood trauma exposure and positive attitudes toward pregnancy. Likewise, the clear distinction between three groups of teens with different levels of risk for pregnancy holds promise to improve prevention and intervention strategies among those most at risk for adolescent pregnancy.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.conx.2021.100058.

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