Intimate Partner Violence and Fertility in Early Adulthood

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ABSTRACT

Prior work has suggested that intimate partner violence (IPV) is associated with unintended fertility, but because both IPV and unintended fertility are concentrated among young adults, this association may not be causal. Using the Toledo Adolescent Relationships Study, we examine how IPV experience is related to early parenthood (N = 836). Then, among parents (N = 360), we investigate whether IPV is associated with the probability their first birth is unintended. Preliminary results indicate respondents who have ever experienced IPV have higher odds of becoming parents before age 25. However, among parents, IPV experience at the wave prior to their first birth is unrelated to whether the birth was characterized as unintended. Our results suggest that rather than a causal relationship, IPV and unintended fertility both occur in young adulthood and in unstable relationships. Our work has important implications for targeting young adults who experience both IPV and unintended fertility.

Intimate Partner Violence and Fertility in Early Adulthood

The United States has a high rate of unintended pregnancies compared to other Westernized countries (Sedgh, Singh, & Hussain 2014), and just under half of all pregnancies in the United States are unintended (Finer & Zolna 2016). Research shows that unintended fertility is negatively associated with maternal and child health (Gibson et al. 2008). Women who are most at risk of an unintended pregnancy are those who are socioeconomically disadvantaged as well as women of color (Finer & Zolna 2014; Finer & Zolna 2016; Henshaw 1998). Further, unintended fertility appears to have relationship consequences as well, with unintended first births to co-residing parents increasing the probability they will dissolve their relationship (Guzzo & Hayford 2012; Manning, Smock, & Majumdar 2004). Because of the negative links between unintended fertility and well-being, and its concentration among disadvantaged populations, unintended fertility is an important area of social science research, studied as both a predictor and an outcome.

One emerging area of fertility intention research has been its intersection with intimate partner violence (IPV). Scholars have documented two different relationships between IPV and fertility intentions. First, IPV seems to be a significant predictor of unintended fertility, but second, unintended fertility also increases the risk of experiencing IPV (Pallitto, Campbell, and O'Campo 2005; Yakubovich, Stockl, Murray, Melendez-torres, Steinert, Galvin, and Humphreys 2018). While both of these areas have received substantial analytical attention, there are still questions of causality in both relationships. The focus of this paper is to delve deeper into the first relationship by analyzing whether or not IPV experience puts individuals at risk for unintended fertility.

Drawing on a population-based longitudinal sample, the Toledo Adolescent Relationships Study (TARS), we will investigate how prior IPV is associated with entry into early parenthood as well as the reported intention of the first birth. With our longitudinal data, which contains a rich set of factors linked to both IPV and unintended fertility, we will be able to more fully investigate whether there is a causal connection between IPV and subsequent fertility, including whether such births are unintended. Additionally, we incorporate men, who have received considerably less attention in both IPV and fertility research. Thus, this paper will make an important contribution to the IPV and fertility intention literature by examining the causal relationship IPV has—or does not have—with unintended fertility. In this preliminary draft, we present our basic arguments and some early results.

BACKGROUND

IPV and Fertility Intendedness

Intimate partner violence peaks in young adulthood for both men and women (Johnson et al. 2015). Nationally, roughly one in four women and one in seven men are victims of severe physical violence, and one in three women and one in four men have been pushed, slapped, or shoved by an intimate partner (Breiding, Chen, and Black 2014). Although most research on IPV focuses on male-to-female IPV, female-to-male IPV is also common; in fact, some evidence suggests that women are significantly more likely to report perpetration than men (Giordano, Copp, Longmore, and Manning 2016). IPV perpetration and victimization are, in general, more common among the disadvantaged (Breiding et al.2014; Schumacher, Fedbau-Kohn, Smith Slep, and Heyman 2001), as is early and unintended fertility.

Prior research has demonstrated that women who have experienced IPV have an increased risk of an early pregnancy (Barber, Kusunoki, Gatny, and Budnick, 2018) and an

unintended pregnancy (Pallitto, Campbell, and O'Campo, 2005; Miller & Silverman 2010). IPV may lead to unintended fertility through several mechanisms. At the most basic level, individuals in violent (and often volatile relationships) may be hesitant to have a child under such circumstances or with such partners; any births would result from unintended pregnancies. A more direct mechanism would be reproductive coercion, where partners control women's ability to make independent reproductive decisions. Partners may deliberately sabotage contraceptive methods or exert pressure to have sex without contraception (Miller & Silverman 2010); partners may also more explicitly try to convince a partner to have a baby. The latter instance, though, provides an important wrinkle to arguments about IPV and unintended births – if a partner convinces someone to have a baby, or a woman feels that having a baby will make her partner happy even if she does not want a child, it may not necessarily be an *unintended* birth. Along a similar line, both men and women in unstable and violent relationships may engage in more risky behavior or feel more ambivalent about having a child; thus, such births could exist in a liminal space between wanted and unwanted.

Thus, although there appear to be ways that IPV could increase the risk of an unintended birth, it is far from clear whether this is always the case, especially given the limitations of prior research. First, past research often relies on cross-sectional data, inhibiting the ability to draw causal conclusions (e.g., Miller & Silverman 2010). Longitudinal data is necessary to analyze the timing of IPV experiences and fertility behaviors. Second, many studies have only considered IPV victimization (Yakubovich et al. 2018), yet perpetration can also be indicative of problematic and volatile relationships. As noted above, most studies on IPV also focus primarily on women's experiences, and most studies of fertility focus primarily on women as well; thus, whether IPV is associated with men's fertility behaviors remains unclear. Finally, the bulk of

prior studies have used dichotomous or narrowly defined measures of unintended fertility (Yakubovich et al. 2018), ignoring the possibility that IPV may influence risk-taking or ambivalence.

Another important shortcoming of prior work is the inability to account for key factors that are likely to be associated with both IPV and unintended fertility, allowing us to better isolate the role of IPV from confounding factors. For instance, the majority of births to young adults are unintended (Finer and Zolna, 2016), and the young adult years are those in which IPV rates are highest (Capaldi, Knoble, Wu Shortt, & Hyoun 2012; Johnson et al. 2015); it may be that the association between IPV and unintended fertility is spurious. Although some studies include socioeconomic and demographic factors, such as age, family background, and race-ethnicity, key factors also include union and family planning characteristics. For instance, marital status is associated with both unintended pregnancy and IPV (Capaldi et al. 2012; Finer and Zolna 2016). Attitudes about contraception – and one's belief in being able to use contraception consistently – are linked to IPV and unintended pregnancy (Gibbs et al. 2013; Guzzo and Hayford 2018; Manning, Giordano, Longmore, & Flanigan 2012). Other behavioral factors, such as delinquency or poor school performance, could also influence IPV or unintended fertility.

Current research

In this study, we build on prior research to consider whether IPV is predictive of having a first birth, and the intendedness of that birth, among both men and women. An alternative hypothesis is that the association between IPV and having an early first birth or an unintended birth is explained by other proximate factors, such as relationship or contraceptive use, as well as indicators of disadvantage, such as criminal behavior and substance use. The completed paper

will capitalize on longitudinal data that is uniquely suited to overcome many of the challenges identified above, including measures of both perpetration and victimization, nuanced categories of birth intendedness, and a rich set of background and union characteristics to better establish causal connections. In this preliminary draft, we present cross-sectional analyses of the link between IPV and having a child by age 25; however, for those who had a child, we are able to predict first birth intentions using a measure of IPV prior to birth to establish temporal ordering.

DATA AND METHODS

Data

We analyze longitudinal data from the Toledo Adolescent Relationships Study (TARS). TARS is a school-based sample based in Lucas County, Ohio. The 1,321 respondents were selected in 2000 from publically available records of students in the 7th, 9th, and 11th grade. The sampling frame, developed by the National Opinion Research Center, comprised 15,188 eligible students separated by race-ethnicity (non-Hispanic White, non-Hispanic Black, and Hispanic), gender, and grade into 18 strata. Through random subsamples, 2,273 students were selected from each strata. Of the 2,273 students, we contacted 1,625 and had 304 refusals, leaving us with 81.3 % or 1,321 students. Black and Hispanic students were oversampled. In order to maintain privacy, each respondent had an in-home interview with a questionnaire in the form of the computer-assisted personal interview (CAPI).

There are five waves of data included in this study. Interviews for wave 1 began in 2001, wave 2 was conducted in 2002/2003, wave 3 in 2004/2005, wave 4 in 2006/2007, and the most recent data collection occurred for wave 5 in 2011/2012. In wave 1 respondent's ages ranged from 12-19 and at wave 5 respondents ages ranged from 25-32. Respondents had to complete at least one interview beyond the first one to be included in the analyses. We initially excluded

those who had a first birth before the risk period began resulting in 1,283 respondents. We limited the sample to respondents who reported their race or ethnicity as White, Black or Hispanic (n=1,257). Respondents who had missing data on the dependent or independent variables were omitted, resulting in 1,239 respondents. Finally, we restrict the analysis of first births to those who reached at least 25, giving us a sample size of 836 respondents at wave 5. For the analysis of intendedness among first births, our sample includes the 360 individuals with at least one birth.

Dependent Variable

Respondents reported on the exact dates of their live births. As mentioned, respondents who had already had their first birth by the first wave were excluded from the analyses. At each interview, respondents were asked whether they had ever had any births, and if so, the date of each birth. In our preliminary analyses we measure whether the respondent had a child prior to age 25. In the final paper we will use event history method techniques to estimate the hazard of having a birth.

The indicator of *intentions* is based on the following question. "At the time your found out you were pregnant [your partner was pregnant], would you say you: 1) Wanted to become pregnant [get your partner pregnant]; 2) Didn't want to become pregnant [get your partner pregnant]; 3) Hadn't thought about whether you wanted to get pregnant [get your partner pregnant]; 4) Didn't care one way or another. In our preliminary regression analysis, we investigate two potential ways of analyzing this measure. First, this variable is collapsed and coded as 1) unintended fertility (didn't want, risky behavior, and ambivalence) and 0) for pregnancies that were intended (wanted). Second, we retain the original four categories. The

response “hadn’t thought about it” likely taps into risky sexual behavior whereas “didn’t care about it” seems to tap into ambivalence.

Independent Variable

Intimate Partner Violence uses items from the Conflict Tactics Scale (Straus and Gelles 1990) where we ask respondents how often their current or most recent partner has 1) thrown something at you; 2) pushed, shoved, or grabbed you; 3) slapped you in the face or head with an open hand; and 4) hit you. The responses ranged from “never” to “very often.” Respondents were also asked the frequency of which they committed these violent against towards their current or most recent partner. Our final variable is one that measures *mutual violence,* in which respondents were given a 1 if they ever reported any victimization or perpetration and a 0 if they never reported either. In future analyses, we will explore victimization and perpetration separately.

Covariates

Contraceptive efficacy is measured with the question, asked at each wave,: “If you were to become intimate with someone, how sure are you that you could plan ahead to have some form of birth control available,” with response categories of : 1) “I never want to use birth control,” 2) I never want to become intimate with someone before marriage, 3) very unsure 4) moderately unsure, 5) neither sure nor unsure 6) moderately sure, and 7) very sure. We created a four category variable with never use (response 1), no intimacy before marriage (response 2), unsure (response categories 3, 4, and 5), and sure (response categories 6 and 7).

Criminal activity, an eight-item mean scale, asked respondents: “In the last two years (or 24 months), how often have you: (1) stolen (or tried to steal) things worth $5 or less; (2) damaged or destroyed property on purpose; (3) carried a hidden weapon other than a plain

pocket knife, (4) stolen (or tried to steal) something worth more than $50; (5) attacked someone with the idea of seriously hurting him/her; (6) sold drugs; (7) broken into a building or vehicle (or tried to break in) to steal something or just to look around; and (8) used drugs to get high (not because they were sick)" (Elliott and Ageton 1980). Responses ranged from "never" to "more than once a day," with a mean scale resulting in a range from 0 to 8 (the α ranged from 0.74 to 0.87 across waves). We dropped the responses "been drunk in a public place" because we will also include a substance abuse measure. Respondents were asked these questions regarding their criminal activity at each interview, and for each wave we created a mean scale.

Substance abuse prior to the birth of the child will be operationalized as a 7-item mean scale in which respondents were asked: "How often in the past 12 months have you experienced these things because of your drinking/using drugs:" (1) "Not felt so good the next day," (2) "Felt unable to do your best job at work or school," (3) "Hit one of your family members," (4) "Gotten into fights with others," (5) "Had problems with your friends," (6) "Had problems with someone you were dating," and (7) "Gotten into a sexual situation that you later regretted." Responses ranged from (1) never to (8) almost daily (the α ranged from 0.89 to 0.92 across waves).

In our preliminary analyses, the variables above are indexed to wave 1 in the analysis predicting any birth and to the wave prior to the birth for the analysis predicting first birth intendedness, but we will convert these to time-varying measures for future analyses.

Grades, self-reported at the first interview, were coded so that higher numbers reflected higher grades. *Gender,* a binary variable, specified if the respondent was female. *Race/Ethnicity* (measured at the first interview) was classified into three binary variables: (1) White, (2) Black, and (3) Hispanic with White as the reference category. *Family structure,* from the first interview, was operationalized as two biological parent households versus every other family structure.

We have two additional variables in the models predicting the intendedness of the first birth. *Relationship status,* which is indexed to the wave prior to pregnancy, is categorized into four categories: 1) single, 2) dating, 3) cohabiting, and 4) married. *Age at pregnancy* is in the analyses where we only included the respondents who had a pregnancy (whether theirs or their partners) that resulted in a live birth. This variable was calculated by subtracting eight months from the date of birth of their first child and indicates roughly the time the respondent became pregnant or their partner became pregnant.

Analytic Strategy

For our preliminary analyses we used logistic regressions to determine whether having ever experienced IPV is associated with entry into parenthood by age 25. Therefore, we are unable to establish causal ordering in this draft, but our completed paper will take full advantage of the longitudinal data to establish causal ordering between IPV and having a first birth by age 25; we will also incorporate relationship status. We present several models. In the first model we included the ever experienced IPV measure and the female control (*model 1)*. Then we included the contraceptive efficacy measures (*model 2).* Next, we added in the behavioral indicators of criminal activity, substance abuse, and grades at wave 1 (*model 3)*. In the last model we add in the race/ethnicity and family structure controls (*model 4).*

Second, only among respondents who had a first birth, we used logistic regressions to estimate the association between IPV—at the wave prior to reported birth—and the probability of reporting their first birth as unintended. These models will closely follow the first set of analyses; however, we now add age at conception to the first model. We also controlled for the parents' relationship status at the time of the pregnancy (*model 4).* And lastly we added in the race/ethnicity and family structure controls (*model 5).*

Our last set of analyses used multinomial logistic regressions in order to break down the fertility intentions into the original question: 1) wanted; 2) didn't want 3) didn't think about it; and 4) didn't care. The model ordering mirrored our second set of analyses, and we show several sets of models in which we change the reference category. In each of our analyses we report the odds ratios.

Preliminary Results

Table 1 shows the background characteristics for our entire sample (including both parents and non-parents) and as shown 43% of respondents experienced their first birth. The average age at first birth was about 20, and of those parents, about a quarter reported that their pregnancy was wanted. Roughly, a third of births were reported as unwanted, 23 % reported that they hadn't thought about it, and 18 % didn't care. Further, about 14 % of parents were single, 17 % were dating, 38 % were cohabiting, and 20 % were married at the time of pregnancy.

Table 1 About Here

The descriptive results also show that respondents who had a first birth reported higher levels of ever experiencing IPV. At wave 1, parents also reported higher levels of delinquency and substance abuse, but lower grades compared to those who were not parents.

Table 2 reports the results of the logistic regressions estimating the relationship between *having ever* experienced IPV and entering into parenthood. The results indicate that net of other covariates, respondents who ever reported IPV—both perpetration and victimization—had twice the odds of early parenthood compared to those who never reported IPV. As expected, women were twice as likely to report entering parenthood compared to men.

Table 2 About Here

Compared to respondents who were sure they would be able to proactively plan for birth control, those who indicated they didn't want to be intimate before marriage and those who were unsure of their ability to plan ahead had lower odds of entering parenthood. Having higher reported grades at wave 1 and having grown up in a two-parent household were associated with lower odds of entering parenthood. Hispanic respondents had higher odds of entering parenthood compared to white respondents.

Table 3 shows the results from the analysis in which we ask *among parents* are those who reported they had experienced either victimization or perpetration *at the wave prior* to their first birth more likely to report that their first birth was unintended? Our measure of prior IPV was never significant, indicating parents who experienced IPV at the wave prior to their reported first birth did not have higher odds of reporting this birth as unintended. Respondents who were dating or cohabiting at the time of their pregnancy were significantly more likely to report their first birth as unintended compared to parents who were married. Respondents who were single at the time of their pregnancy were significantly more likely to report their first birth as unintended until we controlled for behavioral indicators and then the sociodemographic controls. Respondents who at wave 1 reported that they never plan on using birth control had marginally higher odds of reporting their first birth as unintended.

Table 3 About Here

Tables 4 through 6 further analyze, *among parents,* the relationship between prior IPV and types of unintended fertility. In these analyses, we divided unintended fertility into the three original categories (unwanted; hadn't thought; didn't care) and ran multinomial logistic regressions where intended first birth was the reference category. As can be seen across all four tables, there is no statistically significant difference in whether IPV predicts different types of

unintended fertility. We also conducted multinomial analyses where we changed the reference category to "didn't care" and to unwanted (not shown); again, though, there were no differences across groups in the link between IPV and types of unintended fertility.

Table 4 About Here

Table 5 About Here

Table 6 About Here

Sensitivity Analyses

In sensitivity tests for the logistic regressions and multinomial we included an interaction between gender and IPV, and it was insignificant in all models. Thus, the role of IPV does not differ for men and women.

Discussion

As compared to other westernized countries, the US has the highest rate of unintended fertility. IPV is also a concern in the US, affecting men and women alike (Giordano et al. 2016). Our work seeks to determine whether there is association between IPV and unintended births. Prior work has indicated that women who experience IPV are more likely to enter parenthood earlier and classify their entry as unintended (Barber et al. 2018). Our preliminary results indicate that overall, those who had *ever reported* IPV were significantly more likely to experience early parenthood compared to those with no IPV. However, once we limit our analyses to only parents and use a measure of IPV that temporally precedes the birth, there is no associated between *prior IPV* and unintended fertility. Our multinomial results further support the lack of association, even with more nuanced categories of fertility intendedness. In contrast to prior work, then, the preliminary findings suggest that there is no strong association between

IPV and unintended fertility but, rather, that both unintended fertility and IPV occur among young adults in unstable relationships.

In the completed paper, we will use an event history framework to be able to determine causality between IPV and the risk of early parenthood. The future analyses will also incorporate time-ordered experiences of IPV, criminal activity, substance abuse, and contraceptive efficacy. Furthermore, we will control for the relationship status for non-parents as well. We will fully explore the role of victimization and perpetration. We will use life table methods to estimate the cumulative probabilities of having a birth, and this will allow us to observe the differences in likelihood of entering parenthood prior to specific ages for respondents with and without IPV. The findings from this study will provide new insights into the implications of intimate partner violence and provide evidence to support programs targeted at young men and women.

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Table 1. Background characteristics for Analytic Sample

	Parents		Non-Parents	
	M or %	SD	M or %	SD
Dependent Variables				
Had a first birth	43.30		56.70	
Of those with a first birth:				
Age at Birth	19.80	2.59		
Fertility Intentions				
Wanted	26.39			
Didn't Want	31.67			
Hadn't Thought	23.61			
Didn't care	18.33			
Independent Variables				
Ever IPV	0.71	0.46	0.46	0.50
IPV at Prior Wave*	0.40	0.49		
Relationship Status*				
Single	14.17			
Dating	17.22			
Cohabiting	37.78			
Married	20.56			
Contraceptive efficacy				
Never Use	10.56		7.56	
No Intimacy before Marriage	14.44		24.58	
Unsure	20.00		25.84	
Sure	53.61		41.60	
Behavioral Indicators				
Delinquency Wave 1	0.23	0.63	0.18	0.68
Delinquency at Prior Wave*	0.32	0.65		
Substance Abuse Wave 1	15.44	0.48	0.12	0.50
Substance Abuse at Prior Wave*	0.23	0.70		
Grades	5.44	2.05	6.25	1.96
Sociodemographic Controls				
Gender				
Female	0.62	0.48	0.44	0.50
Race/Ethnicty				
Non-Hispanic Black	0.33	0.47	0.25	0.44
Hispanic	0.17	0.37	0.11	0.31
Non-Hispanic White				
Family Structure (Wave 1)				
Two Biological	0.36	0.48	0.51	0.50
Not Two Biological				
N	360		476	

*For preliminary analyses only causal ordering was determined for parents

Table 2. Logistic Regressions of Probability of First Birth

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Ever IPV	2.89 ***	3.45 ***	3.38 ***	3.09 ***	2.95 ***
Female		2.56 ***	2.76 ***	3.03 ***	2.95 ***
Contraceptive Efficacy					
Never Use			1.14	0.95	0.96
No Intimacy Before Marriage			0.41 ***	0.42 ***	0.43 ***
Unsure			0.61 **	0.57 **	0.56 **
(Sure)					
Behavioral Indicators (wave 1)					
Delinquency				0.94	0.91
Substance Abuse				1.09	1.14
Grades				0.82 ***	0.84 ***
Sociodemographic Controls					
Race/Ethnicty					
Non-Hispanic Black					1.20
Hispanic					1.63 *
Non-Hispanic White					
Family Structure (Wave 1)					
Two Biological					0.76 †
(Not Two Biological)					

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses

† p < .1. *p <.05. **p<.01. ***p<.001

N=836

Table 3. Logistic Regressions of Probability of Unintended First Birth

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IPV at Prior Wave	1.38	1.36	1.29	1.27	1.25	1.24
Female		1.20	1.37	1.47	1.53	1.54
Age at Conception		0.95	0.94	0.95	0.96	0.96
Relationship Status at Pregnancy						
Single			2.20 *	2.15 *	2.14 †	1.92
Dating			4.83 ***	5.05 ***	5.12 ***	4.56 ***
Cohabiting			2.86 ***	3.09 ***	3.70 ***	3.12 ***
(Married)						
Contraceptive Efficacy						
Never Use				2.43 †	2.39 †	2.44 †
No Intimacy Before Marriage				0.90	0.92	0.93
Unsure				1.45	1.40	1.35
(Sure)						
Behavioral Indicators						
Delinquency at Prior Wave					1.18	1.15
Substance Abuse at Prior Wave					1.62	1.79
Grades (wave 1)					1.02	1.03
Sociodemographic Controls						
Race/Ethnicty						
Non-Hispanic Black						1.68
Hispanic						0.87
Non-Hispanic White						
Family Structure (Wave 1)						
Two Biological						0.98
(Not Two Biological)						

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses

† p < .1. *p <.05. **p<.01. ***p<.001

N=360

Table 4. Multinomial Logistic Regressions of Probability of Unintended First Birth

	Intended versus Unwanted					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IPV at Prior Wave	1.32	1.29	1.20	1.14	1.09	1.09
Female		1.34	1.54	1.73 †	1.91 *	1.90 *
Age at Birth		0.91 †	0.92	0.93	0.95	0.96
Relationship Status at Pregnancy						
Single			3.29 **	3.27 **	3.29 **	3.04 *
Dating			6.33 ***	6.77 ***	7.00 ***	6.50 ***
Cohabiting			2.25 *	2.44 *	2.53 *	2.56 *
(Married)						
Contraceptive Efficacy						
Never Use				3.21 *	3.07 *	3.19 *
No Intimacy Before Marriage				0.71	0.71	0.71
Unsure				1.53	1.48	1.45
(Sure)						
Behavioral Indicators						
Delinquency at Prior Wave					1.36	1.34
Substance Abuse at Prior Wave					1.74	1.86
Grades (wave 1)					1.02	1.03
Sociodemographic Controls						
Race/Ethnicty						
Non-Hispanic Black						1.37
Hispanic						0.80
Non-Hispanic White						
Family Structure (Wave 1)						
Two Biological						0.89
(Not Two Biological)						

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses

† p < .1. *p <.05. **p<.01. ***p<.001

N=360

Table 5. Multinomial Logistic Regressions of Probability of Unintended First Birth

	Intended versus Hadn't Thought					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IPV at Prior Wave	1.52	1.47	1.43	1.42	1.43	1.38
Female		1.11	1.22	1.29	1.91	1.25
Age at Birth		0.90 †	0.87 *	0.88 *	0.88 †	0.89 †
Relationship Status at Pregnancy						
Single			0.96	0.97	0.97	0.84
Dating			3.38 *	3.43 *	3.44 *	3.10 *
Cohabiting			2.75 **	2.80 **	2.80 **	2.86 **
(Married)						
Contraceptive Efficacy						
Never Use				1.26	1.30	1.38
No Intimacy Before Marriage				0.71	0.74	0.72
Unsure				1.36	1.33	1.27
(Sure)						
Behavioral Indicators						
Delinquency at Prior Wave					1.02	1.00
Substance Abuse at Prior Wave					1.46	1.62
Grades (wave 1)					1.04	1.06
Sociodemographic Controls						
Race/Ethnicty						
Non-Hispanic Black						1.59
Hispanic						0.71
Non-Hispanic White						
Family Structure (Wave 1)						
Two Biological						0.74
(Not Two Biological)						

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses

† p < .1. *p <.05. **p<.01. ***p<.001

N=360

Table 6. Multinomial Logistic Regressions of Probability of Unintended First Birth

	Intended versus Didn't Care					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IPV at Prior Wave	1.30	1.35	1.27	1.26	1.24	1.23
Female		1.12	1.30	1.32	1.34	1.39
Age at Birth		1.09	1.07	1.07	1.08	1.09
Relationship Status at Pregnancy						
Single			2.38	2.35	2.36	2.12
Dating			4.65 **	5.08 **	5.16 **	4.18 *
Cohabiting			4.14 ***	4.62 ***	4.61 ***	4.61 ***
(Married)						
Contraceptive Efficacy						
Never Use				3.11 †	3.11 †	2.88 †
No Intimacy Before Marriage				1.57	1.58	1.66
Unsure				1.48	1.42	1.29
(Sure)						
Behavioral Indicators						
Delinquency at Prior Wave					1.05	1.02
Substance Abuse at Prior Wave					1.56	1.79
Grades (wave 1)					1.02	1.01
Sociodemographic Controls						
Race/Ethnicty						
Non-Hispanic Black						2.69 *
Hispanic						1.32
Non-Hispanic White						
Family Structure (Wave 1)						
Two Biological						1.56
(Not Two Biological)						

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses

† p < .1. *p <.05. **p<.01. ***p<.001

N=360