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A RESEARCH NOTE ON INTIMATE PARTNER VIOLENCE EXPERIENCES AND EARLY AND UNINTENDED CHILDBEARING

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ABSTRACT

Prior work has suggested that intimate partner violence (IPV) experience is associated with early and unintended childbearing, but because both IPV and such births are concentrated among young adults, this association may not be causal. In this research note, we examine how IPV experience is related to early and unintended childbearing by age 25 using the Toledo Adolescent Relationships Study (TARS, N = 810). The results indicate respondents who had previous experience with IPV were no more likely to enter parenthood by age 25 than those without. Further, the results indicate that prior IPV experience is not associated with an increased probability of unintended childbearing. These results suggest that rather than a causal relationship, IPV experience and unintended childbearing both occur in young adulthood. This work has implications for policy and programmatic foci of both unintended childbearing and IPV prevention initiatives.

A Research Note on Intimate Partner Violence Experiences and Early and Unintended Childbearing

The United States has a high level of unintended childbearing – that is, births occurring early in the life course or occurring to those who do not want any births – compared to other industrialized countries (Sedgh et al., 2014). In the United States, just under half of all pregnancies are reported as unintended (Finer & Zolna, 2016). Unintended childbearing is negatively associated with maternal and child health, though the causal linkages are debated (Boden et al., 2015; Gipson et. al., 2008; Guzzo & Hayford, 2014; Kost & Lindberg, 2015; Lindberg et al., 2015). Unintended childbearing occurs disproportionately among young adults as well as socioeconomically disadvantaged populations and racially minoritized groups (Finer & Zolna 2014; Finer & Zolna 2016; Henshaw 1998). There are well-established negative associations between unintended childbearing and a range of well-being indicators, but its concentration among younger ages and disadvantaged populations means continued uncertainty about causal processes, with considerable gaps in our understanding of the processes driving unintended fertility.

Like unintended childbearing, intimate partner violence (IPV), particularly physical violence, is linked to adverse outcomes for both mothers and children (Palitto et al., 2005). Moreover, a body of research has demonstrated associations between IPV and unintended childbearing, noting two different relationships. First, IPV may be a significant predictor of unintended childbearing by limiting women's abilities to manage their own sexual and contraceptive behavior. Specifically, women who have experienced violence may feel that they are unable to choose whether to have sex and whether to use contraception, thus increasing the risk of an unintended birth. Conversely, unintended childbearing could lead to IPV if the stress

of an off-time or unwanted pregnancy increases conflict; evidence that IPV peaks during early pregnancy implies that the initial response to pregnancy in some relationships is often a period of heightened volatility (Macy et al., 2007). While both views have received substantial analytical attention (though more for the first argument), issues of causality and selection remain unaddressed (Finer & Zolna, 2016; Johnson et al., 2015). For instance, researchers have found that IPV peaks in young adulthood (Johnson et al., 2015), and births that occur in early adulthood are disproportionately characterized as unintended (Finer & Zolna, 2016). Thus, to the extent that IPV corresponds with early childbearing, rather than unintended childbearing per se, the causal association between IPV and unintended childbearing may be overstated. In this paper, we delve deeper to consider whether experiences of IPV have a causal impact on unintended childbearing using longitudinal data.

Drawing on a population-based longitudinal sample, the Toledo Adolescent Relationships Study (TARS), and using event history techniques, we investigate whether prior physical relationship violence is associated with (1) early parenthood (a birth by age 25), and (2) reported intendedness of the first birth. Using longitudinal data containing a set of factors linked to both IPV and unintended childbearing, we establish temporal links between violence experiences (both perpetration and victimization) and first births, including whether such births were unintended. Additionally, we include men, who have received considerably less attention in both IPV and childbearing research. The findings make an important contribution to the IPV and birth intendedness literatures by examining the causal relationship IPV has, or does not have, with unintended childbearing.

IPV and Birth 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 have been 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 et al., 2014). Although most research on IPV has focused on male-to-female IPV, female-to-male IPV is also common; in fact, some evidence has suggested that women, compared to men, are significantly more likely to report perpetration (Giordano et al., 2016). Additionally, intimate partner violence perpetration and victimization are, in general, more common among the disadvantaged (Breiding et al., 2014; Schumacher et al., 2001), as is early and unintended childbearing.

Prior research also suggests that women who have experienced IPV have an increased risk of an early pregnancy (Barber et al., 2018) and an unintended pregnancy (Miller & Silverman, 2010; Pallitto et al., 2005). Intimate partner violence may lead to unintended births through several mechanisms. First, it seems intuitive that individuals in violent relationships may be hesitant to have a child under such circumstances or with such partners, yet research has suggested this may not be the case. Barber and colleagues (2019), for example, found that young women in violent relationships were more than twice as likely to desire a pregnancy than those in non-violent relationships. This may occur because IPV and sexual intimacy are strongly linked, with couples in such volatile relationships often enmeshed and experiencing heightened emotionality (Giordano et al., 2010; Kaestle & Halpern, 2005). The emotionality and passion of these volatile relationships may increase pregnancy desires as a way to prove devotion to a partner or in the hopes of stabilizing the relationship. Some partners also explicitly try to

convince a partner to have a baby, and women often adjust their own pregnancy desires to correspond with their partners' desires (Miller et al., 2017).

Additionally, even if young adults who have experienced IPV (as victims, perpetrators, or both) do not actively desire to have a child, relationship and partner characteristics may increase the risk of a birth – and potentially how such births are characterized. Issues of reproductive coercion, in which partners control individuals' abilities to make independent reproductive decisions, affect the risk of childbearing. Some researchers have argued, for example, that violent or controlling men may want to impregnate their partners as a means of controlling them and establishing their sense of masculinity (Miller et al., 2007). Conversely, some young men are worried that women may try to trap them into a more committed relationship by becoming pregnant (Alexander et al., in press; Silverman et al., 2007). Moreover, there is some evidence that partners deliberately sabotage contraceptive methods or exert pressure to have sex without contraception (Barber et al., 2018; Miller & Silverman 2010). Even when overt efforts to limit contraceptive use are not present, it seems that IPV affects sexual risk-taking. For instance, teens and young adults who have experienced IPV, even in a past relationship, have reported high levels of risky sexual behaviors, such as a higher number of sexual partners and greater frequency of unprotected sex (Alleyne-Green et al., 2012; Kusunoki et al., 2018; Peasant et al., 2018). Young adult daters who have experienced relationship violence report lower levels of consistent condom use (Gibbs et al., 2014). Women who experience physical or emotional abuse are less likely to use their preferred method of contraception than women who did not experience abuse in their relationships (Williams et al., 2008). Consequently, young adults who have experienced IPV could have an elevated risk of early births, though accounting for contraceptive

efficacy (defined as certainty about using contraception in sexual encounters) may attenuate the risk between IPV experiences and early births.

Presumably, if women are unable to control their own reproductive behaviors, then they are likely to have an unintended birth. However, the interpretation of these associations is murky because a) pregnancy may lead to IPV, especially an unintended pregnancy that introduces stressors and strains and b) the standard measurement of unintended itself may be unable to account for ambivalence and risk-taking. The latter point has not been given sufficient attention in the literature. Understanding childbearing in the context of IPV is difficult; for instance, if a partner convinces someone to have a baby, or a person feels that having a baby will make a partner happy even if he or she does not want a child, it may not necessarily be an *unintended* birth. To those experiencing IPV, a birth could be intended if individuals are either swayed by their partners' desires (in the case of victims) or be a way to maintain control and solidify a link to a partner (in the case of perpetrators). Another possibility is that individuals who have experienced IPV and have a child may have conflicting and ambivalent feelings about the birth; typical measures of unintended childbearing that fail to consider ambiguity (by classifying it as unintended) may overlook the complicated feelings individuals often have about childbearing. 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. Research on unintended childbearing increasingly has recognized that for many parents, their feelings about a particular birth cannot be neatly categorized (Aiken et al., 2016; Gomez et al., 2018). Thus, looking at both overall risks of a birth and types of births by intendedness provides important nuance to the conversation about IPV and childbearing.

In sum, although there appear to be ways that IPV may increase the risk of an unintended or ambivalent birth, it is far from clear whether this is always the case, especially given the limitations of prior research. First, past research primarily has relied on cross-sectional data, which has inhibited the ability to draw causal conclusions (e.g., Miller & Silverman 2010). Longitudinal data is necessary to analyze the timing of IPV experiences and childbearing behaviors. Second, many studies only have 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 have focused primarily on women's experiences, and most studies of childbearing have emphasized women as well; thus, whether IPV is associated with men's childbearing behaviors remains unclear. Fourth, the bulk of prior studies have used dichotomous or narrowly defined measures of unintended childbearing (Yakubovich et al., 2018), ignoring the possibility that IPV may influence sexual/pregnancy risk-taking or ambivalence. Finally, most prior research has been restricted to those with a birth – that is, studying the IPV experiences before, during, and after a pregnancy. In doing so, such studies have not considered how IPV may be linked to the risk of a birth at all and so are, quite possibly, selecting on the dependent variable.

Another important shortcoming of prior work is the inability to account for key confounding factors that are likely associated with both IPV and unintended childbearing. For instance, the majority of births to young adults are unintended (Finer & Zolna, 2016), and rates of intimate partner violence are highest during young adulthood relative to other stages in the life course (Capaldi et al., 2012; Johnson et al., 2015). Similarly, relationship violence during pregnancy is concentrated among younger, poorer individuals, especially those not living with their partners (Daoud et al., 2012). As such, there is reason to expect that the association between

IPV and unintended childbearing is weaker than prior work has suggested. For example, many prior studies have samples of only those with IPV experience, while others have looked only among those with a pregnancy; in both cases, selection on the dependent or key independent variable has led to analyses that are unable to account for other life course, relational, and reproductive characteristics associated with either IPV or unintended fertility. Even those studies that have included socioeconomic and demographic factors, such as age, family background, and race/ethnicity often lack union and family planning characteristics. For instance, relationship type is associated with both unintended childbearing and IPV (Capaldi et al., 2012; Finer & Zolna, 2016). Attitudes about contraception, and beliefs in being able to use contraception consistently, are linked to IPV and unintended childbearing (Gibbs et al., 2013; Guzzo & Hayford, 2018; Manning et al., 2012). Other behavioral factors, such as delinquency or substance use, could also influence IPV or unintended childbearing if they represent risk-taking or difficulty adhering to contraception (Helfrich & McWey, 2014; Salas-Wright, Vaughn, Ugalde, & Todic, 2015). Conversely, some aspects could be protective; teens with high academic goals or better school performance, for instance, tend to delay fertility (Driscoll et al., 2005).

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. Although prior research has suggested that IPV experiences increase the risk of an unintended birth, there is also reason to suspect that the link may be largely due to an elevated risk of early childbearing given that both IPV and unintended childbearing occur disproportionately during the young adult years. To account for this, we explicitly focus on the early young adult years, up to age 25 (the mean age at first birth in the United States for women in 2012, the final year of data used in the current

project, was 25.8 (Martin et al., 2019), with men's ages 2-3 years higher, on average (Schweizer, 2019)). Moreover, the risk factors for both IPV and unintended childbearing suggest that accounting for other proximate factors, such as relationship type or contraceptive use, as well as other protective and risk factors, such as adolescent academic achievement or delinquency, may explain any established linkage. In this paper, we 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.

DATA AND METHODS

Data

We analyzed longitudinal data from the Toledo Adolescent Relationships Study (TARS). TARS is a school-based sample originating in Lucas County, Ohio. The 1,321 respondents were selected in 2000 from publicly available records of students in Lucas County in the 7th, 9th, and 11th grade. The sampling frame, developed by the National Opinion Research Center, comprised 15,188 eligible students stratified 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 stratum. Black and Hispanic students were oversampled. Of the 2,273 students, we contacted 1,625 and had 304 refusals, leaving 81.3 %, or 1,321 students, at the first wave. To maintain privacy, each respondent had an in-home interview with a questionnaire in the form of the computer-assisted personal interview (CAPI).

This study uses five waves of data. Interviews for wave 1 occurred in 2001, wave 2 was conducted in 2002/2003, wave 3 in 2004/2005, wave 4 in 2006/2007, and wave 5 in 2011/2012. At wave 1, respondents' ages ranged from 12-19, and at wave 5 respondents' ages ranged from

25-32. Respondents had to complete at least one interview beyond wave 1 to be included in the analyses. To establish temporal ordering, we began by excluding those who had a first birth before wave 1 or prior to age 13, resulting in 1,283 respondents. We then 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 we could observe to age 25, giving us a sample size of 810 respondents. Of these respondents, 373 had a first birth by age 25.

Dependent Variable

At each interview, respondents were asked whether they had ever had any births, and if so, the month of each birth; we focus on live births because pregnancies that end in miscarriage or abortion are underreported in survey data (Lindberg et al., 2020). The indicator of *intentions* is based on the following question. "At the time you 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. We created three variables: (1) a dichotomous indicator of a live birth; (2) a three-category variable of intendedness using the traditional categories in which ambivalence and not thinking about it are grouped with unwanted into an unintended category: no birth, intended (wanted) birth, unintended birth; and (3) a categorical measure that disaggregates unintended births: no birth, intended (wanted) birth, unwanted birth, a 'didn't care about it' (ambivalent) birth, and a 'hadn't thought about it' (risk-taking) birth.

Independent Variables

Intimate Partner Violence included items from the Conflict Tactics Scale (Straus & Gelles, 1990); respondents were asked 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 behaviors towards their current or most recent partner. For both measures, we created dichotomous indicators of any violence and a dichotomous indicator of ever IPV (perpetration or any victimization combined). We considered perpetration and victimization separately (not shown); however, the results were similar so we relied on the combined ever experience IPV indicator. This time-varying variable is used to assess the respondents' *IPV experience* at the interview preceding conception (defined as date of birth minus eight months). Note that this measure does not necessarily capture, for those who had a birth, the relationship with child's biological parent. We return to this in the limitations.

We included a number of sociodemographic variables: time-varying *age* and *age squared* (in months), *gender*, *race-ethnicity* (non-Hispanic White, non-Hispanic Black, and Hispanic), *family structure*, and *relationship status. Family structure,* from the first interview, was operationalized as two biological parent households relative to all other family structures (e.g., stepfamilies, single parent families, living alone, etc.). *Relationship status,* a time-varying measure indexed to the last wave prior to the month of risk, was coded into four categories: 1) single, 2) dating, 3) cohabiting, and 4) married.

Additional variables included psychosocial factors linked to both IPV and childbearing. *Contraceptive efficacy* was 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: 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 1) never use (response category 1), 2) no intimacy before marriage (response category 2), 3) unsure (response categories 3, 4, and 5), and 4) sure (response categories 6 and 7). Similar to IPV experience, this was indexed to the last interview prior to the month at risk. *How far in school* is taken from wave 1, when respondents were asked how far they think they will go in school. The variable was coded as 1) drop out before graduating from high school; 2) graduate from high school; 3) go to a business, technical school, or junior college after high school; 4) graduate from a four-year college; and 5) go to a graduate or professional school. *Grades,* self-reported at the first interview, were coded so that higher numbers reflected higher grades. *Delinquency*, 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 & Ageton, 1980). Responses ranged from (0) "never" to (8) "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). Respondents were asked these questions regarding their delinquency at each interview, and for each wave we created a mean scale. This variable is also time-varying, indexed to the last interview prior to the month at risk. *Substance abuse* prior to the birth was

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).

Analytic Strategy

As noted, we used age 25 to define 'early' parenthood, consistent with prior work (e.g., Hynes et al., 2008). We excluded respondents who had a birth before the first interview to account for the temporal ordering of events. To analyze how IPV experience is associated with expedited entry into parenthood (dichotomous) and the intendedness of this first birth (categorical), independent of related covariates, we estimated competing risk discrete-time logistic and multinomial logistic regression models using person-months (Allison 2010), presenting the odds ratios (ORs) and relative risk ratios (RRRs), respectively. Beginning with the first interview, we converted data to a person-month file in which respondents contributed monthly observations of pregnancy risk until they either experienced a pregnancy resulting in a live birth (date of birth minus eight months) or reached age 25 with no such pregnancy. After accounting for their 25th birthday being the end of the risk period, we had 139,563 observations in the analyses.

We begin by presenting descriptive statistics before proceeding to multivariable models. We have three models. We first examine whether IPV experience predicts simply having a birth. Then we move to two models that disaggregate the first birth by intendedness. The first of these uses the more common categorization of intended, unintended, and no birth, and the second

further disaggregates the unintended category to create separate categories for unwanted: "had not thought about it" (risk-taking), and "did not care either way" (ambivalence). In the models shown, the prior IPV measure is the combined measure of having either perpetrated or been the victim of physical IPV. We then discuss, but do not show, the results from sensitivity tests where we disaggregate victimization and perpetration.

Descriptive Results

Table 1 provides descriptive statistics for the overall sample and by parenthood status. Overall, about 46% reported a birth by their 25th birthday and, of those births, nearly three in four were unintended. When disaggregating, the modal category of unintended was unwanted (31% of all births), and the share of births that were intended/wanted was only slightly higher than the share that were reported as 'didn't care about it either way' (27% vs 24%). In the interest of brevity, we do not discuss the full set of covariates. However, we make two key observations: Parents reported significantly higher levels of any IPV (43%) compared to childless respondents (35%) and the overall sample (39%).

(Table 1 about here)

Regression Results

Table 2 shows the odds ratios for the results from the competing risk discrete-time logistic regression model predicting the probability of entering parenthood and also includes relative risk ratios for the multinomial model predicting the three-category measure of birth intendedness. Model 1 indicated that, in the presence of covariates, prior IPV experience was not associated with an increased risk of having a first birth. In bivariate analyses (not shown), there was a significant association between IPV experience and probability of entering parenthood, consistent with the descriptive results. Further analyses showed that once the respondents' grades

were added to the model the significant association between IPV and entering parenthood was eliminated. With regard to demographic indicators, women in the sample were twice as likely to enter parenthood by age 25 than men. Single respondents, respondents who reported higher grades at wave 1, and those who reported living with their biological parents at wave 1 were significantly less likely to enter parenthood by age 25 than their counterparts with different characteristics. Hispanic respondents (OR = 1.56) and those who lived in neighborhoods with higher levels of neighborhood poverty (OR = 1.07) were more likely to enter parenthood by age 25.

(Table 2 About Here)

The next set of results (Model 2) reports the multinomial regression results for birth intendedness with each column representing a different contrast. First, we predicted how IPV influenced reporting an intended first birth compared to not having a birth by age 25. The results indicated that there was no association between IPV and reporting an intended first birth relative to no birth. The next column showed that IPV was not significantly associated with having an unintended first birth compared to not having a child by age 25. The final column showed the contrast between an intended vs. unintended birth. Prior IPV experience was not associated with the intention status of the child. The same pattern of results existed at the bivariate level (results not shown).

Age was associated with the odds of having an intended child, with younger respondents reporting lower odds than older respondents (last column). Women were more likely to have both an intended or an unintended birth compared to no birth relative to men (RRR = 1.92 and RRR = 2.19, respectively), but gender was not associated with the intention status of the birth (last column). Respondents who reported never using birth control were 2.5 times as likely to

have an intended first birth than no birth, but contraceptive use was not associated with having an unintended birth relative to no birth. Single respondents were significantly less likely to have an intended birth than no birth (RRR = 0.22) and marginally less likely to have an intended birth rather than an unintended birth than married respondents (RRR = 0.43). Those who reported higher levels of substance use in the month prior to their month at risk were 40% more likely to have an unintended first birth than no birth. Individuals who reported higher grades were less likely to have a child before age 25 but shared similar odds of having an intended vs. unintended birth (last column). Respondents who reported living with their biological parents at wave 1 were about a third less likely to have a child (unintended or intended) and had similar odds of having an intended rather than unintended child (last column). Hispanic respondents were more likely to report having an unintended birth compared to having no birth relative to their non-Hispanic White counterparts (RRR = 1.73). Young men and women living in areas with higher levels of neighborhood poverty at wave 1 were significantly more likely to have a first birth (by about 7%), but neighborhood poverty did not differentiate between having an unintended vs intended child (last column).

The results in the prior table showed no association between IPV and the probability of entering parenthood, as well as the likelihood of such births being characterized as intended. In the final set of models presented in Table 3, we consider whether traditional categories of intended vs. unintended ignore how IPV could be related to risk-taking or ambivalence. However, as can be seen in the first row of Table 3, there was again no association between IPV and the risk of a birth regardless of how respondents categorized such a birth. All of these were compared to not entering parenthood. Specifically, IPV was not associated with having a wanted

first birth, an unwanted first birth, a birth characterized by risk-taking (hadn't thought), or a birth characterized by ambivalence (didn't care).

(Table 3 About Here)

In terms of the remaining covariates, women were significantly more likely to have had a first birth across all four categories compared to men. Respondents who were single or dating in the month prior to their month at risk were significantly less likely to have a wanted first birth than no birth relative to married respondents (RRR = 0.22 and RRR = 0.47, respectively), but union status was not related to the other indicators. Individuals who never used contraception were twice as likely to have an unwanted first birth than no birth. Also, respondents who reported higher levels of substance use had a higher risk of having an unwanted birth than no birth, by 55%. Further, respondents who reported higher grades were about 15-20% less likely to have a first birth across all categorizations. Compared to non-Hispanic White individuals, Hispanic individuals had a higher probability of reporting a wanted first birth and marginally more often reported ambivalence (didn't care) than no birth. Respondents living with their biological parents at wave 1 less often reported having a wanted birth than no birth and marginally less often reported a birth categorized as risk-taking (hadn't thought) than no birth. Respondents who grew up in a neighborhood characterized by higher levels of poverty were more likely to report having an unwanted first birth, an ambivalent birth, or birth categorized as risk-taking than no birth, by 7-8%.

Supplemental Analyses

While the results refute prior literature, one argument may be perhaps the lack of significance is because we used a measure combining both perpetration and victimization. Therefore, in sensitivity analyses (not shown), we disaggregated by perpetrator and victim status.

As with the analyses for any IPV, however, we did not find any statistically significant associations for perpetration alone or victimization alone. This was true for all three dependent variables – any birth, the three-category measure of intendedness, and the five-category measure of intendedness.

Discussion

Compared to other westernized countries, the US has high levels of unintended fertility. IPV is also a concern in the US, affecting men and women alike (Giordano et al., 2016). We assessed whether there was an association between IPV and entry into early parenthood as well as having unintended births. Based on prior work on women, we expected that IPV experience would be associated with early entry into parenthood earlier and greater odds of classifying births as unintended (Barber et al., 2018; Barber et al., 2018). We accounted for a range of possible factors linked to both IPV and unintended childbearing; for instance, a primary explanation centers on challenges in using contraception in relationships with IPV, so we included a measure of contraceptive efficacy. Moreover, many of the same factors, including risky behaviors (substance use, criminal behavior, poor school performance) and economic disadvantage, that are associated with elevated experiences with IPV are also linked to early parenthood and unintended parenthood. Given these shared risk profiles and that IPV and unintended fertility peak in the teenage and early adult years, the links found in prior work could be largely correlational and not causal.

Our results indicate that at the bivariate level respondents who experienced IPV in a given survey wave did have a higher probability of entering early parenthood by the next wave compared to those who did not experience IPV. However, this association disappeared in multivariate models. Although contraceptive efficacy did not explain the association, we did find

evidence supporting the need to include psychosocial factors that are typically excluded in other studies. In particular, the association between IPV and early childbearing was attenuated with the inclusion of adolescent performance in school. Teens with better grades might have more to lose by entering into more serious relationships during young adulthood, thus limiting the risk of both IPV and fertility. They may have more resources and knowledge to identify unhealthy relationships and to protect themselves against the risk of pregnancy. Grades may also be an indicator of self-confidence, which could also be a protective factor against both IPV and early and unintended fertility. Finally, good grades in adolescence may tap into parental support and other background resources they may help them avoid, or disengage from, relationships with a risk of IPV or unintended fertility. These results held for both IPV overall and when disaggregated by perpetration and victimization.

The analysis of birth intentions indicates that young men and women who experienced IPV had similar odds of having an unintended birth as their counterparts who had no prior IPV experiences. These findings exist at both the bivariate and multivariate levels. Similar results were obtained when we relied on a more nuanced indicator of intendedness that included ambivalence and risk-taking. In contrast to prior work, then, the findings suggest that there is no strong association between IPV and unintended fertility, at least among young adults; put differently, these findings suggest that the link found in prior literature may not be causal.

While this study provides new insights into IPV and unintended fertility, there are a few limitations. First and foremost, the reports of IPV experience are not necessarily from the same relationship as their pregnancy. The impact of IPV on childbearing may be a result of IPV experienced in a specific relationship; future work would ideally be able to follow specific relationships and examine IPV and childbearing within that relationship. Second, we have no

direct measure of reproductive coercion, which may influence how individuals are reporting the intention of their first birth. Future work should consider how reproductive coercion influences their entrance into parenthood and the intentions of their births. Additionally, TARS is not a nationally representative dataset, and these results may not reflect the general patterns of IPV and birth intendedness. We also only analyzed respondents' first birth in early parenthood; results may not be generalizable to all births. Finally, we did not include miscarriages or pregnancies ending in abortion.

Despite these limitations, this study adds to the literature on how IPV and the timing of parenthood, as well as birth intendedness, may be related. The results highlight that rather than a causal relationship between IPV and the entrance to parenthood, IPV and unintended fertility are linked because both are concentrated among young adults. That is, there does not appear to be a causal relationship where IPV directly influences birth intendedness. This is especially true given the results suggest the importance of early adolescent academic achievement – this is an interesting finding that merits additional work to determine what, exactly, it is about academic achievement during adolescence that seems to be protective against early fertility in the context of IPV. These results also give insight to potential policy implications. One in particular would be to simultaneously address IPV and early childbearing in programs geared toward adolescents and young adults (rather than separate programs for each). Further, there is a continued need for better sexual education for teens and young adults, along with greater access to family planning services. These policy improvements could contribute to a decline in the number of young individuals experiencing IPV and unintended fertility.

REFERENCES

Alexander, K. A., Arrington Sanders, R., Grace, K. T., Thorpe, R. J., Doro, E., & Bowleg, L. (2019). Having a Child Meant I had a Real Life: Reproductive Coercion and Childbearing Motivations Among Young Black Men Living in Baltimore. *Journal of Interpersonal Violence*, 0886260519853400.

Barber, J. S., Kusunoki, Y., Gatny, H. H., & Budnick, J. (2018). The Dynamics of Intimate Partner Violence and the Risk of Pregnancy during the Transition to Adulthood. *American Sociological Association, 83(5),* 1-28.

Breiding, M.J., Chen J., & Black, M.C. (2014). Intimate Partner Violence in the United States — 2010. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Capaldi, D. M., Knoble, N. B., Wu Shortt, J., & Hyoun, K. K. (2012). A Systematic Review of Risk Factors for Intimate Partner Violence. *Partner Abuse, 3,* 321-280.

Driscoll, A. K., Sugland, B. W., Manlove, J., & Papillo, A. R. (2005). Community opportunity, perceptions of opportunity, and the odds of an adolescent birth. *Youth & Society*, *37*(1), 33-61.

Elliot, D. S., & Ageton, S. S. (1980). Reconciling Race and Class Difference in Self-Reported and Official Estimates of Delinquency. *American Sociological Review, 2,* 95-110.

Finer, L. B., & Zolna, M. R. (2014). Shifts in Intended and Unintended Pregnancies in the United States, 2001-2008. *American Journal of Public Health, 104,* S43-S48.

Finer, L. B., & Zolna, M. R. (2016). Declines in Unintended Pregnancy in the United States, 2008-2011. *The New England Journal of Medicine, 375,* 843-852.

Gibbs, L., Manning, W. D., Longmore, M. A., & Giordano, P. C. (2014). Qualities of Romantic Relationships and Consistent Condom Use among Dating Young Adults. Pp. 157-182 in Louis Bourgois and Samuel Cauchois (Eds.), *Contraceptives: Role of Cultural Attitudes and Practices, Predictors of Use and Levels of Effectiveness*. Hauppauge, NY: Nova Science Publishing.

Gibbs, L. (2013). Gender, Relationship Type, and Contraceptive Use at First Intercourse. *Contraception, 87,* 906-812.

Gibson, J. D., Koenig, M. A., & Hindin, M. J. (2008). The Effects of Unintended Pregnancy on Infant, Child, and Parental Health: A Review of the Literature. *Studies in Family Planning, 39,* 18-38.

Giordano, P. C., Copp, J. E., Longmore. M. A., & Manning, W. D. (2016). Anger, Control, and Intimate Partner Violence in Young Adulthood, *31,* 1-13.

Guzzo, K. B., & Hayford, S. R. (2012). Unintended Fertility and the Stability of Coresidential Relationships. *Social Science Research, 41,* 1138-1151.

Guzzo, K. B. & Hayford, S. (2018). Adolescent Reproductive and Contraceptive Knowledge and Attitudes and Adult Contraceptive Behavior. *Maternal and Child Health, 22,* 32-40.

Helfrich, C. M., & McWey, L. M. (2014). Substance Use and Delinquency: High-Risk Behaviors as Predictors of Teen Pregnancy Among Adolescents Involved with the Child Welfare System. *Journal of Family Issues*, *35*(10), 1322-1338.

Henshaw, S. K. (1998). Unintended Pregnancy in the United States. *Family Planning Perspectives, 30,* 24-46

Johnson, W. I., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2015). The IPV-

Age Curve: Changes in Intimate Partner Violence Perpetration During Adolescence and Young Adulthood, *Journal of Youth and Adolescence 44,* 708-726.

Manning, W. D. Smock, P. J., & Majumdar, D. (2004). The Relative Stability of Cohabiting and Marital Unions for Children. *Population Research and Policy Review, 23,* 135-159

Manning, W. D., Giordano, P. C., Longmore, M. A., & Flanigan, C. M. (2012). Young Adult Dating Relationships and Management of Sexual Risk. *Population Research and Policy Review, 31,* 165-185.

Martin, J. A., Hamilton, B. E., Osterman, M. J. K., & Curtain, S. C., & Mathews, T. J. (2013). Births: Final Data. *National Vital Statistics Reports, 62(9).* Hyattsville, MD: National Center for Health Statistics.

Miller, E. & Silverman, J. C. (2010). Reproductive Coercion and Partner Violence: Implications for Clinical Assessment of Unintended Pregnancy. *Expert Review of Obstetrics & Gynecology, 5,* 511-515.

Pallitto, C. C., Campbell, J. C., & O'Campo P. (2005). Is the Intimate Partner Violence Associated With Unintended Pregnancy? *Trauma, Violence, & Abuse, 6,* 217-235

Salas-Wright, C. P., Vaughn, M. G., Ugalde, J., & Todic, J. (2015). Substance Use and Teen Pregnancy in the United States: Evidence from the NSDUH 2002–2012. *Addictive Behaviors*, *45*, 218-225.

Schumacher, J. A., Feld-bau-Kohn, S., Smith Slep, A. M., & Heyman, R. E. (2001). Risk Factors for Male-to-Female Partner Physical Abuse. *Aggression and Violence Behavior, 6,* 281-352

Straus, M. A., & Gelles, R. J. (1988) *Behind Closed Doors: Violence in the American Family.* Garden City, NY: Anchor/Doubleday Press.

Sedgh, G., Singh, S., & Hussain, R. (2014). Intended and Unintended Pregnancies Worldwide in 2012 and Recent Trends. *Studies in Family Planning, 45,* 301-314.

Schweizer, V. J. (2019). 30 Years of Change in Men's Entry into Fatherhood, 1987-2017. *Family Profiles*, FP-19-28. Bowling Green, OH: National Center for Family & Marriage Research. https://doi.org/10.25035/ncfmr/fp-19-28

Yakubovich, A. R., Stockl H., Murray, J., Melendez-torres G. J., Steinert, J. I., Galvin, E. Y., & Humphreys, D. K. (2018). Risk and Protective Factors for Intimate Partner Violence Against Women: Systematic Review and Meta-analyses of Prospective-Longitudinal Studies, *American Journal of Public Health, 108,* 1-1.

Table 1. Weighted Descriptive Statistics Measured at the Final Month of Observation

	All Respondents		Parents		Childless	
Variables	M or %	SD	M or %	SD	M or %	SD
Birth by Intendedness (traditional)						
No Birth	54.0%		--			
Intended	12.5%		27.1%			
Unintended	33.6%		72.9%			
Birth by Intendedness (disaggregated						
No Birth	54.0%		--			
Intended	12.5%		27.1%			
Unwanted	14.3%		31.1%			
Didn't Care Either Way	11.0%		23.9%			
Hadn't Thought About It	8.3%		18.0%			
Prior IPV Experience	39%		43%		35%	
Controls						
Age	20.70	2.84	19.99	2.25	21.30	3.14
Gender						
Female	52%		62%		43%	
Male	48%		38%		57%	
Contraceptive Efficacy (time-varying)						
Sure	67%		66%		68%	
Never Use	4%		5%		3%	
Not Before Marriage	7%		5%		8%	
Unsure	22%		24%		21%	
Relationship Status (time-varying)						
Single	33%		23%		42%	
Dating	49%		58%		41%	
Cohabiting	6%		10%		3%	
Married	12%		8%		14%	
Behavioral Indicators (time-varying)						
Delinquency	30%	0.71	30%	0.62	31%	0.77
Substance Abuse	21%	0.59	23%	0.64	19%	0.55
School Performance						
Grades (Wave 1)	5.92	2.02	5.44	2.07	6.33	1.89
How Far in School	3.84	0.98	3.73	1.03	3.93	0.93
Race/Ethnicity						
White	61%		52%		66%	
Black	28%		32%		24%	
Hispanic	13%		16%		10%	
Family Structure at Wave 1						
Two Biological Parents	45%		36%		52%	
Not Two Biological Parents	55%		64%		48%	
Neighborhood Poverty Wave 1	-0.77	4.73	0.19	4.82	-1.60	4.50
N	810		373		437	

Source: Toledo Adolescent Relationships Study

Table 2. Odds Ratios of Having A Birth and Relative Risk Ratios of Birth Intentions from Competing Risk Discrete-Time Logistic and Multinomial Logistic Regression Models, Respectively

	Model 1: Any Birth		Model 2: Traditional Intendedness					
Variables	Birth vs. No Birth		Intended vs. No Birth		Unintended vs. No Birth		Intended vs. Unintended	
Prior IPV Experience	1.10		1.17		1.11		0.98	
Demographics								
Age	1.34	***	1.21	***	1.42	***	0.85	*
Age^2	1.00	***	1.00	***	1.00	***	1.00	**
Female	2.01	***	1.92	**	2.19	***	0.84	
Contraceptive Efficacy								
Sure	--		--		--		--	
Never Use	1.42		2.50	*	1.07		1.51	
Not Before Marriage	0.66	†	0.78		0.67		1.06	
Unsure	1.14		1.29		1.14		0.94	
Respondent Relationship Status								
Single	0.46	**	0.22	*	0.62	†	0.43	†
Dating	0.85		0.56		1.05	†	0.71	
Cohabiting	1.28		1.34		1.17		1.94	
Married	--		--		--		--	
Behavioral Indicators								
Delinquency	0.84		1.05		0.82		1.24	
Substance Use	1.15		0.51	†	1.42	**	0.51	†
School Performance								
Grades (Wave 1)	0.82	***	0.81	***	0.84	***	0.94	
How Far in School	0.93		0.91		0.93		1.02	
Race/Ethnicity								
White	--		--		--		--	
Black	1.09		0.75		1.29		0.66	
Hispanic	1.56	**	1.15		1.73	**	0.77	
Two Biological Parents at Wave 1	0.67	***	0.66	†	0.68	**	0.88	
Neighborhood Poverty (Wave 1)	1.07	***	1.06	*	1.07	***	0.99	

Source: Toledo Adolescent Relationships Study

† p < .10, *p <.05, **p<.01, ***p<.001

Person Months=139,625

Table 3. Relative Risk Ratios of Nuanced Birth Intentions from Competing Risk Discrete-Time Multinomial Logistic Regression Models

	Model 3: Nuanced Birth Intendedness vs. No Birth							
Variables	Intended vs. No Birth		Didn't Want vs. No Birth		Hadn't Thought vs. No Birth		Didn't Care vs. No Birth	
Prior IPV Experience	1.06		1.02		1.32		1.06	
Demographics								
Age	1.24	***	1.50	***	1.50	***	1.28	***
Age^2	1.00	***	1.00	***	1.00	***	1.00	***
Female	1.72	*	2.67	***	1.74	*	2.08	**
Contraceptive Efficacy								
Sure								
Never Use	1.43		2.09	*	0.94		1.13	
Not Before Marriage	0.76		0.68		0.50		0.74	
Unsure	0.95		1.49	†	0.66		1.73	†
Respondent Relationship Status								
Single	0.22	***	0.83		0.62		0.45	
Dating	0.47	*	1.28		1.26		0.97	
Cohabiting	0.87		1.78		0.43		2.56	†
Married	--		--		--		--	
Behavioral Indicators								
Delinquency	0.86		0.91		0.79		0.91	
Substance Abuse	0.50	†	1.55	**	1.19		0.87	
School Performance								
Grades (Wave 1)	0.80	***	0.83	**	0.86	*	0.81	**
How Far in School	0.99		0.92		0.85		0.90	
Race/Ethnicity								
White	--		--		--		--	
Black	0.87		1.13		0.97		1.60	
Hispanic	1.85	*	1.31		1.34		1.93	†
Two Biological Parents at Wave 1	0.63	*	0.68	†	0.51	**	1.13	
Neighborhood Poverty (Wave 1)	1.03		1.08	***	1.08	**	1.07	*

Source: Toledo Adolescent Relationships Study

† p < .10, *p <.0, **p<.01, ***p<.001

Person Months=139,563