UNINTENDED HIGHER-ORDER BIRTHS AND UNION STABILITY:
VARIATION BY UNION CHARACTERISTICS

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Abstract

A robust body of scholarship has attached unintended childbearing, cohabitation (rather than marriage), and stepfamily living arrangements to a greater risk of union instability. However, because each of these facets of family life reflect broader structural inequalities, they are overrepresented among more disadvantaged populations. Existing scholarship has modeled these family experiences as correlated events to better understand family instability, yet we assert a direct effort to test whether or how unintended childbearing differs across both marital status and stepfamily status make important contributions. Drawing on the 2006-2017 National Survey of Family Growth (NSFG), we test these moderating effects to better understand the linkages between unintended childbearing and union dissolution among 7,864 recent, higher-order births occurring to partnered mothers. Our findings replicate prior work in that unintended childbearing is linked with an elevated risk of dissolution. Cohabiting unions with higher-order births are more likely to dissolve, but experiencing an unintended, higher-order only predicts dissolution for married couples (not cohabiting couples). Further, although stepfamilies with higher-order births have an elevated risk of dissolution relative to simple families, the risk of dissolution for stepfamilies experiencing an unintended birth is similar. Each of these findings aligns with a selection, rather than a causal, explanation for the association between unintended childbearing and union instability among higher-order births.

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Despite recent declines, unintended childbearing remains a public health concern in in the contemporary United States (Finer & Zolna, 2016). A robust body of scholarship consistently illustrates that unintended childbearing is associated with less healthy pregnancies (Garipey et al. 2017; Hohmann-Marriott 2009; Miller et al. 2009), poorer mental health for both mothers (Atzl et al. 2021; Barber et al. 1999; Su 2012; Stykes 2019) and fathers (Su 2012; Stykes 2019), less stable relationships (Lichter et al. 2016; Maddow-Zimet et al. 2016; Stykes and Guzzo 2020), less parental investment in children (Barber et al. 1999; Lindberg et al. 2017), and worse outcomes for children spanning infancy to school entry (Lindberg et al. 2015; Saleem and Surkan 2014). Moreover, unintended childbearing is consistently concentrated among younger, lower-income, non-white, less educated, and unmarried parents (Finer and Zolna 2011; Finer and Zolna 2014; Musick et al. 2009). Taken together, these findings illustrate that unintended childbearing reflects and reproduces existing inequalities through its linkages with both structural disadvantage and a broad set of health and well-being indicators.

Much of the research linking unintended childbearing to health and well-being focuses on first births, or the transition to parenthood, as it is likely that the context in which a parent initially enters parenthood seems to 'set the stage' for subsequent trajectories of family well-being. Yet, unintended childbearing is certainly not limited to first births (Guzzo 2021); unintended births at higher parities (particularly multiple unintended births) may, in fact, compound the negative outcomes that are traditionally tied to unintended childbearing, as births to a mother cannot be treated as wholly independent events (see Guzzo and Hayford 2012; Moore et al. 2009; Wildsmith et al. 2010). Herein, we revisit the link between unintended higher-order births and relationship stability. This focus on higher order-births also allows us to further recent efforts to understand the nexus of fertility intentions and family characteristics in the

United States context (see Guzzo 2017; Guzzo 2018). Unintended births are associated with an elevated risk of instability, and family characteristics such as stepfamily status or marital status are also linked to union dissolution (Raley and Sweeney 2020). Stepfamily status and marital status, in turn, are also linked to the risk of higher-parity unintended births (Guzzo, 2017). Thus, understanding how higher-parity births are associated with instability with explicit consideration of both marital status and stepfamily status will provide important insights to existing research.

BACKGROUND

Despite recent (and modest) declines in unintended childbearing in the United States (Finer & Zolna, 2016), births that are mistimed or unwanted remain a significant component of contemporary parenthood – approximately half (i.e., 45%) of mothers in the U.S. reported having at least one unintended birth (Guzzo, 2021). Not surprisingly, there is a long history of research on unintended childbearing, consistently noting its association with characteristics reflecting structural disadvantage. Specifically, unintended childbearing remains more common among less educated, younger, unmarried, and non-white parents (Finer and Zolna 2011; Finer and Zolna 2014; Musick et al. 2009). Moreover, prior research has uncovered a significant and negative association between unintended births and a wide range of well-being indicators for parents, children, and unions, though the extent to which the association is causal remains debated. Our focus in this paper is to extend prior work linking unintended childbearing with a greater risk of union dissolution (Guzzo and Hayford 2012; Lichter et al. 2016; Maddow-Zimet et al. 2016; Stykes and Guzzo 2020). In this piece, we note that unintended childbearing in recent years occurs among a broader backdrop of significant shifts in union formation and repartnering, making it vital to consider whether unintended fertility is differentially linked to union stability

across different family situations (i.e., marriage versus cohabitation; simple versus stepfamily living arrangements).

Cohabitation, which in the past was more common among less advantaged individuals and families (Brown 2005), has emerged as a mainstay of union formation in the contemporary US. Manning (2020) notes that cohabitation is now the modal pathway into marriage, cutting across class and race boundaries; as such, attention to cohabitation must be part of any effort to understand family formation. Despite ongoing measurement issues in national survey datasets (Manning, Joyner, Hemez, and Cupka 2019) and the wide array of reasons couples choose to cohabit (from stepping stones to marriage to alternatives to both singlehood and marriage (Manning and Smock 2005; Smock 2000)), scholarship on cohabitation has continued to grow significantly, including work on fertility and cohabitation. Key findings from research linking fertility and cohabitation have (1) attributed the increase in nonmarital childbearing to births in cohabiting unions (Manning, Brown, and Stykes 2015), (2) demonstrated that unintended childbearing remains more common in cohabiting relationships than marriages (Finer and Zolna 2011, 2014), and (3) indicated that cohabitations in which children are born are relatively unstable compared to marriages involving childbearing (Kamp Dush 2011; Manning, Smock, and Majumdar 2004; Wu and Musick 2008) – among cohabiting unions that do not transition to marriage after the birth (Musick and Michelmore 2015).

Another factor that has garnered considerable attention in recent decades is variability in biological ties within families. From a parent's perspective, recent work in this area has sought to better understand the correlates and consequences of multiple-partner fertility, where parents have children with more than one partner (also known as MPF; see Guzzo 2014). Recent estimates suggest the prevalence of MPF for mothers ranges from 20-25% depending on

operational definitions (Stykes and Guzzo 2019). From a child's perspective, research has focused on stepfamilies and biological ties between both parents and siblings (see Manning, Brown, and Stykes 2014). Stepfamilies are a common experience for many adults and children (see Stewart 2007; Stykes 2020). Although not all parents in stepfamilies have MPF, a considerable portion of MPF does occur within a stepfamily; by definition, parents who repartner and have a child in their new union have formed both a stepfamily and experienced MPF. As with both unintended childbearing and cohabitation, stepfamily status (when contrasted with simple families) consistently coincides with sociodemographic disadvantage and less stable relationships (Cherlin 1978; Raley and Sweeney 2020; Stewart 2007).

Disentangling Unintended Childbearing, Marital Ties, Family Complexity, and Instability

To this point, we have demonstrated that the field has consistently linked socially disadvantaged characteristics with (1) unintended childbearing, (2) cohabiting unions, and (3) stepfamily living in the contemporary US – as such it should come as no surprise these family dynamics frequently co-occur (see Finer and Zolna 2011, 2014; Guzzo 2017). Moreover, a robust body of literature has attached each of these factors to an increased risk of union dissolution. Now we turn our attention to the intersection between unintended childbearing and both union and stepfamilies statuses to present theoretical frameworks for how and why the effect of unintended childbearing of union dissolution likely differs according to union and stepfamily statuses.

Two leading explanations have been provided (in the broadest sense) to understand why unintended childbearing is linked with a greater risk of dissolution. Causal frameworks have asserted that unintended childbearing introduces additional strain on a relationship and likely contributes to greater instability (Guzzo and Hayford 2012; Kavanaugh et. al 2017; Stykes and Guzzo 2020), whereas selection frameworks (see Lichter et al. 2016; Stykes and Guzzo 2020)

have suggested that both unintended childbearing and relationship instability are symptoms of "preexisting conditions" (e.g., strained relationships, economic hardship, etc.). Both causal and selection explanations have been supported by recent empirical studies that link unintended childbearing to relationship stability (Guzzo and Hayford 2012; Kavanaugh et al. 2017; Stykes and Guzzo 2020). When seeking to understand why unintended childbearing may operate differently within marital or cohabiting unions, it is helpful to frame competing hypotheses around these broad explanations. Nock (1995) applied Cherlin's incomplete institution framework to cohabiting relationships to assert that the lack of consensus on normative expectations for cohabiting unions and the absence of legal ties undermine relationship stability of cohabitation relative to marriage. Based on this logic, if the link between higher-order unintended childbearing and relationship stability is primarily driven by causal mechanisms, it is likely that unintended childbearing is more detrimental to the stability of cohabiting unions than marriages – as these unions lack legal ties and are easier to dissolve. Alternatively, if selection mechanisms prove more consequential in linking higher-order, unintended childbearing to relationship dissolution, then the linkage between unintended childbearing and dissolution is likely more pronounced for marriages (Guzzo and Hayford 2012; Stykes and Guzzo 2020).

In contrast, consideration of the nexus between intention status and stepfamily living and its association with dissolution is better understood through thinking about the desire to have a shared, intended birth. Much scholarship in the European context has asserted that among stepfamilies, intended and shared births are a means to bolster and demonstrate one's commitment (and attachment) to the stepfamily – thus appearing protective for relationship stability (Saint-Jacques et al. 2011; Thomson 2004). Alternatively, Guzzo's (2017) examination of stepfamily status and fertility outcomes suggested that childbearing within stepfamilies

appeared to reflect structural disadvantage, MPF, and unintended childbearing more than the value of shared children in a relationship, though this work did not examine the link between fertility behaviors and relationship stability. If shared, intended childbearing in stepfamilies is protective against relationship instability, the association between unintended childbearing and union dissolution should be stronger for stepfamilies. Alternatively, if fertility in stepfamilies simply reflects a pattern of structural disadvantage, unintended childbearing, and MPF, then we have less reason to expect a different effect of unintended childbearing within stepfamilies compared to simple families.

Beyond fertility intentions, prior work indicates the importance of gendered dynamics – which partner is a stepparent (Guzzo et al. 2019; MacDonald and DeMaris 1996; Shapiro 2014) and how many parents are a stepparent (Guzzo 2018) both have implications for understanding stepfamily living and dynamics. Generally speaking, women face greater challenges, barriers, and anxiety in navigating their roles as stepparents than men (see MacDonald and DeMaris 1996; Shapiro 2014), which suggests that stepfamilies where the female respondent is a stepparent may face greater challenges and be less stable (see Stewart 2005). Separately, in the Canadian context, stepfather families appear to be less stable than their counterparts in which the female partner is a stepparent (see Martin et al. 2011). These findings suggest that considerable variation exists among stepfamilies, and this heterogeneity needs be appropriately modeled to ascertain the ties between stepfamily dynamics and relationship stability.

Given our focus on higher-order births, we would be remiss to not acknowledge that separate births occurring to a mother should not be treated as independent and isolated events. As such, our efforts to better understand the intersections between unintended childbearing, marital status, and stepfamily living must also take into consideration key factors that are linked to

women's fertility careers (e.g., including prior histories) and relationship outcomes. Unintended fertility, union formation, and the chances of being in a stepfamily vary across race-ethnicity (Finer and Zolna 2011, 2014; Manning, Smock, and Porter 2005; Musick et al. 2009; Raley and Sweeney 2020). With regards to prior fertility experiences, Guzzo and Hayford (2011) demonstrate that analyses of higher-order, unintended childbearing should acknowledge prior, unintended births. In addition, the number of children has been linked to relationship stability (Thornton 1977). As such these key correlates require attention as well in our efforts to isolate and extract the nexus of unintended childbearing, relationship status, and stepfamily status with dissolution.

CURRENT STUDY

Drawing on recent data from the pooled, 2006-17 cycles of the National Survey of Family Growth (NSFG), we revisit the association between the intendedness of a mother's most recent higher-order birth and relationship instability. The NSFG data are ideal in this pursuit as they include a host of indicators concerning birth and union characteristics. In addition to sociodemographic controls, prior relationship histories, and fertility histories, our analyses explicitly consider union status at the most recent birth (i.e., marital versus cohabiting unions) and family structure at birth (i.e., stepfamily versus simple family), and the intersection of unintended childbearing with both family structure and formal ties between partners. Next, we replicate these analyses with a sole focus on stepfamilies and more nuanced indicators of stepfamily configuration (i.e., only stepfather, only stepmother, or both are stepparents).

Our effort is to better understand the interplay between key family characteristics (i.e., unintended childbearing, marital status, and family structure) and union stability; this work moves beyond prior work that has focused on each of these aspects separately. This approach

makes important contributions to existing research on unintended childbearing, family complexity, and relationship stability and embrace a more nuanced approach to understand how higher-order births are linked to relationship stability across different family arrangements. Based on prior research, we examine two guiding questions.

1. Does the association between a higher-order, unintended birth and relationship stability differ according to marital status?

   Prior research informs competing hypotheses (which are assessed via interaction terms):

   - A causal framework suggests the association between unintended childbearing and union dissolution is stronger among cohabiting families.
   - A selection framework suggests the association between unintended childbearing and union dissolution is stronger for married families.

2. Does the association between a higher-order, unintended birth and relationship stability differ according to family structure?

   Prior research informs competing hypotheses (which are assessed via interaction):

   - If intended, shared children in stepfamilies are linked with greater relationship stability, we expect unintended childbearing is more strongly linked to dissolution among stepfamilies.
   - A selection framework suggests the association between unintended childbearing and union dissolution does not differ according to stepfamily status.

Then as a robustness check against a simplistic operational definition of stepfamily status, we revisit both questions in a subsample of stepfamilies to consider gender and stepfamily configuration.

DATA

The NSFG are a nationally representative data source with detailed information regarding fertility and relationship histories in addition to a host of sociodemographic characteristics. When weighted, these data are nationally representative of women (and births occurring to them) aged 15 to 45. To that end, these data are well-suited to address our study's guiding research questions and contributions. Recent restrictions to the publicly available data limited our ability to attach specific months of fertility and union events. We return to the implications of this new limitation in the discussion section. After appending the continuous cycles of the data (originally in two-year groupings from 2006-2017), we identified 48,946 unique pregnancies. Following other work noting the under-reporting of pregnancies (Lindberg et al. 2020), we excluded 14,802 pregnancies that did not result in a live birth. Next, we employed two selection criteria to define our analytic sample. We restricted the data to (1) women's most recent higher-order birth[3], which yielded an analytic sample of 10,602 and (2) births that occurred to women who were in a coresidential union at the time of birth (n = 8,506). Final analyses are limited to 7,864 births that satisfied these criteria and provided non-missing data on the start and end dates of relevant marital and cohabiting unions. Additional descriptive analyses are limited to the most recent, higher-order, and partnered births occurring to women in a stepfamily configuration (n = 3,003).

Analytic Strategy

Using the year of pregnancy completion and year of either interview (if the union remained intact) or union dissolution, we transformed the data from 7,864 pregnancies to 39,103 person-

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[3] Please note, we define higher-order in the context of women's reproductive careers, not a specific relationship.

years[4]. In short, we begin tracking union stability beginning the year of the most recent, higher-order birth and continue to observe the birth unions until they are censored (by interview) or experience a dissolution[5]. Analyses proceed in three steps, beginning with descriptive statistics for the sample and life table estimates of relationship stability according to intention, marital, and stepfamily configuration. Then, discrete-time event history analyses predict the risk of dissolution in a multivariate framework and formally test our hypotheses via interaction terms. Each set of multivariate analyses proceeds in three nested models. Model 1 includes all focal independent variables and covariates. Model 2 then introduces the interaction between unintended childbearing and marital status to address our first guiding research question. Finally, Model 3 considers the interaction between unintended childbearing and stepfamily status to address our second research question. Finally, as a robustness check against a more nuanced stepfamily categories, we employ event history analyses (with the same set of three models) to a sample limited to stepfamilies to better account for gender and the degree of complexity within stepfamilies.

Measures

Union dissolution (dependent variable). We draw from the both fertility and relationship histories to first attach the focal birth (i.e., most recent, higher-order birth occurring in a marital or cohabiting union) to its corresponding union. Then, we created a dichotomous indicator

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[4] Please note, given the recent changes to the NSFG public use data, we are no longer able to attach months to key events. This results in downwardly biased estimates of instability as unions that do not endure the first year following the birth cannot be identified. Further, it prevents us from considering births that were completed in the same calendar year as the interview.

[5] Please note, we do not count the transition from cohabiting union to marriage as a form of dissolution given our focus on relationship stability. Cohabiting unions which transition to marriages that eventually dissolve are coded for dissolution at the year the marriage ends in either divorce or separation.

dissolution, where all unions that experienced a divorce or separation are identified as "1" and those remaining intact to the time of interview are "0."

Unintended birth (focal independent variable). The NSFG uses a series of questions to assess the intendedness of every pregnancy and birth; please recall our analyses focus on births. First, women were asked, "Right before you became pregnant, did you yourself want to have a(nother) baby any time in the future?" Those who reported "yes" were then asked questions to assess the timing of their pregnancy. Specifically, "So would you say you became pregnant too soon, at about the right time, or later than you wanted?" Based on information from these questions, we operationalize *unintended births* as a dichotomous variable that flags births identified either as unwanted or to soon as "1" an all other births (those that were wanted or occurred later than intended) as "0."

Marital status at time of birth (focal independent variable). Based on information from the relationship histories, we operationalize *married* as a dichotomous indicator where marital births are coded as "1" and cohabiting births are "0."

Family structure (focal independent variable). Using information from the detailed relationship histories we consider if the respondent's current partner had children from a prior relationship. This information is then cross-referenced with the respondent's past fertility and union histories to operationalize family structure. Given limited statistical power (due to sample size) and our plan to consider interactions between unintended fertility and family structure, we employ a dichotomous indicator that simply differentiates between stepfamilies (1) and simple families (0) in multivariate, event-history analyses among the broader sample. Then, analyses limited to stepfamilies make use of the more detailed forms of stepfamily living arrangements:

complex stepfamily in which both partners have children from past relationships (reference), only stepfather, and only stepmother stepfamilies.

Prior experiences with fertility (confounding variables). We include three different indicators to control for elements of fertility careers that may impact both the risk of having an unintended, higher-order birth and union dissolution. First, we include a dichotomous variable that flags respondents who experienced *prior unintended pregnancies* as "1" from their counterparts who had not yet experienced an unintended pregnancy as "0." We also include a continuous indicator of *age at first birth* (in years). Finally, we include a continuous indicator of the respondent's *number of live births total;* note this is not necessarily the number of births within this union.

Sociodemographic characteristics (confounding variables)[6]. Analyses also control for *racial and ethnic status*: white (reference), black, Hispanic, and other; *age at interview* (in years); *educational attainment* (at time of interview): at least a bachelor's degree (reference), some college but no degree, high school diploma (incl. GED), and no degree.

Duration variables (confounding variables). Analyses control for duration (in years) from the time of birth to either dissolution or censorship by interview. Further, analyses control for *coresidential relationship duration prior to the focal birth* (in years).

RESULTS

Descriptive Findings

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[6] Supplemental analyses (available on request) also considered a more robust set of controls for the respondent's background growing up (e.g., living with two biological/adoptive parents through childhood). However, their inclusion did not substantively alter our conclusions. Given concerns over statistical power (with the shift to person-years) and a modeling strategy the relied heavily on interactions, we opted for the most succinct model possible.

Table 1 presents the descriptive profile of our analytic sample and according to the union outcome (i.e., unions that endure versus those dissolving). The majority (78%) of most recent unions where higher-order births occur are still intact by the time of the interview. Among currently partnered mothers having a higher-parity birth, we see that over one-fourth (29%) of the most recent births are unintended. Moreover, unintended births appear overrepresented among unions that eventually dissolve (42% versus 25% that endure). A strong majority (approximately eight-in-ten) of higher-order and most-recent partnered births occur within marriage. The majority (62%) of births occur to simple family structures, but a considerable share of most recent, partnered births occur to only stepfather (21%) and only stepmother (14%) families. Fewer than five percent of births occur to families where both partners are stepparents. Although the patterns appear less stark, both cohabiting and stepfamilies appear to be slightly overrepresented among unions that later dissolve.

[Table 1 about here]

Consistent with Guzzo's (2021) recent report, 44% of currently partnered mothers with at least two children report a prior, unintended pregnancy, and the majority of unions that eventually dissolve involve mothers who reported prior unintended pregnancies. On average, mothers in our sample were 22 at the time of their first births, and delayed entry into parenthood appears to be somewhat protective –mothers whose most recent unions go on to dissolve were on average four years younger at their first birth than their counterparts whose most recent birth unions endure. Mothers in our sample report, on average, 2.7 children with minimal variation across union outcomes by parity. Our sample generally reflects the broader US population in terms of racial/ethnic status as most mothers are white (58%) followed by Hispanic (24%), black (9%), and other (9%). There do not appear to be a stark differences in the racial and ethnic

composition of unions that dissolve versus those enduring, though black mothers appear to be overrepresented (16%) among unions characterized by dissolution. On average, mothers having a partnered, higher-order birth are in their mid-30s with minimal variation across union outcome. In terms of education, 30% report at least a bachelor's, 28% report some college experience but no degree, and 27% report a high school diploma, with fewer than one-in-five mothers reporting not degree. Among unions that eventually dissolve, the moderately educated are overrepresented (34% and 32%) whereas the most highly educated are underrepresented (17%). On average, the birth unions we examine had existed for 4.97 years prior to the most recent birth. Those unions enduring appear to have reported longer duration prior to the recent birth than their counterparts that go on to dissolve (i.e., 5.33 years versus 3.67). Lastly, unions were observed in our exposure period (i.e., from birth of most recent birth in a union to interview/dissolution) for approximately 5 years with approximately one year in variation according to union outcome.

[Figures 1, 2, and 3 about here]

Life table estimates present a somewhat surprising pattern that *appears* to deviate from descriptive statistics in Table 1. The unions in which women experienced their higher-order, most recent birth are very stable in the 10 years following their most recent birth – with seemingly minimal variation in stability according to both intention and marital statuses. Two factors likely contribute to these unique life table estimates. First, these estimates are likely impacted by left-censoring. Our period of exposure began at the time of birth, not the start of the union. To that end, many of these births likely occurred to unions that had already been somewhat stable, given selection into higher-parity births. Recall, on average, unions were five years old when they experienced the focal birth – which could certainly contribute to the high levels of stability reflected in Figures 1-3. In addition, Table 1 demonstrated considerable

differences in the sociodemographic and fertility histories of women whose unions dissolved versus those that endured. It is possible that some of these factors may be suppressing the association between unintended fertility and marital status on relationship stability. Although Figure 3 also depicts relatively high levels of relationship stability, there appears to be a higher instance of instability among stepfamilies in which the female partner is a stepparent (i.e., both complex and only stepmother families).

Multivariate Findings

Table 2 presents coefficients from event history logistic regression analyses in three models. Model 1, provides a "full model" to demonstrate the associations between all focal predictors (i.e., intentions, marital ties, and family structure) and union stability net of fertility histories, sociodemographic characteristics, duration of coresidence prior to the birth, and time since the birth. Findings align with previously established research and do indicate that fertility intentions, marital ties, and stepfamily status are significant predictors of union stability. Net of fertility histories, sociodemographic characteristics, and duration prior to birth, unintended higher-order births are associated with a greater risk ($b = 0.42$, $p < 0.001$) of dissolution compared to intended births (i.e., 52% increase in the risk of dissolving). Births within marital unions report a lower risk of dissolution relative to births in cohabiting unions (i.e., $b = -0.48$, $p < 0.001$ – a 39% decrease in the risk of dissolution). Finally, stepfamily status was also significantly linked to a greater risk ($b = 0.33$, $p < 0.001$) of dissolution compared to births occurring in simple families (i.e., 39% increase in the risk of dissolution). The remaining coefficients for covariates are also consistent with prior research. Prior unintended childbearing, younger ages at first birth, lower levels of education, and older age at interview all are associated with an increased risk of

dissolution. In contrast, relationship duration prior to the most recent birth and the number of additional children are associated with a decreased risk of dissolution.

[Table 2 about here]

To effectively answer our guiding research questions, Models 2 and 3 introduce the interaction terms needed to assess support for our hypotheses. First, Model 2 demonstrates that the effect of experiencing an unintended birth differs according to marital status. More specifically, experiencing a most recent, higher-order unintended birth in a cohabiting union is not associated with union stability ($b = 0.04$, p>0.05). In contrast, unintended childbearing in marital unions coincides with a significant increase in the risk of dissolution ($b = -0.55$, p <0.001), which considerably reduces the "protective effect" of marriage for married couples experiencing an unintended birth. This finding aligns with the selection argument that unintended childbearing has more salient linkages with dissolution among married couples.

In addition, the nonsignificant interaction term in Model 3 provides evidence in support of a selection perspective – rather than a causal one – for the link between stepfamily status and dissolution among families with a birth, as the association between unintended childbearing and dissolution remains similar regardless of stepfamily. Secondary analyses are limited to stepfamilies and provide additional support for this substantive conclusion, while taking into consideration more nuanced indicators of stepfamily composition (Table 3). The event history analyses limited to stepfamilies are largely consistent with results previously reported. Among stepfamilies, only the mother being a stepparent is associated with a reduced risk of dissolution ($b = -0.79$, p<0.001) when contrasted with couples where both partners are stepparents. Once again, fertility intentions and marital status are significantly linked to dissolution among stepparents. Unintended childbearing is associated with an increased risk of dissolution whereas

being married at the time of birth appears protective in terms of relationship stability. Of note, among stepfamilies, analyses indicate that the linkage between intentions and dissolution does not differ according to marital status (see Model 2) or stepfamily configuration (see Model 3).

[Table 3 about here]

CONCLUSION

Contemporary families in the US are marked by high levels of diversity, complexity, and instability. Moreover, lived experiences within families continue to diverge according to markers of privilege – perhaps most notably education (Cherlin 2010; McLanahan 2004; Raley and Sweeney 2020). In this paper, we seek to contribute to an established body of research that has attached unintended childbearing (e.g., Guzzo and Hayford 2012; Lichter et al. 2016; Maddow-Zimet et al. 2016), cohabitation (Nock 1995; Manlove et al. 2012; Manning et al. 2004), and stepfamily living (Cherlin 1978; Raley and Sweeney 2020) to family instability. A robust body of scholarship has consistently linked each of these factors to greater instances of dissolution. However, we assert that prior research has not yet considered how the association between unintended childbearing and dissolution might differ according to marital and stepfamily statuses. By focusing on a mother's most recent, higher-order birth occurring in a union, we investigate the intersection of unintended childbearing with marital status and stepfamily status. Our analyses make significant contributions to existing scholarship and provide further insight into the utility of both causal and selection framework to understand how unintended childbearing is linked to union dissolution among higher-order births.

Multivariate analyses consistently provided more evidence in support of selection over causal frameworks for understanding the linkage between unintended childbearing (at higher

parities) and dissolution. Consistent with prior work, unintended childbearing and stepfamily status were positively associated with union dissolution whereas marriage had protective effects for stability. We asserted that Nock's (1995) incomplete institution framework for cohabitation suggests that unintended childbearing should exacerbate an already higher risk of dissolution compared to marriages. However, to the contrary, our analyses found that unintended childbearing was only predictive of dissolution for married couples. At face value, this finding may seem somewhat surprising, but it aligns with prior evidence that unintended childbearing appears more detrimental to marital stability (see Guzzo and Hayford 2012; Stykes and Guzzo 2020) and appears to reinforce a selection framework for linking unintended childbearing to stability. It may be the case that the instability of cohabiting unions is sufficiently high, relative to marriages, that an unintended birth does not have an additional impact. Conversely, because childbearing within marriage is considered normative – perhaps even expected – marriages in which unintended childbearing occurs may have underlying challenges linked to both the unintended birth itself and to marital stability. Moreover, our findings also indicate that the effect of unintended childbearing did not differ according to stepfamily status, which further reinforces a selection argument for understanding the way in which unintended childbearing is linked to instability. Otherwise, a causal link between unintended childbearing and stepfamily living should yield a more significant association between unintended childbearing and stepfamily status. Notably, a significant body of research in the European context has demonstrated that stepfamilies bolster instances of shared, intended childbearing, which have protective effects on relationship stability (Saint-Jacques et al. 2011; Thomson 2004). However, our findings align with Guzzo (2017) in that intended, most recent births in stepfamilies do not appear to be especially protective when contrasted to more simple family configurations.

Of course, research has increasingly articulated that diversity among stepfamilies is considerable and should be taken into consideration (Stewart 2007; Stykes 2020), with prior research illustrating that stepfamily configuration (considering whether the mother, father, or both parents is a stepparent) has implications for stressors associated with parenting, relationship quality, and stability (Guzzo et al. 2019; MacDonald and DeMaris 1996; Martin et al. 2011; Shapiro 2014; Stewart 2005). Given our simplistic indicator of stepfamily status in the primary models, we replicated event history analyses among a sample of stepfamilies, to investigate the association between stepfamily configuration and union stability more precisely. We did not find any evidence that stepfamily configuration moderated the link between unintended childbearing and instability. These findings were substantively consistent with our prior conclusions and provide a stronger case in support of a selection perspective.

Despite the contributions that our study makes to existing research, noteworthy limitations need be discussed. First, and perhaps foremost, our analyses were considerably limited by the NSFG's recent restriction of month data for births and union events. This shift had three significant implications for our analyses and findings. One, we are less precise in our ability to establish a temporal order for events occurring in the same year. Two, we lost significant statistical power, as our modeling strategy required the analyses of person-years rather than person-months. Three, our analyses cannot consider any cases where the union was either censored by interview or dissolved within one year of the most recent pregnancy. To this end, our analyses likely omit the least stable unions and provide downwardly biased estimates of instability. Our second major limitation is that, given our limited statistical power and a modeling strategy that relied on interaction models, we had to embrace fairly a fairly sparse set of covariates in our analyses and lacked adequate sample size to parse out more nuanced

operational definitions of stepfamily status. Although this is not ideal, consistently significant model fit statistics indicate that our models remain reasonable. Finally, our reliance on a binary, retrospective indicator of intendedness certainly overlooks substantial ambivalence in birth intentions and is not immune to recall and social desirability biases (e.g., Bachrach et al. 2009; Joyce et al. 2002). However, prior works has demonstrated that retrospective reports of unintended childbearing remain a reliable approach to operationalizing intentions (Santelli et al. 2009).

Our findings show that higher-order, unintended births are indeed associated with union stability. Moreover, they suggest that in the contemporary US, selection processes have greater explanatory power than causal arguments in understanding the relationship between higher-order births and instability. To that end, these findings have important implications for future research. Within the broadest selection framework, an important distinction remains unclear. Does higher-order, unintended childbearing simply reflect an underlying theme of structural disadvantage, or is it indicative of an "already strained" relationship? Given steep economic pre-requisites for marriage (Edin and Kefalas 2004; Gibson-Davis et al. 2005; Smock, Manning, and Porter 2005) coupled with our finding that unintended childbearing is only linked with dissolution for married couples, we expect it may be the latter. To that end, a greater effort to include a more extensive array of indicators of relationship quality into this framework is needed. While the NSFG has many strengths, such an endeavor is better suited to different data. Second, the causal explanation concerning unintended childbearing among stepfamilies arguably assumed that intended childbearing was shared (that is, that both partners intended the birth). To that end, future research that is more readily able to employ a couple-level approach may be better suited to unearth a causal mechanism for unintended childbearing among stepfamilies, if it exists.

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Table 1. A Profile Most Recent, Higher-Order Births to Partnered Mothers, According to Union Outcome

	Total Sample		Enduring Unions		Dissolving Unions	
	n or μ	p or σ	n or μ	p or σ	n or μ	p or σ
Unintended birth	2,608	0.29	1,625	0.25	983	0.42
Marital birth	5,898	0.81	4,458	0.82	1,440	0.75
Family Structure						
Not stepfamily	4,590	0.62	3,476	0.64	1,114	0.56
Only stepfather	1,644	0.21	1,294	0.23	350	0.17
Only stepmother	1,349	0.14	783	0.11	566	0.23
Complex stepfamily (both are step)	281	0.03	176	0.02	105	0.04
Fertility Histories						
Prior unintended pregnancy	3,787	0.44	2,441	0.40	1,346	0.60
Age at first birth	22.33	0.15	23.15	0.16	19.68	0.15
Number of live births	2.70	0.02	2.70	0.02	2.71	0.04
Sociodemographic Characteristics						
White	3,794	0.58	2,811	0.59	983	0.56
Black	1,134	0.09	632	0.08	502	0.16
Hispanic	2,316	0.24	1,809	0.24	507	0.21
Other	620	0.09	477	0.09	143	0.07
Age (at interview)	36.34	0.13	35.96	0.15	37.68	0.24
At least a bachelor's degree	1,818	0.30	1,572	0.34	246	0.17
Some college, no degree	2,215	0.28	1,527	0.26	688	0.34
High school diploma (GED)	2,209	0.27	1,494	0.25	715	0.32
No degree	1,622	0.15	1,136	0.15	486	0.17
Years partnered prior to recent birth	4.94	0.08	5.33	0.09	3.67	0.14
Years observed in data	5.25	0.11	5.57	0.13	4.22	0.15
N	7, 864		5,729	0.78	2,135	0.22

Table 2. Event History Analyses Predicting Union Dissolution (coefficients)

	Model 1 b	Model 2 b	Model 3 b
Constant	-1.91***	-1.74***	-1.91***
Focal Independent Variables			
(Intended, recent higher-order birth)			
Unintended, recent higher-order birth	0.42***	0.04	0.44***
(Cohabiting at most recent birth)			
Married at most recent birth	-0.48***	-0.73***	-0.48***
(Simply family status)			
Stepfamily	0.33***	0.32***	0.34**
Fertility History			
(All prior pregnancies intended)			
At least one prior unintended pregnancy	0.30**	0.31*	0.30**
Age at first birth	-0.15***	-0.15***	-0.15***
Total number of live births	-0.28***	-0.29***	-0.28***
Sociodemographic Characteristics			
Racial/ethnic status			
(White)			
Black	0.03	0.06	0.03
Hispanic	-0.07	-0.08	-0.07
Other	-0.13	-0.14	-0.13
Age at interview	0.14***	0.14***	0.14***
Educational Attainment			
(At least a bachelor's)			
Some college, no degree	0.41*	0.41*	0.41*
High school diploma (incl. GED)	0.45**	0.44**	0.45**
No degree	0.39*	0.40*	0.39*
Duration Indicators			
Years since most recent birth	-0.39***	-0.39***	-0.39***
Years partnered prior to recent birth	-0.08**	-0.08***	-0.08***
Interaction Terms			
Unintended x married		0.55**	
Unintended x stepfamily			-0.02
Model Fit Statistics			
F	85.19***	81.76***	81.88***
N		28,132	

*$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Event History Analyses Predicting Union Dissolution among Stepfamilies (coefficients)

	Model 1	Model 2	Model 3
	b	*b*	*b*
Constant	-1.28*	-1.21*	-1.20
Focal Independent Variables			
Unintended birth	0.40**	0.22	0.09
Marital birth	-0.50***	-0.64***	-0.58***
(Complex stepfamily)			
Only stepfather	-0.18	-0.17	-0.36
Only stepmother	-0.79***	-0.80***	-0.91**
Fertility History			
Prior unintended pregnancy	0.29*	0.29*	0.28*
Age at first birth	-0.17***	-0.17***	-0.17***
Total number of live births	-0.24***	-0.24***	-0.24***
Sociodemographic Characteristics			
Racial/ethnic status			
(White)			
Black	0.02	0.03	0.03
Hispanic	-0.18	-0.18	-0.18
Other	-0.18	-0.20	-0.17
Age at interview	0.15***	0.15***	0.15***
Educational Attainment			
(At least a bachelor's)			
Some college, no degree	0.59**	0.58**	0.59**
High school diploma (incl. GED)	0.53**	0.52*	0.54**
No degree	0.34	0.34	0.35
Duration Indicators			
Years since most recent birth	-0.38***	-0.38***	-0.38***
Years partnered prior to recent birth	-0.10**	-0.10***	-0.10***
Interaction Terms			
Unintended x married		0.29	
(Unintended x complex stepfamily)			
Unintended x only stepfather			0.42
Unintended x only stepmother			0.27
Model Fit Statistics			
F	25.97***	27.03***	26.09***
N		15,001	

*p < 0.05, ** p < 0.01, *** p < 0.001

Figure 1. Percent of Birth Unions Enduring a Decade since the Most Recent, Higher-Order Birth, by Fertility Intentions

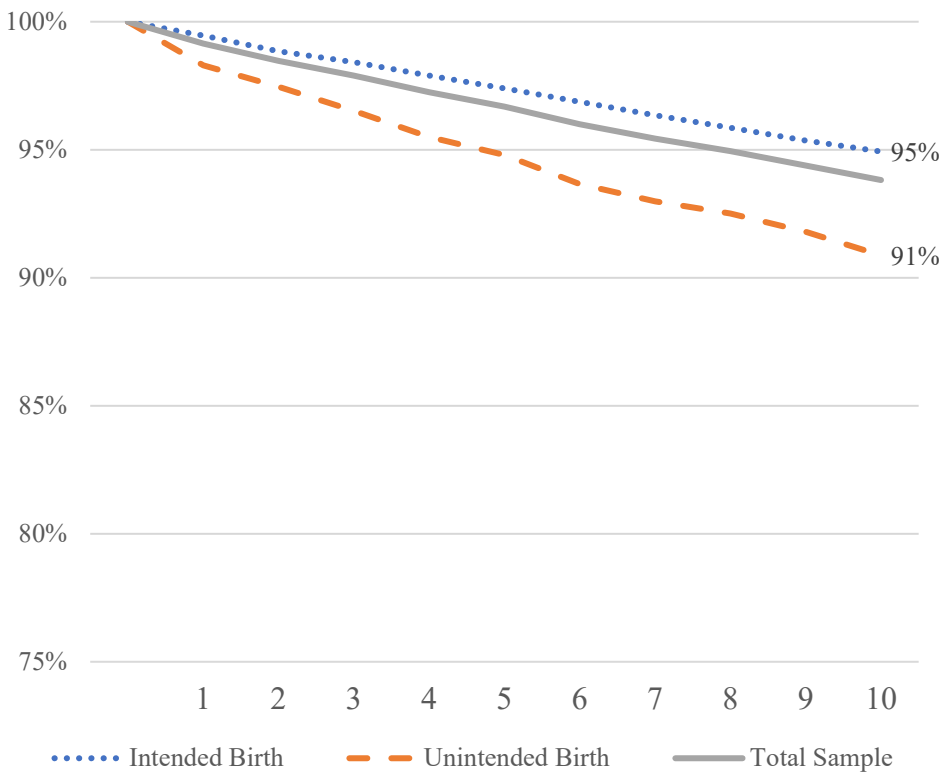........ Intended Birth　— — Unintended Birth　——— Total Sample

Figure 2. Percent of Unions Enduring a Decade since the Most Recent Higher-Order Birth, According to Marital Ties
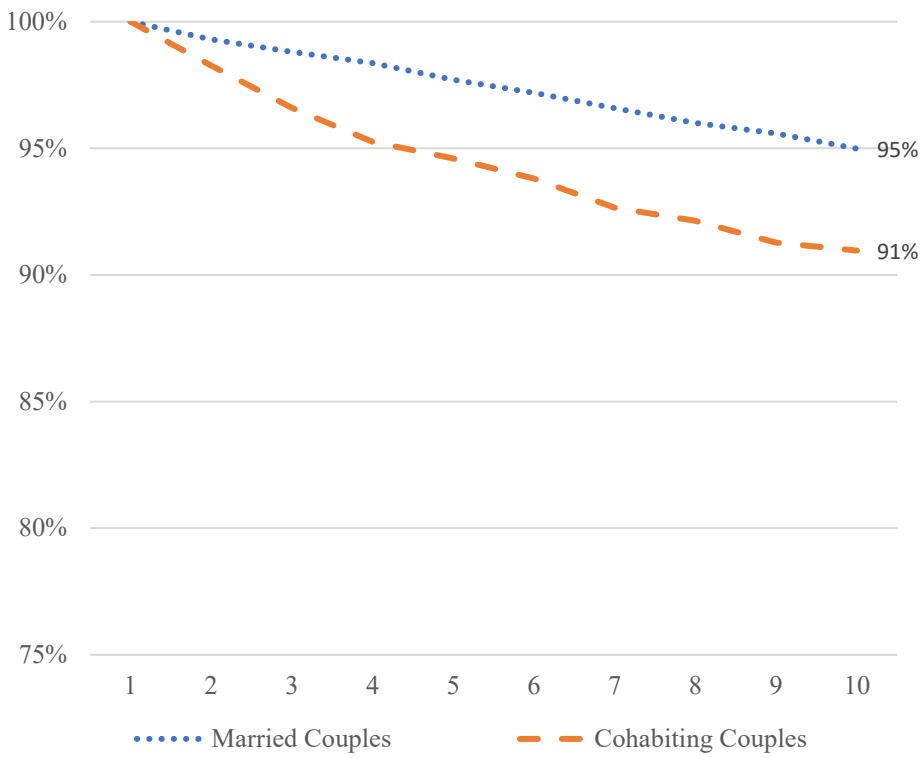
Figure 3. Percent of Unions Enduring a Decade since the Most Recent Higher-Order Birth, According to Family Structure

— Not stepfamily   — — Stepfather family
.... Stepmother family   — — Complex stepfamily