Intimate Relationship Dynamics and Changing Desire for Pregnancy among Young Women

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CONTEXT: Understanding women's desire (or lack thereof) for pregnancy is crucial to societal-level efforts to help women achieve their fertility goals and reduce unintended childbearing. The types of relationships in which women desire pregnancy, and the characteristics of the partners with whom they desire pregnancy, are important aspects of the social context in which women's pregnancy desires are formed.

METHODS: Intimate relationship experiences and desire for pregnancy were assessed weekly for 895 women aged 18–22 as part of the Relationship Dynamics and Social Life study, which began in 2008–2009 and collected weekly data for 2.5 years. Logistic regression models were used to assess the link between intimate relationship seriousness and instability, partner characteristics, and the couple's birth histories, on the one hand, and desire for pregnancy over the course of the relationship, on the other.

RESULTS: Childless young women in more serious relationships with educated, child-free partners are more desirous of pregnancy than their otherwise similar peers. Further, woman-level fixed-effects models demonstrate similar differences across an individual woman's multiple relationships: they are more likely to desire pregnancy in their serious, long-term relationships with their more educated and child-free partners than in their other relationships. Finally, relationship-level fixed effects models show that desire increases within a relationship as it endures and becomes more serious. Instability, age difference, equality in decision-making, and intimate partner violence are not associated with whether women desire pregnancy net of their influence on seriousness and duration.

CONCLUSION: Young women's desire for pregnancy increases as their relationships last longer and become more serious. Although previous research suggests that women may "let down their guard" when their relationships become serious (in terms of preventing unintended pregnancy), this analysis shows that being in a more serious relationship is linked to greater *desire* for pregnancy as well.

Self-reports of pregnancy desire are a consistently strong predictor of pregnancy and related behaviors, even, perhaps puzzlingly, of *unintended* pregnancy [1–10]. And although scholars have long presumed that pregnancy desire is likely to change as women progress through the life course [10–13], very little empirical research has investigated how and why this change might occur. A better understanding of how pregnancy desire unfolds over time is key to understanding unintended pregnancy in the United States. Because pregnancies are conceived in sexual partnerships, and because people often prefer to raise children in intimate relationships, changes in those relationships are likely to be a central component of change over time in pregnancy desire.

Young adulthood is a particularly important time in the life course for pregnancy and related behaviors and desires. Although young teens experience the highest *proportion* of unintended pregnancies (e.g., 98% of all pregnancies for those under age 15 and 89% for those 15 - 17), the highest *rates* of unintended pregnancy are concentrated among young adults – the late teens and early 20s. The vast majority of women report zero desire for pregnancy around age 18 [14], but 95% of women want at least two children before their family is complete [15]. Understanding how women's desire for pregnancy evolves alongside the intimate relationships in which that desire is formed is essential to understanding the social context of young pregnancy in the United States.

Of course, accurately capturing this dynamic aspect of pregnancy desire requires frequent dynamic measurement of both desire *and* intimate relationships during young adulthood, which has been unavailable until now [5,16–18]. The unique data we use here—from the Relationship Dynamics and Social Life (RDSL) study—are based on a longitudinal study of 18-19-year-olds

in a county in Michigan who were followed for 2.5 years. Women were asked weekly about their intimate relationships and their desire for pregnancy in the upcoming month.

In this paper, we make three contributions to our understanding of pregnancy desire among young adult women. First, we analyze whether young women in more serious and stable relationships are more likely to want a pregnancy relative to women in less serious and unstable relationships. We assess the extent to which those differences are due to individual women changing over time, moving through the life course in different relationships with different partners, and the extent to which they are due to specific relationships changing over time, becoming more serious and stable. Second, we analyze whether young women with positive interaction in their relationships, and with age-similar and better-educated partners, are more likely to want a pregnancy, relative to women with less desirable relationships/partners, and assess the extent to which any differences are due to individual women changing partners over time or due to women who desire a pregnancy choosing more desirable relationships/partners. Third, we analyze whether women in relationships in which at least one partner has a child/children are more or less desirous of pregnancy, relative to women in relationships without prior children, and whether any differences are due to the influence of pregnancy desire on partner choice, or due to partner characteristics influencing pregnancy desire. To summarize the impact of these three contributions, we illustrate the predicted probability of pregnancy desire for a synthetic cohort of women as they experience relationships that endure and become more serious.

In the paragraphs below, we first draw on Warren Miller's Traits-Desires-Intentions-Behavior (TDIB) framework for understanding how women formulate their pregnancy desire.

Next, we link that framework to intimate relationships and develop hypotheses about how pregnancy desire is influenced by intimate relationship dynamics.

TDIB FRAMEWORK

The TDIB theory of behavior is frequently used by demographers to understand the link between fertility intentions and behaviors [19,20]. Although many demographers also have used the Theory of Planned Behavior [21], we focus on the TDIB model because, unlike TPB, it explicitly includes *desire,* a factor conceptually between attitudes and intentions. In the TDIB framework (as well as in many survey-based measures), desire and intention are viewed as discrete factors determined by different processes. Further, the TDIB's view of individuals as part of multiple dyadic and more complex social systems lends itself particularly well to our hypotheses about how the primary dyadic system for childbearing – the intimate relationship – informs desires.

According to the TDIB, individuals have stable motivational dispositions (or traits) that drive positive and negative feelings regarding levels of affection for and desire to care for children. These traits are largely non-conscious, and they are strongly related to attitudes, values, and tastes. Along with other stable motivational traits related to feelings that compete with those about childbearing, such as (in young adulthood) educational or career dispositions, and along with aspects of the environment, including intimate relationship characteristics, these childbearing motivational dispositions determine the conscious *desire* to have children (or not). In the final two steps of the TDIB, individual and intimate partner desires combine to influence childbearing *intentions* – the conscious commitment to pursue childbearing – which ultimately influence *behavior*. Here we do not focus on those latter two processes, which have been covered by other fertility researchers. Rather, we focus solely on women's own desire for pregnancy, and

particularly the important role of the intimate relationship in forming that desire.

The TDIB distinguishes three characteristics of childbearing desire: the strength of overall childbearing desire, the number of children desired, and the desired timing for childbearing. We focus here on women's desire to have a child at a specific point in time, which is influenced by her overall desire and child-number desire, and also by her social environment, particularly the characteristics of her current intimate relationship.

Below, we draw on this framework to develop specific hypotheses about how intimate relationships shape desire for pregnancy.

PREGNANCY DESIRE

Intimate Relationship Characteristics

Previous research using cross-sectional comparisons shows that pregnancy desire is highest in the most serious relationships and lowest in the least serious relationships [17]. However, research has not yet directly investigated whether pregnancy desire varies with time across and/or within intimate relationships, or whether instead young women who desire pregnancy seek out serious relationships in which to implement their desire.

Our overarching hypothesis is that *pregnancy desire increases over time, as intimate relationships become more serious*. Prior research showing that contraceptive use is lowest in the most serious relationships [22–25] certainly suggests that pregnancy desire is also greater in these relationships. Although most of these studies compared women in serious relationships to other women in less serious relationships, one study assessed changes in young adults' contraceptive use over time, demonstrating that use decreased as relationships endured and became more

serious [22]. This finding is consistent with an increasing desire for pregnancy over time within relationships.

For several reasons, women might be more likely to desire pregnancy in their more serious and long-lasting relationships, and to increase their desire as their relationships progress. First, raising a child is easier with the help of a partner, and a partner who is more committed to the relationship and more frequently present is especially helpful. Second, women may view having a child as a way to cement their relationships with partners who have expressed commitment to being sexually exclusive, or who have already proven to be sexually exclusive over time. Third, a partner's desire for pregnancy may lead him to express commitment, and women may be motivated to please such partners, particularly when desirable partners are relatively scarce. For example, Edin and Kefalas [26] report that the young women in their study interpreted their partner's stated wish to have a baby together as indicative of his overall commitment to the relationship and the potential for a long-term future together.

We also hypothesize that *relationship instability is particularly dampening for pregnancy desire*. Break-ups, even when followed by reconciliation, may be interpreted by women as a sign that the partner will not last in the long-term, and thus would not make a reliable co-parent. Women are also unlikely to want a pregnancy and birth with a partner who has other concurrent sexual partners, particularly if they think he may impregnate someone else at a similar time, or if they perceive that the other relationship will interfere with the partner's ability to spend time with or contribute resources to their potential child.

Partner Characteristics

We hypothesize that *women are more likely to desire pregnancy with partners they perceive as better potential fathers and/or husbands*. Women may be explicitly evaluating their

partners and relationships during the transition to adulthood in terms of whether they are suitable for parenthood, particularly women who want to begin childbearing soon. This assessment may have several dimensions. Women frequently report wanting a partner with a job, or wanting their current partner to get a job, before getting pregnant [27]. Since the partners of many women in their late teens or early twenties are too young to have stable and/or full-time jobs, women may view educational attainment as a good proxy for future potential. Further, women may be more likely to desire pregnancy with a partner who supports gender equality, believing that he will be more involved in raising a potential child. And women may be less likely to desire pregnancy with a violent partner, given that the child would be exposed to such violence in the future.

Shared/Unshared Birth History

Finally, we hypothesize that women in relationships with pre-existing children – shared or unshared – are likely to have less desire for pregnancy than women in relationships without pre-existing children. A young mother's knowledge of the high demands entailed in childrearing – regardless of whether her children are shared with her current partner – likely dampen her enthusiasm for another child; empirically, closely spaced births tend be unintended (Gemmill & Lindberg, 2013).

Evidence also suggests that childless women partnered with men with (unshared) children from a prior relationship are also unlikely to intend to have a shared birth with their partner [28]. For these women, having a child with their partner could be undesirable because any shared child would have to compete for time and other resources with her partner's other children [29,30]. Alternatively, childless women partnered with a father, or mothers partnered with a childless man, may desire a shared child to solidify and demonstrate commitment [31]. Thus, although we expect women in relationships with pre-existing children to have overall lower

levels of desire for pregnancy, this may vary depending on whether those children are shared or unshared, and whether they are her or her partner's children.

METHODS

Data

The Relationship Dynamics and Social Life (RDSL) study is based on a simple random sample of 1,003 women, ages 18-19 at baseline, drawn from driver's license and personal ID card records in a racially and socioeconomically diverse Michigan county. A 60-minute face-to-face baseline survey interview was conducted between March 2008 and July 2009, to assess sociodemographic characteristics, attitudes, and adolescent experiences related to pregnancy. The response rate was 84% overall (94% of located respondents agreed to participate). At the conclusion of this baseline interview, respondents were invited to participate in a 2.5-year follow-up study that required completion of weekly online (or occasionally, telephone) surveys assessing their intimate relationships, contraceptive use, pregnancy desires, and pregnancy experiences.

Respondents were mailed a $5 bill in an advance letter and were paid $30 to participate in the baseline interview. They received additional incentives to participate in the weekly surveys: $5 per interview for the first four weeks and $1 per interview thereafter, with $5 bonuses for on-time completion of five interviews in a row.

In all, 992 of the baseline interview respondents (99%) agreed to participate in the follow-up study, with 953 (96%) of those respondents completing at least one survey after the baseline interview; 84% continuing in the study for at least 6 months; 79% continuing for at least 12 months; and 75% continuing for at least 18 months. The follow-up study concluded in January 2012, and yielded 58,594 weekly interviews.

Measures

● *Pregnancy desire.* In each weekly survey when they were not pregnant, young women were asked multiple questions about their prospective pregnancy desires. In this analysis, we use data from the following question: "How much do you want to get pregnant during the next month?" Respondents chose a number between 0 and 5, where zero was "not at all want" and five was "really want." Because women gave *any* non-zero answer in only 10% of their weekly interviews, and based on prior research showing that any non-zero desire is a strong predictor of subsequent pregnancy [5], we use a dichotomized version of this measure coded 0 for zero desire and 1 for any other response.

Young women were also asked about their desire to avoid pregnancy: "How much do you want to avoid getting pregnant during the next month?" with the same 0-5 response options. Analyses using this question, or a measure based on a combination of the questions, produced results nearly identical to those presented below. Thus, for parsimony, we only present analyses using the measure of desire *for* pregnancy.

● *Intimate relationship characteristics*. In the weekly surveys, respondents were asked a series of questions to ascertain whether they had a partner of any kind during the prior week. These partners ranged from spouse, fiancée, cohabitor, or romantic partner, to someone with whom the respondent had physical and/or emotional contact ("such as kissing, dating, spending time together, sex, or other activities"), a social media friend, and everything in-between. Respondents who had more than one partner during the prior week were asked to identify the most important or most serious; one partner was discussed in detail each week. If they indicated that they had a different partner from the previous week, they chose from a list of prior partners identified by initials or a nickname; they provided initials or a nickname for new partners.

We evaluated *seriousness* using several questions. Respondents reported whether they "spent a lot of time" with their partner (time intensive). Exclusivity was gauged by whether the respondent and her partner "agreed to only have a special romantic relationship with each other, and no one else." Respondents also reported how many nights they spent "all night sleeping in the same bed" with their partners; whether they cohabited with their partner (whether they lived in a place that was "separate from where your partner lives"); and whether they were engaged to be married or married to their partner.[a] (Questions about exclusivity and time spent together were not asked of respondents in married/engaged or cohabiting relationships.) We then categorized weekly time-varying relationship type using the following mutually exclusive hierarchical categories: (a) casual – not exclusive and not time-intensive (reference category), (b) non-exclusive dating – not exclusive but time-intensive, (c) long distance – exclusive but not time-intensive (e.g., when partners were deployed in the military, lived far away for work, or had health problems), (d) exclusive dating – exclusive and time-intensive, (e) stayovers – exclusive, time-intensive, and slept all night in the same bed 3-7 days per week (similar definition as Jamison & Ganong [32]), (f) cohabiting, and (g) married or engaged.

Relationship duration, another indicator of seriousness, also varies over time and indicates the current total of all weeks spent together with the current partner – including, in the case of break-up followed by reunification, any time spent together before and after breakups. It is coded in years. We also include a squared term in the models.

We also use four measures of the *quality* of the relationship. Because these events are relatively rare, and likely characterize the overall relationship of the couple, we code them as time-invariant (and report sensitivity analyses with time-varying versions). Based on the weekly

[a] We combine these two categories because married weeks are relatively infrequent (5% of partnered weeks) and because coefficients were similar for the two separate groups.

interviews, we constructed a measure coded 1 if the couple ever broke up and reconciled and 0 otherwise. We use respondents' reports of whether she ever had a concurrent sexual partner other than her focal partner or suspected that her partner had another sexual partner to assess sexual concurrency in the relationship, which is coded 1 for concurrency. Unequal decision making was assessed with the question: "Who decides what to do or where to go when you go out?" Response choices were "you" (the respondent, coded -1), the partner (coded 1), or "both" (coded 0). Each respondent indicated each week whether her partner threatened her with violence, or pushed her, hit her, or threw something at her that could hurt. Any physical or psychological violence is coded 1 in relationships where this ever occurred, and 0 otherwise.

● *Partner characteristics.* Whenever a respondent reported a new partner during the study period, a series of questions assessed his age and education, as well as the overall character of the decision-making in the relationship. These measures do not vary over time. Age is coded in years. Education was reported as a categorical variable, but we convert the categories to years as follows: dropped out of high school (11), graduated from high school but not enrolled in post-secondary education (12), enrolled in post-secondary education (14), and graduated from a 4-year university (16).

● *Shared/Unshared Birth history*. We use a mutually exclusive, exhaustive four-category variable to assess the childbirth history of the couple: Neither the woman nor her partner has a prior birth; the partner had a birth with another woman; or the woman had a birth with a prior partner; or the couple has a prior birth *together*. These measures are constructed from two sources: a set of questions asked about every new partner reported during the study (including whether he has any existing children and whether the respondent is the mother of any of them),

and weekly reports of pregnancies and births during the study. These measures are constant for each relationship (i.e., do not vary over time within a relationship).

● *Individual characteristics*. All random-effects regression models include indicators of demographic characteristics, socioeconomic disadvantage, and adolescent experiences with sex and pregnancy. Woman-level and relationship-level fixed-effects models do not include these controls because they are constant for each woman.

Because pregnancy rates and unintended pregnancy vary across demographic groups, which suggests that pregnancy desire may vary as well, we include three demographic indicators. Age is from the state-level driver's license and personal ID card records used to select the sample and is coded in months. Race is measured with two dichotomous variables – white[b] and black – based on questions asking respondents to self-select their race and ethnicity, with Latina women coded according to their response to the question about race.[c] Highly religious respondents are identified by "very important" or "more important than anything else" answers to the question: "How important, if at all, is your religious faith to you?"

Because intimate relationship experiences and desire for pregnancy vary by social class[17], we include three indicators of socioeconomic disadvantage. First, an index of childhood disadvantage is the sum (top-coded at 3 because few woman experienced all four disadvantages) of the following four dichotomous indicators: grew up with one biological parent only (no step-parent) or with extended family members; biological mother was a teenager at first birth; mother dropped out of high school; and/or family received public assistance during childhood. Because many respondents were still enrolled in high school and few had completed any post-secondary

[b] A small number of women reported another racial identity, but because of the small sample, we combined this group with white women.
[c] Sensitivity analyses with Latina women coded as a separate category are nearly identical to those presented.

education at baseline, we use high school GPA as a proxy for educational success and potential for educational attainment. Finally, a dichotomous measure indicates whether respondents were receiving public assistance at the baseline interview, from one or more of the following sources: WIC (Women, Infants and Children Program), FIP (Family Independence Program), cash welfare, or food stamps.

Four dichotomous baseline measures of adolescent (pre-study) experiences related to sex and pregnancy are included in the models: age 16 or younger at first sex; two or more sex partners; ever had sex without contraception; and one or more prior pregnancies.

Analytic Strategy

Table 1 presents descriptive statistics for pregnancy desire, intimate relationship characteristics, and control variables in the sample.

Table 2 presents random-effects, woman-level fixed-effects, and relationship-level fixed effects logistic regression models of the log-odds of women desiring pregnancy. We present exponentiated coefficients, which represent the multiplicative effect on the odds of pregnancy desire in a given week. In all three types of models, the unit of analysis is the person-week.

In the random-effects models, the random effect accounts for the correlation between multiple weekly interviews with the same woman, and pre-baseline variables control for women with higher propensity for pregnancy desire selecting more serious relationships. The woman-level fixed effects models estimate a woman's average difference in log-odds of pregnancy desire in weeks with the independent variable characteristic versus weeks without the characteristic (or, in the case of duration, compares desire across levels of duration). These models allow us to compare a woman's pregnancy desire during times when she is in one type of

relationship or with one type of partner to that same woman's pregnancy desire when she is in a different type of relationship or with a different type of partner. By focusing on within-woman differences, these models hold constant the effect of all time-invariant individual characteristics (measured and unmeasured) on women's selectivity into intimate relationships *and* pregnancy desire. The relationship-level models are similar, but only compare weeks with the independent variable characteristic to weeks without the characteristic *within the same relationship*. These models hold constant all time-invariant individual characteristics *and* time-invariant characteristics of *relationships* (e.g. an intrinsic or underlying level of "compatibility" between partners, or some other unmeasured characteristic of the partnership).

Our random effects models use an analytic sample of 32,754 weekly observations of 895 women who ever reported any kind of partner during the study period. The women reported a total of 2,564 unique partners. Although all weekly observations are included in the potential sample, the effective sample size for fixed-effects models is smaller. Because fixed-effects models use the variance in relationship characteristics to estimate the variance in pregnancy desire, these analyses include only respondents or relationships (and corresponding weeks) with changes in intimate relationship characteristics (representing nearly all women), and are limited to respondents who ever reported desiring pregnancy. This results in 11,179 weekly observations of 254 women and 8,809 observations of 303 intimate relationships.

Finally, to illustrate how pregnancy desire changes over time within relationships, we present the predicted probability of pregnancy desire for a synthetic cohort of women as they experience a fictional four-year relationship that endures (duration) and becomes more serious (relationship type). Note that no relationship in the RDSL dataset followed exactly this pattern. Rather, similar to the way that a Total Fertility Rate (TFR) is created for a synthetic cohort of

women – as if they could experience all the current age-specific fertility rates as they age – Figure 1 shows how a group of 18-year-old women experience the model-estimated changing probabilities associated with age, duration, and relationship type. In this simulation, the relationship begins casual and remains casual for 3 months, followed by 2 months of non-exclusive dating, 11 months of exclusive dating, 6 months in a stayover pattern, 15 months cohabiting (with an intermediate 2-month period of long-distance dating while one partner is away), followed by 9 months of engagement and marriage. The predicted probabilities are based on the random-effects model (Model 1) in Table 2. Other variables are set to zero (dichotomous) or the mean (continuous).

RESULTS

● *Sample Description*. Table 1 presents descriptive statistics for the variables included in these analyses. 10% of the women reported *any* desire for pregnancy during the study period.

Among the person-weeks in which women reported a partner, they most frequently reported exclusive dating (20%), followed by engaged/married (19%), long-distance dating (18%), and cohabiting (17%). Stayovers were less common (13%), and casual and dating relationships were uncommon and/or short-lived (8% and 6% of person-weeks, respectively). Across all partnered weeks, the mean duration of the current relationship was nearly 1.5 years (17.45 months).

Across the 2,564 relationships, 25% ever broke up and reconciled. 19% of relationships ever included concurrent (outside) sexual partners. Respondents perceived a neutral level of autonomy in decision-making (.05 on a -1 to 1 scale), and violence occurred in 10% of

relationships. Partners were an average of 2.20 months older than the respondents, and the partners had slightly more than a high school education (12.50 years),

Neither respondents nor their partners had a prior birth in the majority (72%) of relationships; the partner had a prior birth with another women in 5%, the woman had a birth with a prior partner in 12%, and the couple had a birth together in 12%.

On average, women were 19.19 at the baseline interview. 34% of respondents were Black. 57% were highly religious. Women experienced an average of 1.29 of the indexed disadvantages during their childhood, had a mean GPA of 3.12, and 26% were receiving public assistance at the baseline interview. 53% had sex at age 16 or younger, 61% had two or more sexual partners by the time of the baseline interview, 49% had ever had sex without birth control, and 26% had a prior pregnancy. On average, respondents completed an average of 62.05 weekly interviews (see Barber et al. [33] for a full discussion of participation/attrition in the RDSL study).

● *Multivariate Results.* Table 2 presents models of women's intimate relationship characteristics, partner characteristics, shared/unshared birth history, and pregnancy desire. Model 1 presents random-effects models of seriousness, which vary both within and across relationships, as well as quality, partner characteristics, and shared/unshared birth history, which vary only across relationships. Model 2 presents woman-level fixed effects, which isolate the within-woman difference in pregnancy desire across women's multiple relationships. And Model 3 presents relationship-level fixed-effects models of changes in women's pregnancy desire across varying levels of seriousness within the same relationships.

The model shows a very strong pattern for relationship type: women have more desire for pregnancy in their most serious relationships, with the gradient in desire increasing steeply from the least serious to the most serious intimate relationships across all specifications. The

consistency of this pattern across models accounting for woman-specific and relationship-specific fixed characteristics suggests that the coefficients capture a true effect of changing within-relationship seriousness, rather than a relationship-seriousness selection effect wherein women who desire pregnancy enter more serious relationships more frequently than their less desirous peers.

However, important differences are seen across models. Although the coefficients in Models 1 and 2 are very similar, the coefficients are slightly smaller but still statistically significant in Model 3. This attenuation of the coefficients suggests that some of the association of relationship seriousness with pregnancy desire is not attributable to the time-varying measure we use here, but rather some time-invariant intrinsic characteristic of the partnership itself (e.g., perceived compatibility, commitment, etc.). The statistical significance of the coefficients in the relationship-level fixed effects models confirm that women are more likely to desire pregnancy during the more serious points within their relationships, relative to the less serious points, as well. There is relatively less attenuation between Model 1 and Model 2, which controls for all stable characteristics of women, both measured and unmeasured (e.g., ideal age at first birth, desired family size, career ambition. The small differences across these two types of models suggests that associations are not attributable to selection of women into serious relationships based on these characteristics.

Table 2 also shows that desire for pregnancy increases with relationship duration. That this is true across specifications means that women in long-term relationships have more pregnancy desire, mainly because their desire increases over time *within* their long-term relationships. The increase in magnitude across specifications means that the differences in pregnancy desire observed for earlier versus later points across all relationships are even larger

when compared only within the same relationship. Neither breaking up and reconciling nor having concurrent sexual partners is related to pregnancy desire net of their association with seriousness and duration.

Models 4 and 5 address partner characteristics and birth history, which do not vary over time. Among partner characteristics, only partner's education is related to pregnancy desire. A woman is more likely to desire pregnancy in her relationships with better educated partners than she is in other relationships.

Prior births have a strong negative effect on pregnancy desire. Women are dramatically less likely to desire pregnancy in a relationship that has already produced a child, either their own or their partner's. This is true across women – those with a prior birth have less desire for pregnancy than those without a prior birth – but is mainly because women have less desire for pregnancy in those relationships that include a shared or unshared birth, relative to their other (childless) relationships. The effect is most pronounced for women's own births – either shared or unshared with the current partner, and is strong but smaller for partners who had prior births with other woman.

● *Pregnancy Desire for a Synthetic Cohort*. Figure 1 presents the predicted probability of pregnancy desire for a synthetic cohort of 18-year-old women as they age and experience a fictional four-year relationship that progresses through each relationship type. The first thing to notice is that the predicted probability of pregnancy desire is very low during the first three relationship types – casual dating, non-exclusive dating, and exclusive dating. Second, as the relationship endures over the four-year period, the predicted probability of desire monotonically increases (which can be difficult to picture based on the odds ratios for time and time^2 in Table 2), and the slope becomes steeper over time (due to the quadratic effect of duration). Third, when

the relationship transitions into engagement/marriage in the 40th month, the probability rises precipitously.

DISCUSSION

Previous research has demonstrated cross-sectional differences in prospective desire for pregnancy by relationship type, finding that desire is higher in serious relationships, relative to less serious relationships [17]. Others have used cross-sectional differences in contraceptive use – with more use in less serious relationships – as a premise for dynamic hypotheses about how perceptions of the negative consequences of pregnancy decrease as relationships become longer and more serious [34–36]. Some research has even shown a direct link between changing pregnancy desire and changes in contraceptive use [7]. Our analyses build on these studies by demonstrating that young women's pregnancy desire increases as their relationships endure, and as they transition from less serious to more serious types of relationships. This increase is net of any stable individual-level traits – for example, disadvantaged socioeconomic background, young ideal age at marriage, or low educational expectations – that may also lead women to enter more serious relationships during young adulthood, and net of any stable tendency for relationships that will eventually become serious to produce more pregnancy desire, even in their early and/or casual stages. Thus, our analyses are strongly suggestive of a *causal* link between serious relationships and pregnancy desire.

The other strong pattern of results is for birth history – existing children strongly dampen desire for pregnancy in this age range, particularly when they are a woman or couple's own children, and to a lesser extent, a partner's children with other women. This pattern is also true across specifications, demonstrating that young parents have less desire for pregnancy than other

young people, and that women have less desire for pregnancy after giving birth than before giving birth. Although recent analyses with the newly available RDSL data have shown that contraceptive use increases after a birth [23], these are the first analyses to demonstrate women's very low level of pregnancy desire after having a birth, particularly a birth with her current partner, and to some extent with a man who has a birth with a prior partner.

Our analyses are also consistent with Edin and Kefalas' [27] research suggesting that couples became less concerned with pregnancy risk over time, with their research subjects in longer-term relationships more often reporting they decided "if it happens, it happens." However, previous research has not adequately acknowledged the important role of increasing *desire for pregnancy* in these relationships. Yes, couples may perceive fewer negative consequences of pregnancy as their relationships mature, and yes, they may become less vigilant in their contraceptive use, but women also *desire* pregnancies, even during these young ages, as their relationships become more serious and long lasting.

Limitations

Although the RDSL sample was randomly selected and population-based, it is representative only of young women in a single county in Michigan, which decreases the overall generalizability of the results. The county has a small number of Latinas – we hope that our research motivates future studies on populations that include more Latinas. However, in terms of cohabitation, marriage, age at first birth, completed family size, non-marital childbearing, and teenage childbearing, Michigan is not an outlier [37]. And using a sample from a constrained geographic area has the advantage of minimizing variance in aspects of the social context that are not our main interest in these analyses. For example, the local religious landscape or

unemployment could influence both intimate relationship formation and desire for pregnancy in this age range. We do not, however, expect the underlying causal processes we examined here to vary across regions.

Another important limitation of the RDSL study is that it did not interview male partners, and thus lacks information from the partners' point of view. Although pregnancy desire is meant to assess only women's own desire for pregnancy, it is unclear how women interpreted the specific question in the RDSL study. This is important for our understanding of pregnancy desire, and according to the TDIB framework [19,20], particularly important for our understanding of how pregnancy desire turns into pregnancy intention (not a topic in the current paper). However, male partners in some types of relationships would be difficult to interview – for example, very casual relationships, violent relationships, etc. – and RDSL's decision not to ask women for contact information for such partners probably facilitated the inclusion of a broad range of relationships and maximized the overall quality of women's participation in the study.

Conclusion

Our overarching conclusion is that women want different things in the wide range of relationship types they experience during the transition to adulthood. Our fixed-effects models demonstrate that a young woman's pregnancy desire differs based on the characteristics of her relationships, and also that her pregnancy desire evolves alongside the social context of her intimate relationship.

A deeper understanding of the relationship context of young pregnancies, and the desires, intentions, and behaviors that produce those pregnancies, should inform family policies, such as those meant to help women implement their reproductive plans and desires. Our analyses support

the importance of the intimate relationship context as a causal determinant of women's behavior, and also highlight that some women *want* a baby during these ages. Childless young women are more likely to want a child, and they have the strongest desire for a child in their most serious relationships with their most educated, childless partners. Programs designed to universally discourage young motherhood may instead focus limited resources on a more targeted group – those in less serious, unstable relationships with partners less well-suited to fatherhood.

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Table 1 Descriptive Statistics for Variables Used in Analyses

	Mean	SD	Min	Max
Pregnancy Desire				
Any desire for pregnancy with current partner in the upcoming month (n = 32,754 partnered weeks)	.10		0	1
Intimate Relationship Characteristics				
Seriousness *(n = 32,754 partnered weeks)*				
Relationship Type				
Casual	.08		0	1
Dating	.06		0	1
Exclusive dating	.20		0	1
Long-distance dating	.18		0	1
Stayovers	.13		0	1
Cohabiting	.17		0	1
Engaged/Married	.19		0	1
Duration (in years)	1.45	1.28	.01	3.99
Quality *(n = 2,564 relationships)*				
Ever broke up and reconciled	.25		0	1
Ever concurrent sexual partners	.19		0	1
Unequal decision-making	.05		-1	1
Any physical or psychological violence	.10		0	1
Partner Characteristics (n = 2,564 relationships)				
Age difference (in months)	2.20	3.65	-19.68	33.24
Partner's education (in years)	12.50	1.09	10	14
Shared/Unshared Birth History (n = 2,564 relationships)				
Neither has prior birth	.72		0	1
Partner had prior birth with another woman (unshared)	.05		0	1
Woman had birth with prior partner (unshared)	.12		0	1
Couple has prior birth together (shared)	.10		0	1
Control Variables (n = 895 women)				
Demographic Characteristics				
Age at baseline interview	19.19	.57	18.12	20.34
Black	.34		0	1
Highly religious	.57		0	1
Socioeconomic Disadvantage				
Childhood disadvantage (index)	1.29	1.12	0	3
High school GPA	3.12	.61	0	4.17
Receiving public assistance	.26		0	1
Adolescent Experiences with Sex and Pregnancy				
Age at first sex $\leq$ 16	.53		0	1
More than two sex partners	.61		0	1
Ever had sex without birth control	.49		0	1
Prior pregnancy	.26		0	1
Repeated Measurement				
Total number of weekly surveys completed	62.05	42.07	2	165

Table 2 Random- and Fixed-Effects Logistic Regression Models (and 95% confidence intervals) of Intimate Relationship Dynamics Predicting Any Desire for Pregnancy in the Upcoming Month among 18-22-Year-Old Women (RDSL dataset, 2008-12)

	Model 1 (Random Effects)		Model 2 (Woman-Level Fixed Effects)		Model 3 (Relationship-Level Fixed Effects)	
Intimate Relationship Characteristics						
Seriousness (time-varying)						
Relationship Type (Reference = casual)						
Non-exclusive dating	1.72	*	1.68	*	1.42	
	(1.13-2.62)		(1.09,2.59)		(0.82-2.45)	
Long-distance dating	2.33	***	2.30	***	1.88	*
	(1.61-3.37)		(1.58,3.35)		(1.13-3.11)	
Exclusive dating	2.74	***	2.63	***	1.92	*
	(1.89-3.97)		(1.80,3.84)		(1.14-3.24)	
Stayovers	4.05	***	4.08	***	3.69	***
	(2.73-5.99)		(2.72,6.10)		(2.17-6.28)	
Cohabiting	4.05	***	3.67	***	2.90	***
	(2.77-5.94)		(2.48,5.45)		(1.72-4.88)	
Engaged/Married	12.51	***	9.90	***	7.22	***
	(8.40-18.64)		(6.56,14.93)		(4.21-12.39)	
Duration (in years)	1.07	***	2.39	***	1.14	***
	(1.05-1.10)		(1.79,3.19)		(1.09-1.18)	
Duration^2	0.998	***	0.744	***	1.00	***
	(.998-.999)		(0.69,0.80)		(.998-.999)	
Quality (time-invariant)						
Ever broke up and reconciled	1.15		1.27	+		
	(0.93-1.42)		(0.97,1.67)			
Concurrent sexual partner	0.90		1.40	*		
	(0.60-1.34)		(1.03,1.92)			
Unequal decision-making	1.51	**	1.24			
	(1.13,2.01)		(0.88,1.75)			
Any physical or psychological violence	3.23	***	1.70	**		
	(2.34,4.46)		(1.16,2.50)			
Partner Characteristics						
Age difference (in months)	1.02		.99			
	(0.99,1.04)		(0.96,1.02)			
Partner's education (in years)	1.21	***	1.39	***		
	(1.08,1.36)		(1.21,1.50)			
Shared/Unshared Birth History (reference = neither has a prior birth)						
Partner had prior birth with another woman	.73		.30	***		
	(0.47,1.15)		(0.18,0.51)			
Woman had birth with prior partner	.13	***	.16	***		
	(0.07,0.24)		(0.08,0.32)			
Couple has prior birth together	.72	+	.72	+		
	(0.51,1.02)		(0.50,1.05)			
Age	1.08		1.09	+	1.07	
	(0.98,1.18)		(0.99,1.20)		(0.95,1.21)	
Constant	0.001					
Chi-Square	391.12		304.78		162.27	
ll	-4378.78		-3167.55		-2668.39	
N (women)	895		254		303	
N (observations)	32,754		11,179		8,809	

Coefficients represent multiplicative effects on odds of pregnancy desire. 95% confidence intervals presented in parentheses.
+ p < .10, * p < .05, ** p < .01, *** p < .001, two-tailed tests.
Random Effects models include all control variables listed in Table 1.

Figure 1. Model-Based Predicted Probability of Pregnancy Desire for a Synthetic Relationship by Age, Relationship Type, and Relationship Duration