

Incarceration and family instability: Considering relationship churning

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Abstract

Objective: This study examines the association between incarceration and relationship churning.

Background: It is well known that incarceration gives rise to family instability, in the form of relationship dissolution and impaired relationship quality. However, existing research does not consider the repercussions of incarceration for a common, yet understudied, form of family instability—relationship churning (being in an on-again/off-again relationship)—despite good reasons to expect that incarceration may destabilize relationships in this way.

Method: This study used data from the Fragile Families and Child Wellbeing Study ($N = 4060$) to examine the association between incarceration and relationship churning.

Results: This study finds that incarceration was positively associated with relationship churning, net of characteristics associated with selection into incarceration. These associations were concentrated among Black parents and those experiencing incarceration for the first time. Supplemental analyses show that both maternal incarceration and paternal incarceration were similarly associated with subsequent relationship churning.

Conclusion: Taken together, the findings suggest the liminal status induced by incarceration may facilitate liminality in family relationships.

KEYWORDS

family instability, fragile families, incarceration, union dissolution

The precipitous rise in incarceration over the past six decades means there are millions of currently and formerly incarcerated individuals in the United States (Turney & Wakefield, 2019). Nearly 2.3 million people are currently incarcerated in local jails, state prisons, and federal

prisons (Sawyer & Wagner, 2020). Research demonstrates the profound reach that confinement has in shaping the lives of these individuals and their family members (Kirk & Wakefield, 2018). The majority of incarcerated individuals are in romantic relationships (Mumola, 2000), and incarceration presents a deep challenge to their romantic partners and these relationships.

Incarceration gives rise to family instability, including the dissolution of both marital and cohabiting unions (Turney, 2015a; Western, 2006; Widdowson et al., 2020). However, existing research considers a narrow definition of family instability, treating relationship status as dichotomous: together or broken up. This is an important oversight, as recent research on family instability reveals that relationship churning (i.e., being in an on-again/off-again relationship) is a common but understudied experience. When observed cross-sectionally, a churning relationship could appear to fit in a dichotomous framework, with a couple being together or broken up; however, when observed longitudinally, those in churning relationships have a distinct and volatile relationship trajectory. Individuals who experience churning constitute a substantial proportion of the population, with one in five urban children experiencing their parents' churning relationship by age 9 (Turney & Halpern-MeeKin, 2020).

There are reasons to expect that incarceration increases the probability of relationship churning. First, both incarceration and churning represent liminal statuses. Incarceration puts individuals in a marginal social position, unable to fully enact their social roles, such as those of partner or parent (McKay et al., 2019; Turney, 2015a). Churning potentially represents a borderline relationship status, with partners unsure of where they stand and whether and how to fulfill their relationship roles, such as providing emotional support or participating in the daily activities of family life. Second, incarceration could "artificially" disrupt or end a relationship, which could be resumed after a partner's release, thereby creating an episode of relationship churning. Third, though incarceration can strain a relationship, it can also make the incarcerated individual deeply dependent on a partner (Comfort, 2016); this could simultaneously undermine and bolster a relationship, creating a push-and-pull dynamic that can result in churning.

We examine the association between incarceration and relationship churning, net of an array of characteristics associated with selection into incarceration, with data from the Fragile Families and Child Wellbeing Study. We focus on parents because the majority of incarcerated people are parents to minor children (Bureau of Justice Statistics, 2008), and both relationship dissolution (Amato, 2010; McLanahan et al., 2013) and incarceration (Arditti, 2012; Geller, 2013; Turney, 2014a, 2014b, 2015a, 2015b; Turney, Schnittker, & Wildeman, 2012; Wildeman et al., 2012) carry heavy consequences for children and families. Further, relationship churning has consequences for parent and child well-being (Halpern-MeeKin & Turney, 2016; Hernandez et al., 2016; Turney & Halpern-MeeKin, 2020). As McKay et al. (2019) urge, to fully understand family processes and the implications of our criminal justice system, we must study both in concert; these relationships can doubly disadvantage children exposed to both parental incarceration and family instability (Sykes & Pettit, 2014). By investigating the link between incarceration and churning, we contribute to the field's understanding of what the ecological context of incarceration means for churning specifically and romantic relationship instability more generally.

BACKGROUND

Incarceration as a family stressor

Incarceration represents a family stressor—an event that may strain, disrupt, or dissolve romantic ties (Arditti, 2018). Indeed, the majority of individuals are romantically involved during their

incarceration (Mumola, 2000). However, incarceration does not necessarily spell the end of a relationship; many partners exert tremendous effort to maintain their relationships, within the vast constraints created by incarceration, and some relationships even improve (Braman, 2004; Comfort, 2008; Turney, 2015b).

Research demonstrates that, over and above factors that select individuals into incarceration, incarceration itself is a stressor with profound implications for family well-being (Arditti, 2018; Turney, 2014b). First, incarceration is a stressor that removes a member from the family system, disrupting instrumental and socioemotional support systems, daily activities, and family rituals (Arditti, 2012; Turney, Schnittker, & Wildeman, 2012). Second, maintaining contact with incarcerated individuals is challenging, placing financial, time, and emotional costs on families as they try to maintain relationships (Comfort, 2008; McKay et al., 2019). Third, family members may take on additional burdens due to these family system disruptions or the costs of maintaining contact, which can strain relationships (Bruns, 2019). Given the stressors stemming from incarceration, it is perhaps unsurprising that research shows incarceration increases the risk of relationship dissolution in the short term, with breakups coming close in time to a carceral spell (Turney, 2015a) and likely resulting from time spent physically apart (Massoglia et al., 2011; Western et al., 2004).

In addition, because of the challenges individuals can experience after incarceration—such as employment difficulties (Pager, 2003) or mental and physical health problems (Turney, Wildeman, & Schnittker, 2012)—romantic relationships may be under duress even after a partner returns. For relationships that survive the incarceration period, they are marked by an increased likelihood of relationship problems, including poor communication, violence, and infidelity (Comfort, 2008; Siennick et al., 2014; Turney, 2015b). The rewards of being in a relationship can be, therefore, diminished for those who have experienced incarceration, likely increasing partners' stress.

Therefore, in line with the family stress perspective, the multiple stressors incarceration presents for couple relationships are linked to higher rates of family instability. In the existing literature, "family instability" has been nearly exclusively operationalized as union dissolution (see, e.g., Turney, 2015a; Western, 2006; Widdowson et al., 2020). By considering relationship churning, the present study expands our understanding of the types of family instability that may follow a period of incarceration.

Relationship churning as a form of family instability

While understudied, churning is a common form of relationship instability and, therefore, important to recognize when examining the consequences of incarceration for families. In a survey of young adults in Ohio, nearly half (44%) reported at least one on-again/off-again cycle in their present or most recent relationship (Halpern-Meekin et al., 2013a). Even among those with a shared child, churning is commonplace; in the Fragile Families and Child Wellbeing Study, one-fifth (20%) of focal children experienced their parents breaking up and reuniting at least once by age 9 (Turney & Halpern-Meekin, 2020). Incarceration may lead to a period of relationship churning, especially due to the uncertainty it presents for the status of a relationship, both during the periods of incarceration and reentry (Comfort, 2008; Siennick et al., 2014).

Research in this field has predominantly focused on individual or couple-level factors to predict churning; there has been a lack of attention to ecological factors that may shape this relationship outcome. Theoretically, there are good reasons to expect that incarceration leads to churning. First, incarceration simultaneously undermines the relationship while making the incarcerated partner dependent on the non-incarcerated partner (for emotional and financial support), thereby both eroding and maintaining the relationship, which could put it on weak footing but make it less likely to stably end. Second, incarceration creates a liminal state for the

incarcerated individual and for the relationship (Turney, 2015a). This liminality could mean the relationship is in an in-between state—it both exists and does not—which is more akin to churning than any other relationship status (such as being stably together or stably separated). The messiness or lack of clarity about whether the relationship exists or not could create confusion for partners or could lead to behaviors that could further undermine the relationship (e.g., taking another romantic or sexual partner). As theories of family boundary ambiguity posit, family function can be disrupted by such a lack of clarity in roles and responsibilities (Boss & Greenberg, 1984; Carroll et al., 2007). Third, since the relationship is disrupted by an external event—incarceration—as opposed to events internal to the relationship, it could end but then resume because it was not ended for reasons of the partners' choosing.

Qualitative research on incarcerated individuals and their families documents relationship churning in this population. Derzon (2018) describes women having complex feelings about partners' criminal involvement, with this sometimes giving rise to churning. "[Francesca] had managed to convince herself that [her boyfriend's criminal] engagement was minor and sporadic until the day when he left her waiting in the passenger seat of his car while he committed a robbery. Reality struck her hard and she temporarily separated from him, but she loved him very much and soon they were back together" (Derzon, 2018, p. 67). The potential for churning continues once criminal involvement results in incarceration. "When asked about her relationship status ... Diane hesitated: 'It is unclear.... If you ask [Johnny], we are together. Me, myself, I love him, but I was straight with him and I told him, 'When you get out, you are not going to see me every day.' ... I don't...know where we are'" (McKay et al., 2019, p. 45). Qualitative research shows that the liminal status of formerly incarcerated individuals' relationships can continue even after release, especially as men struggle to get on their feet, unsure whether to prioritize investing in a relationship or in their own efforts at getting themselves re-established (Comfort et al., 2018). Quantitative research has yet to explore these possibilities.

Variation in the association between incarceration and relationship churning

There are reasons to expect the association between incarceration and relationship churning varies across race/ethnicity. Both incarceration and relationship churning are more commonly experienced by minoritized individuals than whites (Halpern-Meekein & Turney, 2016; Vogel & Porter, 2016). Though differences in the *prevalence* of incarceration do not necessarily translate into differences in the *consequences* of incarceration, the repercussions of incarceration may vary by race/ethnicity. As rates of marriage, cohabitation, and union dissolution vary by race and ethnicity, there may be differential selection into risk for union instability in response to a period of incarceration (Manning et al., 2014). Further, experiences of discrimination—which are more likely to occur among minoritized individuals—are negatively associated with relationship quality (Lavner et al., 2018). Blacks are also subjected to more discrimination resulting from a criminal record (Pager, 2003), and the corresponding reduced employment opportunities could result in relationship churning. Indeed, research finds incarceration is more consequential for union dissolution among Blacks than among whites and Hispanics (Western, 2006; Widdowson et al., 2020; though see Apel, 2016); the present study examines this possibility with regards to incarceration and churning.

Additionally, families may be differentially affected by incarceration if it is a first-time event versus a repeated one. Because recidivism is common, with about two in three experiencing reincarceration (Durose et al., 2014; James, 2004), a relationship that survives one period of incarceration may soon be buffeted by the stresses of another. On the one hand, reincarceration may drive relationship churning by creating cumulative disadvantages. When families experience more than one incarceration spell, family systems are disrupted multiple times, potentially making their status more liminal and weakening their functioning by a

partner's repeated absences. On the other hand, a first-time incarceration could be more consequential for romantic relationships, as it presents a unique shock; in contrast, those with a history of previous incarceration spells have successfully weathered such an event (either during the relationship or in choosing to enter the relationship with that incarceration spell as part of a partner's history). The present study offers an opportunity to test these competing hypotheses about how an initial versus subsequent incarceration spell is associated with churning.

Considering selection into incarceration

Neither incarceration nor relationship churning is randomly distributed across the population; instead, both occur more commonly among vulnerable groups. In addition to the race/ethnic differences discussed previously, economic characteristics such as education and income are associated with both incarceration and relationship churning (Halpern-Meekin & Turney, 2016; Wakefield & Uggen, 2010). Family characteristics, including baseline relationship status (e.g., married or not) and multipartnered fertility, are also associated with both incarceration and relationship churning (Cancian et al., 2016; Carlson & Furstenberg Jr, 2006). Other characteristics—including mental health, substance use, violent behavior, and prior incarceration—are associated with incarceration (Wakefield & Uggen, 2010). Internal characteristics of the relationship (such as relationship quality, uncertainty about a relationship's future, conflict, and intimate abuse) drive the likelihood of churning (Dailey, 2019; Halpern-Meekin et al., 2013b; Vennun et al., 2014). Consequently, it is necessary to include an array of control variables to isolate, to the extent possible with observational data, the association between incarceration and relationship churning.

Present study

Research on the repercussions of incarceration for relationship dissolution describes how incarceration places people in a liminal state (Turney, 2015a). Within this state, their social roles outside of prison or jail are no longer clearly defined, as they are prevented from fully occupying these roles. Turney (2015a) argues that this liminality raises the likelihood of relationship dissolution, as a liminal state requires changes to, and may undermine, family processes and relationships. We argue that this experience of incarceration-induced liminality is ripe for creating ambiguities that give rise to relationship churning. Because incarcerated individuals are in a liminal position, their ability to participate in the roles of a relationship, and therefore the status of the relationship itself, may be uncertain. Therefore, we expect that incarceration increases relationship churning. We capitalize on longitudinal data to model the correct chronological ordering of events, examining how incarceration is predictive of concurrent or subsequent churning and examining how these associations vary by race/ethnicity and incarceration history. Further, given that romantic relationship status is associated with criminal activity and incarceration (see, e.g., Bersani & Doherty, 2013), we consider the possibility of bidirectional associations between incarceration and churning (with a supplemental analysis that examines how earlier churning is associated with later incarceration).

METHOD

Data

We examine the association between incarceration and relationship churning with data from the Fragile Families and Child Wellbeing Study (<http://www.fragilefamilies.princeton.edu>),

a study of 4898 mostly unmarried parents in urban areas who had a child together between 1998 and 2000 (Reichman et al., 2001). Mothers and fathers were interviewed in person when their children were born (between 1998 and 2000), and parents completed telephone follow-up interviews an additional five times over a 15-year period (when their children were approximately 1, 3, 5, 9, and 15 years old). These data, designed to understand the correlates and consequences of family instability, are appropriate for examining our research questions. They include couples across the United States, and they include longitudinal information about incarceration and relationship churning, the latter of which is rarely asked in surveys. We use data through the 5-year survey, the last follow-up interview when parents were directly asked about relationship churning; this allows us to measure incarceration and relationship churning in relatively short observation windows (compared to the longer periods between later waves of data collection).

Measures

Relationship churning

Relationship churning is measured with mothers' reports of direct and indirect churning at the 5-year survey. We use mothers' reports of churning, consistent with prior research (Halpern-Meekin & Turney, 2016), as mothers are more likely than fathers to participate in the 5-year survey (85% compared to 64%), and women's perceptions of relationships are more strongly associated with union dissolution than are men's (Frisco & Williams, 2003). Direct relationship churning is measured affirmatively if the mother reports an "on again, off again" relationship with the child's father at the 5-year survey. Indirect relationship churning is measured if the mother reports a romantic relationship with the father at the 1-year survey, no relationship with him at the 3-year survey, and a relationship with him at the 5-year survey. This sequence of relationship events maps on to the period in which we observe incarceration, allowing us to discern if incarceration exposure between the 1- and 3-year surveys is associated with churning during the time leading up to the 5-year survey. The main analyses combine direct and indirect reports of churning, but supplemental analyses (not presented but available upon request) show that the results are not sensitive to these two different types of measurement.

About 2.8% of parents are in churning relationships at the 5-year survey (with 1.5% reporting direct churning and 1.5% reporting indirect churning [with percentages not adding up to 2.8% due to rounding]; descriptives not shown). This is lower than the percentage of churning parents reported in other studies using these data (Halpern-Meekin & Turney, 2016) because we only examine direct measures of churning at the 5-year survey (as opposed to at the baseline, 3-year, and 5-year surveys) and because we only consider indirect churning when the parents are *not* in a romantic relationship at the 3-year survey. We do this to ensure incarceration occurred prior to the report of churning (or, in the case of indirect churning, that the repartnering occurred after the beginning of the incarceration spell).

Incarceration

Incarceration is a binary variable indicating the mother or father was incarcerated between the 1- and 3-year surveys. Incarceration is also measured with direct and indirect reports. Mothers are coded as experiencing incarceration when she or the father reports (1) she is incarcerated at the 3-year survey or (2) she was incarcerated for the first time between the 1- and 3-year surveys (i.e., those reporting never having been previously incarcerated at the 1-year survey but

reporting having been previously incarcerated at the 3-year survey). Similarly, fathers are coded as experiencing incarceration when he or the mother reports (1) he is incarcerated at the 3-year survey or (2) he was incarcerated for the first time between the 1- and 3-year surveys. Therefore, as some higher order incarcerations are not captured, the measure of incarceration is conservative, a point we return to below. The main analyses examine any parental incarceration (among mothers or fathers), consistent with the couple-level measure of relationship churning, but supplemental analyses separately consider maternal and paternal incarceration. About 18% of families experienced incarceration between the 1- and 3-year surveys (with 1% of families experiencing both maternal and paternal incarceration). Parents who experience incarceration between the 3- and 5-year surveys (and who did not experience incarceration between the 1- and 3-year surveys) are included in the reference group, but supplemental analyses that exclude these individuals produce similar results.

Control variables

Given nonrandom selection into both incarceration and relationship churning, the analyses adjust for characteristics that might render this association spurious. We adjust for parents' race/ethnicity with a series of mutually exclusive binary variables indicating mother's race (non-Hispanic white, non-Hispanic Black, Hispanic, non-Hispanic other race) and a binary variable indicating the parents are a mixed-race couple. We adjust for other demographic characteristics, including parents' immigrant status, age, and family structure in adolescence (with a binary variable indicating they lived with both biological parents at age 15). Parents' socioeconomic characteristics include educational attainment, measured by a series of mutually exclusive binary variables (less than high school, high school or GED, some college, college); employment, measured by a binary variable indicating the parent worked for pay in the past week; income-to-poverty ratio, a continuous measure based on household income and poverty thresholds set by the U.S. Census Bureau; and material hardship, a sum of 12 binary indicators of hardship including if the parent "did not pay the full amount of rent or mortgage payments" and "moved in with other people even for a little while because of financial problems" in the past year. We adjust for couple characteristics including relationship status, measured by a series of mutually exclusive binary variables (married, cohabiting, nonresidential romantic, separated); relationship duration (measured in years); and additional children (including binary variables indicating the parents have another child together, the mother has a child with someone else, and the father has a child with someone else). We adjust for parents' distrust of the other gender by averaging responses to the following two statements (1 = *strongly disagree* to 4 = *strongly agree*): (1) "in a dating relationship, a man/woman is largely out to take advantage of a woman/man" and (2) "men/women cannot be trusted to be faithful."

We adjust for other parent characteristics that are especially associated with incarceration (Giordano, 2010; Wakefield & Uggen, 2010). These include depression, measured by the Composite International Diagnostic Instrument-Short Form (CIDI-SF); heavy drinking, a binary variable indicating the parent had five or more drinks in one sitting in the past month; drug use, a binary variable indicating the parent reported using drugs without a doctor's prescription, in larger amounts than prescribed, or for a longer period than prescribed in the past month; domestic violence, a binary variable indicating one parent reports the other parent sometimes or often "hit or slapped you when he/she was angry"; impulsivity, measured by parents' responses to four statements including "I often get into trouble because I don't think before I act" (1 = *strongly disagree* to 4 = *strongly agree*; Dickman, 1990); cognitive ability, measured by the Wechsler Adult Intelligence Scale (Wechsler, 1981); and prior incarceration, a binary variable indicating the parent was incarcerated prior to the 1-year survey (including, for fathers, prior to the baseline survey). Control variables are measured the first time they are

available, either at the baseline or 1-year surveys. Exceptions include mother's impulsivity and mother's and father's cognitive ability, which are time-stable characteristics first measured at the 3-year survey (Gottfredson & Hirschi, 1990).

Analytic strategy

The analytic sample comprises 4060 families (83% of the original sample). We first exclude the 759 families in which mothers did not participate in the 5-year survey. We also exclude the additional 79 families who reported an experience of indirect churning that cannot be disentangled, in terms of time order, from the incarceration spell (i.e., when the mother reports no romantic relationship with the father at the 1-year survey, a relationship with him at the 3-year survey, and no relationship with him at the 5-year survey). The findings are similar when these 79 observations are included in the analytic sample.

Families in the baseline and analytic samples have similar observed characteristics, though several statistically significant differences exist between these two groups. Parents in the analytic sample, compared to parents in the baseline sample, are less likely to be foreign-born (15% compared to 17% for mothers, 16% compared to 18% for fathers). Mothers in the analytic sample are more likely to have low educational attainment (with 34% compared to 30% having less than a high school diploma). Parents in the analytic sample are more likely to have at least two children together (58% compared to 55%). There are no differences in other characteristics including race/ethnicity, relationship status, income-to-poverty ratio, and incarceration history.

The three stages of the analytic strategy are straightforward. In the first analytic stage, we estimate the frequency of relationship churning for families who do and do not experience incarceration, using chi-square tests to ascertain statistically significant differences between groups. We also look at group differences in control variables (testing for statistically significant differences with chi-square tests or *t* tests, depending on the distribution of the variable).

In the second analytic stage, we use a series of linear probability models to estimate the association between incarceration and relationship churning, progressively adjusting for characteristics associated with selection into incarceration and churning. We pay careful attention to time-ordering in these models, with the covariates measured prior to incarceration and incarceration measured prior to relationship churning. We center all continuous variables to ensure the reference group is stable across models. The first model adjusts for a limited set of demographic control variables that are time-stable or precede incarceration (such as race/ethnicity and immigrant status). The second model adjusts for an extended set of control variables, predominantly measured at the baseline or 1-year surveys. The third model adjusts for (direct) relationship churning at baseline, to account for a couple's history of engaging in on-again/off-again relationships prior to the observed incarceration spell.

In the third analytic stage, we use linear probability models to estimate heterogeneity in the association between incarceration and relationship churning. We examine heterogeneity across three subgroups of mother's race (non-Hispanic white, non-Hispanic Black, and Hispanic) and across two subgroups of parents' incarceration history (prior incarceration and no prior incarceration). We test for statistically significant differences across groups.

Covariates are missing, on average, less than 10% of observations (with missing data ranging from <1% for many of the mother-reported characteristics [such as race/ethnicity or age] to 36% for father-reported impulsivity). Variables reported by the fathers at the 1-year survey—such as multipartnered fertility, employment, and depression—have the largest amount of missing data (>25%) due to father nonresponse. There is no missing data on father's incarceration, as both mothers and fathers report on their own and each other's incarceration. We impute missing covariate data, creating 20 imputed data sets and pooling results (Allison, 2001). Though father attrition is not random (e.g., fathers who do not participate in the 1-year survey

are less likely to be married than their counterparts who do participate), the multiple imputation proceeds under the assumption the data are missing at random.

Sample description

Descriptive statistics (including frequency or mean/SD) for the analytic sample are presented in the first two columns of Table 1. The sample comprises mostly parents who identified as race/ethnic minorities, with nearly one-half (48.7%) of mothers identifying as Black and more than one-fourth (26.6%) identifying as Hispanic. Mothers and fathers were, respectively, 25 and 28 years old, on average, at the 1-year survey. More than two-fifths of parents (43.0% of mothers and 45.4% of fathers) lived with both biological parents at age 15. About one-third of parents (33.5% of mothers and 32.1% of fathers) had less than a high school education. At baseline, most parents were unmarried but in cohabiting (35.9%) or nonresidential romantic relationships (26.0%). Parents reported health challenges, with 15.7% of mothers and 11.0% of fathers reporting depression, 6.3% of mothers and 26.1% of fathers reporting heavy drinking, and 2.0% of mothers and 7.9% of fathers reporting drug use. Few mothers experienced prior incarceration (with only 0.7% incarcerated between the baseline and 1-year surveys), but prior incarceration was common among fathers (with 31.0% incarcerated at some point prior to the 1-year survey). Nearly one-tenth (9.0%) of parents were in a churning relationship at baseline.

RESULTS

Descriptive differences by exposure to incarceration

Table 1 also includes descriptive statistics for two groups: families who experience incarceration between the 1- and 3-year surveys and families who do not experience incarceration during this time. Families who experienced incarceration were nearly two and a half times as likely as other families to report relationship churning at the 5-year survey (5.3% compared to 2.2%, $p < .001$).

There were also differences across most other characteristics, with parents who experience incarceration a more vulnerable group than other parents. Mothers who experienced incarceration (either themselves or via their child's father) were younger (23 compared to 26 years old, $p < .001$) and less likely to have lived with both parents at age 15 (30.9% compared to 45.6%, $p < .001$). They were less likely to have a college degree (1.8% compared to 13.0%, $p < .001$) and had lower income-to-poverty ratios (1.180 compared to 1.950, $p < .001$). They had more vulnerable health than their counterparts, including depression (18.6% compared to 15.1%, $p < .05$), heavy drinking (8.3% compared to 5.9%, $p < .05$), and drug use (3.6% compared to 1.6%, $p < .001$). They were also more likely to report having experienced incarceration between the baseline and 1-year surveys (1.5% compared to 0.5%, $p < .01$) and churning at baseline (15.1% compared to 7.7%, $p < .001$). The differences in fathers' characteristics among families that did and did not experience incarceration were also generally large in magnitude and statistically significant.

Main association between incarceration and relationship churning

The frequencies presented above document that parents exposed to incarceration were more likely than other parents to experience relationship churning. These statistically

TABLE 1 Descriptive statistics, for full sample and by incarceration ($N = 4060$)

	Full sample	Incarceration		
		Yes (<i>n</i> = 723)	No (<i>n</i> = 3337)	
<i>Key variables</i>				
Relationship churning	2.8%	5.3%	2.2%	***
Incarceration	17.8%	100.0%	0.0%	***
<i>Control variables</i>				
Mother race/ethnicity				
White, non-Hispanic	21.2%	15.0%	22.5%	***
Black, non-Hispanic	48.7%	61.8%	45.9%	***
Hispanic	26.6%	20.8%	27.9%	***
Other race, non-Hispanic	3.5%	2.4%	3.8%	^
Mother and father a mixed race couple	14.2%	16.7%	13.7%	*
Mother foreign-born	15.0%	3.9%	17.5%	***
Father foreign-born	16.2%	6.1%	18.4%	***
Mother age	25.217 (6.051)	23.430 (5.400)	25.604 (6.114)	***
Father age	27.819 (7.138)	25.913 (6.769)	28.232 (7.148)	***
Mother lived with both parents at age 15	43.0%	30.9%	45.6%	***
Father lived with both parents at age 15	45.4%	33.0%	48.1%	***
Mother educational attainment				
Less than high school	33.5%	44.2%	31.2%	***
High school diploma or GED	30.8%	31.6%	30.7%	
Some college	24.7%	22.5%	25.2%	
College	11.0%	1.8%	13.0%	***
Father educational attainment				
Less than high school	32.1%	43.5%	29.6%	***
High school diploma or GED	36.4%	36.8%	36.3%	
Some college	21.3%	18.3%	22.0%	^
College	10.2%	1.4%	12.1%	***
Mother and father relationship status				
Married	24.8%	7.5%	28.6%	***
Cohabiting	35.9%	39.1%	35.3%	^
Nonresidential romantic	26.0%	38.8%	23.3%	***
Separated	13.2%	14.7%	12.9%	
Mother and father relationship duration (years)	4.802 (4.638)	3.997 (4.109)	4.977 (4.727)	***
Mother distrust of opposite gender	2.008 (0.579)	2.070 (0.609)	1.994 (0.571)	**
Father distrust of opposite gender	1.808 (0.597)	1.893 (0.638)	1.789 (0.586)	***
Mother and father share another child	57.8%	60.7%	57.2%	^
Mother multipartnered fertility	35.6%	46.0%	33.4%	***
Father multipartnered fertility	31.8%	40.3%	29.9%	***
Mother material hardship	1.135 (1.608)	1.585 (1.870)	1.038 (1.528)	***
Father material hardship	0.380 (1.036)	0.585 (1.233)	0.335 (0.983)	***
Mother employment	53.1%	48.1%	54.2%	**
Father employment	76.5%	63.2%	79.4%	***

(Continues)

TABLE 1 (Continued)

	Full sample		Incarceration				
			Yes (<i>n</i> = 723)		No (<i>n</i> = 3337)		
Mother income-to-poverty ratio	1.813	(2.102)	1.180	(1.354)	1.950	(2.207)	***
Father income-to-poverty ratio	2.404	(3.044)	1.712	(2.182)	2.554	(3.180)	***
Mother depression	15.7%		18.6%		15.1%		*
Father depression	11.0%		14.1%		10.3%		***
Mother heavy drinking	6.3%		8.3%		5.9%		*
Father heavy drinking	26.1%		23.3%		26.7%		^
Mother drug use	2.0%		3.6%		1.6%		***
Father drug use	7.9%		12.7%		6.9%		***
Mother reports domestic violence	3.7%		5.8%		3.2%		**
Father reports domestic violence	11.6%		18.2%		10.1%		***
Mother impulsivity	2.030	(0.612)	2.147	(0.642)	2.005	(0.602)	***
Father impulsivity	1.989	(0.665)	2.111	(0.710)	1.963	(0.652)	***
Mother cognitive ability	6.739	(2.658)	6.584	(2.388)	6.773	(2.712)	*
Father cognitive ability	6.513	(2.726)	6.289	(2.662)	6.562	(2.737)	**
Mother prior incarceration	0.7%		1.5%		0.5%		**
Father prior incarceration	31.0%		46.7%		27.5%		***
Relationship churning, baseline	9.0%		15.1%		7.7%		***

Note: Asterisks indicate statistically significant differences between families who experience incarceration and families who do not experience incarceration.

^a*p* < .10.

p* < .05; *p* < .01; ****p* < .001.

significant differences, though, may result from characteristics associated with both incarceration and relationship churning. Table 2 presents results from linear probability models estimating relationship churning as a function of incarceration, progressively adjusting for control variables. Model 1, which adjusts for a limited set of control variables, shows that incarceration was positively associated with relationship churning ($b = 0.026$, $p < .001$). In Model 2, which adjusts for an extended set of control variables, the size of the association decreased in magnitude by 19%. This association remains statistically significant, however, with incarceration positively associated with relationship churning ($b = 0.021$, $p < .01$). In Model 3, which further adjusts for baseline churning, the magnitude and statistical significance remained identical ($b = 0.021$, $p < .01$). Full models, presented in Table A1, show that relatively few control variables were independently associated with relationship churning, further highlighting the association between incarceration and relationship churning.

The analyses presented in Table 2 estimate relationship churning, with all parents who do not experience relationship churning in the reference group. We conducted additional analyses, one that estimated churning compared to being in a stable romantic relationship at the 5-year survey (with no churning, $n = 1849$) and another one that estimated churning compared to being stably separated at both the 5- and 9-year surveys (and not churning, $n = 1489$). These analyses show that incarceration, net of control variables including baseline churning, was positively associated with churning compared to being in a stable romantic relationship ($b = 0.120$, $p < .001$) but not associated with churning compared to being stably separated ($b = 0.020$, n.s.).

TABLE 2 Linear probability models estimating the association between incarceration and relationship churning ($N = 4060$)

	Model 1		Model 2		Model 3	
	+ <i>Limited controls</i>		+ <i>Extended controls</i>		+ <i>Baseline churning</i>	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Incarceration	0.026	(0.007)***	0.021	(0.007)**	0.021	(0.007)**
Adjusted R^2	0.006		0.016		0.016	
Constant	0.020		0.006		0.006	

Note: Model 1 adjusts for mother's and father's race/ethnicity, immigrant status, age, family background, and education. Model 2 further adjusts for mother's and father's baseline relationship status, relationship duration, distrust of the opposite gender, share another child, multipartnered fertility, material hardship, employment, income-to-poverty ratio, depression, heavy drinking, drug use, domestic violence, impulsivity, cognitive ability, and prior incarceration. Model 3 further adjusts for baseline churning.

** $p < .01$; *** $p < .001$.

Supplemental analyses

We conducted two sets of supplemental analyses to assess the robustness of the main findings (see Table A2). First, we substituted our measure of any parental incarceration with separate indicators of paternal incarceration and maternal incarceration (Panel A), as the consequences of incarceration for family life may vary by parents' gender. Paternal incarceration was associated with relationship churning in Model 1 ($b = 0.020$, $p < .01$), Model 2 ($b = 0.016$, $p < .05$), and Model 3 ($b = 0.016$, $p < .05$). Maternal incarceration was significantly associated with relationship churning in Model 1 ($b = 0.022$, $p < .05$), but this fell from statistical significance in Model 2 ($b = 0.017$, n.s.) and Model 3 ($b = 0.017$, n.s.), perhaps because of the relatively small number of mothers who experienced incarceration. The coefficients for paternal and maternal incarceration were similar in magnitude and not statistically different from one another ($p = 0.937$ in Model 3), suggesting paternal and maternal incarceration were similarly associated with churning.

Second, we considered the possibility that relationship churning was positively associated with subsequent incarceration, given the consistent finding that family relationships protect against criminal justice contact (Bersani & Doherty, 2013). We estimated incarceration (measured between the 1- and 3-year surveys) as a function of baseline relationship churning (Panel B). There was a positive association between relationship churning and incarceration when adjusting for the limited set of control variables ($b = 0.085$, $p < .001$), but this association was reduced in magnitude and statistical significance when adjusting for the full set of control variables ($b = 0.033$, n.s.). These findings, in conjunction with the main findings, indicate the primary direction of the association between these two experiences goes from incarceration to relationship churning.

Considering variation in the association between incarceration and relationship churning

We next examined two types of variation in the association between incarceration and relationship churning: variation by mother's race/ethnicity and variation by parents' prior incarceration. Descriptive statistics of all variables, separately for each of the subgroups considered, are presented in Table A3. These descriptives show that 5-year relationship churning was reported by 1.4% of white mothers, 3.3% of Black mothers, and 2.8% of Hispanic mothers. It was also

TABLE 3 Linear probability models estimating the association between incarceration and relationship churning, considering heterogeneity ($N = 4060$)

	Race/ethnicity						Prior incarceration			
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Yes		No	
	$(n = 858-862)$		$(n = 1975-1980)$		$(n = 1078-1083)$		$(n = 1263)$		$(n = 2797)$	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Incarceration	0.009	(0.013)	0.024	(0.010)*	0.019	(0.016)	−0.001	(0.013)	0.036	(0.008)***
Adjusted R^2	0.049		0.021		0.005		0.019		0.016	
Constant	0.023		0.016		0.017		0.134		0.008	

Note: Models adjust for all variables from Model 3 of Table 2. Ns for race/ethnic subgroups vary across multiply imputed data sets.

* $p < .05$; *** $p < .001$.

reported by 4.3% of mothers experiencing prior incarceration (including either their own incarceration and/or the fathers' incarceration) and 2.1% of mothers not experiencing prior incarceration.

Table 3 presents results from linear probability regression models that estimated the association between incarceration and relationship churning, separately for white, Black, and Hispanic mothers in this urban sample of parents. These models, which adjust for all control variables and baseline relationship churning, show that the association between incarceration and churning was statistically significant for Black mothers ($b = 0.024$, $p < .05$) but not white ($b = 0.009$, n.s.) or Hispanic mothers ($b = 0.019$, n.s.). However, these coefficients across subgroups were not statistically different from one another, and supplemental analyses that instead used the full sample and estimate interaction terms between incarceration and race/ethnicity showed no statistically significant group differences. The lack of statistically significant group differences, combined with the relatively large differences in the magnitude of the coefficients across groups, provide suggestive evidence that the association between incarceration and churning was concentrated among Blacks.

Table 3 also presents results from linear probability regression models that estimated the association between incarceration and relationship churning, separately for parents with and without an incarceration history (and net of all control variables and baseline relationship churning). There was no association between incarceration and relationship churning among parents with an incarceration history ($b = -0.001$, n.s.). However, among parents without an incarceration history, an incarceration spell was positively associated with relationship churning ($b = 0.036$, $p < .001$). Supplemental analyses that instead used the full sample and estimate an interaction term between incarceration and prior incarceration also show that the association between incarceration and relationship churning was significantly different by incarceration history ($p < .05$). Taken together, these analyses show that the association between incarceration and relationship churning was concentrated among those experiencing incarceration for the first time.

DISCUSSION

With millions of individuals incarcerated in the United States, half of individuals in a relationship at the time of their incarceration (Mumola, 2000), and the majority parents to minor children (Bureau of Justice Statistics, 2008), incarceration presents a risk to family stability for millions of adults and children. The present study demonstrates that incarceration is associated with later relationship churning, net of an array of characteristics (such as a history of

domestic violence, substance use, and prior incarceration) that select individuals into incarceration (and, indeed, incarceration is one of the few covariates statistically significantly associated with churning). This association persists even when adjusting for previous relationship churning.

Taken together, these findings demonstrate that incarceration may be even more destabilizing for relationships than previous research has captured, as some unions that appear stable when observed cross-sectionally are in fact churning and, therefore, unstable. By recognizing the churning category and incorporating it into our analyses, we have a more accurate picture of how incarceration matters for family life. These findings are aligned with our theoretical focus on family stress and liminality. The liminal status induced by incarceration destabilizes unions (Turney, 2015a), as incarceration creates uncertainty about family roles and disrupts daily family life. This leads to breakups for some and churning for others, with churning representing a liminal relationship status. These findings are also consistent with qualitative evidence documenting relationship churning among couples affected by incarceration (Comfort et al., 2018; Derzon, 2018; McKay et al., 2019).

Auxiliary analyses find that incarceration is predictive of churning, compared to staying stably together, but not compared to being stably broken up. This suggests that incarceration is predictive of relationship instability in general but not churning exclusively. Future research could examine the predictors of a union stably breaking up versus churning following a partner's incarceration spell. For the present study, we conducted additional analyses, all of which suggest a robust association between incarceration and churning. Both maternal and paternal incarceration are similarly associated with the risk of relationship churning, suggesting that, in line with family stress theory, it is destabilizing for relationships regardless of whether it is the mother or father who is removed from the family. Further, the time ordering we posit in this paper—that incarceration is predictive of future churning, rather than vice versa—is supported empirically; it is possible that, while marriage is predictive of criminal desistance (Beaver et al., 2008), churning does not increase incarceration over and above that of being in other nonmarital relationships or unpartnered. These findings highlight the needs that families may have who are exposed to incarceration; in line with McKay et al. (2019), family-focused interventions for those affected by incarceration could buffer some incarceration-related stressors.

In addition to demonstrating an association between incarceration and relationship churning, the present study provides some evidence of variation in this association. There is suggestive evidence that the association between incarceration and relationship churning is larger in magnitude for Black mothers than for white mothers. This is consistent with previous research on incarceration and other forms of relationship instability (Western, 2006; Widdowson et al., 2020), and it is particularly noteworthy, given the disproportionate representation of Blacks in the criminal justice system (Vogel & Porter, 2016). This further underlines how incarceration exacerbates racial/ethnic inequalities in family instability (for discussion, see Cavanagh & Fomby, 2019). There is also evidence that the destabilizing consequences of incarceration for relationship churning are concentrated among couples experiencing a first-time spell of incarceration. These findings are consistent with what scholars have found about the association between incarceration and divorce, in which it is time apart, as opposed to some kind of stigma incarceration confers, that affects relationship stability (Massoglia et al., 2011). Couples who have successfully weathered a previous incarceration spell or who have entered a relationship aware of a partner's incarceration history may be unique or better prepared to endure subsequent spells; that is, incarceration may not induce the same sense of liminality for those who have seen they can successfully weather this experience, which could be protective for their relationships. Future research should examine processes linking incarceration to churning among different groups. Future research should also explore whether other types of experiences that may induce liminality, such as deportation or military deployment, are positively associated with churning.

Limitations

The present study is not without limitations. First, as these data are not nationally representative, the conclusions we draw cannot be generalized to the relationships of individuals who are not parents or who live outside metropolitan areas; this means certain groups, such as whites, are particularly underrepresented in our data. However, given the consequences of parental incarceration and union instability for children's well-being (Amato, 2010; Arditti, 2012; Geller, 2013; McLanahan et al., 2013; Tach et al., 2010; Turney, 2014a, 2014b, 2015a, 2015b; Wildeman et al., 2012), we shed light on a key demographic group. Second, to ascertain proper time ordering of our variables (i.e., with incarceration preceding churning), the measure of incarceration is limited to a 2-year period. The measure also prevents us from capturing all incarcerations and, therefore, these findings likely offer a conservative estimate of the association between incarceration and churning. Third, the association between incarceration and relationship instability is likely conservative because we do not observe other forms of instability (such as infidelity for partnered parents). Future data collection efforts may consider more frequent measurement of relationship status to allow for a more careful consideration of trends in churning and other types of instability. Fourth, different types of incarceration spells (including facility type, distance of facility from family, spell length, and type of crime) might vary in their associations with churning, a possibility we cannot examine with the available data. Finally, although we establish proper time ordering of the observed events and adjust for factors that could induce a spurious correlation between incarceration and churning (including a history of domestic violence, substance use, and impulsivity), our results cannot be considered causal estimates because unobserved characteristics may drive these associations.

CONCLUSIONS

Incarceration can be profoundly destabilizing for family life in general and romantic relationships in particular (Turney, 2015a; Western, 2006; Widdowson et al., 2020). However, as incarceration is similarly predictive of dissolution and churning, these findings show that union dissolution is not the only way that incarceration undermines unions. This is important because previous research shows churning is associated with an elevated risk of parental stress, relationship conflict, and intimate abuse (Halpern-Meehin et al., 2013a, 2013b; Halpern-Meehin & Turney, 2016). The findings speak to the importance of capturing how incarceration has consequences that ripple beyond the incarcerated individual to the broader family system. Previous studies of relationship churning have not examined the role of ecological factors in encouraging on-again/off-again relationship dynamics; the present study suggests that ecological factors may play an important role in inducing churning, over and above individual demographic, economic, cognitive, and psychological characteristics. In addition, previous research on incarceration's consequences for romantic unions has not recognized the category of relationship churning; the present study demonstrates that this limits our ability to fully understand family instability following incarceration. Future research should gather more fine-grained, nationally representative, longitudinal survey data, with a large enough sample size to rigorously interrogate variation by race and ethnicity, and qualitative data, including the perspectives of incarcerated individuals and their romantic partners, to support investigations that build on these insights. This would include exploring the processes through which incarceration sets the stage for subsequent churning, including asking whether this is through undermining the relationship's quality or by creating a lack of clarity—or liminality—about the relationship's status, each of which could erode the enactment of familial roles and partners' commitment to one another and, therefore, the relationship's future.

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APPENDIX

TABLE A1 Logistic regression models estimating the association between incarceration and relationship churning, full models ($N = 4060$)

	Model 1		Model 2		Model 3	
	+ <i>Limited controls</i>		+ <i>Extended controls</i>		+ <i>Baseline churning</i>	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Incarceration	0.026	(0.007)***	0.021	(0.007)**	0.021	(0.007)**
Mother race/ethnicity (reference = White, non-Hispanic)						
Black, non-Hispanic	0.014	(0.008) ^	0.010	(0.008)	0.010	(0.008)
Hispanic	0.009	(0.009)	0.004	(0.009)	0.004	(0.009)
Other race, non-Hispanic	0.025	(0.016)	0.023	(0.016)	0.023	(0.016)
Mother and father a mixed race couple	−0.001	(0.008)	−0.003	(0.008)	−0.003	(0.008)
Mother foreign-born	−0.008	(0.012)	−0.006	(0.012)	−0.006	(0.012)
Father foreign-born	−0.001	(0.012)	0.001	(0.012)	0.001	(0.012)
Mother age	0.000	(0.001)	0.001	(0.001)	0.001	(0.001)
Father age	−0.001	(0.001)	−0.001	(0.001)	−0.001	(0.001)
Mother lived with both parents at age 15	0.011	(0.006) ^	0.010	(0.006) ^	0.010	(0.006) ^
Father lived with both parents at age 15	0.000	(0.006)	0.000	(0.006)	0.000	(0.006)
High school diploma or GED	−0.009	(0.007)	−0.007	(0.007)	−0.007	(0.007)
Some college	−0.015	(0.008) ^	−0.011	(0.008)	−0.011	(0.008)
College	−0.026	(0.012)*	−0.016	(0.013)	−0.016	(0.013)
Father educational attainment (reference = less than high school)						
High school diploma or GED	−0.002	(0.007)	0.000	(0.007)	0.000	(0.007)
Some college	0.000	(0.008)	0.006	(0.009)	0.006	(0.009)
College	0.003	(0.012)	0.016	(0.013)	0.016	(0.013)
Mother and father relationship status (reference = married)						
Cohabiting			0.018	(0.008)*	0.019	(0.008)*
Nonresidential romantic			0.021	(0.009)*	0.022	(0.010)*
Separated			−0.002	(0.011)	−0.002	(0.011)
Mother and father relationship duration			0.001	(0.001)*	0.001	(0.001)*
Mother distrust of opposite gender			0.008	(0.006)	0.008	(0.006)
Father distrust of opposite gender			−0.001	(0.005)	−0.001	(0.005)
Mother and father share another child			0.008	(0.006)	0.008	(0.006)
Mother multipartnered fertility			−0.009	(0.006)	−0.009	(0.006)
Father multipartnered fertility			−0.001	(0.007)	−0.001	(0.007)
Mother material hardship			0.002	(0.002)	0.002	(0.002)
Father material hardship			0.005	(0.003)	0.004	(0.003)
Mother employment			−0.003	(0.006)	−0.003	(0.006)
Father employment			−0.008	(0.007)	−0.008	(0.007)
Mother income-to-poverty ratio			−0.001	(0.002)	−0.001	(0.002)
Father income-to-poverty ratio			0.001	(0.001)	0.001	(0.001)
Mother depression			−0.001	(0.007)	−0.001	(0.007)

(Continues)

TABLE A1 (Continued)

	Model 1		Model 2		Model 3	
	+ <i>Limited controls</i>		+ <i>Extended controls</i>		+ <i>Baseline churning</i>	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Father depression			−0.006	(0.009)	−0.006	(0.009)
Mother heavy drinking			0.027	(0.011)*	0.027	(0.011)*
Father heavy drinking			0.020	(0.007)**	0.020	(0.007)**
Mother drug use			0.015	(0.019)	0.015	(0.019)
Father drug use			0.003	(0.012)	0.003	(0.012)
Mother reports domestic violence			−0.001	(0.014)	−0.001	(0.014)
Father reports domestic violence			0.002	(0.009)	0.002	(0.009)
Mother impulsivity			0.001	(0.004)	0.001	(0.004)
Father impulsivity			−0.001	(0.005)	−0.001	(0.005)
Mother cognitive ability			0.000	(0.001)	0.000	(0.001)
Father cognitive ability			−0.002	(0.001)	−0.002	(0.001)
Mother prior incarceration			0.034	(0.032)	0.034	(0.032)
Father prior incarceration			0.009	(0.006)	0.009	(0.006)
Baseline churning					−0.002	(0.010)
Adjusted R^2	0.006		0.016		0.016	
Constant	0.020		0.006		0.006	

 $\hat{p} < .10$.* $p < .05$; ** $p < .01$; *** $p < .001$.TABLE A2 Linear probability models estimating the association between incarceration and relationship churning, supplemental models ($N = 4060$)

	Model 1		Model 2		Model 3	
	+ <i>Limited controls</i>		+ <i>Extended controls</i>		+ <i>Baseline churning</i>	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Panel A. Separately considering paternal and maternal incarceration						
Paternal incarceration	0.020	(0.008)**	0.016	(0.008)*	0.016	(0.008)*
Maternal incarceration	0.022	(0.011)*	0.017	(0.012)	0.017	(0.012)
Adjusted R^2	0.005		0.015		0.015	
Constant	0.021		0.006		0.006	
Panel B. Estimating incarceration						
Relationship churning	0.085	(0.021)***	0.033	(0.022)	0.033	(0.022)
Adjusted R^2	0.068		0.096		0.096	
Constant	0.271		0.230		0.230	

Note: Panel A substitutes the measure of parental incarceration with measures of paternal incarceration and maternal incarceration. Panel B estimates the association between baseline relationship churning and incarceration between the 1- and 3-year surveys. All models include control variables corresponding to those in Table 2.

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE A 3 Descriptive statistics, by race/ethnicity and prior incarceration (*N* = 4060)

	Race/ethnicity			Prior incarceration	
	White, non-Hispanic (<i>n</i> = 858–862)	Black, non-Hispanic (<i>n</i> = 1975–1980)	Hispanic (<i>n</i> = 1078–1083)	Yes (<i>n</i> = 1263)	No (<i>n</i> = 2797)
<i>Key variables</i>					
Relationship churning	1.4%	3.3%	2.8%	4.3%	2.1%
Incarceration	12.6%	22.6%	13.9%	26.9%	13.7%
<i>Control variables</i>					
Mother race/ethnicity					
White, non-Hispanic	—	—		15.1%	23.9%
Black, non-Hispanic	—	—		59.4%	43.9%
Hispanic	—	—		23.4%	28.0%
Other race, non-Hispanic	—	—		2.1%	4.2%
Mother and father a mixed race couple	22.2%	6.5%	16.7%	15.0%	13.9%
Mother foreign-born	4.3%	3.9%	38.4%	7.0%	18.7%
Father foreign-born	7.4%	4.7%	41.0%	7.4%	20.2%
Mother age	27.254 (6.505)	24.477 (5.697)	24.738 (5.848)	23.458 (5.396)	26.011 (6.161)
Father age	29.915 (7.146)	27.257 (7.229)	27.007 (6.582)	26.387 (6.619)	28.466 (7.268)
Mother lived with both parents at age 15	58.2%	29.0%	53.8%	33.9%	47.1%
Father lived with both parents at age 15	58.9%	31.5%	57.7%	34.4%	50.3%
Mother educational attainment					
Less than high school	17.4%	32.6%	49.5%	43.6%	28.9%
High school diploma or GED	25.6%	36.3%	26.3%	34.9%	29.0%
Some college	27.5%	25.7%	20.3%	19.8%	26.9%
College	29.4%	5.4%	3.9%	1.7%	15.1%
Father educational attainment					
Less than high school	18.3%	29.6%	49.8%	42.5%	27.4%
High school diploma or GED	28.0%	44.4%	29.1%	41.4%	34.0%

(Continues)

TABLE A 3 (Continued)

	Race/ethnicity			Prior incarceration	
	White, non-Hispanic (<i>n</i> = 858-862)	Black, non-Hispanic (<i>n</i> = 1975-1980)	Hispanic (<i>n</i> = 1078-1083)	Yes (<i>n</i> = 1263)	No (<i>n</i> = 2797)
Some college	26.5%	21.5%	16.6%	15.0%	24.1%
College	27.2%	4.4%	4.5%	1.0%	14.4%
Mother and father relationship status					
Married	51.2%	12.6%	23.2%	7.2%	32.8%
Cohabiting	29.5%	34.1%	45.8%	40.3%	34.0%
Nonresidential romantic	9.7%	38.1%	18.3%	35.5%	21.8%
Separated	9.6%	15.1%	12.8%	17.0%	11.4%
Mother and father relationship duration (years)	6.079	4.427	4.479	4.053	5.141
Mother distrust of opposite gender	1.803	2.028	2.136	2.082	1.975
Father distrust of opposite gender	1.672	1.818	1.896	1.839	1.793
Mother and father share another child	56.2%	59.5%	55.6%	61.4%	56.2%
Mother multipartnered fertility	21.3%	46.8%	28.7%	44.6%	31.6%
Father multipartnered fertility	20.9%	40.4%	26.6%	42.4%	27.0%
Mother material hardship	1.024	1.229	1.064	1.527	0.958
Father material hardship	0.232	0.509	0.265	0.595	0.282
Mother employment	56.0%	55.5%	46.1%	49.7%	54.6%
Father employment	86.7%	68.6%	82.3%	63.4%	82.5%
Mother income-to-poverty ratio	3.246	1.355	1.349	1.139	2.117
Father income-to-poverty ratio	3.835	2.017	1.784	1.833	2.661
Mother depression	14.9%	17.4%	13.4%	20.6%	13.4%
Father depression	10.5%	11.6%	10.1%	14.4%	9.4%
Mother heavy drinking	9.1%	5.1%	6.6%	8.9%	5.1%
Father heavy drinking	29.2%	20.9%	33.6%	27.8%	25.4%
Mother drug use	1.5%	2.7%	1.3%	4.0%	1.1%
Father drug use	5.5%	10.0%	6.1%	12.0%	6.1%

TABLE A 3 (Continued)

	Race/ethnicity			Prior incarceration	
	White, non-Hispanic (n = 858-862)	Black, non-Hispanic (n = 1975-1980)	Hispanic (n = 1078-1083)	Yes (n = 1263)	No (n = 2797)
Mother reports domestic violence	1.8%	3.6%	4.9%	5.6%	2.8%
Father reports domestic violence	7.5%	13.9%	10.5%	16.7%	9.3%
Mother impulsivity	1.993 (0.585)	2.037 (0.634)	2.053 (0.596)	2.151 (0.625)	1.976 (0.598)
Father impulsivity	1.941 (0.623)	1.969 (0.670)	2.045 (0.670)	2.143 (0.711)	1.920 (0.631)
Mother cognitive ability	8.053 (2.418)	6.596 (2.438)	5.928 (2.831)	6.468 (2.569)	6.861 (2.688)
Father cognitive ability	7.828 (2.605)	6.416 (2.541)	5.639 (2.739)	6.395 (2.569)	6.567 (2.792)
Mother prior incarceration	0.3%	0.9%	0.6%	2.1%	0.0%
Father prior incarceration	22.0%	37.7%	27.3%	99.5%	0.0%
Relationship churning, baseline	3.4%	12.5%	7.4%	13.5%	7.0%

Note: Ns for race/ethnic subgroups vary across multiply imputed data sets.