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Journal

Justice Quarterly, 36(3)

ISSN

0741-8825

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Publication Date

2019-04-16

DOI

10.1080/07418825.2018.1445275

Peer reviewed

HHS Public Access

Author manuscript

Justice Q. Author manuscript; available in PMC 2020 January 01.

Published in final edited form as:

Justice Q. 2019 ; 36(3): 503–531. doi:10.1080/07418825.2018.1445275.

Marriage, Cohabitation, and Crime: Differentiating associations by partnership stage

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Abstract

A wealth of scholarship generally finds that marriage protects against crime, but there is less consistent evidence for cohabitation. In this article, we contribute to scholarship on marriage and put forward new evidence about cohabitation by examining marital and cohabiting partnerships as transitions with distinct stages of entry, stability, and dissolution. We use within-person change models with contemporary data from the National Longitudinal Survey of Youth 1997 to analyze these stages for the full sample and separately for men and women. The findings show differential protective associations of marriage and cohabitation depending on the stage of the partnership. Both recently formed cohabiting partnerships and stable cohabiting partnerships are associated with reductions in the level of offending, although to a lesser degree than marital relationships. Cohabiting partnerships that are stable, in that they have lasted at least a year, are associated with larger decreases in offending, particularly among women.

Introduction

Over the last 40 years, the social institution of the family has changed dramatically. One of the most pronounced transformations over this period has been an increase in cohabitation and a reduction in marriage (Cherlin 2005; Waite 1995). From 1970 to 2008, the ratio of unmarried couple households to 100 married couple households increased from 1 to 11 (Saluter 1996; US Census Bureau 2009). These trends suggest that not only is cohabitation becoming more widespread but also that the social meanings of marriage, cohabitation, and single life may be shifting as alternative forms of romantic partnership become more prevalent. In response to these changes, scholarship on romantic partnerships and criminal offending has begun to incorporate cohabitation into a literature that had primarily focused on marriage (Forrest 2014; Larson, Sweeten, and Piquero 2016; Lonardo, Manning, Giordano, and Longmore 2010; Piquero, MacDonald, and Parker 2002; Siennick et al. 2014). Although studies generally find a protective association between marriage and criminal offending (for a recent review, see Skardhamar et al. 2015), the results for cohabitation have been far more mixed (Forrest 2014; Larson et al. 2016; Lonardo et al 2010; Siennick et al. 2014).

Some of the uncertainty around cohabitation's associations with crime results from a larger issue about the way partnerships are typically conceptualized and measured. In the current scholarship, marriage and cohabitation tend to be operationalized statically, with point-in-time measures of marriage and/or cohabitation measured at one survey wave (either the current or the previous survey wave) and criminal offending measured either over the past year or since the previous survey wave (e.g., Forrest 2014; King, Massoglia, and Macmillan 2007; Lonardo et al. 2010; Sampson, Laub, and Wimer 2006). This approach does not capture relationship processes of entry, stability, and dissolution (Skardhamar et al. 2015). From a theoretical standpoint, the reasons that partnerships are expected to be protective against crime (e.g., attachment, identity change, and social control) are unlikely to be equally strong at different stages of entry, stability, and exit. From a methodological standpoint, point-in-time measures of marriage and cohabitation conflate relationship transitions and stable partnerships into single estimates. This is particularly problematic if partnership entry, stability, and exit are differentially associated with delinquent behavior and if certain partnerships, like cohabitation, are characterized by higher rates of formation and dissolution (Brown and Booth 1996; Cherlin 2005; Nock 1995).

In this paper, we use National Longitudinal Survey of Youth 1997 (NLSY97) data to examine romantic partnerships as stages of entry, stability, and dissolution. First, we document associations between marriage, cohabitation, and crime using point-in-time estimates of relationship status. This analysis illustrates how conclusions about partnerships —and particularly, cohabitation—and crime vary depending on measurement timing. Second, we present analyses that directly model romantic partnerships as stages, which distinguish among whether a person has recently entered, is stably in, or has recently dissolved a marital or cohabiting partnership. Third, we conduct analyses separately by gender to explore whether partnership stages are differentially associated with crime for men and women. Overall, the results suggest that associations between offending and coresidential partnerships depend on partnership stage. Moreover, cohabitating partnerships tend to be associated with significant declines in offending, especially when partnerships have lasted a year or longer. Lastly, we find some gender differences in the protective associations for entry into cohabitation and entry into and exit from marriage. Taken together, our results suggest that when stages of partnerships are appropriately modeled and measured, cohabitation is significantly associated with reductions in offending and important gender differences are evident in the protective role of partnerships.

Marriage And Cohabitation: Stages of Entry, Stability, and Exit

Life course theories of crime identify marriage as one of the few adult protective factors for offending, where marriage has the potential to strengthen commitment to non-deviant lifestyles and deter future criminality (Laub and Sampson 2003; Sampson and Laub 1995). A large body of research consistently finds a negative association between marriage and offending (Bersani and DiPietro, 2016; Farrington and West 1995; Horney et al. 1995; Sampson et al. 2006; Sampson and Laub 1995; Van Schellen et al. 2012; Warr 1998; but, see Giordano, Cernkovich, and Rudolph 2002), and this "marriage effect" is perceived to be the consequence of several mechanisms. First, marriage fosters interdependent systems of obligation, support, and restraint that make it more costly to engage in criminal behavior

(Sampson and Laub 1995). Being in a committed relationship strengthens social bonds and attachments (Laub and Sampson 2003), and as a result, individuals may feel that "more is at stake" by engaging in deviance. Second, being married can transform the mindset, orientation, and identity of individuals (Giordano et al. 2002). Married men and women may feel that it is time to mature, settle down, and conform to conventional norms. Third, spouses assert social control over their counterparts (Sampson et al. 2006; Umberson 1992). This control may direct everyday routines towards conventional lifestyles and reduce contact with deviant peers (Bersani and Doherty 2013; Warr 1998).

Theoretically, the protective role of marriage, as well as other romantic partnerships such as cohabitation, depends on the stage of the relationship. Marriage and cohabitation are transitions within ongoing relationships, where social bonds, identity, and social controls change over the course of the partnership. These changes are situational and specific to the stage and quality[1] of the partnership, as opposed to enduring, and partnership stages of entry, stability, and dissolution are likely to be differentially associated with offending (Bersani and Doherty 2013).

Because marriage and cohabitation are events that occur within a continuum of a relationship, we expect that declines in offending will be observed in the period leading up to co-residence. Recent research on marriage has found some evidence of a "courtship effect," or a modest decline in offending prior to marriage (Lyngstad and Skardhamar 2013; McGloin et al. 2011; but see Laub, Nagin, and Sampson 1998). In a study of marriage and offending in Norway, offending started to decline in the five years prior to marriage (Lyngstad and Skardhamar 2013). In another study in the Netherlands, offending versatility declined in the years preceding marriage (McGloin et al. 2011). Both of these studies documented declines in offending prior to marriage, although the magnitude of the decrease was smaller compared to declines observed during the marriage period. Because this research analyzed administrative records, the observed decline in offending prior to marriage could be explained by either cohabitation preceding marriage or the courtship effect of changed social controls, identity, and/or bonds prior to co-residence (Beijers et al. 2012; Savolainen 2009). In this paper, we analyze offending related to entry into both cohabitation and marriage, and we directly model associations for people transitioning from cohabiting to marital relationships.

During marriage or cohabitation, we expect that the relationship will become increasingly protective against offending. During this stage, the bond between partners will strengthen compared to the initial entry into the partnership (Laub et al. 1998; Sampson and Laub 1995). The stakes associated with committing crime will be higher, partners will be better able to exert social control, and the partnership will become increasingly likely to produce a positive identity change. Indeed, the largest negative protective associations between marriage and crime occur during the period of marriage itself (McGloin et al. 2011; Sampson et al. 2006; see Skardhamar et al. 2015 for a recent review). There is also evidence

[1]In addition to partnership stage, the quality of the relationship is likely to be an important factor, where higher-quality partnerships are more protective compared to lower-quality partnerships (Skardhamar et al. 2015). Relationship quality and partnership stage, although related, are not necessarily analogous. We return to this point later in the paper.

that cohabiting unions of a year or longer are significantly different from recently-formed unions in terms of joint financial decision-making and feelings of intimacy (Pollard and Harris 2013); extending these ideas to cohabitation and crime, we expect to find that stable cohabiting relationships have larger negative associations with offending compared to recently formed partnerships. However, because cohabitation does not yet have the same legal standing or the same normative meanings as marriage in the United States (Nock 1995), the protective associations between marriage and crime are likely to be larger compared to cohabiting partnerships.

In cases where the relationship dissolves, we expect that the period of termination—e.g., marriage to divorce or cohabitation to singlehood—will no longer be protective (Bersani and Doherty 2013; Larson and Sweeten 2012; Larson, Sweeten, and Piquero 2016). During this period, bonds between partners will weaken. Partners will no longer be able to exert social control, the stakes associated with crime will lessen, and the individual's identity will no longer be tied to the partnership. Dissolution might even have the potential to have antisocial implications, as the dissolution of a partnership is likely to produce emotional strain and hardship, which may lead to higher rates of offending (Agnew 1992; Larson and Sweeten 2012). Indeed, recent research has found higher rates of arrest after divorce, as compared to being married (Bersani and Doherty 2013) and single (Blokland and Nieuwbeerta 2005).

Partnership Stages and Gender

The majority of research that examines associations between marriage and crime has focused on men (Bersani, Laub, and Nieuwbeerta 2009); however, there are theoretical reasons why partnerships may have consequences for offending that vary by gender (King, Massoglia, and MacMillan 2007). First, women have very different offending patterns as compared to men; they report much lower rates of crime, different offense profiles, and in some cases, different factors related to offending (Kruttschnitt 2013). Second, because offending is much more common among men than women, men may be more likely to partner with someone who is a "good influence," suggesting that partnerships may be particularly beneficial for men (King et al. 2007; Kruttschnitt 2016; Sampson et al. 2006). Indeed, notwithstanding some exceptions, studies generally find that marriage benefits men's desistance more than women's (for a review, see Kruttschnitt 2016).

It is unclear how these findings may be extended to explain gender differences, if any, for cohabitation and offending. Although the motivations for cohabitation, such as sharing finances and testing coresidential compatibility, are often gender-neutral, there is some evidence that cohabitation carries different meanings for men and women (Huang et al. 2011). Women may be more likely to view cohabitation as a stronger sign of commitment and as a precursor to marriage, as compared to men (Huang et al. 2011; Pollard and Harris 2013). At the same time, however, they may be more likely to view cohabitation as less socially desirable than marriage; whereas, men may not make this distinction (Huang et al. 2011). We are aware of only one study that has explored cohabitation's association with offending separately for men and women (Siennick et al. 2014), and the authors found no gender differences. It may be, however, that cohabiting relationships have different associations with crime for men and women depending on the stage of the relationship.

Taken together, women may be more likely than men to view new or recent cohabitations in relation to marriage (and to view them as less desirable), suggesting that entry into a cohabiting partnership may be less salient for women. However, once the cohabitating partnership has stabilized (and marriage may seem more likely), it may be associated with greater reductions in offending for women, since women may view it as a stronger form of commitment than men. Therefore, for theoretical and empirical reasons and due to the reliance of current research on male respondents, we conduct analyses separately by gender.

Measurement of Partnership Stages

Although partnerships move through stages of entry, stability, and dissolution, these phases are not often modeled together in studies of marriage, cohabitation, and crime.[2] Typically, scholars explore the association between marriage and/or cohabitation measured at one survey wave (either the current or the previous survey wave) and recent criminal offending (see Skardhamar et al. 2015 for a discussion).

The choice to measure marriage and/or cohabitation contemporaneously or lagged is not straightforward. As Sampson and colleagues have explained, “the usual option is to look at the lagged effects of a predictor, but the logic of social control theory does not specify such an approach…Consider the man who is married in one year and divorced the next. It would not make sense to consider him married (as in a lag model) for the purposes of explaining crime when he is in fact divorced” (2006: 494). Although the lagged approach does not make theoretical sense, measuring marriage and cohabitation at the time of the survey (and offending throughout the prior year) is similarly problematic. Mainly, contemporaneous measures of marriage and cohabitation mean that the dependent variable (e.g., offending) is measured prior to the independent variable (e.g., relationship status), which violates basic principles of casual ordering. There are two main consequences of this timing issue. First, changes in criminal offending may very well precede the formation of the partnership (Skardhamar et al. 2015). Second, newly formed partnerships (which presumably have smaller protective associations) are grouped together with stable partnerships, which leads to downwardly biased estimates of stable partnerships.

Thorny issues related to measurement and timing are not unique to marriage and cohabitation; however, they are likely to be consequential when considering factors—such as cohabitation—that have different associations depending on transition stage *and* that experience frequent transitions. Given our predictions about differential protective associations at each stage, lagged and contemporaneous measures are likely to understate the protective role of stable partnerships. For lagged approaches —when cohabitation and marriage is measured prior to the current survey wave —partnerships that have dissolved are considered intact (putting a downward bias on the partnership coefficient) and partnerships that are newly formed are coded as single (putting an upward bias on the reference category of single); this may explain some of the recent null findings about cohabitation (Forrest 2014). A similar issue concerns contemporaneous measures, or when cohabitation is

[2]A few studies have measured aspects of these stages separately. Bersani and Doherty (2013) and Larson, Sweeten, and Piquero (2016) have focused on dissolution, while Lyngstad and Skardhamar (2013), McGloin et al. (2011), and Laub, Nagin, and Sampson (1998) have explored the courtship period.

measured in the current wave (e.g., Lonardo et al. 2010; Piquero et al. 2002; Sampson et al. 2006; Siennick et al. 2014). In those cases, recently formed partnerships will be grouped with stable ones (understating the protective role of stable partnerships). Both of these approaches—lagged and contemporaneous—would downwardly bias estimates for stable partnerships; however, because entry into a partnership is likely more protective than exit, the bias is likely greater in lagged models.

Since cohabiting partnerships experience more frequent turnover compared to marriages, these measurement issues have the potential to be particularly consequential for estimates of the association between cohabitation and offending.

Questions and Hypotheses

Drawing from literature on marriage, cohabitation, and offending, we propose the following questions and hypotheses: 1) How are marital and cohabiting partnership stages—specifically, entry, stability and dissolution— associated with offending? 2) Do the associations between partnership stages and offending vary by gender? Given the discussion above, we expect that partnerships will be protective at entry, will become increasingly protective as they stabilize, and will no longer be protective when they dissolve. Since marriage is more institutionalized than cohabitation in the United States, we expect marriage to have a larger protective association; however, there may be differences depending on the partnership stage. We also anticipate that cohabitating relationships at entry will be less protective for women than men. However, once stable, cohabiting partnerships will likely be equally, if not more, protective for women.

Data, Measures, and Methods

Data

To examine these questions, we use data from the National Longitudinal Survey of Youth 1997 (NLSY97). The NLSY97 is a panel data set of 8,984 youths from 6,819 unique households (Moore et al. 2000). Respondents ranged from 12 to 16 years of age as of December 31, 1996, and they answered questions focusing on the transition from school to work and into adulthood (Moore et al. 2000). The first round of interviews occurred in 1997. Since then, interviews have occurred annually resulting in 15 total interview rounds, with the ages of respondents in the last round ranging from 26 to 32 (NLSY 2011).

For this study, we use non-weighted data from 1998 through 2011.[3] We exclude data from the 1997 wave in order to consider respondents who are at least 18 years of age. Given our emphasis on partnership stages, we restrict analyses to respondents who were interviewed at both the start of the observation period (at wave t-1) and at the end of the observation period (at wave t), reducing the sample by approximately 8%. Our analyses consist of all person-

[3]We do not include survey weights in the descriptive statistics and regression models for several reasons. First, we use longitudinal data from 1998 to 2011 and the use of weights with longitudinal data is not straightforward (“Sample Weights and Design Effects” NLSY97). Second, as we describe and later test in the paper, NLSY97 changed the universe of people asked the criminal offending questions in 2004. Because of this issue, combined with the longitudinal nature of the sample, sampling weights are not appropriate for descriptive statistics. Third, we refrain from using weights in the multivariate regression models, following Winship and Radbill (1994).

waves in which the respondent was not missing data on criminal offending (the dependent variable) and was at least 18 years of age. We use multiple imputation methods to estimate missing data on independent variables (Honaker, King, and Blackwell 2012), although analyses using listwise deletion are substantively similar to the findings using imputed data. The analysis sample consists of 45,748 person-years for 8,496 respondents, ranging in age from 18 to 32 years old.

The NLSY97 has several strengths for studying marriage, cohabitation, and offending. First, it is one of the few contemporary, nationally representative datasets that asks about partnership status and offending. Second, it contains information about partnerships and offending over many years, which enables us to examine within-person associations. Notwithstanding these advantages, one potential issue with the NLSY97 is that it oversamples criminally involved respondents in later years due to a skip pattern in the offending questions. Through 2003, the criminal offending questions were asked to all respondents in the nationally representative sample. However, beginning in 2004, the questions were restricted to respondents who reported having been ever arrested and to a control group of approximately 10% of respondents who had not reported an arrest. We return to this issue in the additional analyses section below.

Measures

Criminal Offending—We measure our dependent variable, criminal offending, in two ways. First, we create a crime variety scale, which is a common approach in criminological research (Hindelang, Hirschi, and Weis 1981; Larson, Sweeten, and Piquero 2016; Moffit, Caspi, Rutter, and Silva 2001). As Larson and Sweeten (2012) articulate, variety scales are the preferred approach to measuring levels of individual criminal behavior because they prevent low-level criminal behaviors from having too much influence, but, unlike binary measures, maintain substantial variation. In the NLSY97, respondents are asked whether they committed each of the following six criminal acts since the date of last interview: intentionally destroyed property, stole items worth less than $50, stole items worth more than $50, committed other property crimes, attacked someone with the intention of seriously harming them, and sold illegal drugs. Following Larson and Sweeten (2012), we sum the responses to each of the six questions, with six indicating the highest level of offending and zero indicating no offending. Our second measure of crime is a binary measure indicating whether or not a respondent committed a crime. Taken together, the measures capture both the amount of offending variety and whether an individual has completely refrained from crime.

Partnership Stage—Partnership stage is a categorical measure that takes into account information from the previous and current survey wave, in order to construct stages of entry, stability, and dissolution. Specifically, we consider respondents who a) were single and started cohabiting (“single to cohabiting”), b) were cohabiting throughout the period (“stably cohabiting”), c) were cohabiting and became single or entered a coresidential relationship with a new partner (“cohabiting to single”), d) were cohabiting and became married (“cohabiting to married”), e) were single and became married (“single to married”), f) were married throughout the period (“stably married”), g) were married and became single or

were married to or cohabiting with a new partner ("married to divorced"), and h) were single throughout the period ("stably single"). We determined whether individuals were partnered to the same individual in consecutive waves by using NLSY97's partner ID variable.[4] Our coding of stable partnerships (e.g., "stably cohabiting" and "stably married") groups together coresidential relationships of one year or longer into the same category, without distinguishing partnership duration[5] or quality.[6]

Time-Varying Covariates—In all of the regression models, we adjust for a number of time-varying characteristics that have been shown to be associated with criminal offending. We control for age, as it is one of the most consistent and strongly associated factors with offending (Farrington 1986). We also include variables for life course transitions other than romantic partnerships, which may be related to offending, such as number of children, employment (number of weeks worked within the past year), school enrollment, and military employment (Sampson and Laub 1995). We include controls for educational attainment (number of years completed) and urban residence because previous research has found lower levels of educational attainment and urban residence to be associated with higher rates of offending (Glaeser and Sacerdote 1999; Lochner and Moretti 2004).

Time-Stable Covariates—We include a variety of time-stable characteristics in our analyses of the crime variety scale. Gender, race/ethnicity, and citizenship status are measured at the 1997 survey. To account for family structure and social class while growing up, which may be related to later criminal behavior (Harper and McLanahan 2004), we include three variables. First, we measure whether the respondent lived with both biological parents at the 1997 survey. Second, we include a measure of parental education, based on the respondent's most educated parent's attainment. Third, we measure whether or not the respondent had ever received public assistance (Aid to Families with Dependent Children, Medicaid, Food Stamps, Women, Infants, and Children, or Supplemental Security Income) by the 1997 interview.

[4]When the partner ID variable was missing and the respondent was partnered in consecutive years (about 7% of cases in which people were partnered in consecutive years), we assumed that the respondent was partnered with the same person.

[5]Although prior research has examined relationship duration (e.g., Blokland and De Schipper 2016), we do not directly address duration for several reasons. First, the inclusion of a count variable of duration means that the protective associations of relationships are highest just prior to dissolution; whereas, we suggest that the time period around dissolution is the least protective for offending. Second, we conducted supplemental analyses, and we find no association between duration and offending among stable partnerships. In these models (the equivalent of Table 4), we distinguish among partnership stages of entry and dissolution, and we include controls for duration of stable married and stable cohabiting partnerships.

[6]We refrain from examining relationship quality because of two limitations with the NLSY97 data. First, quality questions are asked for years 2000 to 2008 only (or, a subset of the analytic sample 1998–2011). Second, and more importantly, quality questions are asked for current partnerships only; therefore, information on quality for recently dissolved partnerships (e.g., cohabiting to single or married to divorced) would have to come from the previous wave. This is problematic, since the same quality information refers to stable or recently entered into partnerships (for the year prior to dissolution) and recently dissolved partnerships, for partnerships that eventually experience dissolution. Despite these limitations, we conducted two sets of supplemental analyses to examine whether distinctions by partnership stage are driven by relationship quality. These analyses are based on a quality measure that is the average (from 0–10) of responses to three questions that capture respondent perceptions about the degree to which their partners care for them, how close they feel to their partner, and the amount of conflict (reverse coded) in the relationship. If partnership stage is conflated with quality, we would expect to find that: 1) levels of quality align with stage, where stable partnerships have the highest mean quality; 2) high quality partnerships are similarly associated with offending (regardless of the partnership stage); and 3) low quality partnerships are similarly associated with offending (regardless of partnership stage). Descriptive analyses demonstrated that, within marriages and cohabiting partnerships, quality is actually highest at the entry stage rather than stability stage, suggesting that partnership stages are not explained fully by relationship quality. In regression models (the equivalent of Table 4), we did not find evidence of points 2 and 3; instead, although high and low quality distinctions sometimes mattered *within* stage, these differences did not override distinctions *across* partnership stages of entry, stability, and dissolution.

To measure propensity toward delinquent behavior, we create a prior delinquency variable based on the same crime variety scale as our key dependent variable. It is the average of the respondent's score on this scale in the survey waves prior to the respondent's eighteenth birthday. To account for the idea that contact with the criminal justice system may be consequential above and beyond the propensity to offend, we include a dichotomous measure of whether the respondent experienced an arrest prior to his or her eighteenth birthday. To measure deviant peer relationships, we include a dichotomous measure indicating whether the respondent was in a gang before his or her eighteenth birthday, as well as a measure of the percent of peers that participated in a range of antisocial behaviors (gang membership, smoking, alcohol use, and drug use) from the 1997 survey. We also include the respondent's percentile score on the Peabody Individual Achievement Test (PIAT), and if that is missing, the Armed Services Vocational Aptitude Battery (ASVAB).

Methods

We employ two different analytic approaches to examine within-person associations between partnership stage and offending. One of our dependent variables, the crime variety scale, is a count of deviant behaviors and is overdispersed, meaning that the variance is greater than the mean. Because of these characteristics, it violates the core assumptions of ordinary least squares regression (Atkins and Gallop 2007). Consequently, we use negative binomial regression models, which are appropriate for overdispersed count outcomes, to test the association between partnership stage and levels of offending (Osgood 2000). Because we are interested in within-individual change, we would normally use a fixed effects model. But, in the case of negative binomial regression, Allison and Waterman (2002) have shown that the typical approach for estimating fixed effects models does not control for all time invariant characteristics (Allison 2005). We therefore employ a hybrid multilevel model that allows us to estimate within-person associations for time-varying characteristics and closely approximates a fixed effects model.

The negative binomial model is multilevel in that we allow for person-years to be nested within people and people to be nested in households, since slightly less than one quarter of respondents were siblings (Allison 2005).[7] The model is a mixed effects model that includes time-stable and time-varying measures. The time-stable variables are included in the mixed effects model as usual. But, for each time-varying variable, two variables are included in the model: the mean for each individual over time (the between-person association) and the deviation from the individual-level mean for each individual (the within-person association) (Allison 2005). In addition to controlling for unobserved time-invariant characteristics, the hybrid model also allows us to test whether fixed or random effects are more appropriate. In our case, the between and within coefficients for many of the partnership stages are different from one another, and the fixed effects associations are preferred (Allison 2005). Therefore, we report the within-person coefficients for time-varying variables in the models that follow.

Our second analytic approach uses a logistic regression model with individual fixed effects to estimate the dichotomous measure of whether or not a respondent committed a criminal

[7]To further address this clustering, we also include robust standard errors.

offense. The key advantage of this model is that it controls for all unobserved time-invariant factors, in addition to the time-varying observed factors, that may be associated both with partnership stage and the likelihood of criminal behavior.[8]

We use these two approaches—the hybrid negative binomial regression model and the fixed effects logistic regression model—to conduct three main analyses. First, we estimate associations between partnership status and offending using point-in-time estimates of cohabitation and marriage, in order to illustrate how conclusions about cohabitation and marriage depend on measurement timing. Second, we conduct analyses that distinguish among partnership stages for the full sample. Third, we conduct models separately for men and women, in order to investigate whether partnership stages are differentially associated with crime by gender.

Results

Descriptive Statistics

Table 1 provides descriptive statistics for the full sample, and for men and women separately, for analytic years 1998 to 2011. The mean score on the crime variety scale is approximately 0.23, indicating that 0.23 types of offenses are committed on average per year. The crime prevalence measure indicates that in approximately 14% of person years at least one criminal offense was committed. The large majority of the person-year sample is spent stably single (roughly 71% of person years), but a substantial share entered into a coresidential relationship, remained in a stable coresidential partnership, or exited a coresidential relationship. Six percent of person years entered into a cohabiting relationship, eight percent remained stably in a cohabiting relationship, and three percent experienced the dissolution of a cohabiting partnership. Three percent of person years entered into a marriage, eight percent remained stably in a marriage, and one percent experienced divorce. These rates illustrate that cohabiting partnerships involve more frequent transitions into and out of partnerships, as compared to marriages.

We see a number of key differences between men and women in criminal behavior and partnership stages. First, men engage in more criminal behavior; an average of 0.28 types of delinquent acts are committed per year among men compared to an average of 0.16 types of acts committed per year among women. 17% of person years among men include at least one offense compared to 11% of person years among women. Second, women are more likely to be partnered. Approximately 68% of person-years among women are spent stably single (compared to 73% of person years among men), about 15% are spent either entering into a cohabiting partnership or stably cohabiting (compared to 14% among men), roughly 12% are spent entering into marriage or stably married (compared to 9% for men), and approximately 5% of person-years among women experience the dissolution of a coresidential partnership (compared to 4% among men).

[8]In the logistic regression model with fixed effects, we are unable to account for the fact that some of the respondents are siblings, since the model is not multilevel and since we cannot cluster the standard errors. As a result, we checked the robustness of these results by employing a multilevel logistic regression model, adopting the same approach we did for the negative binomial model. The results from this approach were substantially similar to the findings estimated by the fixed effects model.

In addition to Table 1, we also present descriptive statistics for partnerships at the individual level. As Table 2 shows, nearly all individuals spent some time as stably single (94%). In terms of partnership entry, more than one-quarter of individuals entered into a cohabiting partnership (28%) and approximately 16% entered into a marriage (either from a cohabiting relationship or from being single). A small number of individuals (4%) experienced divorce, while a larger number experienced the dissolution of a cohabiting partnership (14%). On average, individuals experienced 0.47 partnerships over the analytic period. The average time (per cohabiting partnership) spent cohabiting was 2 years; among marital partnerships, the average time spent married was 3 years. Overall, these descriptive statistics point to higher rates of formation and dissolution among cohabiting partnerships, as compared to marriages.

Regression Results

We begin our multivariate analysis by documenting how our understanding of the protective associations of cohabitation and marriage varies when using lagged measures of relationship status compared to contemporaneous measures (see Table 3). To ease interpretation in this Table and moving forward, we describe the coefficients reported in the negative binomial regression analyses as incidence rate ratios[9] (allowing us to interpret coefficients in terms of percent increases or decreases) and as odds ratios in the logistic regression analyses.

Model A presents results estimating the association between a lagged measure of relationship status and the crime variety scale. Using the lagged measure, both cohabitation and marriage are associated with reductions in offending. Specifically, being in a cohabiting partnership is associated with an 11% reduction in the number of different types of delinquent acts committed compared to being single, while marriage is associated with a 36% reduction; these estimates are significantly different from one another.[10] Model B estimates the associations using contemporaneous measures of cohabitation and marriage. Using the contemporaneous version, the protective associations of both cohabitation and marriage are substantively larger compared to the lagged version. In the case of cohabitation, the coefficient is more than twice as large in the contemporaneous model, while for marriage the coefficient is approximately 50% larger.

The implications of using lagged or contemporaneous measures of partnership status are even more apparent in the models predicting any criminal offending. Model C presents estimates of the association between a lagged measure of partnership status and any criminal offending. These results suggest that marriage is associated with a reduction in the odds of committing an offense, but cohabitation is not significantly associated. These results stand in contrast to the estimates of Model D, which uses a contemporaneous version of relationship status to predict any crime. In Model D, cohabitation and marriage are both significantly and negatively related to crime. Overall, the results show that using different specifications of the cohabitation measure—lagged or contemporaneous—would lead researchers to draw very different substantive conclusions, in which cohabitation is either not associated (e.g., lagged

[9]When the coefficient is greater than 0, the incident rate ratio is calculated as: exp(coefficient)-1. When the coefficient is less than 0, the incident rate ratio is calculated as: 1-exp(coefficient).
[10]This was determined by making cohabitation the reference group.

measure) or is associated (e.g., contemporaneous measure) with reduced odds of committing an offense. In other words, the results suggest that the biases associated with each point-in-time measurement approach, and specifically the protective associations for recently formed and recently dissolved partnerships, are not similar (which the results below will also demonstrate). Despite these differences, both point-in-time measurement approaches underestimate the protective associations of stable cohabitating partnerships.

Next, in this second analytic stage, we more precisely estimate protective associations of partnerships by examining associations between partnership stage—entry, stability, and dissolution—and criminal offending. Model A in Table 4 presents estimates from the negative binomial regression model, which examines how changes in partnership stage are associated with changes in the crime variety scale. There are several key findings. First, across partnership stages, marriage and cohabitation are negatively associated with the crime variety scale, although the protective associations are larger for marital stages. Second, for cohabitation and marriage, partnership entry and partnership stability—but not partnership dissolution—are significantly related to reductions in offending relative to being stably single. Third, there are substantial differences related to entry and stability of the partnership. Specifically, when an individual enters into cohabitation from being single he/she commits 13% fewer delinquent acts than when he/she was stably single, while stable cohabitation is associated with a reduction in delinquent acts of 29%. These associations are significantly different (denoted by the (a) in Table 4),[11] which suggests that stably cohabiting partnerships are more consequential to declines in offending compared to recently formed cohabiting partnerships. This pattern is also evident among marriages, where being stably married is most negatively related to offending and is significantly different from recently formed marriages. Specifically, entering into marriage from being single is associated with reductions in the crime variety scale of 35%, on average, while being stably married is associated with reductions of 55% relative to being stably single.[12] Fourth, there is a large and negative association between moving from cohabitation to marriage (relative to being single) and the number of delinquent acts; entering into marriage from a cohabiting relationship is associated with a 44% reduction in the variety scale and is not significantly different from being stably married.

Model B in Table 4 present results from the logistic regression model, which predicts the binary version of the crime measure. Generally, the results from these analyses are consistent with those from Model A, with a few exceptions. First, individuals who enter into a cohabiting partnership are not significantly less likely to commit an offense than when they were stably single. This is mostly due to less precise estimation (larger standard errors) in the logistic models rather than differences in the magnitude of coefficients. Second,

[11]This was determined by changing the reference group in the analyses to stable cohabitation.

[12]We also conducted additional analyses to examine whether associations by partnership stage differed depending on the presence or absence of children (as opposed to simply including a control for children in the models). Prior work indicates that the combined presence of marriage and children (“full family package”) has a greater protective association than marriage alone, particularly among men (Zoutewelle-Terovan 2014). In our models we found little consistent evidence of a family package effect across stages. In the logistic regression specification for women, we find suggestive evidence that divorce is more negatively associated with offending when children are present ($b = -0.660$, p-value <0.05 with children compared to $b = -0.507$, p-value=n.s. without children), although these coefficients are not different from one another and we found no evidence of similar potential differences in the negative binomial specification.

individuals in stable marriages are not significantly less likely to commit an offense than when they entered a marriage from being single. Although not significant, the difference in the magnitudes of these coefficients is substantively large: the coefficient for the stably married stage is still about 40% larger compared to the coefficient for the single to married stage in the logistic specification.

Finally, in the third analytic stage, we examine whether the associations between partnership stage and offending differ for men and women (see Table 5). The overall patterns are quite similar across gender. In the crime variety models, none of the coefficients are statistically different from each other *across* men and women, according to tests of equality of coefficients (Paternoster et al. 1998). However, there are a few differences *within* gender. First, recently formed cohabiting partnerships are protective (compared to being stably single) for men but not for women. Similarly, recently formed cohabiting partnerships are significantly less protective than stable cohabiting partnerships for women only. Second, moving from cohabitation to marriage is significantly less protective than stable marriage for men only. Third, entry into a cohabiting partnership is significantly more protective than the dissolution of a cohabiting partnership for men only. These findings are consistent with our expectations, given the literature on cohabitation and gender. If women are more likely to see recently formed cohabitations as less committed partnerships, in relation to marriage, protective associations are likely only evident among cohabiting relationships that show greater commitment—e.g., have lasted for at least one year or that transition to marriage. One final difference is that the single to married stage is associated with significant reductions in offending for men only. However, this gender difference should be interpreted cautiously as the coefficient for women is only just below conventional levels of statistical significance (p-value=0.052).

For models that predict any offending (Models C and D in Table 5), the results exploring differences by gender are largely similar to those discussed above, with the exception of three findings. First, moving from cohabiting to married is not protective for men. Specifically, the cohabiting to married stage is not significantly more protective than being stably single, and it is significantly less protective compared to being stably married. Moreover, this association is statistically different between men and women ($b = -0.169$ for men compared to $b = -1.169$ for women) (Paternoster et al. 1998). Given the significant associations we observe for stages involving cohabitation and marriage, it is surprising that the cohabiting to married stage is not significantly different from the stably single stage among men. However, we suggest that the lack of significance in the logit model should be interpreted cautiously for two reasons. First, in the negative binomial model (Model A in Table 5), which predicts the crime variety scale, the cohabiting to married stage is significantly protective compared to the stably single stage among men. Second, in the logit model (Model C), the coefficient for cohabiting to married has a comparatively large standard error, suggesting that it is imprecisely estimated.

A second finding specific to the logit model is that experiencing divorce is protective for women. Women who experience divorce are significantly less likely to commit an offense than when they are stably single. This protective association of divorce among women is also significantly different from the association among men ($b = -0.625$ for women

compared to $b = 0.230$ for men) (Paternoster et al. 1998). Moreover, for women (not men) there are not significant differences in the likelihood of offending when moving to divorce as compared to being stably married or entering marriage from a cohabiting partnership. These findings suggest that there are enduring protective associations of marriage when predicting the likelihood of any offending among women. A third finding specific to the logit model is that women who transition from being single to married have significantly reduced odds of committing a criminal offense compared to when they are stably single. As was the case with the negative binomial estimates, the coefficient estimates are statistically similar across men and women.

Additional Analyses

As discussed in the Data, Measures, and Methods section above, one limitation of the NLSY97 is that it oversamples criminally involved respondents in later years due to a skip pattern in the offending questions. Through 2003, the criminal offending questions were asked to all respondents in the nationally representative sample. However, beginning in 2004, the questions were restricted to respondents who reported having been ever arrested and to an additional group of approximately 10% of respondents who had not reported an arrest. In this section, we report results (not shown, but available upon request) that assess the implications of the skip pattern. To do this, we replicate the previous analyses using a sample limited to 1998 to 2003. This approach provides us with some insight on this issue; however, the sample through 2003 is younger than the full sample and there are fewer cases in each partnership stage, which limits our statistical power.

Despite these differences between the two samples, the pattern of results is generally similar. In the main partnership stage analyses (the equivalent of Table 4), there is one minor difference: the dissolution of cohabiting partnerships is associated with an increase in the likelihood of committing a criminal offense ($b = 0.317$, p-value =0.025). In the full sample, the coefficient was also positive but it was not quite statistically significant ($b = 0.174$, p-value =0.059).

When we differentiate by gender (the equivalent of Table 5), we see a few more differences. Most notably, in the model predicting any crime, the coefficients for the “single to cohabiting” stage are significantly different across gender (in the full sample this was not the case, although the coefficient was statistically different from “stable single” for men only) and the coefficients for divorce are no longer statistically different across gender. In the case of divorce, this appears to be due to reduced statistical power since the magnitude of the difference in coefficients is actually slightly larger in the reduced sample ($b = -1.069$ compared to $b = -0.855$).

Additionally, for women, in the crime variety model (the equivalent of Model B), two marital stages—”single to married” and “divorced”— are associated with reductions in offending ($b = -0.706$, p-value = 0.002 and $b = -0.546$, p-value = 0.046, respectively). In the full sample, both coefficients were negative, but not statistically significant ($b = -0.353$, p-value = 0.052 and $b = -0.266$, p-value = 0.210). In the logistic regression model (the equivalent of Model D), the association between any offending and the stage “cohabiting to single” is positive and significant for women in the reduced sample ($b = 0.524$, p-value =

0.007). In the full sample, the association was positive but not statistically significant (b =0.218, p-value = 0.120).

For men, the patterns are quite similar in the reduced and full samples. In the case of the stably cohabiting (negative binomial and logistic) and cohabiting to married (negative binomial) stages, the coefficients in the reduced sample did not reach statistical significance. However, these coefficients were similar or greater in magnitude (compared to the full sample) suggesting these differences are due to reduced statistical power.

Discussion

In response to the increasing prevalence of cohabitation in the United States, a small but growing literature has examined whether cohabitation is protective against crime, and if so, how its negative association compares to marriage. Prior findings regarding cohabitation have been mixed; a result that we suggest may be partly due to decisions regarding the conceptualization and modeling of cohabitation and marriage as point-in-time measures. We proposed in this paper that marriage and cohabitation should be considered as partnership stages of entry, stability, and exit. Considering partnership stages, as opposed to point-in-time estimates, is especially consequential for estimating protective associations of cohabitation, which is characterized by higher rates of entry and dissolution compared to marriage. Using this approach with recent longitudinal survey data for the United States, the results suggest three main conclusions that move forward scholarship on marriage, cohabitation, and crime.

First, we show that typical modeling decisions—and specifically, the use of lagged and contemporaneous measures—are consequential for determining partnerships' protective associations for offending. For cohabitation, lagged measures suggest that cohabitation has little to no protective association, while contemporaneous measures estimate negative associations (although they are smaller compared to estimates for stable cohabitation). Although both point-in-time approaches involve downward bias that attenuates estimates (compared to measures of stable partnerships), differences between these two measures suggest that bias is most consequential for lagged measures.

Second, we find that certain types of cohabitations and marriages do protect against criminal behavior, when measured as partnership stages of entry, stability, and exit. Specifically, entry into marriage or cohabitation is associated with reductions in offending (in the case of cohabitation this is only true for levels of offending), but the largest reductions are found in stable partnerships lasting at least one year. These protective associations do not tend to endure after dissolution for the sample overall (also see Bersani and Doherty 2013; Larson et al. 2016). Distinguishing these differences by stages, and specifically, documenting that the largest protective associations are among stable partnerships, addresses several ongoing debates in the literature. Mainly, the findings suggest that the protective associations of marriage and cohabitation are not driven exclusively by declines in offending at partnership entry (also known as the "courtship" period) nor are they simply an artifact of selection into marriage or cohabitation that occurs prior to partnership formation. Rather, because the protective associations are most consequential among marriages and cohabitations that are

stable, the findings suggest that marriage and cohabitation involve investment processes that are most evident among stable partnerships (Laub et al. 1998).

Third, in considering differences between men and women, we find similar associations across groups, with three important exceptions. First, recently formed cohabiting partnerships, but not stable partnerships, appear to be less consequential for women compared to men. This pattern of findings aligns with some prior research suggesting that women view newly formed cohabitations as less significant until they are provided with signs of greater commitment (such as partnership stability) (Huang et al. 2011). Second, we find that the cohabiting to married stage is significantly more protective for women than men, a finding that is also consistent with the idea that stable relationships are particularly important for women.

Lastly, we find some evidence, particularly for dichotomous crime measures, of an enduring protective association of marriage among women. In contrast to men, women experience decreased odds of offending when experiencing divorce as compared to their odds of offending when single. Although speculative, evidence of an enduring association among women indicates that men and women experience different protective benefits of partnerships. Specifically, among women, marriage may enact transformations that are longer lasting, such as increased feelings of societal attachment or altered self-conceptions, as opposed to changes that are purely situational, such as greater social control and supervision over routine activities. The enduring protective association may also be related to the presence of children and women's caregiving roles after marriage. Indeed, we found suggestive evidence (in additional analyses, see footnote 12) that indicates motherhood may be a salient turning point towards desistance among divorced women (Kreager, Matsueda, and Erosheva 2010, but see Zoutelwelle-Terovan et al. 2014). Although some might expect that divorce in the presence of children would take a negative toll on women, by decreasing their income and straining their ability to financially provide for their children, these additional analyses suggest that motherhood may be protective enough to offset any strains associated with divorce and caregiving.

Taking together all of these findings about differential associations between crime and partnership stage among men and women, future research that investigates potential gender differences regarding the meaning and significance of cohabitation, marriage, partnership transitions, parenthood, and the interaction of these different statuses is warranted.

The contributions of these findings must be considered alongside their limitations. First, the findings are based on observational data. Despite the use of within-person change models, we cannot eliminate the possibility that time-varying, unobserved factors account for both partnership stage and offending. One possible factor is relationship quality. Data limitations prevent us from fully examining how relationship quality influences offending throughout partnership stages of entry, stability, and dissolution; however, exploratory descriptive and regression analyses provide suggestive evidence that our results are not driven by differences in relationship quality across stages (see footnote 6). Future research directly examining relationship quality and partnership stage is needed. Second, we are unable to test mechanisms (beyond our suggestive analyses about relationship quality) that explain the

protective associations of partnership stages. Future scholarship might focus on identifying why cohabitation and marriage vary depending on partnership stage, for example, by examining mediating factors, such as changes in feelings about social bonds and attachments, identity transformation, changes in informal social controls, and differences in time spent with peers.

Notwithstanding these issues, this paper is one of the few studies to use recent longitudinal U.S. survey data to examine the protective role of both marriage and cohabitation for offending. The need for contemporary work on cohabitation is particularly important, since the prevalence, nature, and definition of cohabitation in the U.S. has been changing. Previous research has found little evidence that cohabiting partnerships, on average, are able to provide the protective benefits against offending that are offered by marriage. Based on this research, scholars have suggested that recent declines in crime may not hold in the future as marriage becomes less prevalent among those groups most at risk of offending (Benson 2013; Siennick et al. 2014). Our results both support and challenge this contention. In support, we find smaller protective associations for cohabitation than marriage. Moreover, given the greater risk of dissolution among cohabiting partnerships, the finding that cohabiting partnerships are no longer protective once they dissolve is cause for concern. On the other hand, however, our results suggest that some of this concern is misplaced: cohabitation is protective against offending, and importantly, the association is particularly strong when partnerships are stable. Given our findings, we anticipate that the trend towards greater cohabitation will have important, yet complex, implications for offending in the future.

Acknowledgements:

The authors would like to thank Jonathan Brauer, and *Justice Quarterly* Editors and Anonymous Reviewers for thoughtful comments on earlier versions of this manuscript. We would also like to thank Germán Rodriguez for statistical advice and Dawn Koffman for programming advice. The authors also thank the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health for supporting this research under award no. P2CHD047879.

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TABLE 1:

Descriptive information, by person year

	Full sample		Men		Women	
	Mean/%	**SD**	**Mean/%**	**SD**	**Mean/%**	**SD**
Crime variety scale (count)	0.226	0.669	0.282	0.760	0.158	0.533
Any crime (binary)	14.380		17.270		10.920	
Partnership stage						
Stably single	70.670		73.010		67.860	
Single to cohabiting	6.250		5.830		6.760	
Stably cohabiting	8.060		7.890		8.260	
Cohabiting to single	3.290		3.080		3.540	
Cohabiting to married	1.320		1.180		1.500	
Single to married	1.830		1.540		2.180	
Stably married	7.660		6.760		8.750	
Married to divorced	0.910		0.710		1.150	
Time-varying covariates						
Age	21.801	3.489	22.123	3.598	21.414	3.313
Number of children	0.455	0.874	0.383	0.818	0.541	0.930
Number of weeks worked	31.587	20.176	31.870	20.236	31.248	20.098
School	34.530		30.030		39.930	
Military	2.300		3.510		0.850	
Education attainment (in years)	12.087	2.088	11.934	2.097	12.270	2.062
Urban residence	78.660		78.160		79.250	
Time-stable covariates						
Male	54.570		100.000		0.000	
Race/ethnicity						
Non-Hispanic White	48.550		48.940		48.090	
Non-Hispanic Black	27.070		26.670		27.550	
Hispanic	20.790		20.980		20.560	
Other	3.590		3.410		3.800	
Citizen	96.230		96.460		95.960	
Lived with both parents growing up	46.680		48.140		44.910	
Parent's education attainment						
Less than HS	17.140		17.450		16.760	
High school	34.140		34.070		34.230	
Some college	25.120		24.350		26.040	
College	23.600		24.120		22.970	
Received public assistance growing up	46.260		45.190		47.550	
Youth delinquency	0.943	1.192	1.161	1.308	0.682	0.972
Youth arrest	20.500		25.920		14.000	
Youth gang membership	6.230		8.610		3.370	
Youth peer delinquency	2.273	0.98	2.172	0.96	2.395	0.989

	Full sample		Men		Women	
	Mean/%	**SD**	**Mean/%**	**SD**	**Mean/%**	**SD**
PIAT score	42.932	29.783	42.067	30.160	43.967	29.291
N (person-years)	45,648		24,908		20,740	

Note: Descriptive statistics are based on non-imputed data. Person-years are calculated as number of person-years with complete crime and relationship status data.

TABLE 2:

Partnership descriptives, by person

	Full sample		Men		Women	
	Mean/%	**SD**	**Mean/%**	**SD**	**Mean/%**	**SD**
Partnership stage (ever experienced)						
Stably single	93.937		96.429		91.334	
Single to cohabiting	27.690		26.982		28.430	
Stably cohabiting	18.484		18.479		18.488	
Cohabiting to single	14.469		14.355		14.588	
Cohabiting to married	6.981		6.659		7.318	
Single to married	9.301		8.364		10.279	
Stably married	13.939		13.249		14.661	
Married to divorced	4.344		3.641		5.079	
Average number of partnerships	0.468	0.727	0.453	0.727	0.483	0.728
Average duration of partnerships						
Cohabitation	2.091	1.521	2.156	1.595	2.027	1.442
Marriage	3.012	2.055	3.082	2.054	2.950	2.055
N (people)	8,494		4,340		4,154	

Notes: Partnerships at entry or dissolution are treated as having a length of one year for duration estimates.

TABLE 3:

Lagged and contemporaneous measures of partnership status predicting crime

	Crime variety scale						Any crime					
	Model A Lagged			Model B Contemporaneous			Model C Lagged			Model D Contemporaneous		
	Coef.	SE		Coef.	SE		Coef.	SE		Coef.	SE	
Partnership status (ref=single): lagged												
Cohabiting	−0.116	(0.050)	*				−0.087	(0.064)				
Married	−0.454	(0.096)	***				−0.526	(0.106)	***			
Partnership status (ref=single): contemporaneous												
Cohabiting				−0.234	(0.044)	***				−0.241	(0.060)	***
Married				−0.655	(0.082)	***				−0.737	(0.097)	***
Time-varying covariates												
Age	−0.181	(0.009)	***	−0.175	(0.009)	***	−0.234	(0.009)	***	−0.228	(0.009)	***
Number of children	0.012	(0.038)		0.015	(0.037)		0.029	(0.043)		0.032	(0.043)	
Number of weeks worked	−0.004	(0.001)	***	−0.004	(0.001)	***	−0.005	(0.001)	***	−0.005	(0.001)	***
School	0.048	(0.040)		0.035	(0.040)		0.064	(0.054)		0.049	(0.054)	
Military	−0.692	(0.165)	***	−0.670	(0.164)	***	−0.861	(0.186)	***	−0.843	(0.187)	***
Education attainment (in years)	−0.059	(0.020)	**	−0.058	(0.020)	**	−0.112	(0.026)	***	−0.111	(0.026)	***
Urban residence	−0.077	(0.058)		−0.064	(0.058)		−0.005	(0.071)		0.016	(0.071)	
Time-stable covariates												
Male	0.377	(0.048)	***	0.373	(0.048)	***						
Race/ethnicity (ref=Non-Hispanic White)												
Non-Hispanic Black	−0.037	(0.060)		−0.042	(0.060)							
Hispanic	−0.032	(0.066)		−0.031	(0.066)							
Other	−0.051	(0.119)		−0.055	(0.119)							
Citizen	0.291	(0.147)	*	0.286	(0.148)							
Lived with both parents growing up	−0.085	(0.048)		−0.082	(0.048)							
Parent's education attainment (ref = less than HS)												
High school	−0.055	(0.068)		−0.057	(0.068)							
Some college	0.073	(0.072)		0.071	(0.072)							
College	0.085	(0.078)		0.082	(0.078)							

	Crime variety scale						Any crime			
	Model A Lagged			Model B Contemporaneous			Model C Lagged		Model D Contemporaneous	
	Coef.	SE		Coef.	SE		Coef.	SE	Coef.	SE
Received public assistance while growing up	0.040	(0.046)		0.044	(0.046)					
Youth delinquency	0.517	(0.019)	***	0.517	(0.019)	***				
Youth arrest	0.139	(0.055)	*	0.136	(0.055)	*				
Youth gang membership	0.197	(0.082)	*	0.195	(0.082)	*				
Youth peer delinquency	0.018	(0.024)		0.019	(0.024)					
PIAT score	0.005	(0.001)	***	0.005	(0.001)	***				
Constant	−2.143	(0.317)	***	−2.060	(0.316)	***				
N (Person-years)	45,748			45,748			20,777		20,777	

Note: p-value is

*
<0.05

**
<0.01, and

***
<0.001; Models A and B use negative binomial models to predict the crime variety scale. Models C and D use fixed effects logit models to predict any crime.

TABLE 4:

Models predicting crime, by partnership stage

	Model A			Model B		
	Crime variety scale			Any crime		
	Coef.	SE		Coef.	SE	
Partnership stage (ref=stably single)						
Single to cohabiting	−0.136	(0.052)	**a	−0.120	(0.074)	a
Stably cohabiting	−0.349	(0.069)	***	−0.328	(0.086)	***
Cohabiting to single	0.084	(0.064)	abcde	0.174	(0.092)	abcde
Cohabiting to married	−0.586	(0.147)	***b	−0.575	(0.188)	**b
Single to married	−0.427	(0.130)	**bc	−0.585	(0.167)	***b
Stably married	−0.791	(0.110)	***ab	−0.843	(0.124)	***ab
Married to divorced	−0.075	(0.145)	cd	−0.227	(0.193)	c
Time-varying covariates						
Age	−0.174	(0.009)	***	−0.228	(0.009)	***
Number of children	0.027	(0.037)		0.045	(0.043)	
Number of weeks worked	−0.004	(0.001)	***	−0.005	(0.001)	***
School	0.039	(0.040)		0.056	(0.054)	
Military	−0.669	(0.164)	***	−0.843	(0.187)	***
Education attainment (in years)	−0.059	(0.020)	**	−0.112	(0.026)	***
Urban residence	−0.067	(0.057)		0.013	(0.071)	
Time-stable covariates						
Male	0.396	(0.048)	***			
Race/ethnicity (ref=Non-Hispanic White)						
Non-Hispanic Black	−0.031	(0.060)				
Hispanic	−0.008	(0.066)				
Other	−0.061	(0.119)				
Citizen	0.279	(0.147)				
Lived with both parents growing up	−0.076	(0.047)				
Parent's education attainment (ref = less than HS)						
High school	−0.057	(0.069)				

	Model A Crime variety scale			Model B Any crime	
	Coef.	SE		Coef.	SE
Some college	0.080	(0.073)			
College	0.090	(0.079)			
Received public assistance while growing up	0.040	(0.046)			
Youth delinquency	0.513	(0.019)	***		
Youth arrest	0.131	(0.055)	*		
Youth gang membership	0.192	(0.082)	*		
Youth peer delinquency	0.013	(0.024)			
PIAT score	0.005	(0.001)	***		
Constant	−2.166	(0.319)	***		
N (Person-years)	45,748			20,777	

Note: p-value is

*<0.05

**<0.01, and

***<0.001; Model A uses a negative binomial model to predict the crime variety scale. Model B uses a fixed effects logit model to predict any crime.

a=Significantly different from stably cohabiting

b=Significantly different from single to cohabiting

c=Signficantly different from stably married

d=Significantly different from cohabiting to married

e=Significantly different from single to married

TABLE 5:

Models predicting crime, by partnership stage and gender

	Crime variety scale						Any crime					
	Model A			Model B			Model C			Model D		
	Men			Women			Men			Women		
	Coef.	SE		Coef.	SE		Coef.	SE		Coef.	SE	
Partnership stage (ref=stably single)												
Single to cohabiting	−0.169	(0.067)	*	−0.088	(0.082)	a	−0.198	(0.098)	*	−0.013	(0.113)	a
Stably cohabiting	−0.311	(0.090)	**	−0.403	(0.107)	***	−0.284	(0.111)	*	−0.388	(0.139)	**
Cohabiting to single	0.083	(0.085)	abcde	0.093	(0.096)	acde	0.144	(0.123)	abce	0.218	(0.140)	acdef
Cohabiting to married	−0.389	(0.186)	*c	−0.850	(0.233)	***b	−0.169	(0.236)	c	−1.169	(0.316)	***abm
Single to married	−0.501	(0.189)	**	−0.353	(0.182)		−0.628	(0.235)	**	−0.541	(0.241)	*b
Stably married	−0.818	(0.146)	***ab	−0.755	(0.171)	***b	−0.816	(0.166)	***ab	−0.889	(0.189)	***ab
Married to divorced	0.141	(0.193)	acde	−0.266	(0.212)	cd	0.230	(0.275)	ce	−0.625	(0.268)	*bm
N (Person-years)	24,955			20,793			13,194			7,583		

Note: p-value is

* <0.05

** <0.01, and

*** <0.001; Models A and B use negative binomial models to predict the crime variety scale. Models C and D use fixed effects logit models to predict any crime. Controls include: age, number of children, number of weeks worked, school, military, education attainment, urban residence, male, race/ethnicity, citizen, lived with both parents growing up, parent's education attainment, received public assistance growing up, youth delinquency, youth arrest, youth gang membership, youth peer delinquency, and PIAT score.

a=Significantly different from stably cohabiting

b=Significantly different from single to cohabiting

c=Significantly different from stably married

d=Significantly different from cohabiting to married

e=Significantly different from single to married

f=significantly different from divorce

m=male significantly different from female