FAMILY STRUCTURE AND FATHERS' WELL-BEING:

TRAJECTORIES OF SELF-RATED AND MENTAL HEALTH[*]

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March 3, 2008

Key Words:  family structure, marriage, health, fathers
Running Head:  Family Structure Change and Fathers' Health
Word Count**:**  10,390
Number of Tables: 4
Number of Figures: 0

**Family Structure and Fathers' Well-Being: Trajectories of Self-Rated and Mental Health**

Abstract

A vast literature has assessed the association between marital status and health among men, but very little has tracked health trajectories following family structure transitions among unmarried fathers. Using data from the *Fragile Families and Child Well-Being Study* this paper examines trajectories of paternal self-rated and mental health, specifically focusing on transitions into and out of residential relationships with the child's biological mother or a new partner during a five-year post-birth period (N = 4,331). Continuously married fathers report higher time-specific observed self-rated health and fewer mental health problems than continuously single fathers, controlling for underlying health trajectories. The disparity, however, does not increase over time, providing little support for the marital resource model during these years. Results from mental health provide more support for the resource model than those from self-rated health. The implications of these findings for cohabitation, as well as selection and causation arguments are also discussed.

Decades of research have shown a positive association between marriage and health and a negative association between marital dissolution and health (see Waite 1995). Marriage promotes social integration, encourages reciprocal caretaking, and provides intimate, emotional support (Gove, Hughes, and Style 1983; House, Landis, and Umberson 1988) whereas divorce negates these benefits and increases levels of stress (Gove and Shin 1989; Lillard and Waite 1995). These associations have been cited in both cross-sectional and longitudinal studies (see Peters and Liefbroer 1997) and, even though the distinction between parents and non-parents is rarely an explicit focus, they appear to hold for parents as well as childless adults. While prevalence rates of alternate relationship forms, such as cohabitation, have increased in recent decades (Heuveline and Timberlake 2004), marriage is still recognized as the primary social institution responsible for family well-being and is thus the focus of most existing literature.

In conjunction with the increase in cohabiting relationships the United States has seen a dramatic increase in non-marital child bearing. In 1970 roughly eleven percent of all births in occurred to non-married couples (Ventura and Bachrach 2000). By 2003 that percentage had increased to 35 (Martin et al. 2005). Although a great deal is known about consequences of nonmarital childbearing for maternal and child wellbeing (Wu and Wolfe 2001), less is known about how unmarried fathers fare after the birth of a child. Likewise, existing research has not fully explored the long-term connection between family structure changes and paternal health.

The association between family structure and paternal health is important for a number of reasons. First, unmarried fathers are disproportionately drawn from minority and less educated populations (Teachman, Tedrow, and Crowder 2000), making this issue relevant to sociologists concerned with health disparities. Second, unmarried fathers are likely to experience multiple family structure changes, including cohabitation, over the course of their adult lives (Carlson,

McLanahan, and England 2004; Meadows, McLanahan, and Brooks-Gunn forthcoming) making this issue relevant to sociologists interested in stress and mental health. And finally, understanding the impact of family structure change on paternal health may illuminate possible health benefits that may arise from the healthy marriage and fatherhood initiatives recently funded by Congress (see Future of Children 2005).

This paper uses data from the *Fragile Families and Child Wellbeing Study* (FFCWS) to examine the links between family structure change and paternal self-rated and mental health among fathers who have recently had a child, with an emphasis on men who experience a nonmarital birth. The FFCWS is based on a stratified, multi-stage, probability sample of approximately 5,000 births in large cities and includes a large over-sample of nonmarital births. Parents and children are followed from birth until the child is age five. Over-sampling of nonmarital births enables differentiation between different types of unmarried fathers, including those who are cohabiting, as well as different types of union transitions, including transitions out of cohabiting relationships and transitions into marriages. The analyses use latent growth curve models to compare the health of different groups of unmarried fathers to those of married fathers and to test several hypotheses about the long-term costs and benefits associated with different types of unions and family structure transitions.

**BACKGROUND**

*Marriage and Health*

The health benefits associated with marriage including higher self-rated health (Williams and Umberson 2004), reduced mortality rates (Rogers 1995), lower rates of chronic illness and physical disability (Pienta, Hayward, and Jenkins 2000), and better mental health (Marks and Lambert 1998).  Classic sociological theory indicates that marriage is an important social

institution with well understood norms and obligations (Durkheim 1897).  More recent theoretical work has cited reciprocal caretaking promoted by the institution of marriage as the reason for its protective effects (Gove, Hughes, and Style 1983).  Partners attend to one another's health and well-being by monitoring health behaviors (Umberson 1987; Laub, Nagin, and Sampson 1998) and providing intimate, emotional support (Peters and Liefbroer 1997), in part, because each partner expects to individually gain from a healthy union.

The extent to which the benefits of marriage extend to cohabiting unions is not entirely clear (Manning and Smock 2002). Insofar as cohabitation is an "incomplete institution" characterized by less commitment (Nock 1995; Rindfuss and VandenHeuvel 1990), any health benefits associated with this union type may be less protective.  Further, because cohabiting unions are also characterized by higher rates of mental illness (DeKlyen et al. 2006) and drug and alcohol abuse and violence, health monitoring benefits may not hold (Kenney and McLanahan 2006). The few studies that have investigated whether similar benefits exist for cohabitation suggest that cohabiting couples fall somewhere between married couples and single individuals in terms of well-being, especially mental health (Ross 1995).  Cohabiting individuals frequently report higher levels of depression (Brown 2000) as well as more alcohol problems (Horwitz and White 1998) than their married counterparts.

Related research suggests that transitions into marriage are more protective of health than transitions into cohabitation (Willitts, Benzeval, and Stansfeld 2004; but see Wu et al. for conflicting results). Horwitz and White (1998) find significant but smaller mental health benefits among couples who entered a cohabiting union, whereas both Brown (2000), and Kim and McKenry (2002) find no improvement in psychological well-being among couples once they began cohabiting.  And at least one study has found that married men, but not women, have

lower depressive symptom scores than their cohabiting counterparts (Brown, Bulanda, and Lee 2005; although see Willitts et al. 2004 for contrary findings). Together these studies suggest that cohabitation, although similar in many ways, is not as salubrious as marriage, perhaps reflecting instability of cohabiting relationships (Brown 2000).

Just as marriage and, to a lesser degree, cohabitation appear to provide adults with a number of physical and mental health benefits, exiting such unions have negative consequences for health and well-being (Aseltine and Kessler 1993; Hemström 1996).  Divorce has been linked to a higher risk of mortality (in men only, Zick and Smith 1991; Lillard and Waite 1995), poor health behaviors (Lee et al. 2005), increased mental health problems (Barrett 2000; Simon and Marcussen 1999), and increased poverty (especially among women, Holden and Smock 1991; but also among men, McManus and DiPrete 2001).  Somewhat surprisingly, little research has investigated the health consequences of union dissolution among cohabiting couples. Some research suggests that exits from marriage and cohabitation result in similar decreases in functional and self-rated health but not in mental health (Wu and Hart 2002).  However, exiting a cohabiting relationship may actually be *more* detrimental for health than divorce.  Insofar as cohabiting couples have lower socioeconomic status, earnings, and levels of education than married couples (Manning and Lichter 1996), ending these relationships may have more severe consequences for financial well-being than ending a marriage (Avellar and Smock 2005). Similarly, because individuals in cohabiting relationships frequently have worse mental health than their married counterparts (DeKlyen et al. 2006), the exit of a partner may signify the loss of a key piece of social support resulting in an even greater negative impact on mental health.

***Men, Marriage, and Health***

The health benefits associated with marriage and the consequences of union dissolution are today generally understood as gender-neutral.[1] That is, well-being among both men and women are positively affected by marriage and negatively affected by divorce or separation.  Yet the manifestation of, and mechanisms leading to, these costs and benefits are often *not* the same for men and women (Simon 2002; Waite 1995; Williams 2003).  For men, the most implicated mechanism in this research is monitoring of health behaviors (Umberson 1987; 1992).  Further, married men have also been found to have more proactive health *beliefs* than single men and these health beliefs are directly related to actual health behaviors and ultimately to health outcomes (Markey et al. 2005).  Men are also likely to list a spouse as the main source of social support (Phillipson 1997), suggesting that men derive additional psychological benefits from marriage (Aneshensel et al. 1991; Kessler and McRae 1984; Menaghan 1989).  In general, men receive more instrumental support from relationships, such as the aforementioned regulation of health behaviors (Umberson et al. 1996).  Union dissolution, then, may result in declines in mental and physical health via the loss of social monitoring, promotion of health behaviors, and emotional support from intimate partners.

### *Family Structure Change and Trajectories of Well-Being*

The marital resource model suggests that the benefits associated with marriage accumulate the longer an individual remains in that status (see Ross and Wu 1996).  This approach focuses on the long-term, cumulative association between a particular marital *status* that results from a family structure change.  Individuals who divorce face the risk of accumulating resource deficits over time. Role theory argues that certain roles are associated with chronic strain, consistent with the accumulation argument (Pearlin 1999).  Moreover, the strains associated with divorce may spill over into other life domains (i.e., financial, work, social

relationships), exacerbating the negative effect of union dissolution on well-being (Pearlin et al. 1981). The result is a growing disparity between the continuously married and individuals who divorce with the greatest disparity in well-being occurring between the continuously married and the continuously single. It is not clear, however, if the same disparity will appear between the continuously cohabiting and the continuously single or individuals who exit cohabiting unions.

Given that previous research has pointed to social support and behavior monitoring as important mechanisms through which marriage may influence men's health one might expect the long-term impact of "being unmarried" to be particularly salient as duration in that status increases over the life course. In contrast, men who enter coresidential relationships may experience improved health given access to and accumulation of the resources provided by their status. Thus men who enter coresidential unions may experience positive health trajectories, just as their continuously married counterparts. Similarly, their health trajectories should improve relative to men who either remain continuously single or exit coresidential relationships.

### Selection

Underlying the literature on marriage and health is the assumption that marital status and changes in status are themselves causally related to health (Booth and Amato 1991; Johnson 1991). An alternate view posits that the association observed between health and marital status is the result of selection (Aseltine and Kessler 1993; Mastekaasa 1992, Wade and Pevalin 2004). According to this argument, healthier individuals are more likely to marry and less healthy individuals are more likely to divorce (Goldman 1993), leading to a spurious correlation between marital status and health. One typical means of minimizing potential selection bias is to include a number of controls for pre-existing health status and other individual traits that are likely correlated with union transitions as well as subsequent health status (see Horwitz, White, and

Raskin-White 1996).  Yet this approach does not take account of selection on unmeasured variables. A recent review of the literature by Wood and colleagues (2007) supports the contention that changes in martial status and health are likely causally related; however, they also caution that, because few studies have been methodologically rigorous enough to address selection effects, ultimately the evidence in favor of causation may be overly optimistic.  Given that selection and causation are not mutually exclusive it is likely that both are at work (Hope, Rodgers, and Power 1999; Waldron, Hughes, and Brooks 1996).

### The Current Study

The current research extends existing literature on the impact of marital status and union transitions on fathers' health in a number of important ways.  First, it maximizes the use of longitudinal data to examine the long-term association between family structure change and health by focusing on trajectories of self-rated health and mental health problems among fathers. Although longitudinal data have previously been used to examine this relationship, rarely has it been explicitly modeled as a trajectory (Lamb, Lee and Demaris 2003; Marcussen 2005). Second, the paper investigates whether the established benefits of being married and entering into marriage, as well as the costs associated with being unmarried and marital dissolution, apply to entrances and exits from other types of unions, most notably cohabitation.  And third, it expands the definition of mental health to include behaviors indicative of poor mental health that are disproportionately reported by men such as drug and alcohol use (Dohrenwend and Dohrenwend 1976; Simon 2002).

In particular, this paper attempts to address the validity of the marital resource model by focusing on one broad research question:  How are family structure stability and change associated with fathers' self-rated health and mental health problems net of their overall,

underlying health trajectories? Analyses compare fathers who remain continuously married, cohabiting, or single to fathers who experience exits from or entrances into coresidential relationships over a five-year period. Using the marital resource model as a guide a number of specific hypotheses regarding relative well-being, as well as growth (or decay) in the gap in well-being over time, can be drawn from this larger research question.

> *Hypothesis 1: Continuously single fathers will have lower self-rated health and more mental health problems than continuously married fathers. This gap in well-being will widen over time, with continuously married fathers being healthier.*

> *Hypothesis 2: Fathers who enter a marriage will have higher self-rated health and fewer mental health problems than the continuously single. This gap in well-being will widen over time, with continuously single fathers being less healthy.*

> *Hypothesis 3: For fathers who enter a marriage, the gap in self-rated health and mental health problems between themselves and the continuously married will fade as fathers who enter a marriage accrue time in a marital union.*

> *Hypothesis 4: For fathers who exit a marriage, the gap in self-rated health and mental health problems between themselves and the continuously married will increase as father's who exit a marriage accrue time in singlehood status.*

Because it is not clear whether cohabitation among fathers conveys the same benefits as marriage the paper also tests whether the marital resource model can be extended to cohabiting unions by making the same comparisons listed above (i.e., continuously cohabiting vs. continuously single; enter cohabitation vs. continuously single; enter cohabitation vs. continuously cohabiting; exit cohabitation vs. continuously cohabiting). If cohabiting relationships have similar characteristics as marriages we would expect similar increasing (or decreasing) effects of family structure change as outlined above.

The analyses presented here also attempt to address possible selection effects in four ways. First, they include a number of controls for observed paternal characteristics that may be correlated with both family structure and health. Second, they utilize a selection correction

variable aimed at assessing fathers' odds of experiencing a non-marital birth; this correction is intended to check the robustness of the findings.  Third, the association between family structure and fathers' health is estimated controlling for each father's underlying health trajectory.  That is, the analysis estimates this association net of any growth, or decay, a father may experience in health, regardless of its cause.  And fourth, with the exception of fathers who transition early in the observation period, it is possible to examine health status prior to an exit from (or entrance into) a coresidential relationship.  If selection is at work, prior to the transition, those fathers who eventually exit unions would report lower self-rated heath and more mental health problems than continuously married fathers whereas fathers who enter unions would report higher self-rated health and fewer mental health problems than continuously single fathers.

**METHOD**

*Data*

The study uses data from the *Fragile Families and Child Wellbeing Study* (FFCWS), a national longitudinal survey designed to examine the characteristics of unmarried parents, the nature and dynamics of their relationships, and how their children fare (Reichman et al. 2001). The FFCWS is based on a stratified, multi-stage, probability sample of 4,898 children, including 3,712 children born to unmarried parents in large U.S. cities.  Baseline interviews of both parents were conducted within 48-hours of the child's birth (September 1998 to September 2000). Although 4,898 mothers are interviewed at baseline, only 3,830 fathers have comparable interviews.  Subsequent interviews were conducted via telephone when the focal child was one-, three-, and five-years of age.  Attrition is as follows: at one-year 3,124 fathers are interviewed, at three-year 2,638 fathers are interviewed, and at five-year 2,289 fathers are interviewed.  Overall, 4,331 fathers were interviewed at least once across the five-year period.

*Measures*

      *Mental Health Problems*.  A composite score for mental health problems is created by summing three dichotomously coded items—heavy episodic drinking (i.e., binge drinking), illicit drug use, and diagnosis of a major depressive episode—all of which are available at the one-, three-, and five-year interviews.  Heavy episodic drinking is defined as consumption of at least 5+ drinks in one sitting at least once in the previous month at the one-year interview and 4+ drinks in one sitting at least once in the previous month at the three- and five-year interviews.  Roughly 26 percent of fathers at one-year and 28 percent at both three- and five-years report a recent episode of binge drinking.  Illicit drug use is defined as use of at least one illicit drug (sedatives, tranquilizers, amphetamines, analgesics, inhalants, marijuana, cocaine, LSD/hallucinogens, or heroin) without a prescription, in larger amounts than prescribed, or for longer than prescribed in the past month.  Eight percent of fathers at one-year, 10 percent at the three-year, and 12 percent at five-years reported recent illicit drug use.  Depression is measured using the Composite International Diagnostic Interview Short Form (CIDI-SF) Version 1.0 November 1998.  Scoring followed procedures outlined by the developers of the CIDI-SF to yield 12-month DSM-IV diagnoses of Major Depressive Episode (MDE) (American Psychiatric Association 1994; Walters et al. 2002).  Ten percent of fathers at one-year, 14 percent at three-years, and 12 percent at five-years meet the diagnostic criteria for MDE.  The mean mental health problem score for fathers in the analytic sample is .44 at one-year, .52 at three-years, and .51 at five-years.  Because the CIDI measure of MDE is not available at baseline a 12-item version of the *Center for Epidemiologic Studies Depression Scale (CES-D)* is included in all models as a control.  It reflects the average number of days per week the father reported depressive symptoms (mean = 1.16; range 0 – 7) and should not be confused with the clinical

measure of depression utilized in the construction of the growth model itself.  The baseline CES-D is correlated with MDE at .31, .29, and .28 and with the overall mental health measure at .21, .16, and .13, at the one-, three-, and five-year interviews, respectively.

Independently, each of the three items in the mental health construct has been cited in existing studies as an indicator of poor mental health.  Moreover, Aneshensel (2002) has argued that disorder specific models provide a biased estimate of the impact of social factors and stress on mental health when these factors may influence more than one health outcome.  Indeed, recent literature on the study of mental health has moved to including both internalizing (e.g., depression) and externalizing (e.g., alcohol use/abuse, violence) behaviors as indicators of mental health problems (Umberson, Williams, and Anderson 2002).  A combined mental health measure maximizes the variability of the construct within the sample and better captures the breadth of emotional distress that may result from changes in family structure (see Meadows et al. *forthcoming*).

*Self-Rated Health*.  At the baseline, one-, three-, and five-year interviews fathers are asked to rate their physical health ("In general, how is your health?  Would you say it is ...").  Responses range from excellent to poor on a five-point scale where higher values indicate better health.  Fathers report a mean self-rated health score of 3.98 at baseline, 3.90 at one-year, 3.99 at three-years, and 3.84 at five-years.

*Relationship History and Family Structure Change Variables*.  Using both maternal[2] and paternal reports of a father's relationship status, two types of relationship history variables are created:  stability and transitions (see Table 1).  *Stability* is a series of dummy variables that categorize a father's relationship with the biological mother as either married across all waves, cohabiting across all waves, not in a relationship across all waves (i.e., single), and a residual

category that includes all fathers who experience at least one transition over the five-year

observation period.  Similarly, *transitions* are a series of mutually exclusive dummy variables

that categorize all the possible relationship changes a father can experience.  These include exit

from marriage, exit from cohabitation, movement into a marriage with either the biological

mother or a new partner (including fathers who are cohabiting with biological mothers at birth

and later marry them), movement into a cohabiting relationship with either the biological mother

or a new partner, and a residual category for experiencing more than one transition (e.g., divorce

and remarriage to a woman other than the biological mother).  These transitions can occur

between baseline (i.e., birth of the focal child) and the one-year interview, the one- and three-

year interviews, and the three- and five-years interviews.  The important thing to remember is

that all of these variables are time-varying and mutually exclusive.

[Insert Table 1 about here.]

*Controls*.  Because relationship status at baseline is not randomly assigned, relationship

variables may serve as proxies for other characteristics that themselves may cause fathers'

relationship statuses and more importantly, their health outcomes. Fortunately the FFCWS

survey includes a rich set of measures that allow us to control for many of the characteristics that

are expected to affect both family formation and health.  Note that these variables control only

for *observable* characteristics which may lead to selection into marital status, meaning that

marital status is "conditioned" on the paternal characteristics included in the model.  At the

baseline interview mothers are asked to indicate if the father has a *mental or physical condition*

that limits the amount of work he can do.  Mothers also rate fathers' impulsivity and antisocial

behavior.  *Impulsivity* is the mean of two questions:  father often says and does things without

considering the consequences and often gets into trouble because he does not think before he acts

(mean = 1.06, range 0 - 3) (see Dickman 1990). *Antisocial behavior* is the mean of four

questions:  father does things that may cause trouble with the law, lies or cheats, frequently gets

into fights, and does not seem to feel guilty when he misbehaves (mean = .39, range 0 – 2).

Analyses also include an indicator of whether the *father's biological parents suffered*

*from a variety of mental health problems* including alcohol or drug abuse, depression, and

anxiety[3] and whether or not the *father lived with both biological parents at the age of 15*.

Teachman (2002) finds that, in and of itself, time spent away from both biological parents,

regardless of reason, is related to an increased risk of divorce.  This variable may also capture a

father's commitment to marriage and to establishing a long-term, stable intimate-partner

relationship.  Adults raised in families with a history of instability have been found to hold more

negative views of marriage (Amato and DeBoer 2001), have more difficulties with interpersonal

relationships (Ross and Mirowsky 1999), as well as have higher odds of experiencing divorce

and relationship dissolution themselves (Amato and Cheadle 2005; Wolfinger 1999).  Finally,

paternal reports of the *number of prior relationships* are used to control for mothers previous

relationship experiences and stability. This variable is especially useful in dealing with potential

selection bias insofar as it should control for fathers' propensity to form unstable unions.

In addition, all models control for basic socio-demographic factors.  These include

father's age at baseline (in years), education (less than high school, some college, and college

degree and above with high school the omitted category), race (Black, Hispanic, and other with

white being the omitted category), and an indicator for immigrant status.  In cases where paternal

reports are not available maternal reports are used as substitutes.  Means and standard deviations

among for all variables can be found in Table 1.

*Selection Control.*  In all models trajectory parameters are adjusted for nonrandom selection into non-coresidential birth at the baseline interview by using a hazard rate instrument based on the inverse Mills ratio (Heckman, 1979).  Known as lambda ($\lambda$), the instrument represents the likelihood of experiencing a birth while not married or cohabiting with the biological mother.  First, a probit model first estimates the likelihood of non-marriage at baseline.[4]  Second, a lambda is constructed from that likelihood for each father such that higher values indicate a greater likelihood of being non-coresident at birth.

### Analytic Strategy

This paper uses latent growth curve modeling to capture the dynamic aspect of family structure on changes in mental and self-rated health.  Assuming a linear pattern over time, each individual's trajectory is characterized by a unique intercept ($\alpha$), linear, time-dependent slope ($\beta$), and some measurement error ($\varepsilon$).  Thus, the level one equation is as follows:

$$y_{it} = \alpha_i + \beta_i t + \varepsilon_{it} \qquad \text{(Equation 1)}$$

Each $y_{it}$ is an observed measure of health (i.e., self-rated health at the baseline, one-year, three-year, and five-year interviews and mental health problems at the one-year, three-year, and five-year interviews).  This equation represents within-individual ($i$) change over time ($t$).

*Time-varying family structure.*  In order to incorporate the time-varying covariates representing changes in family structure into the model, we must modify Equation 1 as follows:

$$y_{it} = \alpha_i + \beta_i t + \gamma_t w_{it} + \varepsilon_{it} \qquad \text{(Equation 2)}$$

The addition of the "$\gamma_t w_{it}$" term represents the effect of each time ($t$) family structure variable on health at time ($t$) for each $i$th individual.  In other words, each $\gamma$ represents a perturbation from the latent health trajectory caused by a change in family structure at a specific point in time.  By regressing each $\gamma_t w_i$ on subsequent measures of health (i.e., $y_{it+1}$) the analysis is also able to

assess the lagged, or cumulative, effects of time-specific transitions on multiple observations of

health thus allowing for a direct test of the resource model's assertion that the gap in well-being

between certain groups of fathers increases or decreases over time.  Note that this model

specification estimates the effect of the family structure variables on self-rated health and mental

health problems controlling for a father's latent health trajectory.  That is, any growth (or decay)

in health over the period that may be associated with the stress associated with raising a young

child is captured by the trajectory parameters.

The second level of the growth model allows the random intercepts ($\alpha_i$) and slopes ($\beta_i$) to

be a function of variables that change across individuals ($i$) but do not change across time ($t$).

This represents between-individual change over time.  The level two equations are as follows:

$$\alpha_i = \alpha_0 + \alpha_1 x_{i1} + \alpha_2 x_{i2} + \ldots \alpha_k x_{ik} + u_i \qquad \text{(Equation 3)}$$

$$\beta_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots \beta_k x_{ik} + v_i \qquad \text{(Equation 4)}$$

For the purposes of this paper, the $x$'s are the controls, including the selection instrument.  The

intercept and slope for each health outcome are directly regressed on these characteristics to

assess for potential group differences in the means of the growth factors.

All models are estimated using Mplus, Version 4.1 (Muthén and Muthén 2006) using full

information maximum likelihood (FIML) which incorporates respondents with missing data.[5]

Specifically, fathers with incomplete data contribute only to those portions of the model where

data are available.  Model fit is evaluated using the maximum likelihood ratio test statistic ($\chi^2$),

which if significant, indicates poor fit.  However, models with sample sizes over 200 are

frequently significant and thus we use three supplemental measures of model fit—the root mean

square error of approximation (RMSEA), the Tucker Lewis Index (TLI), and the Comparative

Fit Index (CFI).  Convention dictates that an RMSEA below .05 and a TLI and CFI close to 1.0

indicate good model fit (Bollen and Curran 2006).

## RESULTS

### *Self-Rated Health.*

The primary research question asks how stability and change in family structure after

birth are associated with fathers' health trajectories and whether the patterns are consistent with

the marital resource model.  Results for fathers' self-rated health trajectories are presented in

Table 2.  Recall that each father's trajectory is estimated controlling for a number of socio-

demographic and possible selection factors at Level 2.  At level 1 a number of time-varying

family structure variables capture a father's stability in and movement into and out of

coresidential relationships relative to those who remain stably married.  *Hypothesis 1* predicted

that fathers who were continuously married would have better health trajectories than fathers

who were continuously single.  According to the table, continuously single fathers do have

significantly lower self-rated health at the one- and five-year interviews ($\beta$ = -.13, p < .05 and $\beta$

= -.18, p < .05).  Post estimation Wald chi-square tests indicate that the gap decreases between

years one and three and subsequently increases between years three and five (see superscripts in

Table 2, panel B).  What is not seen, however, is an overall accumulation of the health deficit of

stably single fathers relative to stably married ones.  In terms of support for the marital resource

model, then, the results are mixed; although the stably married do appear to have an advantage

over the stably single in terms of self-rated health, this advantage does not accrue over time.

[Insert Table 2 about here.]

To assess whether the marital resource model extends to cohabiting unions the model

presented in Table 2 was replicated treating the continuously cohabiting as the omitted group

allowing for a comparison of stably cohabiting and stably single fathers (results not shown). Only at the three-year interview did continuously cohabiting fathers report significantly higher self-rated health than their continuously single counterparts ($\beta = .19$, $p < .01$). The results also suggest that the gap grows between years one and three but declines between years three and five. Again the results are mixed with respect to the marital resource model; we see some evidence that stably cohabiting fathers are better off than their stably single counterparts but also witness both growth and decay in this gap.

*Hypothesis 2* predicted a growing gap between fathers who entered a marriage versus those who remained continuously single over the five-year period. Again, the model presented in Table 2 was reanalyzed only in this iteration the stably single were the omitted category (results not shown). In contrast with the marital resource model, it does not appear that fathers who marry experience higher self-rated health, either at the time at which the event occurs or at subsequent times during the five year period. The same is true of fathers who enter a cohabiting relationship compared to those who are continuously single (results not presented). According to these results, and contrary to the hypothesis, entry into both types of coresidential unions is associated with no appreciable benefit to fathers in terms of self-rated health.

*Hypothesis 3* predicted that fathers who entered a marriage would have lower self-rated health than their continuously married counterparts but that these fathers would improve relative to them as time passed. Results in Table 2 suggest that this is not the case (see panel E). At no point do fathers who enter a marriage have lower time-specific self-rated health than father's who remained continuously married. A comparison of fathers who enter a cohabiting relationship compared to those who had been stably cohabiting reveals similar results, providing no support for the marital resource model.

*Hypothesis 4* predicted that fathers who exited a marriage would have worse self-rated health than fathers who remained continuously married and that this gap in well-being would grow over time.  Although the coefficients in panel F of Table 2 suggest that divorce is associated with a time-specific decline in self-rated health, relative to stably married fathers, none of these coefficients are statistically significant (fathers who divorce between three- and five-years do see a marginally significant, time-specific decline in self-rated health at year five, $\beta$ = -.18, p < .10) .  Further, with the exception of possible growth in the health gap between the three- and five-year interview for fathers who exited a marriage early in the observation period (i.e., between baseline and year one), there is little evidence to support a growing health disparity between exitors and stably married fathers ($\beta$ = -.01, ns at year one and $\beta$ = -.20, p < .10 at year three).  The support of the resource model for cohabiting fathers is even weaker; at no point do continuously cohabiting fathers have higher self-rated health than those who exit cohabitation.

**Mental Health Problems.**

Results for mental health problems are reported in Table 3.  In support of *Hypothesis 1*, continuously single fathers have significantly more mental health problems at the one-year ($\beta$ = .15, p < .01), three-year ($\beta$ = .18, p <.01), and five-year ($\beta$ = .12, p < .05) interviews than continuously married fathers (see panel B, Table 3).  In contrast to *Hypothesis 1*, however, this gap does not widen over time.  Continuously cohabiting fathers see no advantage over continuously single fathers at any point providing little support for extension of the resource model to cohabitation (results not shown).

[Insert Table 3 about here.]

*Hypothesis 2* predicted that fathers who entered into a marriage would have fewer mental health problems than continuously single fathers and that this gap in well-being would grow over

time, with single fathers exhibiting more problems.  Results from a model using the stably single

as the omitted category reveal that fathers who enter a marriage between the baseline and one-

year surveys do report fewer mental health problems than stably single fathers at year one ($\beta$ = -

.14, p < .05) and continue to report fewer mental health problems at year three ($\beta$ = -.10, p < .10).

However by year five, the differential between these two groups of fathers, although in the

predicted direction, is no longer statistically significant ($\beta$ = -.11, ns).  Results also reveal that

this gap does not grow over time.  Fathers who enter marriages between the one-and three-year

surveys and the three- and five-year surveys also report fewer time-specific mental health

problems at years three and five, respectively, than stably single fathers.  However it should be

noted that, although these coefficients approach statistical significance at the minimal cutoff of

.10, they do not achieve it ($\beta$ = -.10, t = -1.62 at year three and $\beta$ = -.11, t = -1.56 at year five).

Comparing fathers who enter cohabiting unions to those who remain stably single reveals

a significant difference only at year five for fathers who recently entered the union (i.e., enter

cohabitation between the three- and five-year interviews).  Fathers who entered reported

significantly fewer mental health problems ($\beta$ = -.17, p <.05).  Data constraints do not yet permit

following these fathers into the future so it is unclear whether they will experience an increase in

the well-being gap over time, as predicted by the resource model.  Results from fathers who

entered a cohabiting union early in the observation period do not suggest that the gap widens.

*Hypothesis 3* predicted that while continuously married fathers would have fewer mental

health problems than newly married fathers, this gap would shrink. Results from panel E in

Table 3 do not support this contention.  Levels of mental health problems do not significantly

differ between the two groups either at the time a father enters a marriage (i.e., the diagonals) or

subsequently (i.e., across rows).  For fathers who enter cohabiting unions, one time-specific

effect emerges:  fathers who enter between the three- and five-year surveys report significantly fewer mental health problems at year five than continuously cohabiting fathers ($\beta$ = -.17, p < .05, results not shown).  Again, given data constraints, it is unclear whether this trend will increase, as is predicted by the resource model.

Finally, *Hypothesis 4* contrasts fathers who exited marriage to those who remained stably married.  The resource model predicted that fathers who exit a marital union would report more mental health problems and that the gap between themselves and stably married fathers would grow over time as they spent more time single.  Fathers who exit do report more time-specific mental health problems at year one ($\beta$ = .33, p < .05) and year three ($\beta$ = .29, p < .01) but not year five ($\beta$ = .12, ns), although the coefficient indicates a similar pattern (see panel C).  Yet there is no evidence of a growing gap when comparing lagged effects of exits.  Comparing fathers who exit cohabiting unions to fathers who remain stably cohabiting indicates that only at year three is there a time-specific effect associated with separation such that fathers who leave cohabiting unions between the one- and three-year interviews report more mental health problems ($\beta$ = .14, p < .05).  Examination of the lagged effects of exit transitions suggests that fathers who separate between the baseline and one-year survey initially do not report more mental health problems than stably cohabiting fathers but by year five the gap grows, with extitors reporting more problems ($\beta$ = -.01, ns; $\beta$ = .07, ns; and $\beta$ = .17, p < .05 at years three and five respectively).

***Summary.***

Table 4 presents a summary of the results indicating both the predicted direction of the health benefit and the predicted growth (or decay) in the well-being gap over time.  Three main conclusions can be derived from the table.  First, the results show weak support for the resource

model regardless of union type or health outcome.  Little evidence of a *cumulative advantage* for

continuously married fathers, compared to the continuously single or fathers who exited from a

marriage, was found. However, a pattern of results did emerge such that stably married fathers

reported higher *time-specific* observed self-rated health and fewer mental health problems than

either stably single fathers or fathers who exited marriage.  Second, the resource model may also

apply to cohabitation however this is not entirely clear given weak support provided by the

analyses. Continuously cohabiting fathers fared better than their continuously single counterparts

in terms of self-rated health but this advantage did not extend to fathers who exited a cohabiting

union.  In contrast, continuously cohabiting fathers reported fewer mental health problems than

fathers who separated but this advantage did not extend to continuously single fathers.  Similar to

marriage, in few instances were the benefits associated with being a continuously cohabiting

father consistent over time.  Finally, the resource model received more support with respect to

mental health problems than self-rated health, regardless of whether marriage or cohabitation

was the union status in question.

[Insert Table 4 about here.]

### Selection.

According to the selection hypothesis, prior to the transition, fathers who exit a marriage

later in the five-year observation period should report lower self-rated health and more mental

health problems than continuously married.  Conversely, fathers who enter coresidential

relationships should look better than their stably single counterparts prior to making the

transition.  If the resource model applies to cohabitation the same should be true of fathers who

separate from or enter into cohabiting unions.  By examining the coefficients of time-specific

transitions on the observed health measures prior to the event we can assess whether this is the

case.  Given mixed findings in existing work regarding the selection hypothesis it should not be entirely surprising that this study replicates the larger literature. Results for self-rated health yielded little support for the selection hypothesis; pre-disruption effects of transition did not indicate that fathers who would eventually exit unions looked worse than stably married or cohabiting fathers nor did fathers who would eventually enter coresidential unions look better than stably single fathers.  In terms of mental health problems, however, fathers who entered marriages or cohabiting unions between the three- and five-year surveys reported fewer problems than stably single fathers prior to experiencing the transition at years one and three (results not reported).  Fathers who exited coresidential unions did not report more mental health problems prior to the transition compared to stably married or stably cohabiting fathers.  Again, the findings are mixed with respect to the selection hypothesis, with more support for selection into conresidential unions based on mental health status.

**DISCUSSION AND CONCLUSION**

The marital resource model posits that the disparity in well-being between married and unmarried parents will grow as a function of the time spent in each status.  This paper has attempted to test this and related hypotheses by following self-rated and mental health trajectories of fathers in different family structures, focusing on transitions into and out of marriages and cohabiting unions.  For both outcomes continuously married fathers appeared the healthiest, especially when compared to continuously single fathers or fathers who exit a marriage.  What was not clearly evident was a *growing* disparity in health between continuously married, or continuously cohabiting, and continuously single fathers over the five-year span following the birth of a child.  Nor did the results provide evidence of a growing disparity between fathers who exit coresidential relationships and continuously coresdiential fathers.

Why did the results find little support for the resource model?  First, fathers in the FFCWS are, overall, young and healthy resulting in little change in health over time. Williams and Umberson (2004) report a negative effect of marital dissolution on health, but only among men aged 50 and over.  Second, although the paper expands the "traditional" operationalization of mental health problems by including drug and alcohol use, these problems are severe and relatively rare in the sample and in the general population.  It is possible that if a symptom count of depressive symptoms had been available for all waves a stronger association may have emerged between family structure change and mental health trajectories.  Third, because fathers were only observed for five years long-term, cumulative trends in health are not yet evident.  A lifetime without an intimate partner who provides emotional stability and monitoring of health behavior is likely to have a greater influence on mental and physical health later in the life course than in five years immediately following a family structure change during early- to-mid adulthood.  This may be especially true for physical health problems, such as chronic disease and disability that have complex etiologies and take years to manifest.  Lorenz and colleagues (2005) report that in the years immediately following a family structure change divorced, middle-aged women looked no different than their stably married peers; however, a decade later these same women reported significantly worse physical health.  Finally, perhaps self-rated and mental health are too distal outcomes with which to gauge the mid-range effect of family structure change on well-being.  Financial capital, diet, exercise, and social support have all been implicated as possible mechanisms for marriage's salubrious association with health and all of these factors are likely to themselves respond to changes in family structure, both in the short and long term.

Limitations.  Although the analyses presented here attempted to address possible selection effects by including a coefficient representing the hazard of experiencing a nonmarital birth, selection may still have affected the results in two ways.  First, although the models estimate associations between family structure and change and health independent of fathers' latent health trajectories, because fathers are not observed prior to the birth of the focal child it is not possible to rule out that where fathers being their trajectories, and where those trajectories go, are due to differential selection on *unobserved* characteristics.  The same can be said of the time-specific and lagged effects that are the focus of this paper, despite the use of a number of techniques aimed at minimizing selection bias based on *observable* characteristics. Second, the selection hypothesis suggests that any factors involved in selection into relationship statuses and/or transitions would persistently affect health as well, thus qualifying the statement that changes in family structure *cause* subsequent changes in time-specific measures of health.  If selection is at work, the same factors influencing union status would also persistently affect health over time (see Lucas et al. 2003) yet the results yielded few significant lagged effects.

Inability to randomly assign fathers to relationship status and family structure transition groups is not the only limitation of the current study.  As a result of over-sampling unmarried parents, the FFCWS sample is predominantly comprised of disadvantaged fathers residing in large cities which may limit the generalizability of the results to fathers exposed to other social circumstances or to non-parent men.  In addition, factors other than family structure transitions may be driving the observed results, namely social support and health behaviors.  Although the FFCWS contains a number of previously unavailable measures which help to get at possible selection bias, it does not contain detailed emotional support information nor does it capture fathers' health behaviors.  If unmarried fathers were able to elicit social support from sources

other than a spouse or cohabiting partner any negative effects associated with family structure changes may be masked.  Future work should examine trajectories of these potential mediators in the years following family structure change.

Conclusion.  Given recent policy interest in promoting marriage among low-income, unmarried parents, and in helping those couples sustain healthy marriages, studies which examine the benefits associated with marriage, as well as the costs associated with union dissolution among parents, have renewed importance in social science inquiry. Consistent with previous studies on non-parent men, the results presented here suggest that marriage, particularly stable, long-term marriage, is associated with higher levels of well-being than are found among single fathers as well as fathers who experience disruption of a coresidential relationship. And while differences between continuously married fathers and single fathers do not appear to increase over time these disparities also do not diminish with time. On the one hand, this is far from the goal of policy, namely, closing the gap.  On the other hand, it is still too early to tell whether marriage after a nonmarital birth will lead to long-term health benefits among the fathers from these fragile families ten or twenty years from now.  In an era when social welfare policies are aimed at promoting and sustaining stable families attempts to help members of non-traditional families achieve the same degree of well-being as their traditional counterparts will ultimately improve the overall quality of life for all members of the family unit.

**Notes**

[1] This has not always been the case with earlier theoretical perspectives positing gender differences with respect to the positive effects of marriage and negative effects of marital dissolution (see Bernard 1972 and Gove and Tudor 1973).  This theoretical framework and related empirical studies have been critiqued as relying too heavily on gendered psychological outcomes (i.e., depression and anxiety) (Simon 2002).

[2] Maternal reports are used when father's data is not available.  Because mothers were not asked to indicate whether a father's coresidential relationship with a new partner was a marriage or a cohabiting union all presented analyses assumed that new relationships were marriages.  Additional analyses using the alternate assumption (i.e., all new relationships were cohabiting unions) yielded substantively identical results.

[3] Although these variables are not medical diagnoses, and are subject to recall error, they do give some indication of a family history of mental health problems as well as exposure to such illnesses. A limitation of these measures is that a mother's own mental health status may affect her assessment of her parents' mental health, a phenomenon known as "shared method variance."  Shared method variance refers to the possible inflation of the association between two self-reported variables (i.e., the variables share the same method of derivation) (see Bank, Bishion, Skinner, and Patterson, 1990).  In this case, if shared variance exists, controlling for maternal reports of parents' mental health problems should lead us to underestimate the effect of the relationship history and family structure variables on health trajectories.

[4] Variables in the probit model include: father's age at baseline, education, race, immigrant status, and whether the focal birth was a male child; maternal report of whether father had a mental/physical health problem at baseline and father's impulsivity and antisocial behavior; maternal and paternal reports of whether father was working or in school at baseline, had a drug/alcohol problem at baseline that interfered with work or personal relationships, whether the father was in jail by the one-year interview, and whether the father's name would be on the birth certificate, the baby would have the father's last name, the father wanted to be involved in raising the child, and either parent considered an abortion (all at baseline); paternal report of whether he had access to an automobile, his CES-D score, and smoked or binged drank at baseline, the number of children (under age 18) in the household at baseline, number of previous relationships, and whether the focal child was a first birth, either biological parent had a mental health problem, he lived with both parents at the age of 15, and he visited the mother in the hospital.  The lambda correction variable is not significantly associated with the intercept or the slope of both self-rated health and mental health problems.  A similar procedure has been utilized by Ferraro and Kelly-Moore (2003) and Kelly-Moore and Ferraro (2004).

[5] Results reported here treat both self-rated health and mental health problems as continuous variables for ease of interpretation.  Additional models treated self-rated health as a categorical variable using both logistic and probit distributions and treated mental health problems as a count variable using a Poisson distribution.  These results revealed no substantive differences.

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Table 1.  Descriptive Statistics (Means or Percentages, with Standard Deviations in Parentheses).

|  | Mean | S.D. |
|---|---|---|
| **Health Outcomes** | | |
| *Self-Rated Health*:  Baseline  (Range: 1 – 5) | 3.98 | (.94) |
| One-Year | 3.90 | (1.02) |
| Three-Year | 3.99 | (.97) |
| Five-Year | 3.84 | (.99) |
| *Mental Health Problems*:  One-Year  (Range:  0 – 3) | .44 | (.64) |
| Three-Year | .52 | (.71) |
| Five-Year | .51 | (.71) |
| | | |
| **Relationship History Variables** | | |
| *Baseline Relationship with the Biological Mother* | | |
| Married | 26.84 | |
| Cohabiting | 41.25 | |
| Romantic, Nonresident | 22.61 | |
| No Relationship | 9.31 | |
| | | |
| *Relationship Stability* | | |
| Continuously Married | 22.34 | |
| Continuously Cohabiting | 9.01 | |
| Continuously Single | 9.98 | |
| Unstable | 58.66 | |
| *Relationship Transitions*[a] | | |
| Exit Marriage | | |
| Baseline and One-Year | .69 | |
| One-Year and Three-Year | 1.30 | |
| Three-Year and Five-Year | 2.88 | |
| Exit Cohabitation | | |
| Baseline and One-Year | 4.31 | |
| One-Year and Three-Year | 4.15 | |
| Three-Year and Five-Year | 4.34 | |
| Enter Marriage | | |
| Baseline and One-Year | 6.19 | |
| One-Year and Three-Year | 4.48 | |
| Three-Year and Five-Year | 5.37 | |
| Enter Cohabitation | | |
| Baseline and One-Year | 2.90 | |
| One-Year and Three-Year | .94 | |
| Three-Year and Five-Year | 2.90 | |
| Multiple Transitions | 18.20 | |

Table 1. Continued

**Control Variables**

| | | |
|---|---|---|
| Depressive Symptoms (CES-D; Range: 0 –7)[b] | 1.16 | (1.19) |
| Number of Previous Relationships (Range: 0 – 20) | 3.69 | (4.27) |
| Parents' Mental/Physical Health Problem | 47.42 | |
| Lived with Both Biological Parents at Age 15 | 46.83 | |
| Impulsivity[c] (Range: 0 – 3) | 1.06 | (1.01) |
| Antisocial Behavior[c] (Range: 0 – 2) | .39 | (.57) |
| Age[c] (Range: 15 – 67) | 27.94 | (7.27) |
| *Education:*[c] Less than High School | 33.07 | |
| High School | 33.61 | |
| Some College | 22.64 | |
| College Degree and Above | 10.68 | |
| *Race:*[c] Black | 48.83 | |
| White | 19.41 | |
| Hispanic | 27.06 | |
| Other | 4.70 | |
| Immigrant Status | 18.26 | |
| | | |
| N | 4,331 | |

Notes:  N = 4,331 and includes all fathers who were ever interviewed.  Means and percentages do not account for missing data.
[a] Mutually exclusive categories created from the "Unstable" group. [b] Baseline reports.
[c] Maternal and paternal report.

Table 2. Growth Model of Observed Paternal Self-Rated Health and Time-Varying Family Structure Variables (n = 4,331).

| | Observed Self-Rated Health | | |
|---|---|---|---|
| | One-Year | Three-Year | Five-Year |
| *Family Structure Variables*[a] | | | |
| A. Continuously Cohabiting | -.02[gh] | .10†[gd] | -.15*[hd] |
| B. Continuously Single | -.13*[g] | -.004[ge] | -.18*[e] |
| C. Exit Marriage | | | |
|    Baseline to One-Year | -.61**[ed] | .06[e] | .17[d] |
|    One-Year to Three-Year | | -.51*** | -.31† |
|    Three-Year to Five-Year | | | -.10 |
| D. Exit Cohabitation | | | |
|    Baseline to One-Year | -.06 | -.07 | -.15 |
|    One-Year to Three-Year | | -.08 | -.08 |
|    Three-Year to Five-Year | | | -.10 |
| E. Enter Marriage[b] | | | |
|    Baseline to One-Year | -.07 | .01[g] | -.12[g] |
|    One-Year to Three-Year | | -.01 | -.09 |
|    Three-Year to Five-Year | | | -.03 |
| F. Enter Cohabitation[c] | | | |
|    Baseline to One-Year | -.04 | -.01[e] | -.20†[e] |
|    One-Year to Three-Year | | -.14 | -.05 |
|    Three-Year to Five-Year | | | -.18† |
| G. Multiple Transitions | -.10*[ef] | .04[ed] | -.26***[fd] |
| | | | |
| **Model Fit** | | | |
| $\chi^2$ (df) | | 115.00*** (50) | |
| RMSEA | | .017 | |
| TLI | | .943 | |
| CFI | | .977 | |

Notes: Trajectory intercept is 4.58 (p < .001) and slope is estimated at .09 (p < .01). Model controls for age at baseline, education, race, immigrant status, baseline CES-D, living with both biological parents at age 15, number of previous relationships, biological parents' mental health history, maternal rating of fathers' antisocial behavior and impulsivity, lambda, and stability before a transition.
[a] Continuously married is the referent category. [b] With both biological mothers and new partners. Includes cohabitation to marriage group. [c] With both biological mothers and new partners. [d] Indicates coefficients are significantly different at p < .01. [e,f] Indicates coefficients are significantly different at p < .05. [g,h] Indicates coefficients are different at p < .10.
† p < .10 * p < .05 ** p < .01 *** p < .01, two-tailed tests

Table 3.  Growth Model of Observed Paternal Mental Health Problems and Time-Varying Family Structure Variables (n = 4,331).

| | Observed Mental Health Problems | | |
| --- | --- | --- | --- |
| | One-Year | Three-Year | Five-Year |
| *Family Structure Variables*[a] | | | |
| A. Continuously Cohabiting | .12** | .14** | .12* |
| B. Continuously Single | .15** | .18** | .12* |
| C. Exit Marriage | | | |
|    Baseline to One-Year | .33* | .15 | .13 |
|    One-Year to Three-Year | | .29** | .18 |
|    Three-Year to Five-Year | | | .12 |
| D. Exit Cohabitation | | | |
|    Baseline to One-Year | .12†[d] | .20** | .30***[d] |
|    One-Year to Three-Year | | .27***[e] | .14*[e] |
|    Three-Year to Five-Year | | | .15* |
| E. Enter Marriage[b] | | | |
|    Baseline to One-Year | .02 | .05 | .03 |
|    One-Year to Three-Year | | .05 | .13* |
|    Three-Year to Five-Year | | | .03 |
| F. Enter Cohabitation[c] | | | |
|    Baseline to One-Year | .11 | .23** | .13† |
|    One-Year to Three-Year | | .18 | .04 |
|    Three-Year to Five-Year | | | -.04 |
| G. Multiple Transitions | .13** | .17***[d] | .09†[d] |
| **Model Fit** | | | |
| $\chi^2$ (df) | | 59.61*** (16) | |
| RMSEA | | .025 | |
| TLI | | .865 | |
| CFI | | .977 | |

Notes:  Trajectory intercept is .37 (p < .01) and slope is estimated at .05 (ns).  Model controls for age at baseline education, race, immigrant status, baseline CES-D, living with both biological parents age 15, number of previous relationships, biological parents' mental health history, maternal rating of fathers' antisocial behavior and impulsivity, lambda, and stability before a transition.
[a] Continuously married is the referent category.  [b] With both biological mothers and new partners. Includes cohabitation to marriage group.  [c] With both biological mothers and new partners.  [d] Indicates coefficients are significantly different at p < .05.  [e] Indicates coefficients are significantly different at p < .10.
† p < .10  * p < .05  ** p < .01  *** p < .01, two-tailed tests

Table 4. Summary of Results for Paternal Self-Rated Health and Mental Health Problems.

| | Hypothesis 1 | Hypothesis 2 | Hypothesis 3 | Hypothesis 4 |
|---|---|---|---|---|
| | Continuously Married vs. Continuously Single | Enter Marriage vs. Continuously Single | Enter Marriage vs. Continuously Married | Exit Marriage vs. Continuously Married |
| *Predicted Direction* | *Cont. Married Better* | *Enter Marriage Better* | *Cont. Married Better* | *Cont. Married Better* |
| Support: SRH | MIXED | NO | NO | MIXED |
| MHP | YES | MIXED | NO | YES |
| *Predicted Gap* | *Grow* | *Grow* | *Shrink* | *Grow* |
| Support: SRH | MIXED | NO | NO | MIXED |
| MHP | NO | NO | NO | NO |
| | Continuously Cohabiting vs. Continuously Single | Enter Cohabitation vs. Continuously Single | Enter Cohabitation vs. Continuously Cohabiting | Exit Cohabitation vs. Continuously Cohabiting |
| *Predicted Direction* | *Cont. Cohabiting Better* | *Enter Cohab. Better* | *Cont. Cohabiting Better* | *Cont. Cohabiting Better* |
| Support: SRH | MIXED | NO | NO | NO |
| MHP | NO | MIXED | MIXED | MIXED |
| *Predicted Gap* | *Grow* | *Grow* | *Shrink* | *Grow* |
| Support: SRH | MIXED | NO | NO | NO |
| MHP | NO | NO | NO | MIXED |

Notes: For each hypothesis the predicted direction of the gap in well-being is indicated as well as whether this gap was expected to grow or shrink. A YES, NO, or MIXED indicates the degree to which each prediction is supported for self-rated health (SRH) and mental health problems (MHP).