Precursors to family formation and socioeconomic development

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Precursors to family formation and socioeconomic development

by

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CHAPTER 1. GENERAL INTRODUCTION

Introduction

A considerable body of theoretical and empirical literature focuses on examining precursors and consequences of different pathways towards family formation. This collection of work specifically looks at transactions between dimensions of socioeconomic status, family processes, and family formation patterns. The data used for this analysis will consist of two longitudinal studies using two different birth cohort samples that also vary in geographical and ethnic compositions. Two theories on precursors of family formation patterns were examined.

Thesis Organization

The organization of this thesis follows the alternative thesis format. It includes two manuscripts to be submitted for publication. The following chapter, “Cohabiting Couples, Marriage, and Parenthood: Testing the Financial Expectation and Family Formation Theory,” is an empirical manuscript prepared for submission to Journal of Marriage and Family. This study was guided by the principles of the Financial Expectation and Family Formation theory, which suggests that low-income couples delay marriage, but not parenthood, because of the financial and relationship stability they believe is necessary to establish prior to marriage (Gibson-Davis, 2009). In contrast, parenthood is not dependent on financial prerequisites (Gibson-Davis, 2009; Gibson-Davis et al, 2005).

The aim of the first study was to test the Financial Expectation and Family Formation theory by examining how income and changes in income in first cohabiting couples is related to changes in the romantic relationship, such as getting married or breaking up, and also related to transitioning towards parenthood. It was hypothesized that increases in income,
particularly male income, will be positively related to transitioning to marriage relative to staying in a cohabiting union. Alternatively, it was hypothesized that income and increases in income would have no relationship to the transition to parenthood in first cohabiting unions.

The second study, Chapter 3, “The Effects of SES, Parenting, and Personality on Age at First Partnership,” is an empirical manuscript prepared for submission to *Journal of Family Psychology*. This study was guided by the interactionist model to suggest a concurring interaction among the family of origin’s socioeconomic status, family processes, and developmental outcomes across generations (Conger, Conger, Martin, 2010; Conger & Donnellan, 2007). The interactionist model is a combination of the social causation and social selection perspectives.

The aim of this study was to examine continuities in socioeconomic status across two generations (G1, G2) as mediated through family of origin (G1) parenting, G2 personality, and G2 age of first partnership. According to the social causation perspective, it was hypothesized that family of origin (G1) SES would influence G1 parenting, G2 personality, G2 age at first partnership, and continuity of SES in the second generation (G2). According to the social selection perspective, it was hypothesized that G2 personality would influence G2 age at first partnership and later SES (Conger & Donnellan, 2007; Trentacosta et al, 2010).

Finally, Chapter 4 is a general discussion of both studies. The key results from each study will be summarized. Recommendations for future research will be discussed.
References


CHAPTER 2. COHABITING COUPLES, MARRIAGE, AND PARENTHOOD: TESTING THE FINANCIAL EXPECTATION AND FAMILY FORMATION THEORY

A paper to be submitted to *The Journal of Marriage and Family*

Jennifer M. Senia and Clinton G. Gudmunson

Abstract

Using data from the National Longitudinal Survey of Youth 1997 (N = 1938), a birth cohort study, this work examined how income and changes in income are associated with life course transitions regarding relationship status, such as marriage or breaking up, and transitioning to parenthood in first cohabiting unions. Results were consistent with the Financial Expectation and Family Formation theory given that income and changes in income were associated with greater odds of marriage, but not related to parenthood.

Introduction

There is considerable interest among family demographers and other social science researchers on examining precursors and consequences of different pathways towards family formation. This is a complex task given that the family life course transition towards marriage and parenthood has become less homogenous as a variety of pathways to family formation have unfolded over the past few decades (Cherlin, 2010). Marriage is no longer a universal norm as a setting for childbearing as the timing and transition of parenthood has become more common outside the context of marriage (Cherlin, 2010; Bumpass & Lu, 2000). For example, 40.1% of all births in 2010 occurred outside of marriage (Hamilton, Martin, Ventura, 2011), compared with just 4% during the 1950s (Cherlin, 2010). These increases have been driven largely by the expansion of cohabitation in the United States and
it is estimated that more than half of children born outside of marriage are born to partnered unmarried women within the context of cohabitation (Wildsmith, Steward-Streng, & Manlove, 2011; Cherlin, 2010).

The separation of marriage and parenthood is an important social issue that continues to receive attention from family policy initiatives given two important distinctions in cohabiting families. First, children residing with two biological cohabiting parents are more likely to experience housing and food insecurity and live below federal poverty levels when compared with children living with their two biological married parents (Manning & Brown, 2006). Secondly, not only are children residing in cohabiting residents more likely to be “socioeconomically disadvantaged” than children residing with married parents (Brown, 2010, p. 1067), but children living in the context of cohabitation are more at-risk to experience family turbulence and family instability than children born to married parents (Brown, 2010). Osborne and McLanahan (2007) found that 10% of children in cohabiting families were more likely to experience 3 or more parental relationship transitions in contrast to only about 2% of children born to married parents. This is problematic given the relationship between unstable family environments and lower levels of child well-being (Brown, 2010; Teachman, 2008).

As a result, the federal government established the Healthy Marriage Initiative in 2005, with a mission targeted: “to help couples, who have chosen marriage for themselves, gain greater access to marriage education services, on a voluntary basis, where they can acquire the skills and knowledge necessary to form and sustain a healthy marriage” (HMI, 2009). Under the Healthy Marriage Initiative, funds were allocated for research conducted on marriage and intervention programs, especially for low-income couples, in which marriage
rates are lowest for this subpopulation (HMI, 2009). Taken together, it is important for family policy analysts and researchers to understand the underlying mechanisms in relation to cohabiting couples, marriage, and parenthood.

**Theoretical Framework**

In response to a call for more research on mechanisms that account for family formation transitions, the Financial Expectation and Family theory was proposed to suggest an explanation for the lag between parenthood and marriage in cohabiting couples. Gibson-Davis (2009) proposed the theory to hypothesize why low-income couples delay marriage, but not childbearing:

“low-income parents delay marriage because it is associated with an exalted state of emotional and economic preparedness that parents do not feel that they have attained (Smock et. al, 2005). In contrast, childbearing is an accepted and expected part of the life course and is independent of financial circumstances (Edin & Kefalas, 2005).” (p. 146-147)

Gibson-Davis (2009) tested this theory using the *Fragile Families and Child Well-Being Study*, a longitudinal, birth-cohort study using an oversampling of cohabiting, heterosexual parents (Carlson et al, 2004). However, one limitation of the Financial Expectations and Family Formation theory is that it has not been tested extensively. Gibson-Davis (2009) tested the theory to predict subsequent fertility in low-income unmarried women, but, it is unknown if the theory holds for cohabiting men and women who have not yet transitioned either to marriage or parenthood. Therefore, the present investigation seeks to uncover whether the Financial Expectation and Family Formation theory applies to cohabiting couples, not limited to low-income couples or those who are already parents.
Literature Review

Several qualitative studies have explored the link between economic circumstances and marriage among cohabiting couples (Gibson-Davis, Edin, & McLanahan, 2005; Smock, Manning, & Porter, 2005). Particularly among low-income, cohabiting couples, researchers have theorized about the financial “floor” that serves as an indicator in which marriage is a practical option for the couple only when financial stability is achieved (Edin & Reed, 2005, p.122). This financial premium couples place prior to marriage is consistent with findings showing that male partners’ earnings and education are positively related with a union transition towards marriage (Smock & Manning, 1997; Brown, 2000). However, in contrast, they find that the females’ earnings are not as strongly associated with a union transition towards marriage, suggesting that the high financial premium for marriage is largely based on the male partners’ economic resources (Smock & Manning, 1997; Brown, 2000). While some studies have concluded that the economic well-being of the couple jointly determines marital prospects (Gibson-Davis et al., 2005), the difference in findings comparing male to female earnings highlights the importance of examining family formation pathways separately by gender. Furthermore, family formation patterns also diverge by income and education levels (Cherlin, 2010).

Recent social and demographic trends in marriage rates have illustrated a growing “marriage gap” in the American culture. Popenoe and Whitehead’s (2007) research characterized the marriage gap by a positive correlation of income and education levels to the marriage rate; therefore, couples with a college education are more likely to get married and stay married. Musick and colleagues (2012) further highlighted the importance of education on marriage prospects by finding that college educated individuals are more likely to seek out
and partner with those of similar educational backgrounds. Historically, in the early 20th century, an individual’s religion was an important characteristic when choosing a romantic partner, whereas, an individual’s educational attainment is emerging as greater importance (Cherlin, 2010).

In contrast, the marriage gap is also characterized by a negative correlation of income and education levels to the divorce rate, suggesting the college educated couples are less likely to divorce as the divorce rate for this group is decreasing (Popenoe & Whitehead, 2007). These trends further support the importance of financial security as a precursor to transitioning to marriage. In the transition to adulthood, educational attainment, in particular, is a key factor that underlies socioeconomic development (Conger, Conger, & Martin, 2010) and facilitates economic security in romantic relationships.

Socioeconomic characteristics are also confounded with parenthood. On average, socioeconomically disadvantaged couples are more likely to bear children outside of marriage as opposed to their more educated counterparts (Smock & Greenland, 2010). In addition, Musick (2007) found that females with a college degree were 95% less likely to experience a nonmarital birth when compared to females with a high school degree. Also, college educated parents are more likely to raise their children in the context of marriage (Musick, Brand, & Davis, 2012; Ellwood & Jencks, 2004). Moreover, females with a high school degree were about half as likely to experience a nonmarital birth when compared to females who did not complete high school (Musick, 2007). These findings suggest that the separation of marriage and motherhood is also diverging by socioeconomic differentials.

Another important distinction in family formation patterns is that these pathways also diverge by race and ethnicity. While the percentage of nonmarital births have increased for
all major racial and ethnic groups since the 1990s, (Wildsmith, Steward-Streng, & Manlove, 2011), large variations are still pronounced. By 2009, 73% of births to black women were nonmarital, in contrast to 53% of births to Hispanic women and 29% of births to white women (Martin, Hamilton, Ventura, Osterman, Kirmeyer, Mathews, & Wilson, 2011) suggesting that children of race and ethnic minorities more commonly experience parental cohabitation (Manning & Brown, 2006).

Research Questions

Utilizing the Financial Expectations and Family Formation theory, this paper aims at addressing the following research questions:

1) How are male and female partner income and changes in male and female partner income associated with transitions to marriage in first cohabiting unions?

Consistent with the Financial Expectations and Family Formation theory (Gibson-Davis, 2009), it is hypothesized that increases in male partner earnings will be positively associated with a union transition towards marriage, and decreases in male earnings will be negatively associated with a union transition towards marriage relative to staying in a cohabiting relationship or ending their relationship. Likewise, it is also hypothesized that increases in female partner earnings will be positively associated with a union transition towards marriage, and decreases in female earnings will be negatively associated with a union transition towards marriage. Further, it is hypothesized that changes in male income will help explain more of the association in the couples’ union transition to marriage, than his female partner’s income.
Additionally, it is hypothesized that male and female partners with more education are more likely to transitions to marriage given the divergence of transitioning to marriage by levels of education (Musick, Brand, & Davis, 2012).

2) How are male and female partner income and changes in male and female partner income associated with transitions to parenthood in first cohabiting unions? Consistent with the Financial Expectations and Family Formation theory (Gibson-Davis, 2009), it is hypothesized that changes in male and female partner earnings will have no association with a transition towards parenthood. Likewise, it is also hypothesized that ethnic minority cohabiters are more likely to transition to parenthood than their counterparts provided that research shows that parenthood in the context of cohabitation is more prevalent among ethnic minority households (Manning & Brown, 2006).

Method

Data

Secondary data used in the present report come from the National Longitudinal Survey of Youth 1997 (NLSY97). The NLSY97, sponsored and directed by the Bureau of Labor Statistics, U.S. Department of Labor, is a nationally representative birth cohort sample of 8,984 individuals born between 1980 and 1984. The first interviews were conducted in 1997, when the respondents were between the ages of 12 to 16. Follow-up interviews were conducted on an annual basis and information up to 2009 was used for the present investigation, for a total of twelve interview rounds. This project documents the transition of these individuals from school to work and into adulthood. In addition to gathering life history and demographic information for the main respondent, they also reported on a variety of

Procedure

The present analyses used respondent and respondent reports about their partners. Respondents were limited to individuals who were in a heterosexual relationship with their first cohabitating partner (N = 4385), defined as a sexual relationship in which romantic partners of the opposite sex lived together. In addition, the analysis only included respondents who entered a first cohabiting union between rounds 1 (between the ages of 12 to 16) and 10 (between the ages of 22 to 26; N = 3249) in order to examine the dependent variables in later rounds of data. Finally, the analysis only included respondents who knew information about their partner’s income (N = 1938). Partners were not followed if they ended their relationship with the main respondent, thus the unit of analysis is the main respondent and the sample was analyzed by gender. In the present sample, females comprised 56% of respondents (N = 1,082) and 44% were male (N = 856). Of the respondents, 55% self-identified as white non-Hispanic, 19.5% as black non-Hispanic, 22.5% as Hispanic, and 3% as other (including multiethnic). The respondents were asked to identify the ethnicity of their partners. Of the partners, 50.1% were identified as white non-Hispanic, 14.2% as black non-Hispanic, 16.9% as Hispanic, and 18.8% as other (including multiethnic). The respondent’s relationship status was assessed each round after their first cohabitation began. The sample reveals that the proportions of respondents that married their cohabiting partner or ended the relationship were similar, with 42.9% marrying and 40.2% ending. Those that continued cohabitation comprised 16.9% of the sample. The sample of
respondents also reveals that 55% transitioned to parenthood following their first cohabiting union.

Measures

*Dependent Variables*

This study addressed multiple outcomes of family formation. First, this study observed changes in cohabitating relationship status. Second, this study observed the transition to parenthood for the respondent and their first cohabiting partner.

*Changes in cohabitating relationship status.* The respondent and partner relationship status was assessed at each round of interviews after their first cohabitation began. The couple’s follow-up relationship status was dummy coded into three categories as: 0) same, indicating the couple was still in a cohabiting relationship; 1) breakup, indicating the couple had ended their cohabiting union; and 2) marry, indicating the couple transitioned to marriage after their first cohabiting union. Couples that remained in their first cohabiting union were used as the baseline group in the analysis.

*Parenthood.* The couples’ parenthood status was assessed at each round of interviews after their first cohabitation began. Parenthood was defined by the respondent having a child with their first cohabiting partner. Parenthood responses were coded as: 0) did not have children together or 1) had a child with their first cohabiting partner.

*Independent Variables*

*Income.* Income, or earnings, was measured separately for respondent and partner during the first round the main respondent began their first cohabiting union. The respondents were asked, “how much income did you receive from wages, salary, commissions, or tips from all jobs, before deductions for taxes or for anything else?” The
respondent’s income was coded as a continuous variable. Respondents who refused to answer this question or did not know were asked about their estimated income “Please look at this card. Can you tell me the letter of the category that is your best estimate of the amount you received last year in wages, salary, commissions and tips?” The categories that the respondents were given include: A) $1 to $5,000; B) $5,001 to $10,000; C) $10,001 to $25,000; D) $25,001 to $50,000; E) $50,001 to $100,000; F) $100,001 to $250,000; and G) More than $250,000. For our measure of income, the center value of the interval for estimating amounts of their own or their partner’s income were used. The respondents were also asked to report their partner’s income. Respondent’s either provided a continuous variable representing their partner’s income or were asked to estimate their partner’s income based on the same categories. Income for the respondent and partner were log transformed to help correct for positive skewness. An income difference variable was also constructed that subtracted the partner’s log transformed income from the respondent’s log transformed income at the round their first cohabiting union began.

2nd Year Changes in Income. The main respondent’s income at the round their first cohabiting union began was subtracted from their income two years after their first cohabiting union began to observe positive or negative changes in income since the time they started cohabiting. Changes in income could only be computed for the main respondent because partners that end their cohabitation relationship with the main respondent were not followed in future rounds of the study.

Household poverty level. Household poverty level for the respondent and partner was measured in the same round the respondents began their first cohabitation. These reports were based on the main respondent. The NLSY97 constructed that household poverty level
which was calculated based on the total household income divided by the poverty threshold indicator relative to the family’s household size. The total household income and the family’s household size were continuous data.

*Education at First Cohabitation.* The respondent reported their own and their partner’s highest level of education completed at the round they began their cohabiting relationship. Over the course of the study in 2003 and 2004, the categories and responses for different levels of education changed. Respondents were asked about their highest degree received. In order to compare respondent’s and partner’s education levels and to construct education across all rounds of data collection, the following responses were categorized and dummy coded as: 1) less than high school education; 2) high school diploma and GED; 3) associate’s degree; 4) bachelor’s degree; 5) master’s degree or 6) PhD or professional degree. An education difference variable was constructed that subtracted the partner’s education from the respondent’s level of education at first cohabitation.

*Age at First Cohabitation.* A continuous variable was constructed to document the respondent’s age at their first cohabitation. Respondent’s also reported their partner’s age at the round of their first cohabitation. An age difference variable was also computed that subtracted the partner’s age at first cohabitation from the respondent’s age at first cohabitation.

*Ethnicity.* Respondent ethnicity was assessed at the first round of interviews and respondent’s reported on their partner’s ethnicity in the round of interviews their first cohabiting relationship began. Over the course of the study, the categories and responses changed throughout the study. An ethnicity variable for the respondent and the partner was constructed to be consistent throughout all rounds of data collection and to compare the
respondent and their partner. The respondent’s and partner’s ethnicity was dummy coded in the following categories: 0) White, non-Hispanic; 1) African American, non-Hispanic; 2) Hispanic; and 3) Others, including respondents who identified as being multiethnic.

Relationship Status. The couple’s relationship status after their first cohabiting union began was a predictor only for the transition to parenthood model (see also the second research question). The relationship status was dummy coded as: 0) stay cohabiting with their first partner, 1) ended their first cohabiting union, or 2) married their first cohabiting partner. Couples that stayed cohabiting with their first cohabiting partner were the baseline group for the analysis.

Analytic Plan

Data were analyzed in multiple steps using SPSS and STATA. First, descriptive statistics, including means and standard deviations are provided in Table 1 for the study sample. Next, to account for missing data, the multiple imputation (MI) method was used in STATA. The MI method is recognized in the scientific community as a preferred method for handling missing data that works by creating multiple datasets that only vary in estimates for the missing values, with statistical analyses run separately for each constructed dataset, and then combined to form a dataset with the pooled estimates (Johnson & Young, 2011). Given the theoretical importance of knowing which partner’s characteristics would predict transitions in the romantic relationship and towards parenthood, the sample was separated and analyses were run separately for male and females. The models were also weighted using NLSY97 constructed population-based survey sampling weights and run separately for each research question.
**Research Question 1: How are income and changes in income associated with transitions to marriage in first cohabiting unions?**

To answer the first research question on the cohabiting couples’ transition towards marriage, multinomial logistic regressions were used. Table 2 contains the results of the multinomial logistic regression predicting changes in the first cohabiting relationship. Respondent relationship change was analyzed in terms of couples that married and the couples that ended their first cohabiting relationship relative to the couples that remained in their first cohabiting relationship. For the ethnicity predictor variables, Black, non-Hispanic; Hispanic; and Other respondents were compared to White, non-Hispanic participants.

The predictors of change versus continuation of first cohabiting relationships were respondent’s birth year, respondent’s age at first cohabitation, respondent’s education level at first cohabitation, respondent’s ethnicity, respondent’s logged income, changes in respondent’s logged income, household poverty level, partner’s ethnicity, partner’s logged income, age difference between respondent and their partner, education difference between respondent and their partner, and an income difference between respondent and their partner.

**Research Question 2: How are income and changes in income associated with transitions to parenthood in first cohabiting unions?**

To answer the second research question on the cohabiting couples’ transition towards parenthood, binary logistic regressions were used. Table 3 contains the results of binary logistic regression predicting transitions towards parenthood followed by first cohabiting unions. For the ethnicity predictor variables, Black, non-Hispanic; Hispanic; and Other respondents were compared to White, non-Hispanic participants. For the relationship status predictor variables, respondents that ended their first cohabiting union and respondents that
married after entering their first cohabiting union, were relative to respondents that stayed cohabiting with their first cohabiting partner.

The predictors of parenthood succeeded by first cohabiting unions were respondent’s birth year, respondent’s age at first cohabitation, respondent’s education level at first cohabitation, respondent’s ethnicity, respondent’s logged income, changes in respondent’s logged income, household poverty level, partner’s ethnicity, partner’s logged income, an age difference between the respondent and their partner, an education difference between the respondent and their partner, an income difference between the respondent and their partner, and whether or not their first cohabiting union with their partner resulted in a break-up or marriage.

Results

Changes in Relationship Status for Males

First, results were considered for males that ended their first cohabiting union in contrast to males that stayed in their cohabiting union. Each increase in male respondent’s age at first cohabitation was significantly associated with lower odds of ending their first cohabiting relationship ($B = -0.28, e^B = 0.75, p < .001$). A few female partner characteristics were also marginally associated with ending relative to staying in a first cohabiting union. For example, having a female partner whose ethnicity was identified as other, including multiethnic, compared to having a female partner who were identified as white, non-Hispanic, was marginally associated with greater odds of ending their first cohabiting relationship ($B = 0.64, e^B = 1.90, p < .10$). In addition, a one unit increase in female partner’s income (logged) was marginally associated with greater odd of ending their first cohabiting
relationship \((B = 0.06, e^B = 1.06, p < .10)\) compared to male respondents that continued cohabiting with their first cohabiting partner.

Next, results are presented for males that married their first cohabiting partner in contrast to males that continued cohabiting with their first cohabiting partner. Several key independent variables predicted a transition towards marriage. First, increases in male respondent’s income (logged) was associated with greater odds of marrying their first cohabiting partner \((B = 0.40, e^B = 1.49, p < .01)\). Moreover, male respondents whose change in income (logged) increased, measured two years after beginning their first cohabiting relationship, were associated with greater odds of marrying their first cohabiting partner \((B = 0.43, e^B = 1.54, p < .01)\) In addition to the male respondent, increases in their female partner’s income (logged) was associated with greater odds of marrying their first cohabiting partner \((B = 0.09, e^B = 1.10, p < .01)\).

For male respondents, each increase in their age at first cohabitation was associated with lower odds of marrying their first cohabiting partner \((B = -0.17, e^B = 0.85, p < .05)\). In addition, black, non-Hispanic male respondents compared to white, non-Hispanic male respondents were marginally associated with lower odds of marrying their first cohabiting partner \((B = -0.76, e^B = 0.47, p < .10)\).

Changes in Relationship Status for Females

First, results will be provided for females that ended their first cohabiting union in contrast to females that stayed in their cohabiting union. Each increase in birth year was associated with lower odds of ending their first cohabiting union \((B = -0.03, e^B = 0.97, p < .001)\). Likewise, for female respondents, each increase in their age at first cohabitation was associated with lower odds of ending their first cohabiting relationship \((B = -0.32, e^B = 0.73, p < .05)\).
Moreover, black, non-Hispanic female respondents compared to white, non-Hispanic female respondents were marginally associated with greater odds of ending their first cohabiting relationship \((B = 0.91, e^B = 2.49, p < .10)\).

Next, results are presented for females that marry their first cohabiting partner relative to females that stayed cohabiting with their first cohabiting partner. One of the key independent variables, income, predicted transitioning to marriage with their first cohabiting partner. Increases in male partner’s income (logged) was marginally associated with a greater odd of marrying their first cohabiting partner \((B = 0.07, e^B = 1.07, p < .10)\) in contrast to female respondents that continued cohabiting with their first cohabiting partner.

For females who continued cohabitating with their first cohabiting partner, each increase in birth year was associated with lower odds of marrying their first cohabiting partner \((B = -0.04, e^B = 0.96, p < .001)\). Additionally, for female respondents, each increase in their age at first cohabitation was associated with lower odds of marrying their first cohabiting partner \((B = -0.23, e^B = 0.80, p < .01)\).

For females who continued cohabitating with their first cohabiting partner, male partner ethnicity variables also predicted change in their relationship status. For example, having a black, non-Hispanic male partner compared to having a white, non-Hispanic male partner was marginally associated with lower odds of marrying their first cohabiting partner \((B = -0.88, e^B = 0.41, p < .10)\). Also, having an other minority ethnicity, including multiethnic, male partner relative to having a white, non-Hispanic male partner was marginally associated with lower odds of marrying their first cohabiting partner \((B = -0.61, e^B = 0.54, p < .05)\). Next, results will be discussed separately by males and females for the second research question.
Transition to Parenthood for Males

Changes in relationship status following their first cohabiting union were strong predictors in the transition to parenthood for male respondents. Males who ended their relationship with their first cohabiting female partner were associated with lower odds ($B = -1.17, e^B = 0.31, p < .001$) of transitioning to parenthood following their first cohabiting union relative to males who stayed cohabiting with their first cohabiting partner. In contrast, males who married their first cohabiting female partner were associated with greater odds ($B = 0.78, e^B = 2.18, p < .01$) of transitioning to parenthood following their first cohabiting union relative to males who stayed cohabiting with their first cohabiting partner.

For male respondents, each increase in years of education completed at first cohabitation was associated with lower odds ($B = -0.42, e^B = 0.66, p < .05$) of transitioning to parenthood following their first cohabiting union. Also, increases in the age difference between male respondents and their female partner were marginally associated with greater odds ($B = 0.05, e^B = 1.05, p < .10$) of transitioning to parenthood following their first cohabiting union.

Furthermore, ethnicity predictors were also linked to the transition to parenthood. For instance, black, non-Hispanic male respondents relative to white, non-Hispanic male respondents were associated with greater odds ($B = 0.92, e^B = 2.51, p < .01$) of transitioning to parenthood following their first cohabiting union. Hispanic male respondents relative to white, non-Hispanic male respondents were associated with greater odds ($B = 0.90, e^B = 2.47, p < .01$) of transitioning to parenthood following their first cohabiting union. Other ethnic minority male respondents, including multiethnic relative to white, non-Hispanic male
respondents were associated with greater odds ($B = 1.49, e^B = 4.43, p < .05$) of transitioning to parenthood following their first cohabiting union.

Transition to Parenthood for Females

Changes in relationship status following their first cohabiting union were strong predictors in the transition to parenthood for female respondents. Females who ended their relationship with their first cohabiting male partner were associated with lower odds ($B = -0.77, e^B = 0.46, p < .001$) of transitioning to parenthood following their first cohabiting union relative to females who stayed cohabiting with their first cohabiting partner. In contrast, females who married their first cohabiting male partner were associated with greater odds ($B = 1.12, e^B = 3.06, p < .001$) of transitioning to parenthood following their first cohabiting union relative to females who stayed cohabiting with their first cohabiting partner.

For female respondents, each increase in years of education completed at first cohabitation was associated with lower odds ($B = -0.50, e^B = 0.60, p < .01$) of transitioning to parenthood following their first cohabiting union. Several ethnicity variables were also linked. For example, black, non-Hispanic female respondents relative to white, non-Hispanic female respondents were associated with greater odds ($B = 0.71, e^B = 2.04, p < .05$) of transitioning to parenthood following their first cohabiting union. Similarly, having a black, non-Hispanic male partner relative to having a white, non-Hispanic male partner was marginally associated with greater odds ($B = 0.61, e^B = 1.85, p < .10$) of transitioning to parenthood following their first cohabiting union. Next, having a Hispanic male partner relative to having a white, non-Hispanic male partner was associated with greater odds ($B = 0.31, e^B = 2.67, p < .01$) of transitioning to parenthood following their first cohabiting union. Finally, having a male partner who identifies as some other ethnic minority, including
multiethnic relative to having a white, non-Hispanic male partner was marginally associated with lower odds ($B = -0.39, e^B = 0.68, p < .10$) of transitioning to parenthood following their first cohabiting union.

Discussion

An important principle of the Financial Expectation and Family Formation theory is that marriage and fertility family formation decisions are not made jointly because they have different expectations and purposes. American marriages represent the couple’s expectation to have a healthy, stable, and secure relationship in terms of both relationship and economic security (Gibson-Davis, 2009; Gibson-Davis et al., 2005; Smock et al., 2005). In contrast, parenthood is more likely to be viewed as a normative transition in the life course, providing meaning to people’s lives, and not determined by economic security (Gibson-Davis, 2009; Edin & Kefalas, 2005).

The present report aimed to test the Financial Expectation and Family Formation theory on a subsample of individuals establishing their first cohabiting unions. By measuring respondent and partner incomes at the beginning of their first cohabiting relationship and a change in income two years after the first cohabiting union began, the results supported the hypothesis. Additionally, separating the sample and running the models separately for males and females provides more explanatory power for findings related to gender. A key finding demonstrated that controlling for respondent and partner levels of income when they began cohabiting, a 1 logged unit change in male respondent income was associated with 54% greater odds of marrying relative to cohabiting, but was not predictive of transitioning to parenthood with their first cohabiting partner. For males, not only was their own income and change in their income associated with a relationship transition to marriage, but their females
partner’s income measured at first cohabitation was also associated with marriage. However in the female model, their own income and change in their income were not related to changes in their relationship status, but their male partner’s income at first cohabitation was marginally associated with transitioning to marriage relative to cohabiting. These findings support that while transition to marriage from cohabitation is influenced jointly by both partners (Gibson-Davis et al., 2005), it is the change in the male partner’s income that is more correlated with marriage odds and cohabiting couples are sensitive to changes in their economic circumstances over the duration of their relationship (Gibson-Davis, 2009).

In addition to important findings regarding income, there were also pronounced findings regarding ethnicity. Respondents and partners who identified as black, non-Hispanic or other, including multiethnic, were more likely to end their relationship and less likely to marry their first cohabiting partner relative to white respondents and partners who remained in a cohabiting relationship. These findings suggest that race and ethnic minorities are more sensitive to changes in their cohabiting relationship (either more likely to break up and less likely to marry) relative to white couples that remain cohabiting. In contrast, all race and ethnic minorities were more likely to transition to parenthood with their first cohabiting partner relative to the white cohabiting couples. This is consistent with previous research that concludes race and ethnic minority adulthoods are more likely to transition to parenthood in the context of cohabitation (Manning & Brown, 2006).

A final interesting finding regarding the transitions to parenthood was how this behavior was significantly related to changes in the cohabitors relationship status. Cohabitors who married their first cohabiting partner were more likely to have a child with their partner whereas cohabitors who ended their relationship with their first cohabiting partner were less
likely to transition to parenthood with them. This finding is paradoxical to the premise of the Financial Expectation and Family Formation theory which assumes that marriage and fertility decisions are not joint behaviors. The present study demonstrated that these family formation behaviors are jointly related to the transition to parenthood in young cohabiting adults, which can be explained by a societal expectation for mother’s and father’s to be involved in their child’s life or coparenting.

**Limitations**

This study poses specific limitations to testing the Financial Expectation and Family Formation theory. First, the data is survey self-reported by the main respondent in the study, therefore it does not demonstrate a causal relationship between the independent and dependent variables. Second, the data is taken from main respondent reports and main respondent reports for their romantic partner, thus is prone to inaccuracies. For example, respondent’s report on their partner’s characteristics may provide incorrect estimates. In addition, due to the sample design, partners that end their first cohabiting relationship are not followed thus, the change in income variable could only be computed for the respondent. It should also be noted that the birth cohort sample is relatively young. The subsample was limited to respondents that began cohabiting in round 1 (between the ages of 12 to 16) and round 10 (between the ages of 22 to 26). By 2009, the median first age of marriage was 28.4 for men and 26.5 for women (Elliott & Simmons, 2011). In comparison, the median first age for parenthood is close to 25.0 years for women (Mathews & Hamilton, 2009). Thus, some respondents in our sample may just not have had enough time to transition to marriage or parenthood. Moreover, this should be considered when interpreting the relationship between cohort birth year and age at first cohabitation to the dependent variables. While the findings
suggest age as an important influence, researchers should be cautious that the sample is young to draw strong conclusions from those specific results.

**Future Directions and Implications**

Financial circumstances are an important construct to assess when testing the Financial Expectation and Family Formation theory. While levels of income for cohabiting partners and change in income after the cohabiting relationship began have been examined in the original article testing the theory, there are several other markers of financial circumstances that should be considered. For example, a measure of economic pressure might be more meaningful compared to income, changes in income, and even a household poverty level. Economic pressure can be an important measure of financial circumstances because it taps into various psychological dimensions of financial hardships such as not having enough money to make ends meet, pay bills, or not being able to afford basic essentials such as food, clothing, and medical care (Conger and Conger, 2002). These economic strains give meaning to hardships (Conger, Conger, & Martin, 2010; Conger & Donnellan, 2007) in ways that may be more closely related to financial barriers than just measuring income and changes in income alone.

In addition to future work examining different dimensions of financial circumstances, there are other measurement and research issues that could be improved. One of the challenges of examining age at transitions in relationship status and parenthood is the age of the sample. This particular sample is comprised of young adults and future work should test this theory on an older population. Furthermore, future work should not rely solely on self-reports from a single respondent to avoid potential bias in measurement reports.
Nevertheless, this study does have strong implications for researchers and family policy. It is important to note that cohabiting couples are sensitive to changes in their financial circumstances and male economic contributions are particularly important. This has immediate implications given the downward economy and large unemployment rates among males. As such, the results of this study could be used to advise policy programs for families. Researchers could examine income thresholds that postpone or encourage marriage and parenthood among cohabiting couples. Particular attention should be given to looking at ways to help cohabiting couples endure financial changes over the duration of their relationship and also promote asset development in families. In addition, this study adds to the literature on the separation of marriage and parenthood and gives possible explanations for those life course transitions and pathways to family formation.
REFERENCES


Table 1. Descriptive Statistics of Cohabitating Couples

<table>
<thead>
<tr>
<th>Study variables</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondent predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first cohabitation</td>
<td>20.31</td>
<td>2.08</td>
<td>14.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Education at first cohabitation</td>
<td>2.52</td>
<td>1.09</td>
<td>1.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Income (logged)</td>
<td>7.20</td>
<td>3.71</td>
<td>0.00</td>
<td>11.30</td>
</tr>
<tr>
<td>2yr Change in income (logged)</td>
<td>1.73</td>
<td>3.16</td>
<td>-10.13</td>
<td>11.63</td>
</tr>
<tr>
<td>HH Inc. in terms of Poverty level</td>
<td>2.73</td>
<td>3.17</td>
<td>0.01</td>
<td>26.27</td>
</tr>
<tr>
<td><strong>Partner predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first cohabitation</td>
<td>22.33</td>
<td>4.26</td>
<td>14.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Education at first cohabitation</td>
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<td>0.63</td>
<td>1.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Income (logged)</td>
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<td>4.36</td>
<td>0.00</td>
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<td><strong>Couple predictors</strong></td>
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<td></td>
<td></td>
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<tr>
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<td>1.03</td>
<td>-28.58</td>
<td>6.75</td>
</tr>
<tr>
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<td>1.03</td>
<td>-4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Income difference (logged)</td>
<td>-0.38</td>
<td>8.12</td>
<td>-12.62</td>
<td>11.30</td>
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</table>
## Table 2. Multinomial Logistic Regressions Predicting Relationship Changes Relative to Continuation of First Cohabiting Relationships (N=1938)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Male Respondents (n=856)</th>
<th>Female Respondents (n=1,082)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Broke up</td>
<td>Married</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td><strong>SE B</strong></td>
<td><strong>OR</strong></td>
</tr>
<tr>
<td><strong>Respondent predictors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohort birth year</td>
<td>-0.008</td>
<td>0.007</td>
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<tr>
<td>Age at first cohabitation</td>
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<td>Black, non-Hispanic</td>
<td>0.330</td>
<td>0.361</td>
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<tr>
<td>Hispanic</td>
<td>-0.218</td>
<td>0.336</td>
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<tr>
<td>Others (includes multiethnic)</td>
<td>0.538</td>
<td>0.705</td>
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<td>Income (logged)</td>
<td>0.044</td>
<td>0.096</td>
</tr>
<tr>
<td>2yr Change in income (logged)</td>
<td>0.069</td>
<td>0.091</td>
</tr>
<tr>
<td>HH Inc. in terms of Poverty lvl</td>
<td>-0.004</td>
<td>0.031</td>
</tr>
<tr>
<td><strong>Partner predictors</strong></td>
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<td></td>
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<tr>
<td>Ethnicity (White omitted)</td>
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<td>Black, non-Hispanic</td>
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<td>Hispanic</td>
<td>0.123</td>
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<tr>
<td>Others (includes multiethnic)</td>
<td>0.640</td>
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<tr>
<td>Income (logged)</td>
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<td>0.034</td>
</tr>
<tr>
<td>Age difference</td>
<td>0.033</td>
<td>0.037</td>
</tr>
<tr>
<td>Education difference</td>
<td>-0.079</td>
<td>0.221</td>
</tr>
<tr>
<td>Income difference</td>
<td>-0.006</td>
<td>0.022</td>
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*Note: OR = Odds Ratio. †p < .10, *p < .05, **p < .01, ***p < .001.*
Table 3. Logistic Regressions Predicting Parenthood Following First Cohabiting Unions (N=1823)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Male Respondents (n=856)</th>
<th>Female Respondents (n=1082)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td><strong>Respondent predictors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohort birth year</td>
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<td>0.005</td>
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<tr>
<td>Age at first cohabitation</td>
<td>-0.042</td>
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<td>Education at first cohabitation</td>
<td>-0.418</td>
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<td>Ethnicity (White omitted)</td>
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<td>Black, non-Hispanic</td>
<td>0.919</td>
<td>0.298</td>
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<tr>
<td>Hispanic</td>
<td>0.902</td>
<td>0.271</td>
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<tr>
<td>Others (includes multiethnic)</td>
<td>1.488</td>
<td>0.573</td>
</tr>
<tr>
<td>Income (logged)</td>
<td>-0.019</td>
<td>0.087</td>
</tr>
<tr>
<td>Change in income (logged)</td>
<td>0.018</td>
<td>0.085</td>
</tr>
<tr>
<td>Household Poverty Level</td>
<td>-0.028</td>
<td>0.029</td>
</tr>
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<td><strong>Partner predictors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity (White omitted)</td>
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<td></td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>0.001</td>
<td>0.361</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-0.069</td>
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</tr>
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<td>Others (includes multiethnic)</td>
<td>-0.343</td>
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<tr>
<td>Income (logged)</td>
<td>0.004</td>
<td>0.025</td>
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<td><strong>Couple predictors</strong> (R – Partner)</td>
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<tr>
<td>Age difference</td>
<td>0.049</td>
<td>0.027</td>
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<tr>
<td>Education difference</td>
<td>0.152</td>
<td>0.157</td>
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<tr>
<td>Income difference</td>
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<td>0.015</td>
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<td>Relationship status (cohab omitted)</td>
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<tr>
<td>Broke-up</td>
<td>-1.171</td>
<td>0.231</td>
</tr>
<tr>
<td>Married</td>
<td>0.781</td>
<td>0.236</td>
</tr>
</tbody>
</table>

*Note: OR = Odds Ratio. †p < .10, *p < .05, **p < .01, ***p < .001.
CHAPTER 3. THE EFFECTS OF SES, PARENTING, AND PERSONALITY ON AGE AT FIRST PARTNERSHIP

A paper to be submitted to *The Journal of Family Psychology*

Jennifer M. Senia, Tricia K. Neppl, and Clinton G. Gudmunson

Abstract

This study examined continuities in socioeconomic status across two generations (G1, G2) directly and as mediated through G1 parenting, G2 personality, and G2 age of first romantic partnership. Participants were 334 emerging adults from an ongoing longitudinal study on the transition to adulthood. Consistent with the interactionist model, the results indicated that G1 SES was associated with G2 personality indirectly through G1 parenting. G1 parenting was also indirectly associated with G2 age at partnership through G2 personality. G1 SES and G2 first partnership directly predicted G2 SES. Findings were consistent across each personality superfactor: positive emotionality, negative emotionality, and constraint.

Introduction

In the social sciences, there is a considerable amount of scientific interest spent on studying dimensions of socioeconomic status (SES). It is no wonder given that markers of SES (e.g. occupational prestige, educational achievement, and income) often encompass an individual’s and family’s relative social standing and economic position in society (Conger, Conger, Martin, 2010; Crosnoe and Cavanagh, 2010; Conger & Donnellan, 2007; Bornstein and Bradley, 2003). Theoretical and empirical evidence consistently finds an interaction among the family of origin’s SES, individual differences, human development, and family processes across generations (Conger, Conger, Martin, 2010; Conger & Donnellan, 2007).
and that socioeconomic disadvantage in particular has negative consequences on healthy child development (Scaramella, Neppl, Ontai, & Conger, 2008; Brooks-Gunn & Duncan, 1997).

Two theories, the social causation and social selection perspectives, examine the relationship between economic hardship and human development. The social causation perspective posits that social and economic circumstances in the family of origin (Generation 1, G1), account for developmental outcomes in the lives of their children (Generation 2, G2; Conger & Donnellan, 2007). On the other hand, the social selection perspective posits that individual differences and characteristics of individuals will account for social, economic, and other developmental outcomes (Conger & Donnellan, 2007). Taken together, the interactionist model incorporates both the social causation and social selection perspectives into one model. While the interactionist model considers dynamics from each perspective, little research has considered a test of this model using longitudinal data. Additionally, researchers could expand empirical evidence of this theory by testing for new mediating pathways in support of the interactionist model (Conger, Conger, Martin, 2010).

In response to the call for more research in this area, Trentacosta and colleagues (2010) tested the interactionist model by examining relationships between SES in the target youth’s family of origin (Generation 1, G1), the target youth’s (Generation 2, G2) personality during late adolescent, his or her age of entry into parenthood, the target adult’s SES, and his or her parenting toward their toddler-age child (Generation 3, G3). An important strength of this study was it use of cross-generational data to test the interactionist model. However, Trentacosta and colleagues (2010) did not incorporate family of origin (G1) parenting as a prospective predictor of individual differences in the target youth’s (G2) developmental
outcomes. Furthermore, the target adult’s age at first romantic partnership is an important mediator to consider in the continuity of SES across generations.

Therefore the aim of this study was to examine continuities in socioeconomic status across two generations as mediated through G1 parenting, G2 personality, and G2 age of first partnership (see Figure 1). The social causation perspective, represented by solid lines in Figure 1, hypothesizes that G1 SES directly influences G1 parenting, G2 personality, G2 age at first partnership, and G2 SES. In addition, the social causation perspective accounts for the direct influence of G1 parenting on G2 personality, G2 age at first partnership, and G2 SES. In contrast, the social selection perspective, represented by dashed lines in Figure 1, hypothesizes that G2 personality directly influences G2 age at first partnership and G2 SES. In addition, the social selection perspective accounts for the direct influence of G2 age at first partnership on G2 SES. Consistent with the interactionist model which incorporates both social causation and social selection perspectives, this study expands Trentacosta’s and colleagues (2010) research by examining G1 parenting as a prospective predictor of age at first partnership in its relationship to SES across two generations.

Literature Review

SES, G1 Parenting, and G2 SES

Much of the empirical and theoretical literature on socioeconomic status posits that family of origin SES affects second generation developmental outcomes primarily through its influence on G1 parenting (Conger & Donnellan, 2007). In particular, socioeconomic disadvantage disrupts healthy family processes (i.e., parenting) primarily through the economic pressures that financial hardship creates. Economic pressures are psychological measurements of SES (Conger, Conger, & Martin, 2010) that tap into various dimensions of
financial hardship including unmet material needs such as adequate food and clothing, the inability to pay bills or make ends meet, and having to cut back on necessary expenses (Conger & Conger, 2002). Collectively, these economic pressures generate emotional distress in parents which spills over into their parenting practices (Nelson, O’Brien, Blankson, Calkins, & Keane, 2009; Conger, Wallace, Sun, Simons, McLody, and Brody, 2002). Moreover, studies have demonstrated a direct relationship between SES and parenting practices. Specifically, low SES has been linked to harsher parenting behaviors and children’s externalizing problems (Neppl, Conger, Scaramella, & Ontai, 2009; Conger & Conger, 2002) as well as less competent social and cognitive functioning (Conger, Conger, & Martin, 2010).

In contrast, parents with more socioeconomic resources demonstrate positive and supportive parenting behaviors. Specifically, these families have the ability to make investments in the development of their children absent of facing economic pressures that most low SES parents face (Conger, Conger, Martin, 2010; Duncan & Magnuson, 2003; Linver at al., 2002). These parenting behaviors have been linked to many beneficial outcomes in children such as social, emotional, and cognitive well-being (Conger, Conger, Martin, 2010; Bradley & Corwyn, 2002). Furthermore, Sobolewski and Amato (2005) demonstrated that the effects of SES in the family-of-origin persist even into adulthood and can affect financial, educational, and occupational success across generations. This empirical and theoretical evidence supports the social causation perspective which suggests that family of origin (G1) SES has a major influence on family relationships, such as positive or harsh parenting practices, and on various social, cognitive, and psychological developmental outcomes in the second generation (G2; Conger & Donnellan, 2007).
The social selection perspective argues that individual traits and characteristics are important predictors of socioeconomic development (Conger & Donnellan, 2007). Specifically, personality has been linked to socioeconomic development in the transition to adulthood even after controlling for G1 SES (Conger, Conger, & Martin, 2010; Donnellan, Conger, McAdams, & Neppl, 2009). Consistent with Trentacosta and colleagues work, these studies examined three broad personality traits were measured from the Multidimensional Personality Questionnaire (MPQ; Harkness, Tellegen, and Waller, 1995).

Positive emotionality (PEM), negative emotionality (NEM), and constraint (CN) are three “superfactors” that tap into different dimensions of psychological development in ways that have theoretical, conceptual, and empirical ties to the Big Five traits (Trentacosta et al., 2010; Clark & Watson, 2008; Harkness et al., 1995; Church, 1995; & Belsky, 1984). Positive emotionality is related to social closeness, interpersonal connectedness, and extraverts who are engaged with their environment. Negative emotionality is related to aggression and many negative emotions such as anger and anxiety. Constraint is related to risk avoidance, careful planning, and control (Neppl, Donnellan, Scaramella, Widaman, Spilman, Ontai, & Conger, 2010; Trentacosta et al., 2010; Clark & Watson, 2008). Collectively, these personality traits can predict the quality of romantic relationships and parenting (Conger, Conger, Martin, 2010; Donnellan et al., 2009) and presumably the age at first romantic partnership.

For instance, individuals with high positive emotionality and classified as extraverts are thought to form social relationships early because they are often more likely to spend time with others, thus creating more opportunities to form romantic partnerships (Asendorph & Wilpers, 1998). In contrast, Caspi, Elder, and Bem (1988) found that shy boys were more
likely to delay entry into both romantic partnerships and also into stable educational and occupational stability, suggesting that gender may also be a driving force in the development of romantic partnerships and socioeconomic development in adulthood. Furthermore, Roberts, Caspi, and Moffitt (2003) speculate that in the transition to adulthood, individuals will increase in traits associated with PEM and CN but also decrease in traits associated with NEM, as possible genetic mechanisms that facilitate life transitions such as creating a family or pursuing a career.

Moreover evidence also suggests that G2 personality influences G2 SES. Consistent with earlier research, Schofield, Martin, Conger, Donnellan, Neppl, and Conger (2011) found that G2 personality directly predicted less economic pressure and greater G2 SES. This suggests that G2 personality can be an enduring characteristic leading to socioeconomic development in the transition to adulthood. Taken together, the evidence suggests that G2 personality traits predict G2 age at first partnership and G2 SES, which is consistent with the social selection perspective. Therefore, this study incorporated aspects of the interactionist model to make predictions about interactions among the family of origin’s socioeconomic status, family processes, and developmental outcomes across generations (Conger, Conger, Martin, 2010; Conger & Donnellan, 2007).

Method

Participants and Procedures

Data used in the present report came from the Family Transitions Project (FTP), an ongoing 22-year study that recruited 559 target adolescents and their families. The FTP began as a continuation of two existing studies that were originally designed to assess the impact of family economic stress during the farm crisis in Iowa in the late 1980s: The Iowa
Youth and Families Project (IYFP) and the Iowa Single Parent Project (ISPP). The IYFP began in 1989, and recruited 451 families by selecting two-parent households (451 mothers; \(M\) age = 38, 451 fathers; \(M\) age=40) with a target adolescent in seventh grade (\(M\) age = 12.7 years; 236 girls, 215 boys) who also had a sibling within 4 years of age (217 girls, 234 boys) of the target adolescent. Of all of the eligible families, 78% agreed to participate in the study during annual assessments from 1989 to 1992.

The ISPP began in 1991, and recruited 108 families by selecting single-parent households (108 mothers) with a target adolescent in ninth grade (\(M\) age = 14.8 years) who also had a sibling within 4 years of age of the target adolescent Telephone screeners identified families headed by a single mother who had experienced divorce within two years prior to the start of the study and all but three of the eligible families agreed to participate during annual assessments from 1991 to 1993.

Because of the rural nature of both samples, and due to the underlying demographics of rural Iowa during the late 1980s, all IYFP participants were Caucasian (with minority families accounting for less than 1% of those eight counties at the time of recruitment). The IYFP families were primarily lower middle- or middle-class having median family incomes of $33,700 and parents averaged 13 years of completed schooling in 1989. The participating IYFP families ranged in household size from 4 to 13 members, with an average size of 4.94 members. The IYFP families were recruited from eight rural counties in Iowa with 54% of families residing in communities with fewer than 6,500 residents, 34% of families residing on farms, and 12% lived in nonfarm rural areas. The ISPP families were also Caucasian, primarily lower middle- or middle-class, and lived in the same eight rural counties as the IYFP families. The measures and procedures of data collection for the IYFP and ISPP studies
were identical, with the exception that ISPP fathers did not participate in in-home interviews. In 1994, the families from the IYFP and ISPP studies were combined to create the FTP. At the time, the target adolescents from both studies were in the 12\textsuperscript{th} grade.

Throughout the years of the study G1s and G2s participated in annual interviews with a range of measures, including participant-report and trained field interviewers visited each family annually to videotape interactions among family members (see also Conger & Conger, 2002). In the 1994 annual assessment, the target adolescents (G2) participated in the study with their parents (G1). In the 1995 annual assessment, each G2 target (1 year after completing high school) participated with a romantic partner or friend in the study. Starting in the 1997 annual assessment, the oldest biological child (G3) of the target (G2) was recruited into the study.

The present report examines G2 target participants that entered into marriage or lived with their romantic partner in a marriage-like relationship from 1991 through 2005 (N = 432). In 2012, the G2 targets mean age was 35.

**Measures**

*SES.* The G1 SES latent construct was created using G1 family’s per capita income and education as separate latent indicators. G1 mothers and fathers reported family per capita income in 1991 and 1992 (G2 age 15 and 16 years respectively). The mean family per capita income across waves was used for the G1 SES latent construct and also was divided by 1,000 for the ease of analysis and interpretation in this study. G1 mothers and fathers also reported their highest grade of completed schooling at the 1991 and 1992 assessments. Their response was coded from kindergarten (0) to education beyond a master’s degree (20) and the mother’s and father’s responses were combined and averaged across the two assessments.
The G2 SES latent construct was also created using family per capita income and education as separate latent indicators. G2 Targets reported their family’s per capita income in 2007 when they were 31 years old. The G2 education indicator reflects when Target’s reported their number of years of education completed also in 2007.

*G1 parenting.* G1 parenting was assessed in 1991, 1992, and 1994 (when G2 Targets were 15, 16, and 18 respectively) using the Iowa Family Interaction Rating Scales (IFIRS; Melby & Conger, 2001; Melby et al., 1998). Observers rated G1 mother’s positive and harsh parenting toward the target youth (G2) during the adolescent family interaction task. Parents and the target youth were given cards that had questions related to subjects such as school activities, family rules, parental discipline, and the cards were labeled to be read specifically by the parent or the target youth. The card reader (parent or target youth) was instructed to read the card and give their answer first before family members gave their individual answers. All family members then talked together about the answers that were given and once they felt they had said everything they wanted to convey for each question, they would move on to another card. The adolescent family interaction task was designed to elicit both negative and positive interactions between family members. A total of six observer ratings were used to assess the G1 parenting valence construct, with high scores indicating high positivity and low negativity or hostility. Communication, listener responsiveness, and assertive behavior were the three positive parenting items. Communication was rated by the G1 mothers ability to use solicitation, explanation, and reason of the G2 adolescent’s point of view in a neutral or positive manner. Listener responsiveness was rated by the G1 mothers use of nonverbal or verbal cues that captures validation, and attending to the G2 adolescent. Assertive behavior was rated by the G1 mothers’ style and manner to present information to
their G2 adolescent positively and confidently, while demonstrating patience with their G2 adolescent’s responses. G1 positive parenting scores were observed in 1991, 1992, and 1994 (when the G2 Targets were 15, 16, and 18 respectively), and scores were averaged across data collection. The observational ratings were internally consistent ($\alpha = .88$), and interrater reliability was acceptable ($\alpha = .87$). In contrast, hostility, antisocial behavior, and angry coerciveness were the three harsh parenting items that represent the opposite end of a parenting continuum. Hostility was rated by G1 mothers’ rejecting, critical, angry, disapproving, and/or hostile behavior to their G2 target adolescent. Antisocial behavior was rated by the G1 mothers’ display of socially irresponsible behavior such as insensitivity, resistance, or defiance to the G2 target adolescent. Angry coerciveness was rated by G1’s attempt to exert or control the behavior of their G2 target adolescent in a hostile manner and may have included the use of threats, demands, refusals, or other hostile demands. G1 harsh parenting scores were also observed in 1991, 1992, and 1994, and scores were averaged across data collection. The observational ratings showed internally consistency ($\alpha = .92$), and interrater reliability was demonstrated to be acceptable ($\alpha = .94$). Because G2 targets in this sample come from two-parent and single-mother families, only the G1 mother’s behaviors were utilized in this analysis.

The positive-valence parenting items and reverse-coded harsh parenting items were combined to assess positive observed G1 mother and G2 adolescent interactions on a 9-point scale ranging from low (no evidence of the behavior) to high (the behavior is highly characteristic of the parent). Valence indicator one combined communication and reverse-coded hostility ($M = 5.76; SD = 1.26$). Valence indicator two combined listener responsiveness and reverse-coded antisocial behavior ($M = 5.57; SD = 1.16$). Valence three
combined assertive behavior and reverse-coded angry coerciveness \((M = 5.94; SD = 1.59)\). The method was modeled after Spilman, Neppl, Donnellan, Schofield, and Conger (in press) who also used two sets of parenting variables to create a continuum representing positive behaviors.

**G2 personality.** G1 mothers rated their G2 target’s personality in 1994 (when G2 was 18) utilizing a 33-item informant report version of the Multidimensional Personality Questionnaire (MPQ; Harkness, Tellegen, & Waller, 1995). The MPQ constructs measure three broad personality traits: positive emotionality (PEM), negative emotionality (NEM), and constraint (CN). Each personality trait demonstrated relatively high Pearson correlations \(r = -.51, p < .001, \) PEM to NEM; \(r = .45, p < .001, \) PEM to CN; and \(r = -.60, p < .001, \) NEM to CN).

**G2 age at first partnership.** Age at first partnership was recorded as the first time G2 was married or living with their romantic partner in a marriage-like relationship. A time-shifted dataset was utilized for this analysis such that G2 romantic relationship was measured the first wave G2 participated in the study with a spouse or cohabitating partner \((n = 432)\). The assessment point for G2 romantic relationship ranged from 1995 to 2005.

**Analytic Plan**

Data were analyzed in multiple steps using SPSS and Amos 5.0 full information maximum likelihood (FIML) estimation procedures (Arbuckle, 2003). First descriptive statistics and correlation analyses were explored. Next structural equation models (SEMs) were utilized to test the study hypotheses. Age at first partnership was examined as a manifest variable, while multiple observed indicators were used to create G1 SES, G1
parenting, G2 personality, and G2 SES latent constructs. G1 marital status and G2 gender were tested as control variables.

Results

Table 1 presents the descriptive statistics for the variables. In this sample, the mean age at first partnership was 22.86 (range = 17 – 30). It should also be noted that the G1 mean per capita income included negative values because some families had net farm income, which was negative.

Table 2 provides correlational analyses for the latent constructs. It is important to notice how strongly some of the latent constructs are correlated to one another. For instance G1 SES and G2 SES are strongly correlated ($r = .62, p < .01$). The personality superfactors were also strongly correlated to one another with ranges from ($r = -.76 - .67$). The models were estimated with and without the control variables (G1 marital status and G2 gender) and given that findings were essentially the same, the final results presented were estimated without the control variables in the models. Next, we present the findings from SEMs that were run separately for each personality superfactor: PEM, NEM, and CN.

Positive Emotionality

The full model shown in Figure 1 examined the hypothesis that G1 SES and G1 parenting would be associated with G2 positive emotionality, that that G2 positive emotionality would be associated with G2 Age at First Partnership and G2 SES. The model for positive emotionality demonstrated adequate fit, $\chi^2 (43) = 89.65, p < .000$, RMSEA = .05, CFI = .95. All factor loadings were statistically significant ($p < .01$). For the G1 SES construct, standardized loadings were .73 for education and .30 for per capita income. For the G2 SES construct, standardized loadings were .78 for education and .49 for per capita income.
income. Standardized loadings were for the G1 parenting construct ranged from .48 to .74. Standardized loadings for the G2 personality construct ranged from .51 to .81. Standardized loadings are also consistent with Trentacosta’s and colleagues work (Trentacosta et al., 2010). All correlations between latent constructs were statistically significant and in the expected direction except for the nonsignificant path from G1 parenting to G2 Age at First Partnership and the nonsignificant path from G1 parenting to G2 SES (see Table 2).

As shown in Table 3, many direct paths in the SEM model were significant for G2 positive emotionality (PEM). G1 SES was significantly associated with G2 SES ($\beta = .49$, $p < .01$), G1 parenting ($\beta = .27$, $p < .01$), G2 PEM ($\beta = .28$, $p < .01$), and G2 Age at First Partnership ($\beta = .15$, $p < .10$). The paths from G1 parenting to G2 PEM, G2 Age at First Partnership, and G2 SES were nonsignificant. G2 PEM had a direct positive relationship with G2 SES ($\beta = .41$, $p < .001$), but the path was nonsignificant from G2 PEM to G2 age at first partnership. Finally, G2 age at first partnership was significantly related to G2 SES ($\beta = .28$, $p < .001$).

**Negative Emotionality**

The full model shown in Figure 1 examined the hypothesis that G1 SES and G1 parenting would be associated with G2 negative emotionality, that that G2 negative emotionality would be associated with G2 Age at First Partnership and G2 SES. The model for negative emotionality demonstrated good fit, $\chi^2 (33) = 37.13$, $p = .28$, RMSEA = .02, CFI = .99. All factor loadings were statistically significant ($p < .01$). For the G1 SES construct, standardized loadings were .70 for education and .31 for per capita income. For the G2 SES construct, standardized loadings were .72 for education and .53 for per capita income. Standardized loadings for the G1 parenting construct ranged from .48 to .73. Standardized
loadings for the G2 personality construct ranged from .66 to .83. Standardized loadings are also consistent with Trentacosta’s and colleagues work (Trentacosta et al., 2010). All correlations between latent constructs were statistically significant and in the expected direction except for the nonsignificant path from G1 parenting to G2 Age at First Partnership and the nonsignificant path from G1 parenting to G2 SES (see Table 2).

As shown in Table 3, many direct paths in the SEM model were significant for G2 negative emotionality (NEM). G1 SES was significantly associated with G2 SES ($\beta=.52$, $p < .01$), G1 parenting ($\beta=.27$, $p < .01$), and G2 age at first partnership ($\beta=.15$, $p < .10$). The path from G1 SES to G2 NEM was nonsignificant ($\beta=-.14$, $p = .12$) but was trending in the right direction. The paths from G1 parenting to G2 PEM, G2 Age at First Partnership, and G2 SES were nonsignificant. G2 NEM had a direct negative relationship with G2 SES ($\beta=-.37$, $p < .001$) and G2 age at first partnership ($\beta=-.16$, $p < .01$). Last, G2 age at first partnership was significantly related to G2 SES ($\beta=.27$, $p < .001$).

**Constraint**

The full model shown in Figure 1 examined the hypothesis that G1 SES and G1 parenting would be associated with G2 constraint, that that G2 constraint would be associated with G2 Age at First Partnership and G2 SES. The model for constraint demonstrated good fit, $\chi^2 (33) = 34.62$, $p = .39$, RMSEA = .01, CFI = .99. All factor loadings were statistically significant ($p < .01$). For the G1 SES construct, standardized loadings were .74 for education and .30 for per capita income. For the G2 SES construct, standardized loadings were .79 for education and .48 for per capita income. Standardized loadings for the G1 parenting construct ranged from .48 to .74. Standardized loadings for the G2 personality construct ranged from .46 to .81. Standardized loadings are also consistent with Trentacosta’s and
All correlations between latent constructs were statistically significant and in the expected direction except for the nonsignificant path from G1 parenting to G2 Age at First Partnership and the nonsignificant path from G1 parenting to G2 SES (see Table 2).

As shown in Table 3, many direct paths in the SEM model were significant for G2 constraint (CN). G1 SES was significantly associated with G2 SES ($\beta = .54$, $p < .01$), G1 parenting ($\beta = .27$, $p < .01$), G2 CN ($\beta = .24$, $p < .05$). The direct path from G1 SES to G2 Age at First Partnership was nonsignificant ($\beta = .13$, $p = .10$) but trending in the right direction. In addition, the paths from G1 parenting to G2 PEM, G2 Age at First Partnership, and G2 SES were nonsignificant. G2 CN had direct positive relationship with G2 SES ($\beta = .27$, $p < .001$) and G2 age at first partnership ($\beta = .15$, $p < .05$). Last, G2 age at first partnership was significantly associated with G2 SES ($\beta = .26$, $p < .001$).

Discussion

The findings confirm the interactionist model of human development (Conger & Donnellan, 2007) and successfully extend Trentacosta’s and colleagues (2010) work by incorporating G1 parenting as a prospective predictor of G2 personality, G2 age at first partnership, and G2 SES. Consistent with the study hypotheses, G1 SES, G2 personality, and G2 age at first partnership were directly related to G2 SES. Specifically, G2 age of entry into a romantic partnership was associated with the continuity of SES across generations, with later entry suggesting higher SES. This is supported with previous research that suggests that higher SES in the family of origin delays transition to romantic partnerships provided that higher G1 SES and positive G1 parenting facilitates material demands and additional resources for higher educational attainments pursuits (Melby, Conger, Fang, Wickrama,
Conger, 2008), which in turn is an important indicator of socioeconomic development in young adulthood (Conger, Conger, & Martin, 2010).

Next, the findings also suggest that G2 personality may indirectly influence G2 SES through the role of in adjustment during emerging adulthood. That is, positive emotionality, lower levels of negative emotionality, and constraint predicted later entry into G2 partnership and higher G2 SES. These findings were consistent across each personality superfactor (see Table 3). It is interesting to note that G2 PEM was not directly related to age at partnership (but statistically significantly correlated), although NEM and CN were related. This could be explained by that fact that individuals with high levels of positive emotionality do not feel the need to enter into an early romantic partnership because they know they can form partnership more easily than individuals who may score high on negative emotionality (Asendorph & Wilpers, 1998). Future research will be required to fully assess this unexpected finding.

A final interesting finding was the nonsignificant association between G1 parenting to G2 personality, G1 parenting to G2 SES, and G1 parenting to G2 age at first partnership. While the SEM showed nonsignificant pathways between these constructs, G1 parenting was statistically significantly correlated to G2 personality. Future research should investigate other G1 characteristics such as G1 personality to further test the interactionist model.

Limitations

This study poses specific limitations. The homogeneous ethnic, geographic, and age characteristics of the sample limit the ability to generalize results to a wider geographic and ethnically diverse sample in a broader age spectrum. However, the theoretical premises that underlie the social causation and social selection perspectives have generalized to other
samples (Conger, Conger, & Martin, 2010). The analyses were limited to individuals in the study that formed a romantic partnership and since the study is ongoing, there could be more interesting findings if replicated later when participants are in their 40s and 50s.

**Future Directions and Implications**

Future work should address the methodological issues of the study by testing this theory on a more ethnic and geographically diverse sample. The social selection perspective may need to be tested by incorporating G1 personality as a prospective influence on G2 socioeconomic outcomes. Even though future directions are needed to explain the interactionist model, what is clear is that these findings demonstrate the longitudinal effects of socioeconomic status in the family of origin to later developmental outcomes in second generation adults. That is, individual’s own socioeconomic development is sensitive to socioeconomic composition in their family of origin. Thus the timing and duration of exposure to economic hardship in childhood can have a significant influence on socioeconomic development in adulthood. Such research can be informative in programs that work directly with low-income families to explore ways to improve economic conditions in the family of origin. Furthermore, this study adds to the literature and helps to understand how parenting, personality, and age at first romantic partnerships can be enduring resources to socioeconomic development in adulthood. This research could help inform interventionists and therapists in working with individuals and families to weather financial difficulties.
References


Table 1: Means, Standard Deviations, and Range of Scores for Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
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<td>G1 SES</td>
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<td>48518.75</td>
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<td>G1 years of education</td>
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<td>7.12</td>
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<tr>
<td>G2 CN</td>
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<td>15.00</td>
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<td>G2 per capita income</td>
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<td>G2 highest level of education</td>
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</table>

Note. G1 = Generation 1; G2 = Generation 2; PEM = positive emotionality; NEM = negative emotionality; CN = constraint
Table 2: Correlations for Latent Constructs

<table>
<thead>
<tr>
<th></th>
<th>G1 SES</th>
<th>G1 Parenting</th>
<th>G2 PEM</th>
<th>G2 NEM</th>
<th>G2 CN</th>
<th>G2 AFP</th>
<th>G2 SES</th>
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<td>2</td>
<td>G1 Parenting</td>
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<td>3</td>
<td>G2 PEM</td>
<td>.25*</td>
<td>.17*</td>
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<td>G2 NEM</td>
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<td>-.12†</td>
<td>-.76***</td>
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<td></td>
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<td>5</td>
<td>G2 CN</td>
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<td>.17*</td>
<td>.67***</td>
<td>-.67***</td>
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<td>6</td>
<td>G2 Age at First Partnership</td>
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<td>.06</td>
<td>.12*</td>
<td>-.19**</td>
<td>.19**</td>
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<td>7</td>
<td>G2 SES</td>
<td>.62**</td>
<td>.11</td>
<td>.52***</td>
<td>-.47***</td>
<td>.44***</td>
<td>.41***</td>
</tr>
</tbody>
</table>

*Note. G1 = Generation 1; G2 = Generation 2; PEM = positive emotionality; NEM = negative emotionality; CN = constraint; AFP = Age at First Partnership.†p < .10.  *p < .05.  **p < .01  ***p < .000
Table 3: Standardized Coefficients for Direct Paths in the Models of G1 SES, G1 Parenting, G2 Personality, and G2 Age at First Partnership as Predictors of G2 SES

<table>
<thead>
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<th>Direct paths from Figure 1</th>
<th>Positive emotionality</th>
<th>Negative emotionality</th>
<th>Constraint</th>
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<td>G1 SES to G1 Parenting</td>
<td>.27(2.67)**</td>
<td>.27(2.61)**</td>
<td>.27(2.68)**</td>
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<tr>
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<td>.15(1.85)†</td>
<td>.13(1.64)</td>
</tr>
<tr>
<td>G1 SES to G2 SES</td>
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<td>.52(2.78)**</td>
<td>.54(2.69)**</td>
</tr>
<tr>
<td>G1 parenting to G2 personality</td>
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<td>-.09(-1.16)</td>
<td>.08(1.08)</td>
</tr>
<tr>
<td>G1 parenting to G2 AFP</td>
<td>.01(0.08)</td>
<td>-.00(-0.03)</td>
<td>.00(0.04)</td>
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<tr>
<td>G1 parenting to G2 SES</td>
<td>-.11(-1.42)</td>
<td>-.10(-1.14)</td>
<td>-.09(-1.13)</td>
</tr>
<tr>
<td>G2 personality to G2 AFP</td>
<td>.07(1.07)</td>
<td>-.16(-2.73)**</td>
<td>.15(2.44)*</td>
</tr>
<tr>
<td>G2 personality to G2 SES</td>
<td>.41(4.71)***</td>
<td>-.37(-4.92)***</td>
<td>.27(3.33)***</td>
</tr>
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<td>G2 AFP to G2 SES</td>
<td>.28(4.78)***</td>
<td>.27(4.22)***</td>
<td>.26(4.32)***</td>
</tr>
</tbody>
</table>

Note. Standard errors appear in parentheses. G1 = Generation 1; G2 = Generation 2; PEM = positive emotionality; NEM = negative emotionality; CN = constraint; AFP = Age at First Partnership. †p < .10.  *p < .05.  **p<.01  ***p < .000
Figure 1. Conceptual Model
CHAPTER 4. GENERAL CONCLUSIONS

General Discussion

Two longitudinal studies were used to examine transactions between dimensions of socioeconomic status, family processes, and family formation patterns. Chapter 2 examined changes in relationship status and transitions to parenthood in first cohabiting couples that were associated with levels of income and changes in income during cohabiting relationships. Chapter 3 examined the transmission of socioeconomic status across two generations as mediated by G1 parenting, G2 personality, and G2 at first partnership. Results for each will be briefly discussed.

The first study (Chapter 2) was guided by the Financial Expectation and Family Formation theory. This aim of this theory is to explain that low-income couples delay transition to marriage because of the high financial premium they feel necessary as a prerequisite to marriage, while the transition to parenthood is not driven by financial circumstances (Gibson-Davis, 2009; Gibson-Davis et al, 2005).

To test the Financial Expectation and Family Formation theory it was hypothesized that increases in income at first cohabitation, particularly male income, will be positively related to transitioning to marriage relative to remaining in a cohabiting union. Alternatively, it was hypothesized that income and increases in income will not have an effect on the transition to parenthood in first cohabiting unions.

Key findings from this study support the theory that a one logged unit change in male respondent income was associated with 54% greater odds of marrying relative to cohabiting, but was not predictive of transitioning to parenthood with a first cohabiting partner. Additionally, female levels of income at first cohabitation were also related to greater odds of
marrying, however changes in their income during the cohabiting relationship was not predictive of changes in relationship status. These findings support that while transitions to marriage from cohabitation is influenced jointly by both partners (Gibson-Davis et al., 2005), it is changes in the male partner’s income that are strongly linked to greater marriage odds suggesting that cohabiting couples are sensitive to changes in the male partner income (Gibson-Davis, 2009).

In addition to important findings regarding income, there were also pronounced findings regarding ethnicity. Respondents and partners who identified as black, non-Hispanic or other ethnic minorities, including multiethnic, were linked to greater odds of ending their relationship and lower odds of marrying their first cohabiting partner relative to white respondents and partners who remained in a cohabiting relationship. In contrast, ethnic minorities had greater odds of transitioning to parenthood with their first cohabiting partner relative to the white cohabiting couples. Taken together, these findings have greater implications for future research suggesting the complexity of cohabitation, race and ethnicity, and financial circumstances in the context of cohabitation.

The second study (Chapter 3) was guided by the interactionist model which incorporates both the social causation and social selection perspectives to examine exchanges between the family of origin’s socioeconomic status, family processes, and developmental outcomes across generations (Conger, Conger, Martin, 2010; Conger & Donnellan, 2007).

To test the interactionist model, it was hypothesized that family of origin (G1) SES will positively influence G1 parenting, G2 age at first partnership, and continuities of SES to the second generation (G2), which is consistent with the social causation perspective
Additionally it was hypothesized that G2 personality will influence G2 age at first partnership and later SES, which is consistent with the social selection perspective (Conger & Donnellan, 2007; Trentacosta et al, 2010).

Key findings from this study support the interactionist model given that G1 SES, G2 personality, and G2 age at first partnership were directly related to G2 SES, as predicted by the social causation perspective. The findings also suggest that G2 personality may indirectly influence G2 SES during emerging adulthood. That is, positive emotionality, lower levels of negative emotionality, and constraint predicted later entry into G2 partnership and higher SES, as predicted by the social selection perspective. Taken together, this study used the interactionist model to provide practical implications for future research.

Recommendations for Future Research

A consistent finding across both studies is that individuals are sensitive to changes in their socioeconomic circumstances. Furthermore, the socioeconomic environment of the family of origin has important consequences for second generation socioeconomic development and similarly the financial circumstances of adults has direct consequences for their own family relationships and family formation transitions. More work is needed to look at the timing and duration of exposure to the family of origin socioeconomic environment and also explore how certain characteristics and family processes (e.g. education, parenting, personality, etc.) may be enduring resources that help individuals and families weather economic and financial difficulties.
References


APPENDIX A. Table of Latent Indicators for Study 2.

<table>
<thead>
<tr>
<th></th>
<th>G1 SES</th>
<th>G1 Parenting</th>
<th>G2 PEM</th>
<th>G2 NEM</th>
<th>G2 CN</th>
<th>G2 PEM</th>
<th>G2 NEM</th>
<th>G2 CN</th>
<th>G2 PEM</th>
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<th>G2 PEM</th>
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<td>1. G1 per capita income</td>
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<td>2. G1 education</td>
<td>.22**</td>
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<td>3. Valence 1</td>
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<td>4. Valence 2</td>
<td>.03</td>
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<td>G2 PEM</td>
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<td>6. Wellbeing</td>
<td>.07</td>
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<td>7. Social Potency</td>
<td>.09</td>
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<td>8. Achievement</td>
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<td>9. Social Closeness</td>
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<td>10. Stress Reaction</td>
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<td>11. Aggression</td>
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<td>13. Control</td>
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<td>15. Harm Avoidance</td>
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<td>16. G2 AFP</td>
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<td>17. G2 per capita income</td>
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<td>18. G2 education</td>
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<td>-.22**</td>
<td>-.26**</td>
<td>-.28**</td>
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</tbody>
</table>

*Note: PEM = positive emotionality; NEM = negative emotionality; CN = constraint; AFP = Age at First Partnership.
*p < .05. **p < .01. ***p < .000
APPENDIX B. IRB FOR CHAPTER 2

Date: 3/5/2012

To: Jennifer Senia
1383 Palmer

CC: Dr. Clinton G Guzman
2380 Palmer Bldg

From: Office for Responsible Research

Title: Cohabiting Couples, Marriage, and Parenthood: Testing the Financial Expectation and Family Formation Theory

IRB ID: 12-147

Study Review Date: 3/5/2012

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

1. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified directly or through identifiers linked to the subjects.

The determination of exemption means that:

1. You do not need to submit an application for annual continuing review.

2. You must carry out the research as described in the IRB application. Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., methods of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. Only the IRB or designees may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.
INSTITUTIONAL REVIEW BOARD (IRB)
Exempt Study Review Form

Title of Project: Cohabiting Couples, Marriage, and Parenthood: Testing the Financial Expectation and Family Formation Theory

Principal Investigator (PI): Jennifer Senia
Degrees: BSE
University ID: 648600953
Phone: 501-358-2586
Email Address: jmsenia@iastate.edu
Correspondence Address: 1363 Palmer
Department: Human Development & Family Studies
College/Center/Institute: Human Sciences

PI Level:  Tenured, Tenure-Eligible, & NTER Faculty  Adjunct/Affiliate Faculty  Collaborator Faculty  Emeritus Faculty
Visiting Faculty/Scientist  Senior Lecturer/Clinician  Lecturer/Clinician, Ph.D. or DVM  IRB Employee, 937 & above
Extension to Families/Youth Specialist  Field Specialist III  Postdoctoral Associate  Graduate/Undergrad Student  Other (specify: )

FOR STUDENT PROJECTS (Required when the principal investigator is a student.)
Name of Major Professor/Supervising Faculty: Dr. Clinton Gudmunson
University ID: 933256324
Phone: (515) 294-8439
Email Address: cgudmunson@iastate.edu
Campus Address: 1323 Palmer
Department: Human Development & Family Studies
Type of Project: (check all that apply)  Thesis/Dissertation  Class Project  Other (specify: )

Alternate Contact Person:
Correspondence Address:

ASSURANCE
• I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
• I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
• I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
• I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
• I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
• I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.

[Signature of Principal Investigator]
[Date]

[Signature of Major Professor/Supervising Faculty]
[Date]
(Required when the principal investigator is a student.)

• I have reviewed this application and determined that departmental requirements are met, the investigator(s) has/have adequate resources to conduct the research, and the research design is scientifically sound and has scientific merit.

[Signature of Department Chair]
[Date]

For IRB Use Only
☐ Not Research Per Federal Regulations  ☐ No Human Participants
☐ Minimal Risk  ☐ EXEMPT Per 45 CFR 46.101(b)

IRB Reviewer’s Signature

Office for Responsible Research: 08/30/11
# Exempt Study Information

Please provide Yes or No answers, except as specified. Incomplete forms will be returned without review.

## Part A: Key Personnel

List all members and relevant qualifications of the project personnel. Key personnel includes the principal investigator, co-principal investigators, supervising faculty member, and any other individuals who will have contact with the participants or the participants' data (e.g., interviewers, transcribers, coders, etc.). This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project. For more information, please see Human Subjects - Persons Required to Obtain IRB Training.

<table>
<thead>
<tr>
<th>NAME</th>
<th>Interpersonal contact or subject access to private identifiable data?</th>
<th>Involved in the consent process?</th>
<th>Contact with human blood, specimens, or other biohazardous materials?</th>
<th>Other Roles in Research</th>
<th>Qualifications (i.e., special training, degrees, certifications, coursework, etc.)</th>
<th>Human Subjects Training Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer Sella</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>Grad Student</td>
<td>BSE</td>
<td>08/17/2010</td>
</tr>
<tr>
<td>Dr. Clinton Gudmunson</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>Major Prof</td>
<td>Ph.D.</td>
<td>11/10/2010</td>
</tr>
<tr>
<td>Dr. Brenda Lohman</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>Committee Mem</td>
<td>Ph.D.</td>
<td>03/09/2003</td>
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<tr>
<td>Dr. Janet Melby</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>Committee Mem</td>
<td>Ph.D.</td>
<td>07/20/2000</td>
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<tr>
<td>Dr. Tricia Neppi</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>Committee Mem</td>
<td>Ph.D.</td>
<td>07/20/2000</td>
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</tbody>
</table>
Please complete additional pages of key personnel as necessary.
Part B: General Overview

Please provide a brief summary of the purpose of your study:

The specific aim of the study is to compute a secondary analysis using the National Longitudinal Survey of Youth 1979-2009. The NLSY97, sponsored and directed by the Bureau of Labor Statistics, U.S. Department of Labor, is a nationally representative birth cohort sample of 8,984 individuals born between 1980 and 1984. The first interviews were conducted in 1979, when the respondents were between the ages of 13 to 17. Follow-up interviews were conducted on an annual basis with the respondents with the last interview conducted in 2008, when the respondents were between the ages of 23 to 28, for a total of twelve interview rounds. For this study no data collection will take place, only existing data will be used.

Specifically, I am wanting to study couples in the sample who enter into cohabitating relationships. I was to see if changes in their income after their cohabitating relationship begins is associated with whether or not they transition towards marriage and/or parenthood.

Please provide a brief summary of your research design:

All data have previously been collected, this is a secondary analysis.

Part C: Exemption Categories

<table>
<thead>
<tr>
<th>☐ Yes ☑ No</th>
<th>1. Are you conducting research on Educational Practices? If Yes, please answer questions 1a through 1e. If No, please proceed to question 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Yes ☑ No</td>
<td>1a. Will the research be conducted in an established or commonly accepted educational setting, such as a classroom, school, professional development seminar, etc.?</td>
</tr>
<tr>
<td>☐ Yes ☑ No</td>
<td>1b. Will the research be conducted in any settings that would not generally be considered to be established or commonly accepted educational settings? If Yes, please specify:</td>
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<tr>
<td>☐ Yes ☑ No</td>
<td>1c. Will the research involve the study of normal educational practices (e.g., activities that normally occur in the educational setting)? Examples include research on regular or special education instructional strategies or the effectiveness of instructional techniques, curricula, or classroom management methods.</td>
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<tr>
<td>☐ Yes ☑ No</td>
<td>1d. Will the research involve anything other than normal educational practices, such as the effects of drugs or physical exercise on learning? If Yes, please specify:</td>
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<tr>
<td>☐ Yes ☑ No</td>
<td>1e. Will the procedures include randomization into different treatments or conditions, radically new instructional strategies, or deception of subjects? If Yes,</td>
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<tr>
<td>2. Does your research involve use of educational tests, survey procedures, interview procedures, or observations of public behavior? If Yes, please answer questions 2a through 2c. If No, please proceed to question 3.</td>
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<tr>
<td>□ Yes □ No 2a. Will the research involve one or more of the following? (Check all that apply.)</td>
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<tr>
<td>□ The use of educational tests (cognitive, diagnostic, aptitude, achievement)</td>
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<td>□ Surveying or interviewing adults</td>
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<td>□ Observations of public behavior of adults</td>
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<td>□ Observations of public behavior of children, when the researcher will not interact or intervene with the children</td>
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<tr>
<td>□ Yes □ No 2b. Are all of the participants elected or appointed public officials or candidates for public office?</td>
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<tr>
<td>□ Yes □ No 2c. Will any of the information be recorded in a manner that is or could reasonably be personally identifiable, either directly or indirectly, through identifiers linked to the subjects, by the investigator or anyone else?</td>
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<tr>
<th>□ Yes □ No 3. Does the research involve the collection or study of currently existing data, documents, records, pathological specimens, or diagnostic specimens? If Yes, please answer questions 3a through 3c. If No, please proceed to question 4.</th>
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<tbody>
<tr>
<td>□ Yes □ No 3a. Are the data, documents, records, or specimens publicly available?</td>
</tr>
<tr>
<td>□ Yes □ No 3b. Will any of the information be recorded in a manner that is personally identifiable, either directly or indirectly, through identifiers linked to the subjects, by the investigator or anyone else?</td>
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<tr>
<td>□ Yes □ No 3c. Will the data you record for your study include ID codes? If Yes, please answer 3ci and 3cii.</td>
</tr>
<tr>
<td>□ Yes □ No 3ci. Does a &quot;key&quot; exist linking the ID codes to the identities of the individuals to whom the data pertains?</td>
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<tr>
<td>□ Yes □ No 3cii. Will any persons on the research team have access to this key?</td>
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</table>

| □ Yes □ No 4. Does your research involve Taste and Food Quality tests and Consumer Acceptance Studies involving food? If Yes, please answer questions 4a through 4c. If No, please proceed to question 5. |

Office for Responsible Research: 08/30/11
<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tr>
<td><strong>4a.</strong></td>
<td>Is the food to be consumed normally considered wholesome, such as one would find in a typical grocery store?</td>
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<td><strong>4b.</strong></td>
<td>If the food contains additives, are the additives at or below the level normally considered to be safe by the FDA, EPA or Food Safety and Inspection Service of USDA? Consider additives in commercially available foods found at a grocery store and/or any additives that are added to food for research purposes.</td>
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<td><strong>4c.</strong></td>
<td>If there are agricultural chemicals or environmental contaminants in the food, are they at or below the level found to be safe by the FDA, EPA or Food Safety and Inspection Service of USDA?</td>
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<td><strong>5.</strong></td>
<td>Is your study a research or demonstration project to examine</td>
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<td>* Federal public benefit or service programs such as Medicaid, unemployment, social security, etc.; or</td>
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<td>* Procedures for obtaining benefits or service under these programs; or</td>
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<td></td>
<td>* Possible changes in or alternatives to those programs or procedures; or</td>
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<tr>
<td></td>
<td>* Possible changes in methods or levels of payment for benefits or services under these programs?</td>
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<tr>
<td><strong>5a.</strong></td>
<td>If Yes, is the research or demonstration project pursuant to specific federal statutory authority?</td>
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**Part C: Additional Information**
6. Does your research involve any procedures that do not fit into one or more of the categories in items #1–#5 listed above, such as the following? (Check all that apply.)

- Usability testing of websites, software, devices, etc.
- Collection of information from private records when identifiers are recorded
- Procedures conducted to induce stress, moods, or other psychological or physiological reactions
- Presentation of materials typically considered to be offensive, threatening, or degrading
- Video recording or photographing non-public behaviors
- Use of deception (e.g., misleading participants about the procedures or purpose of the study)
- Physical interventions, such as
  - blood draws
  - new collection of biological specimens
  - use of physical sensors (ECS, EEG, ultrasound, etc.)
  - exercise, muscular strength assessment, flexibility testing
  - body composition assessment
  - measuring of height and weight
  - x-rays
  - changes in diet or exercise
- Tests of sensory acuity (i.e., vision or hearing tests, olfactory tests, etc.)
- Consumption of food (other than as described in #4) or dietary supplements
- Clinical studies of drugs or medical devices
- Other; please specify: __________

6a. If Yes, is your research conducted in an established educational setting, and are the checked procedures part of normal educational practices given that setting? If Yes, please describe: __________

7. Do you intend or is it likely that your study will include any persons from the following populations? (Check all that apply.)

- Prisoners
- Cognitively impaired
- Children (persons under age 18)
- Wards of the State
- Persons who are institutionalized

7a. If Yes, please describe how they will be involved and what procedures they will complete: __________

8. Will any of the following identifiers be collected or linked to the data at any time point during the research? (Check all that apply.)

- Names:  □ First Name Only  □ Last Name Only  □ First and Last Name
- Phone/fax numbers
- ID codes that can be linked to the identity of the participant (e.g., student IDs, medical record numbers, account numbers, study-specific codes, etc.)
- Addresses (email or physical)
9. Is there a reasonable possibility that participants' identities could be ascertained from any combination of information in the data? If Yes, please describe: __________

10. If Yes to either #8 or #9 above, please answer the following:

10a. Could any of the information collected, if disclosed outside of the research, reasonably place the subjects at risk of any of the following? (Check all that apply.)

- Criminal liability
- Civil liability
- Damage to the subjects' financial standing
- Damage to the subjects' employability
- Damage to the subjects' reputation

10b. Does the research, directly or indirectly, involve or result in the collection of any information regarding any of the following? (Check all that apply.)

- Use of illicit drugs
- Criminal activity
- Child, spousal, or familiar abuse
- Mental illness
- Episodes of clinical depression
- Suicidal thoughts or suicide attempts
- Health history
- History of job losses
- Exact household income other than in general ranges
- Negative opinions about one's supervisor, workplace, teacher, or others to whom the subject is in a subordinate position
- Sexual preferences or behaviors
- Religious beliefs
- Any other information that is generally considered to be private or sensitive given the setting of your research; if so, please specify: __________

After completion of Parts A, B, and C of this application, please send the completed form to:

Institutional Review Board (IRB)
Office for Responsible Research
1138 Pearson Hall
Ames, IA 50011-2200

Data collection materials (e.g. survey instruments, interview questions, recruitment and consent documents, etc.) do not need to be submitted with this application.

If you have any questions or feedback, please contact the IRB office at IRB@iastate.edu or 515-294-4566.
IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

APPENDIX C. IRB FOR CHAPTER 3

Date: 2/8/2012
To: Dr. Tricia Neppl
2358 Palmer

From: Office for Responsible Research

Title: Family Transitions Project, FTP
IRB ID: 12-060

Approval Date: 2/7/2012
Date for Continuing Review: 2/6/2013
Submission Type: New
Review Type: Full Committee

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

• Use only the approved study materials in your research, including the recruitment materials and informed consent documents that have the IRB approval stamp.

• Retain signed informed consent documents for 3 years after the close of the study, when documented consent is required.

• Obtain IRB approval prior to implementing any changes to the study by submitting a Modification Form for Non-Exempt Research or Amendment for Personnel Changes form, as necessary.

• Immediately Inform the IRB of (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

• Stop all research activity if IRB approval lapses, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.

• Complete a new continuing review form at least three to four weeks prior to the date for continuing review as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

• Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

Please don’t hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.
INSTITUTIONAL REVIEW BOARD (IRB)
Application for Approval of Research Involving Humans

Title of Project: Family Transitions Project, FTP

Principal Investigator (PI): Tricia Neppl
University ID: 29167966245
Phone: 4-8502
Email Address: tneppl@iastate.edu
Correspondence Address: 2358 Palmer
Department: HDFS
College/Center/Institute: College of Human Sciences

PI Level: Tenured, Tenure-Eligible, & NTER Faculty
Adjunct/Affiliate Faculty
Collaborator Faculty
Emeritus Faculty
Visiting Faculty/Scientist
Senior Lecturer/Assistant
Lecturer/Instructor, Ph.D. or DVM
P&S Employee, P37 & above
Extension to Families/Youth Specialist
Field Specialist III
Postdoctoral Associate
Graduate/Undergrad Student
Other (specify: )

FOR STUDENT PROJECTS (Required when the principal investigator is a student)
Name of Major Professor/Supervising Faculty:
University ID: 
Phone: 
Email Address: @iastate.edu
Campus Address: 
Department: 
Type of Project (check all that apply): Thesis/Dissertation Class Project Other (specify: )
Alternate Contact Person: 
Email Address: 
Correspondence Address: 
Phone: 

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
- I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
- I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
- I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
- I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.

Signature of Principal Investigator Date

Signature of Major Professor/Supervising Faculty Date
(Required when the principal investigator is a student)

- I have reviewed this application and determined that departmental requirements are met, the investigator(s) has/have adequate resources to conduct the research, and the research design is scientifically sound and has scientific merit.

Signature of Department Chair Date

For IRB Use Only
Full Committee Review: EXPEDITED per 45 CFR 46.110(b): Category Letter
Review Date: A/1/2013 Approval/Determination Date: 2/1/2013
Approval Expiration Date: 2/1/2014
Risk: Minimal More than Minimal
IRB Reviewer's Signature Date

Office for Responsible Research
Revised: 08/30/11
# Research Involving Humans Study Information

Please provide answers to all questions, except as specified. Incomplete forms will be returned without review.

## Part A: Key Personnel

List all members and relevant qualifications of the project personnel. Key personnel includes the principal investigator, co-principal investigators, supervising faculty member, and any other individuals who will have contact with the participants or the participants’ data (e.g., interviewers, transcribers, coders, etc.). This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project. For more information, please see Human Subjects - Persons Required to Obtain IRB Training.

<table>
<thead>
<tr>
<th>NAME</th>
<th>Interpersonal contact or communication with subjects, or access to private identifiable data?</th>
<th>Involved in the consent process?</th>
<th>Contact with human blood, specimens, or other biohazardous materials?</th>
<th>Other Roles in Research</th>
<th>Qualifications (i.e., special training, degrees, certifications, coursework, etc.)</th>
<th>Human Subjects Training Date</th>
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<tbody>
<tr>
<td>Dr. Tricia Neppl</td>
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<td>☐</td>
<td>Principal Investigator on ISU subcontract</td>
<td>7/2009 7/12/09</td>
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<td>Jennifer Senia</td>
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<td>☐</td>
<td>☐</td>
<td>Graduate Research Assistant</td>
<td>8/2010 8/17/10</td>
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<td>Megan Grummer</td>
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<td>Renae Schurbon</td>
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Office for Responsible Research
Revised: 08/30/11
Part B: Funding Information

1. Is the project federally funded? If Yes, please provide the complete name(s) of the source(s); please do not use acronyms. Please attach a complete copy of the federal grant proposal from which the study is funded.

   National Institute of Child Health and Human Development (NICHD), National Institute of Health (NIH)

Part C: General Overview

2. Study Objectives – Briefly explain in language understandable to a layperson the purpose and specific aim(s) of the study.

   We are conducting a multi-wave, longitudinal research study of an existing community-based sample of over 3,400 participants which include 550 cohort members (G2 targets), their close-aged siblings, their parents (G1), their romantic partners, and their oldest biological child (G3). This study, the Family Transitions Project (FTP), was initiated in 1989 when the G2 targets were early adolescents and has continued with annual assessments since that time. The G2 cohort members now average 35 years of age. Each generation in the study has been assessed over a several year period of time using a measurement strategy that is both extensive (i.e., covers multiple domains of personal and social characteristics) and intensive (i.e., employs a multi-informant approach that includes self-reports, other family member reports, teacher reports, ratings by trained observers, school records and public records). The first grant, entitled A Genetic Study of Personal Traits that Promote or Inhibit Individual Well-Being (RO1HD464687-01), builds on this existing study and was recently funded by the National Institute of Health, National Institute of Child Health and Human Development (NICHD). Under the genetics grant, we plan to collect DNA and genotype the FTP participants. We also plan to continue collecting data (questionnaires and/or videotape interactions) from participants who were unable to participate last wave. This extends a study entitled Economic Stress & Child Development Across 3 Generations. We refer to the entire project as the Family Transitions Project (FTP) because that is the name by which our participants know the study.

   Currently, the FTP is administered by Dr. Rand Conger (overall PI on the project) at the University of California, Davis (UCD). All protocols for recruitment, data collection, and participant consents are approved by the Internal Review Board at UCD. A subcontract for this research project was issued to Dr. Tricia Neppi at Iowa State University to work with (data entry) and analyze identifiable data. While Dr. Neppi supervises the progress of data collection, all direct supervision of project staff as well as data collection protocols and efforts are administered by UCD.

3. Benefits to Society and Participants – Explain in language understandable to a layperson how the information gained in this study will advance knowledge, and/or serve the good of society.
Previous interview studies by the investigators suggest that family members often enjoy the contact with researchers, and this observation is consistent with a study by Bradbury (1994) who demonstrated a positive effect from involvement in marital research. All of our participants express an interest in the opportunity to tell the stories about changes in their lives. Additionally, the results of the study should provide information that will be useful to human service professionals working with families and individuals for years to come.

4. Describe the direct benefits to research participants; if there are no direct benefits to participants, indicate that. Note: Monetary compensation cannot be considered a benefit to participants.

If participants decide to take part in the study, there will no direct benefit to them. However, the data and information obtained from the study participants will contribute to a body of knowledge about the influence of genetics and social and economic change on the well-being of families and individuals.

Part D: Anticipated Enrollment

<table>
<thead>
<tr>
<th>Estimated number of participants to be enrolled in the study</th>
<th>Total: 2500</th>
<th>Males: 46%</th>
<th>Females: 54%</th>
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<tbody>
<tr>
<td>Check below if you intend to include persons from the following groups:</td>
<td>Check below if this project includes:</td>
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<tr>
<td>☒ Minors (Under 18)</td>
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<tr>
<td>Age Range of Minors: 18 months to 18 years of age</td>
<td>Adults, non-students</td>
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<tr>
<td>☐ Pregnant Women/Fetuses</td>
<td>Minor ISU students</td>
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<td>☐ Cognitively Impaired</td>
<td>ISU students 18 and older</td>
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<td>☐ Prisoners</td>
<td>Other (explain)</td>
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List estimated percent of the anticipated enrollment that will be minorities if known:

American Indian: less than 1%
Asian or Pacific Islander: less than 1%
Latino or Hispanic: less than 1%

Part E: Participant Selection and Recruitment

Please use additional space as necessary to adequately answer each question.

5. Explain the procedures and rationale for selecting participants, including the inclusion and exclusion criteria (e.g., where will names come from, what persons will be included or excluded and why, etc.).

Participants are from an existing community-based sample of over 2400 participants, including 550 cohort members (G2 targets), their close-aged siblings, their parents (G1), their romantic partners, and their oldest biological child (G3).

All original participants are eligible to participate unless they are currently incarcerated or are deceased.

6. Describe the procedures for contacting participants (e.g., letter, email, flyer, advertisements, phone call, etc.). Attach copies of any letters, scripts, flyers, or advertisements that will be used.
As part of the genetics study, participants will first be contacted via letter and then through a phone call to ask for participation in the study. Each participant is asked to complete a brief update call and then are recruited for either an in-home visit or mail-out of questionnaires, and to provide a saliva sample for DNA analysis.

All of the above procedures for contacting study participants are currently approved by the IRB at UCD.

Part F: Research Plan

Include sufficient detail for IRB review of this project independent of any other documents.

7. Does this project involve using existing data or records? If Yes, describe the data/records in the Research Plan, question 9.

8. Does this project involve secondary analysis? If Yes, describe the source of the data in the Research Plan, question 9.

As part of the genetics study, all FTP participants will be contacted and asked to provide a saliva sample for DNA analysis. Participants include 550 cohort members (G2 targets), their close-aged siblings, their parents (G1), their romantic partners, and their oldest biological child (G3). This will be mostly conducted through a mail-out sample or completion of an online survey. Providing a sample will take 5-10 minutes in the home, and the sample will be returned to the Ames, Iowa field office through the mail. Those participants residing within close proximity of a field interviewer will be visited in their home to collect the samples.

For the Economic Stress study, we will continue to visit participants in their homes or solicit their participation through mail-out questionnaires. Participants include the G2 target, his/her romantic partner, and his/her oldest biological child; the children range in age from 18 months to 18 years. Participants who are not currently in steady romantic relationships are sent questionnaires, which they return to the Ames, Iowa field office through the mail. Those participants residing within close proximity of a field interviewer will be visited in their home to collect the questionnaires. Participants who are married or in a steady romantic relationship, and all participants with children (ages 18 months to 18 years), are visited by a trained interviewer to complete questionnaires and participate in videotaped interaction tasks with other family members. Both adults and children ages 6 and older complete questionnaires in the home. Interaction tasks include discussion tasks between romantic partners, play tasks for children ages 2-5, a clean-up task with the G2 target and child ages 2-5, a puzzle task between parent and child ages 2-9, a snack preparation task for G2 target and child ages 3-7, and discussion task between parent and child ages 8 and older. Each family will be visited one time during this data collection wave, and the visit lasts approximately 1-3 hours depending on the age of the child.

All of the above protocols and procedures are currently approved by the IRB at UCD.
10. For studies involving deception or where information is intentionally withheld from participants, such as the full purpose of the study, please explain how persons will be deceived or what information will be withheld. Additionally, a waiver of the applicable elements of consent will be needed. Please complete the Waiver of Elements of Consent form. If this question is not applicable, please type N/A in the response cell.

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<th>Yes</th>
<th>No</th>
<th>N/A</th>
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11. Does your project require the use of a health care provider’s records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone’s treatment record (electronic or paper) during the study, you must complete and submit the Application for Use of Protected Health Information.

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<th>Yes</th>
<th>No</th>
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12. Does this project involve an investigational new drug (IND)? Number:

<table>
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<tr>
<th>Yes</th>
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13. Does this project involve an investigational device exemption (IDE)? Number:

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<th>Yes</th>
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14. Does this project involve DEXA/CT scans or X-rays?

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<th>Yes</th>
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15. Does this project involve pathology or diagnostic specimens? If Yes, indicate whether specimens will be collected prospectively and/or already exist “on the shelf” at the time of submission of this review form. If prospective, describe specimen procurement procedures, indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the participant’s identity. If this question is not applicable, please type N/A in the response cell.

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<th>Yes</th>
<th>No</th>
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**Part G: Consent Process**

A copy of any translated informed consent documents and an English version should be submitted with the application. Provide the name of the individual who translated the consent documents and their qualifications for translating consent documents below.

If the consent process does not include documented (signed) consent, please request a Waiver of Documentation of Consent. If any information about the study is intentionally withheld or misleading (i.e., deception is used), a Waiver of Elements of Consent must be requested. Links to the forms for requesting waivers are also available at the IRB website.

16. Describe the consent process for adult participants (those who are age 18 and older). Include information about who will obtain consent from participants; how/when consent will be obtained in relation to actual data gathering.
whether someone other than the subject will provide consent (e.g., a legally authorized representative); etc.

For those participating via the mall, consents will be obtained through the mall. For those visits that take place in the in the home, field interviewers obtain consent before the interview takes place. Legal guardians will give consent for minors. Please see the attached consent forms that are currently approved by the IRB at UCD.

17. If your study involves minor children, please explain how parental consent will be obtained prior to enrollment of the minor(s).

Children are eligible to participate in the study when they are 18 months of age and older. Children are well-represented in the sample and are an essential part of the study design. Parents give verbal consent at the time of recruitment, and then written consent is obtained prior to the in-home visit and prior to the completion of questionnaires and obtaining DNA samples.

18. Please explain how assent will be obtained from minors (younger than 18 years of age) prior to their enrollment. Also, please explain if the assent process will be documented (e.g., a simplified version of the consent form, combined with the parental informed consent document). According to the federal regulations assent "...means a child's affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

The Minor’s Letter of Information describes the minor’s participation in language appropriate for children in the study: this will be given to 2-5 year-old participants. The Minor’s Assent Form will be given to children ages 6 and older. Telephone interviews answer any questions parents or legal guardians have at the time of recruitment; a parent signs the Consent to Participate in a Research Study form to allow the child to participate. Children sign (name or "X") the assent form. Please see the attached assent forms that are currently approved by the IRB at UCD.

Part H: Data Analysis

19. Describe how the data will be analyzed (e.g., statistical methodology, statistical evaluation, statistical measures used to evaluate results).

For the genetics grant, the broad objective is to evaluate genetic (G), environmental (E), and gene by environmental interaction (GxE) effects on a set of core personality attributes that are linked to a host of important developmental outcomes using a weighted, family-based genome-wide association study (GWAS). Specifically, we will examine genetic and environmental contributions to the latent traits of Behavioral Disinhibition (BD) and Dispositional Resilience (DR). BD reflects excessive pursuit of exciting appetitive stimuli, disregard for the aversive consequences of risky behaviors, and a tendency to engage in aggressive acts that demonstrate a lack of concern for others. Conversely, DR reflects emotional stability, interpersonal sensitivity, and a self-confident and self-directed orientation to meeting achievement-related challenges. These traits are present as early as toddlerhood and continue to have important developmental consequences across the life course. In particular, these attributes influence whether individuals develop problems that can significantly impair their health and well-being such as involvement with substances, crime, and engaging in risky behaviors. To address these important questions, we will use both existing data from the Family Transitions Project (FTP) study, as well as genetic information to be collected under the grant. During the study period, we will be collecting DNA samples and genotyping the participants. Genotypic information will be combined with the existing archive of contextual and phenotypic data to evaluate genetic and environmental influences on BD and DR. In particular, the unique family structures in this sample include genetically-informative parent-offspring (both G1-G2 and G2-G3) and sibling relationships (G2) which will be ideal for
Family-Based Association Test (FBAT) methods.

The primary goal of the Economic Stress study is to elaborate the processes through which economic hardship affects these individuals and their families and to increase understanding of which individuals and families are either most resilient or most vulnerable to the potentially negative effects of economic hardship. Data related to the aims of the grant will be analyzed through structural equation modeling and growth curve analyses.

Part I: Risks

The concept of risk goes beyond physical risk and includes risks to participants' dignity and self-respect as well as psychological, emotional, legal, social or financial risks.

☐ Yes ☒ No 20. Is the probability of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

☐ Yes ☒ No 21. Is the magnitude of the harm or discomfort greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

22. Describe any foreseeable risks or discomforts to the participants and how they will be minimized and precautions taken. Do not respond with N/A. If you believe that there will not be risk or discomfort to participants, you must explain why.

With 30 years of experience by the PI on research projects that have involved over 2400 families, Dr. Conger has yet to surface emotional problems as a result of study participation. Risks are considered minimal. To our knowledge, we have had no failures in confidentiality with this or earlier studies and no participants have suffered legal harm as a result of their involvement. Family members will not have access to other members' responses to any questionnaires or interviews. All participants are reminded that their participant is voluntary, that they may decline to answer any question, and that they may withdraw at any point. We also inform participants that if a participant tells the Interviewer that he/she is going to hurt him/herself or if there is evidence of child abuse, the Interviewer will notify the appropriate people.

As stated in the Consent Letter: Previous research experience indicates that there are minimal risks or hazards associated with your participation, or that of family members or close friends, in the genetics study. The genetic information will be completely confidential and will not be made available to you, your doctors, other members of your family, or anyone else other than research scientists working on the Family Transitions Project.

23. If this study involves vulnerable populations, including minors, pregnant women, prisoners, the cognitively impaired, or those educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

The project has obtained a Certificate of Confidentiality from NIH. It is attached to this application.
Part J: Compensation

☐ Yes ☐ No 24. Will participants receive compensation (including course credit/extra credit) for their participation? If Yes, please describe compensation plans below.

Note: Do not make the payment an inducement—only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (For example, volunteers will receive $5.00 for each of the five visits in the study or a total of $25.00 if they complete the study. If a participant withdraws from participation, he/she will receive $5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

Each participant is paid $75 for providing his/her DNA sample.

If participating in the Economic study, participant amounts vary depending on the family. Please see page 6 of the UCD Description of Study.

All protocols for participant compensation are approved by UCD.

Part K: Confidentiality

25. Describe below the methods that will be used to ensure the confidentiality of data obtained. For example, describe who will have access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data or specimens will be retained, what (if any) identifiers will be retained, etc.

Future work builds on a 22-year archive of existing data from an ongoing, longitudinal study. All data are identified only by subject identification numbers and stored on secure network servers in Davis, California and in Ames, Iowa. Computer databases linking this information are maintained on a secure server in Davis, California, with limited access to research personnel. Original study documentation is stored in locked file cabinets in locked rooms in Ames, Iowa. In all of our procedures, we have placed a high priority on protecting confidentiality. Only research staff have access to the data.

Genetic samples are received in Ames, Iowa, and are identified only by a family identification number. Each sample is stored in a locked freezer and receives a randomly-generated identification number, and a log that links the genetic information to the original family identification number is maintained on a secure server with limited access. De-identified samples and phenotypic data will be sent to Boulder, Colorado, for analysis.

Part L: Registry Projects

☐ Yes ☐ No 26. Does this project establish a registry? If Yes, please provide the registry name below.

Note: To be considered a registry: (1) the individuals must have a common condition
or demonstrate common responses to questions; (2) the individuals in the registry might be contacted in the future; and (3) the names/data of the individuals in the registry might be used by investigators other than the one maintaining the registry.

Checklist for Attachments

Listed below are the types of documents that should be submitted for IRB review. Please check and attach the documents that are applicable for your study:

✓ Federal grant application (only for federally funded research)
✓ A copy of the informed consent document or letter of introduction containing the elements of consent
✓ A copy of the forms requesting waivers of elements of consent or documentation of consent, where applicable
✓ A copy of the assent form if minors will be enrolled
✓ Data-gathering instruments (including surveys)
✓ Recruitment fliers, phone scripts, or any other documents or materials participants will see or hear

The original signed copy of the application form and one set of accompanying materials should be submitted for review.
ENVIROMENTAL HEALTH AND SAFETY INFORMATION

PART M: HUMAN CELL LINES

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</tbody>
</table>

1. Does this project involve human cell or tissue cultures (primary or immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is Yes, please answer question A below and attach copies of the documentation.

<table>
<thead>
<tr>
<th>CELL LINE</th>
<th>SOURCE</th>
<th>DESCRIPTION OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

A. Please list the specific cell lines/strains to be used, their source and description of use.

B. Please refer to the ISU Bloodborne Pathogens Manual, which contains the requirements of the OSHA Bloodborne Pathogens Standard. Please list the specific precautions to be followed for this project below (e.g., retractable needles used for blood draws):

Anyone working with human cell lines/strains that have not been documented to be free of bloodborne pathogens is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual.

PART N: HUMAN BLOOD COMPONENTS, BODY FLUIDS OR TISSUES

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Does this project involve human blood components, body fluids or tissues? If Yes, please answer all of the questions in the "Human Blood Components, Body Fluids or Tissues" section.

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>SOURCE</th>
<th>AMOUNT</th>
<th>DESCRIPTION OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.g., Blood</td>
<td>Normal healthy volunteers</td>
<td>2 ml</td>
<td>Approximate quantity, assays to be done.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Please refer to the ISU Bloodborne Pathogens Manual, which contains the requirements of the OSHA Bloodborne Pathogens Standard. Specific sections to be followed for this project are:

Office for Responsible Research
Revised: 08/30/11
Anyone working with human blood components, body fluids or tissues is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual.
Addendum (per 1/26/2012 email correspondence with PI)

IRB Question: The IRB application notes that you will supervise the progress of data collection; the subcontract notes that you will supervise project staff and assure that project activities are completed. Based on this, I want to make sure I understand specifically what your role is, as that relates to how IRB review should proceed. My understanding from our prior communication was that your role would be solely to work with data that has been collected by UCD staff following their protocols. You (and your staff) will not interact with or administer interventions with participants for data collection or obtaining their informed consent. Is this correct?

PI Response: In my new role, I will supervise the progress of data collection. Since I am no longer a UCD employee, I cannot directly supervise project staff. You are correct, my staff will only conduct data entry. We will not administer protocols for data collection with participants or obtain their consent. It is possible, however, that I may speak with participants on the phone if they call our office.

IRB Question: The assent plans are different between the two applications. For example, the ISU application notes that Minor’s Letter of Information will be given to 2-5 year old children (which I thought was a bit odd as they cannot read), whereas the Minor’s Assent Form will be given to children 6 and older. Age ranges noted on the UCD assent forms differ, although I did note that the assent forms from UCD had a 2010 version date, so perhaps there are newer forms in use?

PI Response: We have an assent form (‘Letter of Information’) for children ages 8-11. The interviewer reads this assent to the child. Then for children 12-17, there is an assent (‘Participation of Minors in Research’) form that interviewers read to the youth and then the youth signs the form. The content of the two assents is the same, the only difference is that 12-17 year olds sign the form. For younger children, there is just the parental consent form, no assent. Thanks for finding this description error in the application.

IRB Question: I also just noticed that the UCD application describes this as a GWAS study. My understanding is that GWAS data must be submitted to the NIH data repository, along with certification from an institutional official that submission is appropriate (see: http://gwas.nih.gov/index.html). Is UCD handling submission to the repository and associated certifications? I did not see plans to do this specified in the UCD application, which is why I ask.

PI Response: Yes, the NIH data repository is included on the UCD consent forms.