ABSTRACT

Title of Dissertation: EARLY EMPLOYMENT AND FAMILY FORMATION IN THE UNITED STATES

Rachel M. Shattuck, Doctor of Philosophy, 2015

Dissertation directed by: Professor Michael S. Rendall
Department of Sociology

In this dissertation, I examine three scenarios by which U.S. young adults' early employment and access to material resources intersect with their family formation behavior. I first address how educational attainment and early employment prospects enable and constrain young women's ability to enter into the kind of family forms they prefer. I investigate the relationship between women's preferences as stated in adolescence for or against having children while unmarried, their socioeconomic resources in young adulthood, and their eventual likelihood of having marital first birth, having a nonmarital first birth, or continuing to postpone childbearing. I find that after accounting for individual resource acquisition and early partner characteristics, women's preferences play a stronger role in whether or not they postpone childbearing than in whether they have a marital versus a nomarital first birth. I next address the role of early employment experiences and early family formation behavior as they affect the accuracy of young women's retrospective reporting on the timing of their first stable employment. I use panel data from the

National Longitudinal Study of Youth-1997 (NLSY97) to evaluate the accuracy of responses to retrospective questions about first substantial employment from three other surveys. I find that women with higher early employment history salience and lower complexity, and those who have "anchoring" biographical details of early family formation report more accurately the timing of their first employment. I next address the topic of how early employment in the military affects veterans' likelihood of entering into race/ethnic intermarriages, which are more common among military veterans than in the general population, and have increased at a faster rate among veterans than non-veterans from the 1960s to the present. I show that a combination of exposure to diverse race/ethnic composition in a military setting, training and benefits that facilitate veterans' socioeconomic advancement, and military policies and norms that hold personnel to standards of nondiscriminatory behavior jointly contribute to increasing veterans' likelihood of intermarriage relative to non-veterans. These effects are strongest for black and white veterans.

EARLY EMPLOYMENT AND FAMILY FORMATION IN THE UNITED STATES

by

Rachel M. Shattuck

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2015

Advisory Committee:
Professor Michael S. Rendall, Chair
Professor Melissa S. Kearney
Associate Professor Meredith A. Kleykamp
Professor Liana C. Sayer
Professor Wei-hsin Yu

Table of Contents

List of Tables

Chapter 1: Introduction

In this dissertation, I examine three scenarios by which U.S. young adults' early employment and access to material resources intersect with their family formation behavior. The historical backdrop for my dissertation is the 21st century U.S. economy, in which ongoing deindustrialization leads to the shedding of stable, well-paying blue collar jobs, and to a growing polarization between the pay and quality of jobs available to those with a bachelor's degree and to those without (Bernhardt et al 2001; Kalleberg 2011). At the same time as these economic changes transform Americans' work lives, rates of marriage are declining among all socioeconomic groups (Cherlin 2004), and nonmarital childbearing increasing, particularly among those with low incomes (McLanahan 2004). This leads to a stratification of family forms, in which marriage and marital childbearing are the province of the well-to-do, whereas lower-income children grow up in single mother families. This stratification of family forms is to a large extent both created and reinforced by labor market conditions. Lack of well-paying jobs, particularly for men, means couples faced with financial instability often defer marriage with the hopes of marrying in the future (Gibson-Davis, Edin and McLanahan 2005; Harknett and Kuperberg 2011). However, such financial stability may never materialize and financial strains may contribute to couples' breakup (Edin and Kefalas 2005; Edin and Nelson 2013). Stratification of family forms may also perpetuate economic inequality. Single mother families, especially with low incomes, may be less able than two-parent families to support children's economic advancement. Both because single motherhood is selective of women with relatively low education, and because of the difficulty of finding adequate and affordable child care, single mothers may have

difficulty commanding an income on which to comfortably support themselves and their children, and may live in neighborhoods with less well-funded schools and fewer resources to support children's academic achievement and development of skills and labor market capital (McLanahan and Sandefur 1994). Against this backdrop of interconnected inequalities in both the labor market and in family life, the timing and characteristics of early employment are not only symptoms of an individual's socioeconomic background, but also predictors of and contributors to to his or her life chances.

Socioeconomic Significance of Early Employment

Early employment is an important marker of adult status in the life course, and both a forecast and determinant of employment success (or lack thereof) to come. Early employment sets the stage for whether a worker will establish a stable and lucrative career, or struggle to find a job that can support his or her family. Some of the role of early employment in determining labor force activities to come occurs at the individual level, through the development of competencies, preferences and relationships that may shape individuals' subsequent choices. The young adult period in the life course is a time when skills, education, and human capital are acquired (Becker 1975). Early jobs themselves are contexts in which acquisition of skills and socialization into workplace norms and activities occur, and where individuals develop preferences for working roles and experiences that shape their future employment and educational choices (Mortimer, Harley and Aronson 1999). Early employment also plays a role in determining the

structural settings in which individuals' subsequent work careers will unfold. Educational and work activities during this time period function as a signal to future employers, and qualify or disqualify individuals for particular kinds of subsequent jobs, such as those that require more versus less specialized skills, or more versus less education (Spence 2002). By serving as a track record of an individual's activities and capabilities, early employment may also influence an individuals' ability to be consistently employed in the future. The time spent in early employment, and the stability of early employment are both strong predictors of the amount of time spent in work, and of the stability of employment to come (Alon, Donohoe and Tienda 2001). Early employment is also critical to individuals' ability to amass earnings. The first ten years in the labor market are the time in which the majority of individual-level earnings growth occurs (Bernhardt, Morris, Handcock and Scott 2001).

The importance of early career activities for subsequent socioeconomic attainment is magnified in the context of the deindustrializing American economy. Since the 1970s, earnings inequality has increased between American workers in the upper and lower earnings quartiles. This is due both to an increase in white collar workers' pay, and to a decline in the wages of workers with less education (Bernhardt, Morris, Handcock and Scott 2001; Kalleberg 2011). Furthermore, the disappearance of well-paid manufacturing jobs, the decline in the power of unions, the growth of the service sector, and the presence in the workforce of increased numbers of low-skilled workers have led to an increased bifurcation of the labor market into jobs requiring a college degree and those that do not. Jobs that require a college degree pay well and offer benefits, those that do not are generally low-paying, offer no benefits and few opportunities for

advancement, and frequently are scheduled during non-standard and unpredictable hours (Presser 1989; Presser and Cox 1997; Bernhardt, Morris, Handcock and Scott 2001; Kalleberg 2011). This labor market polarization effectively raises the stakes on young people's ability to acquire a college education that will qualify them for a lucrative white collar job, or to be set on a path toward one of the few remaining stable and well-paying blue collar jobs. Thus early employment experiences set the stage for socioeconomic status in adulthood more than ever before.

Much as individuals' extended career paths are shaped by whether or not they attain a bachelor's degree, early career profiles are particularly differentiated by individuals' socioeconomic status in their families of origin. Family-of-origin socioeconomic status strongly influences whether individuals will enter, and finish, college. In addition, the timing of transition to stable employment and its chronological relationship to other activities is influenced by young adults' socioeconomic status in the family of origin (Lee 2014). Youth from more-advantaged backgrounds may experience a pattern of so-called "emerging adulthood" in which individuals delay commitment to particular roles, institutions, and engage in extended schooling, and travel and engage in multiple jobs before setting on a defined career path (Vuolo, Mortimer and Staff 2013). Youth from less-advantaged backgrounds are more likely to engage in "accelerated adulthood" patterns in which a dearth of alternative options and resources requires them to take on adult roles earlier. Because youth from less-advantaged backgrounds are also less likely to acquire post-secondary education, they are likely to have poorer employment prospects and difficulty transitioning into a stable employment path, even if

they enter fulltime or long-term employment sooner than youth from more-advantaged backgrounds (Vuolo, Mortimer and Staff 2013).

Early career patterns are also differentiated by socioeconomic status in how they influence subsequent career and earnings trajectories. Quality and consistency of early employment experience are more important to the lifetime earnings of individuals without a college education than for those with a college education. Less time spent employed in early adulthood lowers cumulative earnings for less-skilled workers but not for more-skilled workers. Because more-educated workers are more likely to hold salaried jobs in which wages build in seniority and steadily increase over previous wages, they suffer less with time out of paid employment (Alon and Tienda 2005; Alon and Haberfeld 2007). However, wage structures among less-educated workers offer fewer opportunities for advancement and for wage increases (Kalleberg 2011). Thus less-educated workers' lifetime earnings are to a larger extent dependent on the accumulation of lower wages earned through consistent working hours. Less-educated workers who have more work experience are also more likely to eventually acquire better-paying low skill jobs. This may be in part because their track record of consistent work is a positive signal to employers, and may also due to higher levels of skill and motivation (Alon and Tienda 2005; Alon and Haberfeld 2007).

A similar SES-differentiated pattern holds true with respect to the effect of the frequency of early career employment transitions among more- and less-educated workers. For women with a bachelor's degree, more transitions in early career improve job "fit." For women without a bachelor's degree, more early employment transitions lower the likelihood of high labor force attachment at older ages (Alon, Donohoe and

Tienda 2001). For young men with a college degree, more early employment transitions are associated with higher pay; for men without a bachelor's degree, more early employment transitions are associated with lower pay (Bernhardt, Morris, Handcock and Scott 2001). However, staying in the same job or with the same employer also has different effects for more- and less-educated workers. More-educated workers who stay with same employers for longer periods of time are able to participate in internal labor markets in which tenure with the firm shields them from instability in the broader labor market. For less-educated workers, on the other hand, staying in the same job can result in lost opportunities for higher pay (Alon, Donohoe and Tienda 2001).

Thus, through multiple pathways, early employment experiences play an important role in determining an individual's socioeconomic status in adulthood

Early Employment and Partnership

As both sources of income and social contexts in themselves, early jobs also have implications for individuals' formation of partnerships. Through the earnings they offer, they influence people's ability to enter into marriage. As marriage markets in themselves, jobs affect the individual characteristics of those in the pool of prospective partners.

In the contemporary U.S., financial stability is widely considered to be a necessary prerequisite for marriage (Cherlin 2004; Edin and Kefalas 2005; Schneider 2011). High- and low-income Americans alike embrace the notion that marriage is to be entered into with an elaborate wedding, followed by the so-called "white picket fence"

vision of home ownership. Earnings, especially men's earnings, are strong predictors of entry into marriage (Oppenheimer 1988; Oppenheimer 2000; Sweeney 2002). The centrality of men's wages in determining entry into marriage may be partly due to the normative centrality of men's incomes as a proxy for "readiness" to enter marriage (Sweeney 2002). It may also be partially due to the fact that men earn more than women on average due to the gender wage gap (Goldin 1990). Because of the gender wage gap, men's wages may constitute a larger part of household income than their female partners' and so therefore may play a larger role in couples' decision to enter into marriage. There may also be a selection process in which women want to marry men with higher earnings, and are more likely to select higher-earning men as partners (McClendon, Kuo and Raley 2014). The influence of men's earnings and earnings prospects affects the probability of entry into marriage both for couples without children, and those who already have children together (Harknett and Kuperberg 2011). However, despite the stronger predictive role of men's wages in likelihood of entry into marriage, women's wages are also a contributing factor (Sweeney 2002). Aggregate increases in women's educational attainment, and the increased earning power of women with college degrees, have contributed to the socioeconomic sorting of Americans into married and unmarried family forms (Schwartz and Mare 2005).

As marriage markets in themselves, workplaces play a role in determining the characteristics of individuals' potential eventual partners. To the extent that different workplaces are selective of workers with common socioeconomic characteristics, workplace marriage markets promote assortative mating, and affect workers' economic ability to enter into marriage. Particularly for young adults, work is a setting where

individuals spend a large portion of time, and a place where friendships and social ties are established (McClendon, Kuo and Raley 2014). Work-centered marriage markets are comprised both of people in the actual work setting, and their wider network of friends. With the deindustrialization of the economy and growth of the service sector, occupations have become increasingly socioeconomically stratified, increasing social distance between more- and less-educated Americans (Schwarz and Mare 2005). Thus individuals come into contact at work with others with similar educational attainment and earnings to themselves, whose friends also have similar educational attainment and earnings. In this scenario people with bachelor's degrees and high earnings may make contact with similarly high-earning prospective partners through their professional workplaces. Individuals who do not go to college may instead meet similarly less-educated prospective partners through lower-paying work environments (Kalmijn 1998; Musick, Brand and Davis 2012; Shafer and James 2013). Thus, higher-earning men and women are more able to meet, pool their incomes and enter into marriage, and lower-earning workers are likely to partner with other lower-earning people so they have fewer resources and less ability to enter into marriage.

In addition to the role it plays in setting the socioeconomic characteristics of the prospective partners to whom workers are exposed, the race/ethnic composition environment of a workplace may affect workers' probability of entering into homogamous or interracial partnerships (Kalmijn and Flap 2001; Lichter et al 1992). The contexts in which people meet prospective marriage partners are typically quite homogenous, not only socioeconomically, but also with respect to race/ethnicity (Kalmijn and Flap 2001). Such homogenous marriage markets largely result in homogamous

pairings (Kalmijn and Flap 2001; Lichter et al 1992). The larger the available pool of similar partners, the more people who meet there are to form homogamous partnerships (Kalmijn and Flap 2001). However, when a particular structural context brings together people from different groups, and allows them to interact on equal footing, this can create a more-heterogeneous marriage market, and thereby lead to less-homogamous pairings (Kalmijn 1998; Heaton and Jacobson 2000). Metropolitan areas and college campuses can bring together people from diverse race/ethnic backgrounds. The military is a workplace that serves such a function (Jacobson and Heaton 2003). The military brings together young people from different races and ethnicities in a shared institutional context. Furthermore, it normatively promotes an ethic of intergroup bonds and non-discrimination that may promote interracial friendships and partnerships (Jacobson and Heaton 2003; Lundquist 2004). As such, workers with early employment experience in the military are more likely to enter into marriages and partnerships with members of different/race ethnic groups than their own.

Women's Employment and Family Life

Although the work and family stratification of American life has effects for men and women alike, the extent to which employment and family experiences influence one another, and reinforce aggregate-level inequalities, arguably affect women more strongly than men. Features of this phenomenon that I will discuss here are the different timing of more- and less-well-educated women's fertility, and the greater likelihood of single mother families versus other family forms to live in poverty. Both of these are influenced

by forms of gender discrimination in the labor market, notably the gender pay gap and motherhood wage penalty, occupational sex segregation, and lack of government-level support for women's labor force participation.

The gender pay gap reflects the fact that women's overall lifetime earnings on average are lower than men's (Goldin 1990; Budig and England 2001). The motherhood wage penalty refers to the loss women experience in lifetime wages after having children. A significant portion of the aggregate gender pay gap results from the motherhood penalty (Budig and England 2001). Explanations for the gender pay gap involve a mix of economic and normative factors. Women may invest less in human capital such as education and training than men—or employers may invest less of such resources in women workers, with negative consequences for those women workers (Anker 1997). Women also lose wages on average by taking time out of the labor force to care for children, which in turn can snowball into further lost wages due to lost seniority and job-specific capital (Budig and England 2001), while men gain a "daddy bonus" when they become parents (Hodges and Budig 2010). Despite these observable differences between men and women workers that may explain wage differences, women are also paid less for reasons that cannot be explained by differences in human capital, and thus likely are in large part due to employer discrimination (Blau and Kahn 2007).

Women may choose to enter occupations that are less well-paid—or may be discriminated against in hiring and promotions, resulting in occupational sex segregation, which accounts for a significant portion of the gender pay gap (Anker 1997). Female-typed occupations to a large extent mirror women's and mothers' domestic roles—such as cleaning and child- and elder-care—and arguably extend restrictions on women's

behavior in the labor force, keeping them in "domestic" roles even outside the home (Anker 1997; Hartmann 1976). In white collar occupations, until Title IX took effect, women were either openly barred from sites of professional training such a law school and medical school, or their numbers were severely limited through open quotas (Bergmann 2010). In blue collar occupations, women were historically barred from unions, and apprenticeship systems continue to function to limit numbers of women in the field by making criteria for entry personalized and selective (Goldin 1990; Bergmann 2010). Women who attempt to enter male fields also face backlash. While women have made some progress in entering "men's" fields, occupational segregation has persisted largely because men have not entered "women's" fields, and hence these occupations retain their low status and low pay (Bianchi and Spain 1996).

Whereas governments in many other industrialized countries provide supports for women's labor force participation, in the form of subsidized child care and paid and job-protected parental leave, the lack of these policies in the U.S. creates a barrier to consistent employment for both more- and less-educated women alike (Gornick and Meyers 2003). Women's likelihood of participating in the labor force is consistently linked with childcare costs. Higher childcare costs decrease women's labor force participation, while lower costs increase it (Ruhm 2011). Childcare costs may be a particular barrier to employment for low-income single mother (Edin and Lein 1997).

The different fertility timing of women with more and less education is largely shaped by the different labor market conditions they face. These different labor market conditions incentivize different behaviors, which result in different benefits and costs to each group. For women with bachelor's degrees, opportunities for higher education and

lucrative work create norms and incentives for women to delay their fertility (McLanahan 2004). In addition, the gender wage gap and motherhood penalty affect this group by lowering their wages more if they take time out of paid employment to have children earlier in their careers, rather than in their 30s or 40s (Budig and England 2001). Thus, women with higher socioeconomic status on average delay childbearing because of high opportunity costs to them of having children, and especially having children while young (McLanahan 2004). A personal cost to these delays, however, is that women who have delayed childbearing may not realize their fertility preferences (Quesnel-Vallée and Morgan 2003.)

By contrast, women without bachelor's degrees are more likely to have their children at younger ages, due in large part to the absence of competing options like school and well-paying work. Schools in low income communities, and low-income parents may not be well equipped either to prepare students academically for higher education, or to offer them guidance about how to apply to and pay for college (Manlove 1998). Without economic incentives or normative encouragement to delay childbearing, early births are viewed as practical, a natural part of the life course, and a source of emotional fulfillment (Brewster, Billy and Grady 1993; Edin and Kefalas 2005; Gibson-Davis 2009). A personal cost to early births among those with less education is that it may make significant employment even more difficult to attain. Single mothers are disproportionately likely to live in poverty (McLanahan and Sandefur 1994; Folbre 1999). Difficulty in finding affordable day care is also a significant barrier to employment for less-educated single mothers more than for those with more education (Edin and Lein 1997). In addition, occupational segregation and the gender wage gap

may have particularly strong negative effects for women who do not benefit from the presence of a male worker in the household. They may have poor employment prospects on their own, and receive either no male income or only sporadic assistance (Edin and Nelson 2013).

Conclusion

Each of the three papers of my dissertation considers one or more these interconnections between individuals' jobs in early adulthood and their behavior in family life. The first paper, entitled "Does it Matter if She'd Rather Marry? The Role of Individual Preferences in Young Women's Likelihood of a Nonmarital First Birth," addresses the role of educational attainment and early employment prospects as they enable and constrain young women's ability to enter into the kind of family forms they prefer. Using the National Longitudinal Study of Adolescent to Adult Health (Add Health), I consider the relationship between women's preferences as stated in adolescence for or against having children while unmarried, their socioeconomic resources in young adulthood, and their eventual likelihood of having marital first birth, having a nonmarital first birth, or continuing to defer births. I operationalize socioeconomic resources in young adulthood by women's educational attainment, their timing of first employment, and the earnings potential of their early jobs (i.e. whether they are designated as being professional or non-professional occupations). This paper investigates whether having more education and professional employment facilitates young women's achieving the family profiles they prefer.

The second paper in my dissertation, entitled "Retrospective versus Panel Reports of First Employment in the Life Courses of U.S. Women" addresses the role of early employment experiences and early family formation behavior as they affect the accuracy of young women's retrospective reporting on their first employment. In this paper, I investigate the accuracy of young women's retrospective survey reporting on the timing of their first stable employment in the context of socioeconomic differences in education completion and early career patterns. First employment is both a harbinger and an arbiter of an individual's future labor force prospects, and failure to achieve a foothold in the labor market can signal long-term economic struggles (Alon and Tienda 2005; Alon and Haberfeld 2007). To the extent that social scientists draw knowledge about women's labor force entry and family formation timing from survey research, any socioeconomically-based inaccuracies in reporting may function to perpetuate the disadvantage of already-disadvantaged women, by skewing the social science narrative about women's labor force attachment and timing of family formation. I use panel data from the National Longitudinal Study of Youth-1997 (NLSY97) to evaluate the accuracy of responses to retrospective questions about first stable employment of six months or more from the 2006-2010 National Survey of Family Growth (NSFG) and the 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP). All three surveys draw from the same nationally-representative population of U.S. women born between 1980 and 1984, and can be compared as though they represent groups of women with the same characteristics. I use these data to investigate possible socioeconomic differences in reporting accuracy on women's first employment in the context of their

overall employment experience (full-time versus part-time work, and just one job versus multiple jobs at once) and the timing of their family formation.

The third paper of my dissertation, entitled "The Military Marriage-Market-Plus: How Composition, Socioeconomic Attainment and Equalitarian Norms Facilitate Veterans' Race/Ethnic Intermarriage," addresses the topic of how early employment in a particular workplace—the military—affects veterans' choice of marital partners, specifically their likelihood of entering into race/ethnic intermarriages. Race/ethnic intermarriage is more common among military veterans than in the general population, and have increased at a faster rate among veterans than non-veterans from the 1960s to the present (Fryer 2007). This difference may be due in part to how the military shapes the economic prospects of veterans. As a source of steady employment, and a context in which criteria for advancement are clearly formalized, the military can be an engine of socioeconomic advancement for minorities (Moskos and Butler 1996; Lundquist 2004). As a result, the gaps between the socioeconomic characteristics of veterans of color and their White veteran peers are smaller than those in the civilian labor force. The military may function as a marriage market to the extent that it brings together a diverse group of young people of similar ages in an all-encompassing setting that is much less segregated than civilian settings (Heaton and Jacobson 2000). It may promote marriage through the availability of housing, employment, medical and other benefits to married military couples and families, as well as general pro-marriage norms (Lundquist 2004). It may also promote the formation of race/ethnic intermarriages through norms that promote non-discrimination and intergroup solidarity as a component of strong morale (Lundquist

2004). This paper uses three major theories of interracial marriage to try to explain the greater prevalence of interracial marriage among veterans.

References

Alon, Sigal, Debra Donohoe and Marta Tienda. 2001. “The Effects of Early Work Experience on Young Women’s Labor Force Attachment.” *Social Forces.* 79: 1005-1034.

Alon, Sigal and Yitchak Haberfeld. 2007. “Labor Force Attachment and the Evolving Wage Gap between White, Black and Hispanic Young Women.” *Work and Occupations.* 34: 369-398.

Anker, Richard. 1997. "Theories of Occupational Segregation by Sex: An Overview." *International Labor Review* 136: 315-39.

Becker, Gary S. 1975. *Human Capital.* New York: National Bureau of Economic Research Press

Bernhardt, Annette, Martina Morris, Mark S. Handcock and Marc A. Scott. 2001. *Divergent Paths: Economic Mobility in the New American Labor Market.* New York: Russell Sage Foundation.

Bergmann, Barbara R. 2010. "Sex Segregation in the Blue-Collar Occupations: Women's Choices, or Unremedied Discrimination? Comment on England." *Gender and Society* 25: 88-93.

Bianchi, Suzanne M. and Daphne Spain. 1996. " Women, Work and Family in America." *Population Bulletin.* 51:2-48.

Blau, Francine D. and Lawrence Kahn. 2007. "The Gender Pay Gap: Have Women Gone As Far As They Can?" *Academy of Management Perspectives* 21: 7-23.

Brewster, Karin L., John O.G. Billy, and William R. Grady. 1993. “Social Context and

Adolescent Behavior: The Impact of Community on the Transition to Sexual Activity." *Social Forces* 71: 713-740.

Cherlin, Andrew. 2004. "The Deinstitutionalization of Marriage." *Journal of Marriage and Family.* 66:848-861.

Edin, Kathryn and Laura Lein. 1997. "Work, Welfare and Single Mothers' Economic Survival Strategies." *American Sociological Review* 62: 253-266.

Edin, Kathryn and Maria Kefalas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood before Marriage.* Berkeley: University of California Press.

Edin, Kathryn and Timothy J. Nelson. 2013. *Doing the Best I Can: Fatherhood in the Inner City.* Berkeley: University of California Press.

Gibson-Davis, Christina, Kathryn Edin, and Sara McLanahan. 2005. "High Hopes but Even Higher Expectations: The Retreat from Marriage among Low-Income Couples." *Journal of Marriage and Family* 67: 1301-1312.

Gibson-Davis, Christina M. 2009. "Money, Marriage and Children: Testing the Financial Expectations and Family Formation Theory." *Journal of Marriage and Family.* 71:146-160.

Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Gornick, Janet C. and Marcia K. Meyers. 2003. *Families that Work: Policies for Reconciling Parenthood and Employment.* New York: Russell Sage Foundation.

Folbre, Nancy. 1995. *Who Pays for the Kids? Gender and the Structures of Constraint.* New York: Routledge.

Fryer, Roland G. Jr. 2007. "Guess Who's Been Coming to Dinner? Trends in Interracial

Marriage over the 20th Century." *Journal of Economic Perspectives.* 21: 71-90.

Harknett, Kristen and Arielle Kuperberg. 2011. "Education, Labor Markets and the Retreat from Marriage." *Social Forces.* 90: 41-63.

Hartmann, Heidi. 1976. "Capitalism, Patriarchy and Job Segregation by Sex." *Signs.* 1: 137-169.

Heaton, Tim B. and Cardell K. Jacobson. 2000. "Intergroup Marriages: An Examination of Opportunity Structures." *Sociological Inquiry.* 70: 30-41.

Hodges, Melissa J. and Michelle J. Budig. 2010. "Who Gets the Daddy Bonus? Organizational Hegemonic Masculinity and the Impact of Fatherhood on Earnings." *Gender and Society.* 24: 717-745.

Jacobson, Cardell and Timothy Heaton. 2003. "Intergroup Marriage and United States Military Service." *Journal of Political and Military Sociology.* 31: 1-22.

Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970sto 2000s.* New York: Russell Sage Foundation.

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology.* 24: 395-421.

Kalmijn, Matthijs and Henk Flap. 2001. "Assortative Meeting and Mating: Unintended Consequences of Organized Settings for Partner Choices." *Social Forces.* 79: 1289-1312.

Krahn, Harvey J., Andrea L. Howard and Nancy L. Galambos. 2015. "Exploring or Floundering? The Meaning of Employment and Educational Fluctuations in Emerging Adulthood."*Youth & Society.* 47: 245-266.

Lee, JoAnn S. 2014. "An Institutional Framework for the Study of the Transition to Adulthood." *Youth & Society.* 46: 706-730.

Lichter, Daniel T., Diane K. McLaughlin, George Kephart and David J. Landry. 1992. "Race and the Retreat from Marriage: A Shortage of Marriageable Men?" *American Sociological Review.* 557: 781-799.

Lundquist, Jennifer Hickes. 2004. "When Race Makes No Difference: Marriage and the Military." *Social Forces.* 88: 731-757.

Manlove, Jennifer. 1998. "The Influence of High School Dropout and School Disengagement on the Risk of School-Age Pregnancy." *Journal of Research on Adolescence*. 8: 187-220.

McLanahan, Sara. 2004. "Diverging Destinies: How Children are Faring under the Second Demographic Transition." *Demography.*41: 607-627.

McLanahan, Sara and Gary Sandefur. 1994. *Growing Up with a Single Parent: What Hurts, What Helps.* Cambridge: Harvard University Press.

McClendon, David, Janet Chen-Lan Kuo and R. Kelly Raley. 2014. "Opportunities to Meet: Occupational Education and Marriage Formation in Young Adulthood." *Demography.* 51: 1319-1344.

Mortimer, Jeylan T., Carolyn Harley, and Pamela J. Aronson. 1999. "How Do Prior Experiences in the Workplace Set the Stage for Transitions to Adulthood?" *Transitions to Adulthood in a Changing Economy: No Work, No Family, No Future?* Ed. Alan Booth, Ann C. Crouter and Michael J. Shanahan. Westport, CT: Praeger.

Moskos, Charles C. and John Sibley Butler. 1996. *All That We Can Be: Black Leadership*

and Integration the Army Way. New York: Basic Books.

Musick, Kelly, Jennie E. Brand and Dwight Davis. 2012. "Variation in the Relationship between Education and Marriage: Marriage-Market Mismatch." *Journal of Marriage and Family.*74:53-69.

Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *American Journal of Sociology* 94: 563-591.

Oppenheimer, Valerie Kincade. 2000. "The Continuing Importance of Men's Economic Position in Marriage Formation." *The Ties That Bind: Perspectives on Marriage and Cohabitation.* ed. Linda S. Waite. New York: Aldine de Gruyter. 166-301.

Presser, Harriet B. 1989. "Can We Make Time for Children? The Economy, Work Schedules, and Child Care." *Demography.* 26: 523-543.

Presser, Harriet B. and Amy G. Cox. 1997. "The Work Schedules of Low-Educated American Women and Welfare Reform." *Monthly Labor Review* 120: 25-34.

Ruhm, Christopher J. 2011. "Policies to Assist Parents with Young Children." *Future of Children.* 21: 37-68.

Shafer, Kevin and Spencer L. James. 2013. "Gender and Socioeconomic Status Differences in First and Second Marriage Formation." *Journal of Marriage and Family.* 75: 544-564.

Schneider, Daniel. 2011. "Wealth and the Marital Divide." *American Journal of Sociology.* 117:627-667.

Schwartz, Christine R. and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage." *Demography* 42: 621-646.

Shanahan, Michael J. 2000. "Pathways to Adulthood in Changing Societies: Variability

and Mechanisms in Life Course Perspective." *Annual Review of Sociology.* 26: 667-692.

Spence, Michael. 2002. "Signaling in Retrospect and the Informational Structure of Markets." *The American Economic Review.* 96: 434-459.

Sweeney, Megan M. 2002. "Two Decades of Family Change: The Shifting Economic Foundations of Marriage." *American Sociological Review.* 67: 132-147.

Quesnel-Vallée, Amélie and S. Philip Morgan. 2003. "Missing the Target? Correspondence of Fertility Intentions and Behavior in the U.S." *Population Research and Policy Review.* 22; 497-525.

Vuolo, Mike, Jeylan T. Mortimer, and Jeremy Staff. 2013. "Adolescent Precursors of Pathways from School to Work." *Journal of Research on Adolescence.* 24: 145-162.

Chapter 2: Does it Matter if She'd Rather Marry? The Role of Individual Preferences in Young Women's Likelihood of a Nonmarital First Birth

Abstract

Previous research shows that low-income single mothers interviewed after they have begun childbearing say they would prefer to marry but feel prevented from doing so by a lack of means. However, prior studies have not investigated in nationally-representative samples whether greater access to material resources enables women to realize the family profiles they prefer. Using Add Health data, I prospectively test whether women who state a preference against nonmarital childbearing before having their first birth are helped to realize that preference by postsecondary education, lucrative jobs, and dating partners with high educational attainment. I find that after accounting for individual resource acquisition and early partner characteristics, women's preferences play a stronger role in whether or not they postpone childbearing than in whether they have a marital versus a nonmarital first birth.

Introduction

This paper investigates how U.S. women's ability to realize their own stated preferences about single motherhood is either enabled or constrained by their access to socioeconomic resources in adulthood, and by the resources available within their pool of prospective male partners. The majority of young people in the U.S. indicate that they hope to marry (Cherlin 2004). Widely-held norms favor marriage as the optimal context for raising children (Usdansky 2009). However, as of 2013, nonmarital births exceed 40% of all births in the U.S. (Martin et al 2015). This indicates that although most women may prefer to give birth in the context of marriage, many will not realize this goal.

Previous qualitative research has compellingly shown that low-income single mothers—interviewed *after* they begin their childbearing—feel that they would prefer to marry and raise their children within marriage, but lack the financial stability that would qualify them for entry into marriage (Edin and Kefalas 2005). Substantial prior research has also shown that women's preferences and intentions about whether they want children, and the numbers of children they wish to have, are strong predictors of their eventual fertility outcomes (Schoen et al 1999; Hayford 2009). However, the causal relationship between women's individual preferences about marital versus nonmarital motherhood and the eventual marital or nonmarital context of their childbearing has never before been explored using nationally-representative data. Also unexplored to date is the question of what role individual women's preferences for or against nonmarital childbearing play in contributing to the well-documented socioeconomic differences

between which groups of women are more or less likely to have marital versus nonmarital births.

The present study focuses on women who have stated a preference against nonmarital motherhood *before* they begin their childbearing. I prospectively examine how women are either helped or hindered in their ability to realize their family formation preferences by their own accumulation of socioeconomic resources in early adulthood, and by the resources accumulated by their prospective partners. With data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), I use a discrete-time hazard model to examine how individual women's preferences about nonmarital childbearing as stated in adolescence interact with their own subsequent educational attainment and work experience, as well as the educational attainment of their early dating partners, to predict their likelihood of eventually having a marital first birth, having a nonmarital first birth, or postponing childbearing.

In predicting women's likelihood of postponing childbearing versus having a nonmarital first birth, I find that stating a preference against nonmarital childbearing—along with women's own educational attainment and work histories in adulthood—is associated with avoiding nonmarital motherhood. In predicting whether a woman has a marital first birth versus a nonmarital first birth in any given period, however, I find that the predictive power of women's stated individual preferences depends entirely on their current socioeconomic circumstances.

Family Forms and Socieoconomic Inequality

Since the latter part of the 20th century, patterns of family formation behavior in the U.S. have undergone major changes for individuals in all walks of life. Marriage rates have dropped. The more than 80% of U.S. women ever-married by age 25 among the 1935-1939 birth cohort decreased to less than 50% for women born between 1975 and 1979 (Kreider 2005; Kreider and Ellis 2011). Women's median age at first marriage increased from age 20 in 1950 to age 26 in 2009. Changes to norms about sexuality and family life have functioned to separate sex and childbearing from marriage in the popular imagination (Cherlin 2004; Gibson-Davis 2009). The birth rate for unmarried women rose by more than 20 points, from 29.4 in 1980 to 51.8 in 2008 (Martin et al 2013), due in large part to a decrease in so-called "shotgun marriages" (Carlson, McLanahan and England 2004; Gibson-Davis 2011). Cohabitation has also become increasingly widespread (Smock 2000), with counts of unmarried couples who share living quarters rising by more than two million between the 1990 and 2000 Decennial Censuses (Simmons and O'Connell 2003).

Although norms and behaviors surrounding sex, marriage and childbearing have transformed family life across the U.S. population, the likelihood of entry into marriage and of having a nonmarital birth are nonetheless heavily differentiated by socioeconomic status. The increase in nonmarital childbearing over the last 30 years has been confined to women without a bachelor's degree, while at the same time rates of unmarried births to college-educated women have slightly decreased (McLanahan 2004). Those with higher socioeconomic status are more likely to delay childbearing, to marry, and ultimately to

give birth within marriage, whereas those with lower socioeconomic status are more likely to have children young and either forego marriage altogether (Carlson, VanOrman and Pilkauskas 2013; Manning 2001; McLanahan 2004; NCHS 2010; Schwartz and Mare 2005) or to marry after they begin childbearing (Gibson-Davis, Edin and McLanahan 2005; Lichter, Sassler and Turner 2014).

The socioeconomic differentiation of marital and nonmarital family forms functions to perpetuate social inequality. Despite the documented high value that low-income parents place on children and parenting (Edin and Kefals 2005; Edin and Nelson 2013), this increase in births to unmarried, relatively low-SES women is associated with fewer material and parental resources for their children, relative to the children of married parents. Since the welfare policy changes of the 1990s that markedly decreased the economic safety net available to low-income women and children (Wu and Eamon 2013), single mothers must provide for their families within a labor market that is increasingly dominated by jobs offering low pay and little flexibility to accommodate workers' family responsibilities (Presser and Cox 1997; Kalleberg 2011). Children born to cohabiting couples are more likely to experience parental breakup and subsequent family instability than children born to married parents (Wildsmith and Raley 2004). Along with fathers' material resources, children of nonresident fathers lose the social capital they might gain from closer involvement with fathers' families and communities (McLanahan and Sandefur 1994). Furthermore, because of race/ethnic differentials in which groups of women are more likely to have lower socioeconomic status and to have non-marital births, African-American and Hispanic children, are disproportionately more likely to experience these losses than are non-Hispanic White children. Thus, the link between

differences in family formation and socioeconomic outcomes represents a locus of the intergenerational transmission of poverty, and a major source of social inequality in the contemporary U.S. (McLanahan 2004; Smith, Morgan and Koropeckyj-Cox 1996).

Structural Influences on Family Formation Behavior

Explanations for these pronounced socioeconomic differences in family profiles focus to a large extent on the symbolic and practical importance of financial and material resources for entry into marriage. A strong norm exists in the U.S. at all socioeconomic levels that associates marriage with financial stability and material attainment (Cherlin 2004). Qualitative research shows that despite aspiring to marriage, low-income single parents feel they are prevented from marrying because of their lack of financial stability (Edin and Kefalas 2005; Edin and Nelson 2013). Quantitative research from nationally-representative surveys shows that individuals with strong job prospects, and the means to pay bills, own a home, and pay for an elaborate wedding are more likely to marry than those without such resources (Gibson-Davis 2009; Harknett and Kuperberg 2011; Schneider 2011). The socioeconomic mechanisms that bring about these different family profiles involve higher- and lower-SES individuals' exposure to and participation in different marriage markets, the different benefits or opportunity costs that accrue to the timing of their childbearing, and their different ability to accumulate resources, all based on their differing educational and labor force options.

Marriage Markets and Entry into Marriage

Increases in the numbers of women pursuing a college education since the mid-20th century have led to an increase in educational assortative mating, in which college-educated individuals are more likely to marry, and to marry each other, than those without a college degree (Schwartz and Mare 2005). However, despite significant increases in college attendance for men and women alike, college-educated individuals still comprise less than one third of the U.S. population (Ryan and Siebens 2012). Increases in the percentage of those attaining a bachelor's degree have plateaued at roughly 30% for those aged 25-34 in 2009 (the approximate cohort of interest for my study), after having increased by ten percentage points across the previous two cohorts. With the deindustrialization of the U.S. economy, having a bachelor's degree is increasingly a requirement for gaining a stable, well-paying job, whereas jobs that do not require a bachelor's degree are increasingly relegated to the lower-paying service sector (Kalleberg 2011). Thus, women who are able to acquire a college education stand to gain substantially in wages relative to their less-educated peers. In addition, access to college education differentiates women's ability to accumulate resources at the household level through the resources available to their prospective male partners. Because of the persistent gender wage gap, men continue to out-earn women across all sectors of the economy (Goldin 1991), and their earnings commonly represent the larger share of household income (Winslow-Bowe 2006). The wages of men at the upper end of the income distribution have increased since the 1970s, while at the same time, the growth of the service sector has lowered blue collar men's wages (Kalleberg 2011). Despite this increased income polarization, men's income and labor market outcomes at all income

levels continue to be more strongly predictive of entry into marriage than women's, with evidence from nationally-representative studies indicating that the level of men's resources functions as a threshold for entry into marriage for men and their female partners alike (Harknett and Kuperberg 2011; Sweeney 2002).

Those with and without a bachelor's degree operate in two different marriage markets. Individuals with bachelor's degrees meet prospective partners at colleges and universities, in professional workplaces, and through friends who have similarly high educational attainment and professional credentials (McClendon, Kuo and Raley 2014). Individuals who do not go to college meet prospective partners in lower-paying work environments, and through friends who are similar in their lower educational attainment and income (Kalmijn 1998; Musick, Brand and Davis 2012; Shafer and James 2013). Higher rates of incarceration in lower-income and especially African-American communities also function to decrease the pool of men in this marriage market (Lopoo and Western 2005), such that relative to their more-educated peers, less-educated and lower- income women are hindered in their ability to find a marriage partner. Couples who are matched on their high levels of education and income can more easily achieve markers of material success that normatively qualify them to marry. However, even with pooled resources, low-income couples who wish to marry may not be able to reach the standard of financial stability they view as necessary for marriage.

Timing of Childbearing

Women with lower versus higher socioeconomic status experience different incentives and opportunity costs to the timing of their fertility, such that women with low

socioeconomic status are more likely to have their first birth at younger ages. These earlier births, in turn, are more likely to occur outside of marriage, with nonmarital births comprising more than 60% of births to women aged 20-24, and more than 80% of births to women aged 19 and under (Shattuck and Kreider 2013). Women with high socioeconomic status spend their teens and twenties completing college and advanced degrees and becoming established in their careers (McLanahan 2004). For this group, having an early birth would interfere with schooling and the development of workplace seniority and earning power (Manlove 1998; Budig and England 2001). By contrast, young women who attend under-resourced schools in low income communities are likely to be academically ill-equipped for higher education, and may receive little guidance about how to apply to and pay for college (Manlove 1998). In the absence of educational or job opportunities to compete with early childbearing, giving birth when one is young and energetic enough to keep up with young children is a practical decision, viewed as a natural part of the life course (Brewster, Billy and Grady 1993; Edin and Kefalas 2005; Gibson-Davis 2009).

Although some early childbearing is planned, much of it is comprised by unplanned and unintended births (Guzzo and Hayford 2011). Strong socioeconomic patterns also exist in which women are more- and less-likely to have unplanned births. Younger, and unmarried women are more likely to describe their pregnancies as being unintended, or "ambivalently" intended (Shreffler et al 2015). Women with low incomes and low educational attainment are more likely to experience unplanned births, whereas women with higher educational attainment, and those who work fulltime are less likely to have unplanned births (Finer and Zolna 2011; Williams, Abma and Piccinino 1999)

Individuals with lower incomes may be constrained in their ability to plan births by less-consistent access to healthcare services and effective contraception relative to their higher-income peers (Singh, Darroch and Frost 2001). They may also be more likely to carry an unplanned pregnancy to term due to constrained access to abortion services (Musick 2002). In addition, norms in low-income communities may favor non-use or only inconsistent use of contraception, even among those who are not intending pregnancy, leading to semi-planned births to couples are neither directly intending nor preventing pregnancy (Edin et al 2007; Edin and Nelson 2013).

Individual Preferences and Family Formation Behavior

To date, the major explanations for the socioeconomic difference in likelihood of nonmarital childbearing have focused primarily on the economic mechanisms pushing higher-SES women toward later, planned marital births and lower-SES women toward earlier, largely unplanned nonmarital births. Research with nationally-representative surveys has not accounted for potential variation in individual women's own desires and preferences about the marital versus nonmarital circumstances in which they form their families. It also has not addressed the question of how much these individual preferences may play a role in whether or not individual women have nonmarital births. Research to date has shown a strong predictive relationship between individual women's intentions for occurrence and numbers of births and their eventual fertility outcomes (Schoen et al 1997; Schoen et al 1999; Hayford 2009). It has also shown a relationship between couples' intent to marry and their subsequent entry into marriage (Waller and McLanahan

2005; Guzzo 2009). Although intentions can change across the life course, evidence shows that fertility, marriage and cohabitation intentions formed in early life very often remain consistent and are strongly predictive of subsequent behavior, because they are formed at the same time as individuals develop their own views on the positives and negatives of having children and forming intimate partnerships (Liefbroer, Gerritsen and and Gierveld 1994; Barber 2001; Hayford 2009). However, research to date has not investigated whether individual-level preferences for having a birth in the context of a marital or nonmarital relationship predict whether or not a nonmarital birth will occur.

Although women may experience their own preferences about their anticipated family formation behavior as individual and profoundly personal, the processes by which these preferences are formed—as well as the sequences of events that determine whether or not preferences will be realized—are influenced to a large extent by an overlapping set of individual characteristics and social factors (Morgan 2001). These factors are in turn are heavily influenced by women's socioeconomic status, both in their families of origin and in adulthood (Morgan 2001; Bachrach and Morgan 2013). Because of these overlaps between the mechanisms that influence the formation of women's preferences about nonmarital childbearing, their ability to gain access to resources in adulthood, and their eventual formation of families, it may be impossible to completely disentangle the causal relationships between these three processes. Here I consider the scenarios through which preferences, and both actual and anticipated access to resources, may affect one another, as well as how these may jointly influence women's eventual family formation outcomes.

Factors Influencing Formation of Preferences

Evidence from research on fertility intentions suggests that the formation of women's family formation preferences is influenced by a combination of 1.) the norms to which women are exposed, 2.) women's perception of their available educational and work opportunities, and 3.) their own lived experience in the domains of family and work (Hayford 2009; Bachrach and Morgan 2013).

Norms about family formation particularly influence women's stated intentions at young ages. When young women are asked in their teens about their fertility targets, their stated preferences hew closely to the widely-accepted norm of wanting two children (Hayford 2009; Bachrach 2013). Similarly, most women when asked at a young age about their preferences with respect to nonmarital childbearing may plausibly articulate the widely-held norm of a preference for having children within marriage (Usdansky 2009). However, apart from this broad set of norms about childbearing in the U.S. at large, the family formation norms and behaviors to which women are exposed within their communities and families are likely to vary by socioeconomic status. Individuals with low socioeconomic status are more likely to state intentions for higher numbers of children (Hayford 2009). Similarly, individuals from disadvantaged communities are more likely to express acceptance of early and nonmarital childbearing (Brewster, Billy and Grady 1993; Brewster 2004; Trent and Crowder 1997; Brown and Burrington 2006). Women's beliefs both about the inherent importance of marriage, and whether they view marriage as necessary or optimal for childbearing, are also heavily influenced by whether and when young women's parents and community members commonly enter into marriage, as well as broader ideas about marriage expressed in the mass media (Cherlin

2004; Willoughby, Hall and Luczak 2015). All of these factors may lead young women from disadvantaged backgrounds to be more likely to consider a nonmarital birth as an acceptable option for their own family formation.

To the extent that childbearing and the pursuit of postsecondary education and careers are competing options that are largely incompatible (Schoen et al 1997; Presser 2001), the opportunities for schooling and work that an individual woman wishes to pursue and/or that are available to her may also affect the formation of her family formation preferences. Time spent caring for children is time that cannot be spent in a college classroom (and vice versa), and the financial payoff of postsecondary education in the form of lucrative jobs raises the opportunity cost of childbearing to college-educated women (Easterlin and Crimmins 1985; Budig and England 2001). Thus, women who have not completed high school or a bachelor's degree are more likely to report higher fertility intentions (Hayford 2009). Plausibly, women with low educational attainment, and those who do not expect to pursue postsecondary education, may be more receptive to the possibility of early childbearing, which is disproportionately likely to be nonmarital (Shattuck and Kreider 2013). Because women with lower socioeconomic status in their families of origin are less likely to attend schools that encourage them to pursue postsecondary education (Lee and Bryk 1988; Manlove 1998), and are less likely to complete college (Mare 1981), socioeconomic status may affect the formation of preferences about nonmarital childbearing in this respect.

Women's family formation preferences may also change over the life course, in response to their own experiences in the domains of family, education, and work. Some women who state low fertility intentions at a young age, and do not marry, reduce these

intentions to zero at older ages (Hayford 2009). Others begin with high fertility intentions, and after having had children, express an intention to have even more children (Hayford 2009). Plausibly, women's preferences about nonmarital childbearing may change with their changed understanding of their own career and partnership prospects. For example, women who had a preference against nonmarital childbearing at a young age but who find themselves unmarried as their adulthood progresses may revise this preference to be more receptive to nonmarital childbearing. Women who initially would have prioritized motherhood enough to consider a nonmarital birth may gain a greater understanding of the demands of childrearing and/or of the emotional and financial rewards of their own careers, and change their preference to consider having children only with help from a marital partner. Because young women's socioeconomic status affects the pool of prospective marital partners available to them (Lopoo and Western 2005; Gassanov, Nicholson and Koch-Turner), their likelihood of marrying (Schwartz and Mare 2005), and their likelihood of entering into demanding and high-paying careers (McLanahan 2004), any changes to their family formation preferences based on these factors may also be linked to women's socioeconomic status.

Factors Influencing Realization of Preferences

A similar set of overlapping factors affects whether family formation preferences, once formed, are realized. These are 1.) the strength and certainty of women's preferences, 2.) women's actual and self-perceived self-efficacy, 3.) women's perceptions of their future educational, work, and marriage prospects,4.) women's achieved educational attainment and work careers, and 5.) women's access to prospective marital

partners. These factors are subject to women's direct control to some extent, but also (particularly items 2-5) heavily influenced by their socioeconomic status.

Evidence suggests that the strength and certainty of women's preferences (Morgan 2001) affects the likelihood that they will realize those preferences. Women who express greater certainty in their wish to avoid an unplanned pregnancy are more likely to do so (Williams, Abma, and Piccinino 1999). Women who say they are very sure they want to have a birth are more likely to have a birth shortly thereafter (Schoen et al 1999). By extension, women who strongly wish to avoid a nonmarital birth may plausibly be more likely to take strong measures to avoid and/or terminate unplanned pregnancies. In addition, women who feel strongly about their wish to pursue school and work instead of early childbearing (Barber 2001) may plausibly also be more likely to take measures to avoid early and nonmarital childbearing.

Women's individual self-efficacy—both actual, and self-perceived—may also play a role in the extent to which they take steps to achieve their preferred family formation outcomes, and to avoid those outcomes they wish to avoid. A young woman with a stronger sense of self-determination (Mirowsky and Ross 2007) may feel more empowered to avoid unplanned pregnancy by using contraception, or resisting sexual coercion (Cheng et al 2014; Upadhyay et al 2014). Women with greater confidence that they have the ability to work hard and achieve their goals, may be more likely to take steps in pursuit of education and careers if that is what they desire (Mirowsky and Ross 2007), and to forego early childbearing in the process. However, feelings of self-efficacy are strongly tied to family of origin socioeconomic status insofar as they are fostered and reinforced by educational environments that help students work toward goals, by the

acquisition of educational credentials (Mirowsky and Ross 2007) and by interactions with institutions that are responsive to individuals' needs and concerns (Lareau 2015)—all experiences that are disproportionately the province of the more well-to-do. Conversely, feelings of self-efficacy are discouraged by life in unsafe and chaotic low-income neighborhoods (Ross, Mirowsky and Pribesh 2001), and by unrewarding interactions with institutions whose rules may seem capricious and opaque (Levine 2013; Lareau 2015). Furthermore, feelings of self-efficacy may be a stronger determinant of women's realization of their family formation, educational and career goals for women with lower socioeconomic status than those with higher socioeconomic status. Whereas women with high socioeconomic status can relatively easily access reproductive health care and effective contraception to help them avoid unplanned births (Singh, Darroch and Frost 2001), and are likely to attend schools with curricula and counseling designed to set them on a path to college (Manlove 1998; Lee and Bryk 1988), women with lower socioeconomic status may have to work harder, and marshal greater internal reserves of self-belief in order to gain access to these resources.

Also affecting whether women's family formation preferences are realized are their perceptions at relatively young ages of the schooling and work options that are available to them, and of their likelihood of marriage within their pool of prospective partners. For women who prefer to avoid nonmarital childbearing, these two factors forecast whether they can realistically hold out for their preferred option—for example, whether they will be able to achieve a desired career if they put off having a baby (Geronimus and Korenman 1993), or whether they will be able to find a husband with their preferred characteristics, and so can wait to begin childbearing (Edin and Kefalas

2005). Young women's perceptions in these domains, however, may not always be accurate. Young women may underestimate the extent to which childbearing would interfere with schooling (Jumping-Eagle et al 2008), and may overestimate both the extent of their pool of prospective martial partners, and their own attractiveness as a marital candidate (Gassanov, Nicholson and Koch-Turner 2008). Again, high-SES young women's ability to perceive their options accurately may matter less than for women with low SES, because high-SES women have easier access to reproductive health care (Singh, Darroch and Frost 2001), to college and careers (Manlove 1998; Lee and Bryk 1988), and to a pool of financially stable prospective partners (Lopoo and Western 2005). Thus, high-SES young women's ability to avoid nonmarital childbearing may depend less than it does for women with lower SES on their ability to accurately perceive their future options and take steps to modify their behavior to achieve their desired goal.

Women's actual achievement of educational credentials and the extent to which their jobs offer them high pay and intellectual and emotional rewards also affect their ability to achieve their preferred family formation outcomes. These two factors together likely play multiple roles in the relationship between preferences about nonmarital childbearing and eventual family formation outcomes, in ways that involve both women's own individual agency and their exposure broader socioeconomic forces. At the most mechanistic level, school and college attendance, and paid work compete for time with childrearing (Martin 2000). More time in school or work means less time for motherhood. In addition, because of cultural schemas and popular media that posit high educational attainment and lucrative and rewarding careers as incompatible with early

and nonmarital childbearing (Blair-Loy 2004; Stone 2007), women may pursue college and careers in lieu of nonmarital childbearing without giving the choice a great deal of conscious thought. Schooling and career-building are the early-adulthood activities that are normatively preferred by those with relatively high socioeconomic status, among whom young women are less likely to engage in early and nonmarital childbearing (McLanahan 2004). Although many women without college degrees may enjoy their work and find it personally rewarding (Damaske 2012), cultural schemas may lead highly-educated women in particular to view their careers as sources of identity, pride and social capital, which symbolically forestall any need to derive satisfaction and social capital from having children (Friedman et al 1994; Schoen et al 1997). However, at the same time as college and careers align with avoiding early and nonmarital childbearing in these relatively passive ways, pursuit of these opportunities may also directly motivate women to consciously avoid early and nonmarital childbearing. The desire to achieve a particular educational or career goal, may directly incentivize women to avoid having children, because to do so would interfere with their ability to meet this goal, at all, or their ease in meeting it (Jumping-Eagle et al 2008). In addition, the achievement of high educational attainment and lucrative careers may themselves facilitate women's ability to avoid early and nonmarital childbearing both by giving them access to reproductive health care and effective contraception (Singh, Darroch and Frost 2001), and to a pool of similarly highly-educated and -remunerated prospective marriage partners (Schwartz and Mare 2005; McClendon, Kuo and Raley 2014).

Realizing the preference to have only marital births and/or to postpone childbearing until after marriage also requires the cooperation of one or more male

partners. Marrying requires a sustained relationship with someone who both wishes to commit to lifelong partnership, and feels "ready" for marriage according to whatever set of societal stipulations he finds relevant (Cherlin 2004; Edin and Kefalas 2005). Similarly, postponing a first birth may also require the cooperation of a male partner in using contraception to avoid pregnancy, and may be facilitated by his agreement that postponing childbearing is desirable, at least until after marriage (Uphadhyay et al 2014). A woman's ability to postpone parenting until after the establishment of a career may therefore be facilitated by being romantically involved only with men who share these same goals for themselves. Should she have an unplanned pregnancy, her ability to have a marital first birth may require a partner who both has access to the level of economic resources that are considered normatively necessary for marriage, and who agrees that marriage is the context in which he too prefers to have children. Access to a pool of such partners is influenced by women's socioeconomic status. College campuses and professional work settings connect women with men who have or on their way to achieving high educational attainment and earning power (McClendon, Kuo and Raley 2014). Women with high-SES in their families of origin may also be more likely to be acquainted with broader pools of men with high education and resources, independent of their own educational and work settings (Musick, Brand and Davis 2012).

Do Socioeconomic Resources Facilitate the Realization of Family Formation Preferences?

No studies to date have directly examined the question of how young women's preferences and intentions about marital versus nonmarital childbearing play a role in determining whether they will eventually have a marital first birth, have a nonmarital first birth, or postpone childbearing. Nor have any studies considered how women's individual preferences might intersect with their own levels of material resources to create the well-documented socioeconomic differences in family formation behavior that exist in the contemporary U.S. Preferences—as measured here in adolescence—are strongly shaped by young women's socioeconomic circumstances and normative environments in their families of origin (Trent and Crowder 1997; Browning and Burrington 2006; Bachrach and Morgan 2013), and their perceptions of their future opportunities for schooling, work and marriage (Lee and Bryk 1988; Manlove 1998; Gassanov, Nicholson and Koch-Turner 2008). Evidence from prior research suggests that because individual-level intentions about births influence fertility outcomes (Hayford 2009) and intentions about marriage influence entry into marriage (Guzzo 2009), that preferences about nonmarital childbearing are likely to influence whether women give birth in the context of marriage. However, the strength of this life-course relationship may also be mediated by the other factors discussed above. A limitation of my study is that I am unable to measure the strength of women's preferences for or against nonmarital childbearing (Schoen et al 1999; Williams, Abma, and Piccinino 1999), because the Add Health question that asks respondents whether they would consider a

nonmarital birth allows for only a "yes" or "no" answer. I am also unable to measure women's preferences for or against college and careers, or to measure the strength of those preferences (Barber 2001). In addition, I am unable to measure directly the norms about family formation to which women are exposed (Bachrach and Morgan 2013), women's perceptions of their own ability to consistently and effectively use contraception (Cheng et al 2014; Upadhyay et al 2014)[1], or any of the other conscious or unconscious processes and schemas that likely influence the formation of women's preferences and the steps they take or don't take in pursuit of those preferences children (Friedman et al 1994; Schoen et al 1997; Blair-Loy 2004). Below I outline hypotheses about the relationship between women's preferences about nonmarital childbearing as stated in adolescence and their likelihood of a nonmarital first birth, a marital first birth, or postponed childbearing, along with the relationship to both of these variables of their family of origin characteristics, their perceptions in adolescence of their own self-efficacy and their own ability to reach postsecondary education, their educational attainment in adulthood, their work experience in adulthood, and the educational attainment of their early dating partners.

Preference Hypotheses

Hypothesis 1: Women who state a preference against having a nonmarital birth will be less likely to have a nonmarital birth than otherwise similar women who say they would consider a nonmarital birth.

[1] At Wave 1, Add Health asks questions measuring respondents' self-efficacy, but asks these questions only of respondents aged 15 and up. Because I wish to retain younger respondents in my sample, I opt not to use this measures.

Hypothesis 2: Women who state a preference against having a nonmarital birth will be on average more likely to have had intact families of origin, to have had higher family of origin socioeconomic status, to come from more-advantaged race/ethnic groups, and to perceive a greater likelihood of attending college. Women who say they would consider a nonmarital birth will on average come from less-advantaged backgrounds, and will perceive lower likelihood of attending college.

Despite the predicted role of preferences in determining whether a woman goes on to have a nonmarital birth, the extent to which she is able to realize her preferences is likely to be heavily determined by the amount of socioeconomic resources she is able to amass in young adulthood. These in turn give her access to the practical and normative prerequisites for marriage—namely financial stability and a willing partner. High educational attainment and high income enable high-SES women to find a partner with equally high resources, and, once coupled, to enter into marriage with relative ease. On the other hand, low education and low income constrain low-SES women's ability to find a partner, and if she manages to do so, hinders the couple's ability to marry.

Attaining postsecondary educational credentials and engaging professional careers competes for time with early childbearing (Martin 2000). Engaging in education and careers are normative activities among groups of women who are less likely to have early and nonmarital births (McLanahan 2004), while cultural schemas posit these as separate and incompatible activities (Blair-Loy 2004). The possibility of higher education and high-paying careers also incentivize women with high SES to delay childbearing. Their relatively easy access to reproductive health services and effective

contraception, enables this goal (Singh, Darroch and Frost 2001). Women's experience in their early dating lives with partners who either have or are on track toward gaining comparably high educational attainment and lucrative work careers assure them that they will be likely to find a partner with comparably high levels of resources (McClendon, Kuo and Raley 2014), and that they can reasonably expect to marry before beginning childbearing. For low-income women, the combination of a lack of access to such lucrative career opportunities, and the well-known high demands of parenting young children incentivize low-SES individuals to have children at younger ages, and to do so without waiting for a marriage that may never materialize (Brewster, Billy and Grady 1993; Edin and Kefalas 2005; Gibson-Davis 2009). Furthermore, a lesser ability to access effective contraception may impede the ability of low-income women who would prefer to delay their fertility to realize that preference (Singh, Darroch and Frost 2001).

Resource Hypotheses

Hypothesis 3 - Educational Attainment: Women with relatively higher educational attainment will be more likely to have a marital birth or to postpone childbearing versus having a nonmarital birth. Women with relatively lower educational attainment will be more likely to have a nonmarital birth.

Hypothesis 4 - Employment: Women who enter "professional" jobs early in their work careers will be more likely to have a marital birth or to postpone childbearing versus having a nonmarital birth. Women with "non-professional" jobs in their early work careers will be more likely to have nonmarital births.

Hypothesis 5-Early Marriage Markets: Women who are romantically involved in their early dating lives with men who are pursuing or have attained a Bachelor's degree will be more likely to have a marital birth or to postpone childbearing versus having a nonmarital birth. Women whose early dating relationships do not include men who have or are pursuing college education will be more likely to have nonmarital births.

Individuals with high socioeconomic status show their value of marriage by continuing to marry in relatively large numbers, and by treating marriage as a status symbol, and as an emblem of success (Cherlin 2004). Most of their births take place within these marriages. Qualitative research on low-income, unmarried mothers and fathers indicates that men and women with relatively low educational and financial resources value and aspire to marriage as much as their wealthier counterparts, but are prevented from aligning their behavior with their preferences by their limited material resources (Edin and Kefalas 2005; Edin and Nelson 2013). Taken together, this evidence suggests—since high- and low-SES individuals alike aspire to similar family profiles—that greater access to educational and material resources may boost the ability of higher-SES individuals' who wish to avoid nonmarital childbearing to realize this preference, by enhancing their ability to enter into marriage and to delay childbearing.

Socioeconomic Facilitation Hypotheses

Hypothesis 6A: Women who stated a preference against nonmarital birth in adolescence, and who go on to achieve educational credentials and date men with postsecondary education will be more likely to have a marital birth or to postpone childbearing versus

having a nonmarital birth. Women who stated a preference against nonmarital birth in adolescence, and who do not go on either to achieve educational credentials themselves, or to date men with postsecondary education will be more likely to have a nonmarital birth.

Alternatively, because the development of family formation preferences is so heavily influenced by women's experiences in their families of origin (Barber 2000), by the norms of their communities (Trent and Crowder 1997; Browning and Burrington 2006; Akers, Muhammad and Corbie-Smith 2011), by the kinds of educational and career options to which young women do and don't have access, and by their perceptions of their individual ability to attain their goals (Ross, Mirowsky and Pribesh 2001; Mirowsky and Ross 2007; Lareau 2015), the process by which young women develop their family formation preferences may to a large extent effectively "pre-track" them according to their socioeconomic prospects. In this scenario, preferences, family of origin characteristics, and the socioeconomic attainment in young adulthood of young women and their partners would each show strong relationships to their eventual family formation outcomes. However, a strong interactive relationship would not exist between individual-level preferences and the resources that young women and their partners accumulate in early adulthood.

Hypothesis 6B: Women's family formation preferences as stated in adolescence, their educational attainment and work careers in young adulthood, and the educational

attainment of their early dating partners will separately influence their likelihood of having a nonmarital birth, having a marital birth, or continuing to postpone childbearing.

Data and Methods

I use the restricted file of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to investigate my research question (Harris 2009). Add Health is a nationally representative survey comprised of people who were in grades 7-12 in the 1994-5 school year, and who were interviewed subsequently in 1996, 2001-2, and 2007-8. It oversamples for students who are African-American, Chinese, Cuban and Puerto Rican, as well as for students with disabilities, and siblings. The survey asks questions about respondents' family of origin, socioeconomic, health, friendship and relationship characteristics and labor market and family formation experiences. Add Health is particularly well suited to my purposes because it allows for longitudinal comparison of respondents' stated preferences for or against nonmarital childbearing in their adolescence with their own subsequent family formation outcomes in young adulthood. It is the only survey I know of that directly asks respondents whether they would or would not consider having children while unmarried.

I limit my sample to include only female respondents from the Add Health school sample who did not report a birth that occurred prior to Wave 1 (when respondents were in the 7^{th}-12^{th} grades, aged 11-21), and who stay in the study until at least Wave 3. I include respondents reporting a single race who are non-Hispanic White, non-Hispanic Black and non-Hispanic Asian/Pacific Islander, as well as Hispanic respondents of any

race or combination of races.[2] My dependent variable is whether respondents had a marital first birth, a nonmarital first birth, or no first birth. I measure these outcomes at Waves 2-4. I use a discrete-time competing-risk hazard model of the outcome variable, and convert the data file to measure time in person-months. This model allows me to specify the causal ordering of respondents' life course events and birth status, by using information about the timing and sequencing of events in each respondent's life to place respondents of different ages at Wave 1 on a comparable time scale (Hosmer, Lemeshow and May 2008).

My focal independent variable is respondents' answer to the question asked at Wave 1 "Would you consider having a child as an unmarried person?" with possible answers "yes" and "no." I code this variable with the emphasis on the "no" answer, and treat this variable as indicating that the respondent has either stated a preference against having a nonmarital birth, or has stated no such preference. That is, a woman saying she would consider having a nonmarital birth does not necessarily indicate a preference for a nonmarital birth, but merely a willingness to consider it. On the other hand, a woman saying she would not even consider having a nonmarital birth indicates a clear preference against nonmarital childbearing. A limitation of this measure is that because it allows for a "yes" or "no" answer only, measuring the strength of women's preferences is impossible.

Because of my use of a discrete-time hazard model, I include in my analysis both time-constant variables measured at Wave 1, and time-varying variables measured at Waves 2-4. Time-constant independent variables measured at Wave 1 are as follows. I

[2] Members of other single or multiple racial categories are too few in number to be included in the variable without collapsing together people whose identities and experiences may be quite distinct.

include measures of the respondent's race/ethnicity, her mother's educational attainment,[3] and whether both the respondent's father and mother were listed as present in the household at the time of the Wave 1 interview, which I treat as a measure of family intactness. Because the focal independent variable implicitly incorporates, but does not directly state, sub-questions both about whether the respondent wants to marry and wants to have children, I include a scale measure of the respondent's own perceived likelihood of marrying by age 25. The "likelihood of marriage" variable ranges from 1 to 5, and I code 5 as indicating the greatest certainty of getting married by age 25. This is intended in part as a control for the unasked "desire to marry" component of the nonmarital birth variable, on the assumption that measures of expectations can be used interchangeably with measures of intentions because they are cognitively indistinguishable for respondents (Morgan 2001). It is also intended as a more direct measure of the respondent's perception of her own marital prospects in adolescence. No Wave 1 questions directly ask respondents whether they want to have children, so I am unable to control for this implied element of the focal independent variable.

I include a scale measure of the respondent's own perceived likelihood of attending college, again coded from 1 to 5 with 5 representing the highest certainty. This is intended to measure some of the underlying socioeconomic components that shape the respondent's family formation preferences, as well as her perception of the feasibility of pursuing her preferences, via her perception of the future options that are available to her. A weakness of this measure, however, is that it does not differentiate between two-year versus four-year college. Women's likelihood of attending a two-year versus a four-year

[3] "Mothers" include biological, adoptive, step and foster mothers. The vast majority are biological mothers.

college is strongly differentiated by socioeconomic status in their families of origin (Horn, Nevill and Griffith 2006). I also include an index of the respondent's self-perceived planfulness and the rewards she expects to her own hard work, which I construct out of 4 questions on related topics.[4] Possible scores on this variable range from 4 to 20. This is intended as a measure of perceived self-efficacy.

Among time-varying independent variables, I include measures of the respondent's own achieved educational attainment and employment history. I include measures of whether the respondent ever graduates with a high school diploma or GED,[5] whether she ever graduates with an Associate's degree, and whether she ever graduates with a Bachelor's degree. These educational attainment variables are measured at Waves 3 and 4. I also include measures of whether—out of the possible 4 jobs respondents can list at Waves 3 and 4—the respondent reports ever having had a part-time non-professional job, a fulltime non-professional job, a part-time professional job, or a fulltime professional job.[6] I define "fulltime" as 35 hours per week or more. Respondents are coded as "yes" on these measures beginning in the person-month in

[4] The questions ask the respondent to evaluate herself according to the following questions. "When you get what you want, it's usually because you worked hard for it." "When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible." "When you are attempting to find a solution to a problem, you usually try to think of as many different ways to approach the problem as possible." "After carrying out a solution to a problem, you usually try to analyze what went right and what went wrong." I code 1 as representing the strongest disagreement, and 5 as representing the strongest agreement, than add the respondent's score on each question to generate the index.

[5] Both Waves 3 and 4 allow respondents to list the specific year and month when they acquired an Associate's degree and a Bachelor's degree. Wave 3 asks for this same information about high school/GED graduation, but Wave 4 does not. For respondents who first say they graduated from high school or have a GED at Wave 4, I impute the date for this graduations as the previous June (the month most common for high school graduations reported at Wave 3.)

[6] These are the respondent's first any job at Wave 3, first fulltime job at Wave 4, and current or most recent job at both waves.

which each job began.[7] I divide "professional" versus "non-professional" jobs according to the 2000 Bureau of Labor Statistics Standard Occupational Classification (SOC) system (U.S. Bureau of Labor Statistics 2000). These measures of educational attainment and employment experience are intended both as measures of the respondent's own ability to accumulate material resources, and to represent the extent to which the respondent can reasonably expect to have well-paying jobs over the long term.

Also time-varying are measures relating to the respondent's relationship history. I include a measure of whether the respondent ever cohabited. I generate this measure based on whether any of the sexual and romantic relationships she lists at Waves 3 or 4 are characterized as ever including living together while unmarried. I include this measure partly as a measure of exposure to intercourse, and partly to account for the fact that much nonmarital childbearing takes place in the context of cohabiting relationships (Raley and Wildsmith 2004). Respondents are coded as "yes" on the cohabitation measure beginning in the person-month when the first cohabitation began. I also include measures of the resource attainment prospects of respondents' male relationship partners, which is asked of respondents only at Wave 3. I intend this measure to represent the extent to which the respondent's early dating experience leads her to believe that men in her pool of prospective partners generally have or are in the process of acquiring the ability to amass socioeconomic resources through high educational attainment. I operationalize this measure by whether the respondent indicates that the educational attainment of any of the male romantic and sexual partners she lists as having had prior to

[7] Although other measures ask for the starting year and month of the relevant job, the Wave 4 question about the respondent's first fulltime job asks for the age at which she began that job. For the start date on this measure, I impute the January of the year in which she turned that age.

the Wave 3 interview included some college, or a bachelor's degree or more. Respondents are coded as "yes" on these measures beginning in the person-month when the first such relationship began.

Finally, I include time-varying controls for respondent age (coded as age in the person-month, minus 10), age-squared (age in the person-month squared), and period (respondent's birth year plus her age in the person-month). To further control for variation in duration of the exposure to risk of pregnancy while avoiding mutlicollinearity, I include a time-varying measure of whether the respondent initiated intercourse before age 14 (i.e. at age 13 or younger). Because early sexual initiation is more likely to be coerced, this measure also functions as partial control for women's autonomy over their sexual and reproductive decision-making (Abma, Driscoll and Moore 1998).

Sample and Analysis

My sample is limited to women who did not have a birth that occurred prior to their Wave 1 interview. I exclude women who reported such early births at Waves 1 and 2, and those who did not report births at Waves 1 or 2, but who reported a pre-Wave 1 birth at both Waves 3 and 4.[8] By excluding women who reported births that occurred before their Wave 1 interview, I eliminate 12 cases. Among women with no births prior to Wave 1, 2,080 drop out of the survey prior to Wave 3. Among the remaining group, I

[8] Eliminating only those who reported an early birth at both Waves 3 or 4 is intended to encompass those who did not report their early births at earlier waves due to social desirability bias, but also take into account the possibility that the appearance of very early births that were not reported at earlier waves may actually represent either respondent or interviewer error (see Wu, Martin and Long 2001).

lose 1,167 to item non-response. My total sample size is 6,246. Of this sample, 720 women were not observed after Wave 3.

With this sample, I first conduct a descriptive analysis in which I compare responses on the outcome variable and independent variables according to the respondent's stated family formation preferences. This is intended to identify any differences on the outcome variable and in family and individual characteristics at Wave 1 of respondents who said they would prefer not to have a nonmarital birth versus those who said they would consider a nonmarital birth. I weight these estimates with the Add Health post-stratified grand sample untrimmed cross-sectional weight for the Wave (either 3 or 4) at which each respondent was last observed. I test for the statistical significance of these differences with an adjusted Wald test for differences of means and a chi-squared test for the distribution of categorical variables with complex survey design in the *Stata* statistical programming package (StataCorp 2013).

I next conduct a competing-risk discrete-time hazard analysis of the effects of the independent variables on respondents' likelihood of having a nonmarital first birth, having a marital first birth, or postponing childbearing through Wave 4. Respondents drop out of the sample when they have either a marital or nonmarital birth, or attrite from the survey. I introduce the above variables, and interactions with the family formation preferences measure, in eight successive models. Model 1 is a baseline model that includes measures of the respondent's stated family formation preferences, her mother's educational attainment, whether her family was intact at Wave 1, her race/ethnicity, her perceived likelihood of marrying by age 25, whether she began having sexual intercourse at age 13 or younger, and measures of age, age-squared and period. Model 2 introduces

the "adult resources" measures, namely respondents' educational attainment and work history. Model 3 introduces measures taken at Wave 1 of her own perceived likelihood of attending college and her own perceived self-efficacy. Model 4 introduces measures of whether she ever cohabited, and of her early dating partners' educational attainment as a stand-in for the characteristics of her early marriage market. Model 5 includes all variables and interactions of women's preference with her educational attainment, her employment history, her partners' educational attainment and her cohabitation history.

I weight the multivariate results in the same manner as the descriptive results. This weighting accounts for selection among the respondents who do not attrite from the survey, as well as for the different representation of people with respondents' own characteristics in the larger population of women who were aged 11-21 in 1994.

Results

[TABLE 2.1 ABOUT HERE]

Table 2.1 shows women's family formation outcomes, family of origin characteristics, and measures of self-assessed future prospects. Slightly more than three-quarters of respondents state a preference against having a nonmarital birth, while slightly less than one quarter indicate that they would consider having a nonmarital birth. Out of all women in the cohort by ages 24-34, about half had not had a first birth. About 28% had had a nonmarital birth and about 21% had had a marital birth. Among those who said in adolescence that they would consider having a nonmarital birth,

approximately 40% had done so. However, among those who said they would prefer not to have a nonmarital birth, approximately one quarter had also had a nonmarital birth. This suggests that although, consistent with my hypothesis, preferences are associated with family formation outcomes, other factors nonetheless intervene to make women's ability to achieve their preferences easier or harder.

The years of respondents' own birth ranged from 1974 to 1983, with the largest numbers concentrated in 1977-1982. A plurality of respondents' mothers had a high school diploma only (44.3%), followed by those with a bachelor's degree or more (22.3%), some college (17.4%), and less than high school (15.5%). The largest number of respondents are non-Hispanic White with 69.3% of women, followed by those who are non-Hispanic Black (14.8%), Hispanic of any race (12.2%), and non-Hispanic Asian/Pacific Islander (3.7%). Approximately 68% of respondents lived with both parents at Wave 1. Slightly more than 9% of respondents began sexual intercourse at age 13 or younger. The mean perceived likelihood of marrying by age 25 was 3.3 out of 5. Mean perceived likelihood of going to college was 4.3 out of 5. Mean perceived self-efficacy was 15.4 out of 20.

Comparing the characteristics of women by family formation preferences shows that, consistent with my Hypothesis 2, women who say they would consider a nonmarital birth come from somewhat more-disadvantaged backgrounds overall than those who say they would not consider a nonmarital birth. Women who say they would consider a nomarital birth have a somewhat higher percentage of mothers with less than a high school education, and a somewhat lower percentage of mothers with a bachelor's degree or more (although these results are statistically significant only at the .10 level). They are

less likely to be White or Asian/Pacific Islander by roughly and more likely to be Black or Hispanic. Of women who would consider a nonmarital birth, 63.8% are White (compared with 71% who would not consider a nonmarital birth), 2.2% are Asian/Pacific Islander (compared with 4.2%) 20.5% are Black (compared with 13%), and 13.5% are Hispanic (compared with 11.8%). Women who would consider a nonmarital birth less likely to have an intact family at Wave 1 (60.1% versus 70%), and they are nearly twice as likely to have begun sexual intercourse before age 14 (14.1% versus 7.9%). All of these results suggest that preferences against or willingness to consider a nonmarital birth may be shaped by socioeconomic status in families and communities of origin. Those who would and would not consider a nonmarital birth do not show differences of appreciable magnitude, however, in their perceived likelihood of being married by age 25, their perceived likelihood of going to college, or their perceived self-efficacy. Because women's likelihood of marrying (Schwartz and Mare 2005) or going to college (Mare 1981) does in fact meaningfully differ by socioeconomic status, these results suggest that young women in adolescence may not be good judges of their actual marital and educational prospects (Gassanov, Nicholson and Koch-Turner 2008).

[TABLE 2.2 ABOUT HERE]

Table 2.2 shows women's educational and work histories, and the educational attainment of their early dating partners, according to their person-months of exposure before they drop out of the exposed sample. About 68% of person-months spent in the sample were spent having graduated with a high school diploma or GED. Approximately

7% and 16% of person months in the sample were spent with an Associate's degree and Bachelor's degree, respectively. Slightly less than 60% of the person-months spent in the sample occurred after having had a part-time non-professional job, whereas about 38% were spent having had a fulltime nonprofessional job. About 8% of person-months were spent having had a part-time professional job, and about 23% were spent having had a fulltime professional job. About 10% of person-months in the sample occurred after having entered a cohabitation. About 7% and 5% of person months in the sample were spent after having dated a man with some college or a Bachelor's degree (prior to Wave 3 interview), respectively. The mean age in the sample was 21.

The profile of person-months of exposure of women who would and would not consider a nonmarital birth shows relatively minor differences on the adult socioeconomic attainment variables as they appear before women drop out of the sample. Women who would consider a nonmarital birth spent slightly higher percentages of person-months of time in the sample with a high school diploma or GED (68.9% versus 66.7%) and Associate's degree (7.8% versus 6.8%). Women who would not consider a nonmarital birth spent slightly more time in the sample with a Bachelor's degree, however (16.6% versus 15.1%). Women who would not consider a nonmarital birth on average spent slightly fewer person-months having had a part-time non-professional, fulltime non-professional, part-time professional or fulltime professional job. This may be due to the overall somewhat earlier birth cohorts of women who would consider a nonmarital birth. Women who would consider a nonmarital birth spent a slightly higher percentage of person-months in the sample having cohabited (11.8% versus 10.5%). Neither group is appreciably different on their time spent having dated men with some

college or a Bachelor's degree. Again this may be because of the slightly longer exposure to dating experience of those who would consider a nonmarital birth, due to their earlier birth years. There is also only a very slight difference between the two groups on mean age in the sample, possibly again because the women who would consider a nonmarital birth both came from earlier cohorts and were more likely to drop out of the sample sooner, after having a birth.

[TABLE 2.3 ABOUT HERE]

Table 2.3 shows the results of a multinomial logistic regression model of the competing hazard of having a marital birth versus having a nonmarital birth, or having no birth versus having a nonmarital birth. Four models successively introduce variables for 1.) preferences and family of origin, 2.) resources in adulthood, 3.) self-assessed self-efficacy and future prospects in adolescence, and 4.) relationship history and partner educational attainment in adulthood. A fifth model introduces a set of interactions between preferences and the adult resources and partner variables. In Table 3 overall, results are reported in coefficients. For ease of interpretation of the focal preferences variable, however, I also exponentiate the coefficients to report the effects of this variable in odds ratios. Consistent with my Hypothesis 1 above, in the first four models, stated preference against having a nonmarital birth is associated with a greater likelihood of having either a marital first birth or postponing a first birth versus having a nonmarital first birth. The magnitude of the association changes very little with the introduction of resources, self-efficacy and relationship variables, ranging from odds of 1.68 to 1.65 in

the association with having a marital first birth, and odds of 1.55 to 1.46 in the association with postponing childbearing.

Consistent with patterns in which women with higher socioeconomic status are more likely to postpone childbearing (McLanahan 2004), women whose mothers have some college or a Bachelor's degree or more were more likely to postpone their first birth, versus having a nonmarital first birth. Women with intact families at Wave 1 were consistently more likely either to have a marital first birth or to postpone their first birth, versus having a nonmarital first birth. Relative to non-Hispanic White women, non-Hispanic Black women were more likely to have a nonmarital first birth than to have a marital first birth or to postpone their first birth. Hispanic women were more likely to have a nonmarital first birth than to have a marital first birth. Women who perceived a higher likelihood of marrying by age 25 were more likely to have a marital first birth than a nonmarital first birth, but also were more likely to have a nonmarital birth than to postpone childbearing. This may indicate a more-familistic orientation among those who expect to marry early, and may also reflect the inaccurate estimation of marriage prospects among some young women who are at risk for early parenting (Gassanov, Nicholson and Koch-Turner 2008). Women who began having sex before age 14 were more likely to have a nonmarital first birth versus having a marital first birth or postponing their first birth. Reflecting the fact that women who have marital births are more likely to have delayed their childbearing beforehand (McLanahan 2004), women who were older in a given person-month were more likely to have a marital first birth than a nonmarital first birth. Likely due to longer exposure to the risk of a birth, however, older women were less likely to postpone their first birth than to have a nonmarital birth.

The coefficient for age-squared shows that the older a woman got in the sample, the more likely she was to have a marital first birth or to postpone childbearing versus having a non-marital birth. The coefficient for period shows consistent associations between later chronological date and greater likelihood of postponing first birth versus nonmarital first birth. Later period is also associated with a decreased likelihood of having a marital versus non-marital birth that is significant at the .10 level. Both of these reflect overall trends both toward older ages at first birth (Mathews and Hamilton 2014) and increases in nonmarital childbearing (Martin et al 2015).

Model 2 introduces variables representing women's socioeconomic attainment in adulthood. Adding these variables somewhat diminishes the magnitude of the variables that Model 1 shows to predict the outcome variable. Consistent with my "educational attainment" hypothesis, women who graduated with a high school diploma or GED, women who graduated with an Associate's degree, and women who graduated with Bachelor's degree were consistently more likely to have a marital first birth versus a nonmarital first birth, or to postpone childbearing versus having a non-marital first birth. Consistent with my "employment" hypothesis that women with prospects for non-professional (and, implicitly, less-remunerative) employment would be more likely to have nonmarital births, women who had a fulltime non-professional job were less likely to postpone childbearing than to have a nonmarital birth. Also consistent with this hypothesis, women who had a part-time professional job were more likely to postpone childbearing than to have nonmarital birth. Taken together, these results suggest that although individual preferences—and the childhood socioeconomic circumstances that

shape those preferences—play an important role in determining family formation outcomes, schooling and work history in adulthood also play contributing roles.

Model 3 attempts to identify how much of a role is played by women's perceptions of their own self-efficacy and of their likelihood of attending college—i.e. their assessment of their own future prospects—in creating the relationships shown above between preferences, socioeconomic background, educational attainment, employment, and family formation outcomes. Higher perceived likelihood of attending college is associated with a slightly greater likelihood of postponing childbearing versus having a nonmarital birth. Adding these measures of perceived likelihood of attending college and self-assessed self-efficacy to the model slightly diminishes the overall magnitude of associations with the socioeconomic variables. This suggests that the effects on family formation outcomes of high socioeconomic status in the family of origin, family stability, and privileged race/ethnic background may work in part by giving more-advantaged young women confidence in their future socioeconomic options and eventual goal achievement. For women from less-advantaged backgrounds, the association of educational credentials with greater likelihood of postponing childbearing may also be partially the result of greater self-belief among a select group of women who persist both in their pursuit of educational credentials and in their efforts to prevent a nonmarital birth (Entwisle, Alexander and Olsen 2004;Comings, Parella and Soricone 1999).

Model 4 adds measures of women's romantic relationship experience and the socioeconomic prospects of their early male partners. Whether because of increased exposure to intercourse, or because it signals commitment between unmarried couples (Lichter, Sassler and Turner 2014), having ever cohabited is associated with decreased

likelihood of postponing childbearing relative to having a nonmarital first birth. Consistent with my "marriage market" hypothesis that women who date men whose educational credentials signal prospects for well-paying jobs will be more likely to hold out for marriage before they begin their childbearing, having ever dated a man with a Bachelor's degree is associated with greater likelihood of postponing first birth versus having a nonmarital first birth, although only at the .10 significance level. This suggests that one mechanism that can lead women to avoid having a nonmarital first birth is access to a pool of partners who either share their goal of postponing childbearing and/or are suitable candidates for marriage according to the widely-accepted normative prerequisite of financial stability.

Model 5 adds interactions between women's preferences and their adult resources, cohabitation experience, and partners' educational attainment. I conduct a likelihood ratio test for the difference in goodness of fit between Model 4 and Model 5 (Long 1997). This test shows a better fit for Model 5 (LR χ^2= 43,834, DF= 10, p<.001). Model 5 shows that individual preferences about unmarried motherhood function differently to predict each of the two pathways by which nonmarital first birth is avoided. That is, preferences play a stronger direct role in predicting the likelihood of postponing childbearing than they do in predicting a marital first birth.

In Model 5, for the likelihood of having a marital first birth versus a nonmarital first birth, the magnitude of the odds ratio associated with women's preferences is much reduced, and its statistical significance is eliminated. The previous significance of the coefficients for women's own educational attainment is also eliminated. This indicates that the effects of women's preferences for their likelihood of having a marital first birth

versus a nonmarital first birth depend on their own educational levels in adulthood. Women who wish to marry before childbearing may be more likely to pursue college education. In addition, women who prefer a marital first birth may be more able to have one when they have high educational attainment, and can gain access to well-paying jobs and a pool of similarly-educated partners. The maintained statistical significance of the coefficients associated with race/ethnicity, perceived likelihood of marrying by 25, and early sexual debut indicate that these factors affect the likelihood of having a marital first birth versus a nonmarital first birth relatively independent of preferences and resources.

By contrast, for the likelihood of postponing childbearing versus having a nonmarital first birth, the magnitude of the coefficient for women's preferences is substantially increased, and remains highly statistically significant. Also associated with a greater likelihood of postponing childbearing versus having a nonmarital first birth in this model are completing a bachelor's degree and, at the .10 significance level, having a part-time professional job. Having had a fulltime nonprofessional job is associated with having a nonmarital first birth versus postponing childbearing. These results indicate that *both* women's individual-level preferences and also their ability to amass higher resources in adulthood are associated with avoiding a nonmarital first birth through postponing childbearing. In addition, women whose mothers have higher educational attainment are more likely to postpone childbearing versus having a nonmarital birth, as are women who perceive a greater likelihood of attending college (significant at the .10 level). Black women, women who began having sex before age 14, and women who ever cohabited were less likely to postpone childbearing than to have a nonmarital first birth.

Model 5 offers no support for my Hypothesis 6A that women's own individual socioeconomic attainment in adulthood, or their partners' greater educational attainment, would give an additional boost to the ability of women with a preference against nonmarital childbearing to avoid a having a nonmarital first birth, as none of the interactions between women's and partners' is statistically significant. However women who stated a preference against nonmarital childbearing and who went on to cohabit are more likely to have a nonmarital birth than to postpone childbearing. This may be due to the increased exposure to intercourse that cohabitation entails, or may reflect a view of cohabitation as a step toward eventual marriage (Manning and Smock 2002).

Taken together, the results in Model 5 suggest that the role of individual women's preferences about nonmarital childbearing in determining whether or not they go on to have a nonmarital birth may be different for different groups of women. Some women who stated a preference in adolescence against nonmarital motherhood may have a strong interest in having children, although they prefer to do so specifically within a marital context. Women in this group may be more likely to have a first birth sooner rather than later, whether due to relatively weaker preferences for marital childbearing (Williams, Abma, and Piccinino 1999; Schoen et al 1999), a high value placed on motherhood (McQuillan et al 2015), inconsistent or imperfect use of contraception (Singh, Daroch and Frost 2001; Edin et al 2007), lesser interest in college, careers, and other activities that compete with childrearing (Presser 2001; Blair-Loy 2004), or some to other set of reasons. Whether or not a woman from this group will give birth while married will be largely determined by her own educational level, and, by extension, the material

resources she and her partners are able to command and the normative expectation to which they subscribe.

By contrast, for another group of women who in adolescence stated a preference against nonmarital childbearing this preferences may be stronger, whether because they have a lesser interest in childbearing in general, or an interest in having children *only* if they can do so within a marital context. This group of women may intend not to have children soon, or ever, unless they have entered into marriage beforehand. For these women, the stronger relationship between their own preferences against nonmarital childbearing and their likelihood of postponing childbearing may also be due to some combination of better access to reproductive health services, greater orientation toward college and careers, and lesser interest in becoming a mother (McQuillan et al 2015), either in general or outside a marital relationship. Higher socioeconomic resources appear to separately facilitate this group of women's ability to postpone childbearing through some combination of these mechanisms. However, resources do not play an appreciably greater role than their own preferences in determining these women's outcomes.

Discussion and Conclusions

This paper has investigated the role played by individual women's own preferences about unmarried motherhood, as stated in adolescence, in determining whether they will subsequently have a marital first birth, have a nonmarital first birth, or postpone childbearing. Previous research addressing women's attitudes toward

nonmarital childbearing, notably Edin and Kefalas (2005) has focused on *post hoc* preferences expressed by a small sample of single mothers after they have already had nonmarital births. These single mothers indicate that they would prefer to raise their children within marriage but feel prevented from doing so by a lack of material means. Despite the compelling narrative the authors set forth, their study's temporal ordering and small sample size do not allow for testing the causal relationship between women's preferences and material resources in determining whether or not these women will have a nonmarital birth. At the same time, previous quantitative research that seeks to explain socioeconomic differentials in U.S. family formation profiles focuses primarily on the role of greater educational attainment and financial resources in increasing individuals' and couples' likelihood of entry to marriage (Schwartz and Mare 2005; Schneider 2011) without considering either the potential for variation in individual preferences with respect to nonmarital fertility, or how differential access to postsecondary education and well-paying careers might enable or constrain the realization of such preferences. Previous research on the relationship between individual-level family formation intentions has separately shown that intentions to marry strongly predict entry into marriage (Guzzo 2009) and that intentions for childbearing strongly influence the realization of fertility targets (Schoen et al 1999; Hayford 2009). However, no previous studies on the role of intentions in family formation have considered whether or how individual women's preferences about the marital versus nonmarital context of their fertility predict whether or not they will go on to have a nonmarital birth.

Uniting these three avenues of research, my study used nationally-representative Add Health panel data to investigate whether stating a preference against nonmarital

motherhood before beginning childbearing predicted whether women went on to avoid having a nonmarital first birth, either by having a marital first birth, or by postponing childbearing. I considered how women's educational attainment and employment histories in adulthood might play a role in determining whether these family formation preferences expressed in adolescence were eventually realized. I examined whether achieving educational credentials, experiencing professional employment, and dating men with postsecondary education might boost the ability of women who said they would prefer not to have a nonmarital birth to avoid doing so. I also considered how women's socioeconomic status in their families of origin, and women's perceptions in adolescence of their own self-efficacy and educational prospects might affect the relationship between women's preferences and their likelihood of nonmarital childbearing.

Consistent with literature that shows a strong relationship between fertility intentions and completed fertility, and between marriages intentions and entry into marriage, I found a strong bivariate association between stating a preference against unmarried motherhood and a decreased likelihood of having a subsequent nonmarital first birth. Roughly three-quarters of the women who in adolescence expressed a preference against unmarried motherhood had, by ages 24-34, either had a marital first birth, or had no birth. However, one quarter of the women who had expressed a preference against nonmarital childbearing had nonetheless had a nonmarital first birth.

I next used a discrete-time competing-hazard multinomial logit model to investigate the role of resources in adulthood in mediating between expressed preferences and eventual family formation outcomes. In my initial multivariate models with main effects only, I found a consistently strong relationship between women's stated

preferences against nonmarital childbearing and either having a marital first birth, or postponing childbearing, versus having a nonmarital first birth. However, once I included measures for the interaction of women's preferences with their own educational attainment and work experience, with their cohabitation experience, and with their partners' educational attainment, the association between stating a preference against nonmarital motherhood and the increased likelihood of having a marital first birth disappeared. The association between stating a preference against nonmarital motherhood and postponing cihildbearing remained, however. I discuss this finding in more depth below.

Consistent with previous research that shows that nonmarital births mainly occur among those with low socioeconomic status (McLanahan 2004), in my initial models, I found a strong role of relatively higher educational attainment in women's increased likelihood of avoiding a nonmarital first birth, either through having a marital first birth or through postponing childbearing. Women who graduated with high school diplomas, GEDs, Associates degrees, and Bachelor's degrees were all more likely to have a marital first birth or to postpone childbearing, versus having a nonmarital birth. I also found a strong role of well-paying jobs (operationalized as "professional" jobs held by ages 24-34) in women's increased likelihood of avoiding a nonmarital birth through postponing childbearing. Women who had a part-time professional job were more likely to postpone childbearing than to have a nonmarital birth. Women who had a fulltime non-professional job were more likely to have a nonmarital birth than to postpone childbearing. I also found a strong relationship between socioeconomic status in childhood and postponed childbearing. Women whose mothers had relatively higher

educational attainment were more likely to postpone childbearing than to have a nonmarital first birth.

I considered how the effects on women's family formation outcomes of their own individual-level preferences and their resources in adulthood might be mediated by their assessment in adolescence of their own self-efficacy and their likelihood of attending college. I found that women's confidence in their own self-efficacy and educational prospects accounted for a small portion of the effects of women's family of origin characteristics, and their own educational attainment and work experiences, on their likelihood of having a nomarital birth. I speculated that the effects on family formation outcomes of high socioeconomic status in the family of origin, family stability, and privileged race/ethnic background might work in part by increasing young women's confidence in their future socioeconomic options and ability to achieve their goals. For women from less-advantaged backgrounds, those who have greater self-confidence at the individual-level might have a greater ability to persist in seeking out effective contraception (Cheng et al 2014) to resist norms that favor early childbearing, and to pursue college and careers despite obstacles (Ross and Mirowsky 2007).

To further elaborate how preferences and resources might combine to affect family formation outcomes, I estimated interactions between women's family formation preferences, their own educational attainment and employment experiences, and their partners' educational attainment. After controlling for these interactions, I found changes to the main effects of the preference variable. These changes indicated that the relationship between women's preferences and their likelihood of a nonmarital first birth differed with respect to whether they avoided a nonmarital first birth by having a marital

first birth, or by postponing childbearing. For the likelihood of having a marital first birth versus a nonmarital first birth, there was no direct effect of individual preferences—rather, the effect of preferences depended on the attainment of educational credentials. For the likelihood of postponing childbearing versus having a nonmarital first birth, however, the magnitude of the direct effect of women's individual preferences was increased, and the association remained highly statistically significant. Thus, the likelihood of whether or not a woman who prefers to avoid nonmarital childbearing is able to have a marital first birth is primarily dictated by the resources that she, and by extension her partner, have access to. On the other hand, the likelihood that a woman who prefers to avoid nonmarital motherhood is able to postpone childbearing versus having a nonmarital first birth is still substantively dictated by her own preferences, even as socioeconomic factors also enhance her ability to achieve this outcome.

In sum, this study has demonstrated that individual women's stated preferences about the marital or nonmarital context of their childbearing matter for determining whether or not they will have a nonmarital first birth. However, the role that women's preferences play in determining their family formation outcomes are nonetheless circumscribed by their individual socioeconomic attainment and family of origin characteristics. Among those who say they would prefer to avoid unmarried childbearing, the role of individual preferences in determining whether a woman will have a marital first birth versus a nonmarital first birth depends on her attainment of educational credentials. By contrast, a woman's stated preference against nonmarital childbearing more strongly predicts the likelihood that she will avoid unmarried motherhood by continuing to postpone her first birth. A woman's own high educational

attainment and employment in well-paying jobs are also strong predictors that she will postpone childbearing. Nonetheless, these results suggest that even as the goal of postponed fertility may be facilitated in part by the pursuit of higher education and well-paying careers, the outcome of avoiding nonmarital childbearing is not merely the mechanistic result of time spent studying for educational credentials or working in demanding careers, in lieu of pregnancy and parenting. Although women's choices are to a large extent constrained by their socioeconomic circumstances, women's own individual preferences do nonetheless shape the actions they take with respect to family formation.

This study has several limitations. Chief among these limitations is the fact that I am unable to directly measure the full range of factor that contribute to the formation of women's preferences about nonmarital childbearing, nor the full range of factors that contribute to the realization of these preferences. Unmeasured factors contributing to the formation of women's preferences include their perceptions of the normative sequencing of marriage and childbearing, and schemas about what confluence of people and processes they believe constitute a "family" (Bachrach and Morgan 2013). I am also unable to measure any changes to these preferences that may occur after adolescence (Hayford 2009). Unmeasured factors contributing to the realization of women's preferences include the strength of their preferences (Schoen et al 1999; Williams, Abma and Piccinino 2009), and what motivating factors apart from stated preferences about unmarried motherhood may push women toward either early or postponed childbearing—such as schemas about the compatibility or incompatibility of education, careers and childrearing (Blair-Loy 2004), group-level norms about the acceptability of early

childbearing versus college and careers, and individual-level life goals (Jumping-Eagle et al 2008). As such, the picture of the relationship between women's stated preferences, their access to resources, and their family formation outcomes is necessarily limited.

A second limitation to my study is that I examine the role of preferences for or against nonmarital childbearing in determining the timing and/or marital context only of first births. Preferences might interact differently with resources to determine the likelihood of marital versus nonmarital context for subsequent births (Guzzo and Hayford 2011). Two other limitations have to do specifically with the Add Health data. First, available Add Health data currently only cover up through early 2009, thus right-censoring the potential subsequent first births of women who had postponed childbearing up to that point. When Add Health Wave 5 becomes available, new data tracking respondents' family formation through 2018 may help to give a more complete picture of the relationship between family formation preferences and likelihood of nonmarital childbearing for this cohort of women. Second, because Add Health provides information about a limited number of jobs per Wave, and provides information about the socioeconomic characteristics of male dating partners only up to Wave 3, my study may not give a complete picture of the role of these two "resource" factors in influencing family formation outcomes. Any further information from Wave 5 about women's employment histories and the socioeconomic characteristics of their dating partners may help to offset this shortcoming.

Despite these limitations, however, I believe my study offers a credible snapshot of how women's own preferences with respect to nonmarital childbearing affect the timing and marital versus nonmarital context of their entry into motherhood, within the

constraints of their socioeconomic circumstances. My study helps to elaborate the mechanisms that perpetuate patterns of inequality in family formation by detailing how the likelihood of nonmarital versus marital first birth is in aggregate largely governed by socioeconomic forces, more than women's own preferences. At the same time, I offer an account of how a related family formation outcome—namely, postponed childbearing versus nonmarital first birth—is more responsive to women's individual preferences, particularly when their socioeconomic circumstances help to facilitate their preferred outcomes. My findings suggest that policy interventions or favorable macroeconomic changes that raise the socioeconomic profile of at-risk young women might enhance the extent to which the timing and context of the families they form could be more directly the expression of their own preferences, and less governed by circumstances that are the product of long-term race/ethnic inequalities and broader macroeconomic forces outside their individual control.

References

Abma, Joyce, Anne Driscoll and Kristin Moore. 1998. “Young Women’s Degree of Control Over First Intercourse: An Exploratory Analysis.” *Family Planning Perspectives*. 30: 12-18.

Akers, Aletha Y., Melvin R. Muhammad, and Giselle Corbie-Smith. 2011. “‘When You Got Nothing to Do, You Do Somebody’: A Community’s Perceptions of Neighborhood Effects on Adolescent Sexual Behaviors.” *Social Science & Medicine* 72:91-99.

Bachrach, Christine and S. Philip Morgan. 2001. “A Cognitive-Social Model of Fertility Intentions.” *Population and Development Review.* 39:459-485.

Barber, Jennifer S. 2000. “Intergenerational Influences on the Entry into Parenthood: Mothers’ Preferences for Family and Nonfamily Behavior.” *Social Forces.* 79: 319-348.

Barber, Jennifer S. 2001. “Ideational Influences on the Transition to Parenthood: Attitudes toward Childbearing and Competing Alternatives.” *Social Psychology Quarterly.* 64: 101-127.

Blair-Loy, Mary. 2004. “Work Devotion and Work Time.” *Fighting for Time: Shifting Boundaries of Work and Social Life.* ed. Cynthia Fuchs Epstein and Arne L. Kalleberg. New York: Russell Sage Foundation.

Brewster, Karin L., John O.G. Billy, and William R. Grady. 1993. “Social Context and Adolescent Behavior: The Impact of Community on the Transition to Sexual Activity.” *Social Forces* 71: 713-740.

Brewster, Karin L. 1994. “Neighborhood Context and the Transition to Sexual Activity amongYoung Black Women.” *Demography* 31: 603-614.

Browning, Christopher R. and Lori A. Burrington. 2006. “Racial Differences in Sexual and Fertility Attitudes in an Urban Setting.” *Journal of Marriage and Family.* 68: 236-251.

Budig, Michelle and Paula England. 2001. “The Wage Penalty for Motherhood.” *American Sociological Review.* 66:204-225.

Carlson, Marcia, Sarah McLanahan and Paula England. 2004. “Union Formation in Fragile Families. *Demography.* 41:237-261.

Carlson, Marcia, Alicia G. VanOrman and Natasha V. Pilkauskas. 2013. “Examining the Antecedents of U.S. Nonmarital Fatherhood.” *Demography.* 50: 1421-1447.

Cheng, Simon, Laura Hamilton, Stacy Missari and Josef (Kuo-Hsun) Ma. 2014. “Sexual Subjectivity among Adolescent Girls: Social Disadvantage and Young Adult Outcomes.” *Social Forces.* 93: 515-544.

Cherlin, Andrew. 2004. “The Deinstitutionalization of Marriage.” *Journal of Marriage and Family.* 66:848-861.

Comings, John P., Andrea Parella, and Lisa Soricone. 1999. “Persistence among Adult Basic Education Students in Pre-GED Classes.” *NCSALL Reports* Number 12. The National Center for the Study of Adult Literacy and Learning, Harvard University Graduate School of Education.

Damaske, Sarah. 2011. *For the Family? How Class and Gender Shape Women's Work.* Oxford:Oxford University Press.

Easterlin, Richard A. and Eileen Crimmins. 1985. *The Fertility Revolution.* Chicago:

University of Chicago Press.

Edin, Kathryn and Maria Kefalas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood before Marriage.* Berkeley: University of California Press.

Edin, Kathryn, Paula England, Emily Fitzgibbons Schafer and Joanna Reed. 2007. "Forming Fragile Families: Was the Baby Planned, Unplanned, or in Between?" *Unmarried Couples with Children.* Ed. Paula England and Kathryn Edin. New York: Russell Sage Foundation. 25-54.

Edin, Kathryn and Timothy J. Nelson. 2013. *Doing the Best I Can: Fatherhood in the Inner City.* Berkeley: University of California Press.

Entwisle, Doris R., Kari L. Alexander, and Linda Steffel Olson. 2004. "Temporary as Compared To Permanent High School Dropout." *Social Forces.* 82: 1181-1205.

Finer, Lawrence B. and Mia R. Zolna. 2011. "Unintended Pregnancy in the United States: Incidence and Disparities, 2006." *Contraception.* 84: 478-485.

Gassanov, Margaret A., Lisa M. Nicholson, and Amanda Koch-Turner. 2008. "Expectations to Marry among American Youth." *Youth & Society.* 40: 265-288.

Geronimus, Arline T. and Sanders Korenman. 1993. "The Socioeconomic Costs of Teenage Childbearing: Evidence and Interpretation." *Demography*. 30: 281-290.

Gibson-Davis, Christina M. 2011. "Mothers but Not Wives: The Increasing Lag between Nonmarital Births and Marriage." *Journal of Marriage and Family.* 73:264-278.

Gibson-Davis, Christina, Kathryn Edin, and Sara McLanahan.2005. "High Hopes but Even Higher Expectations: The Retreat from Marriage among Low-Income Couples." *Journal of Marriage and Family* 67: 1301-1312.

Gibson-Davis, Christina M. 2009. "Money, Marriage and Children: Testing the Financial

Expectations and Family Formation Theory." *Journal of Marriage and Family.* 71:146-160.

Gibson-Davis, Christina M. 2011. "Mothers but Not Wives: The Increasing Lag between Nonmarital Births and Marriage." *Journal of Marriage and Family.* 73:264-278.

Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Guzzo, Karen Benjamin. 2009. "Marital Intentions and the Stability of First Cohabitations." *Journal of Family Issues.* 30.2: 179-205.

Guzzo, Karen Benjamin and Sarah Hayford. 2011. "Fertility Following an Unintended First Birth." *Demography.* 48:1493-1516.

Harknett, Kristen and Arielle Kuperberg. 2011. "Education, Labor Markets and the Retreat From Marriage." *Social Forces.* 90: 41-63.

Harris, Kathleen Mullan. 2009. The National Longitudinal Study of Adolescent to Adult Health (Add Health), Waves I & II, 1994–1996; Wave III, 2001–2002; Wave IV, 2007-2009 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill. DOI: 10.3886/ICPSR27021.v9

Hayford, Sarah R. 2009. "The Evolution of Fertility Expectations over the Life Course." *Demography.* 46: 765-783.

Horn, Laura, Stephanie Nevill, and James Griffith. 2006. "Profile of Undergraduates in U.S. Post-Secondary Institutions: 2003-2004, with a Special Analysis of Community College Students." U.S. Department of Education. NCES 2006-184.

Hosmer, David W., Stanley Lemeshow and Susanne May. 2008. *Applied Survival*

Analysis:Regression Modeling of Time-to-Event Data. Hoboken, NJ: John Wiley & Sons, Inc.

Jumping-Eagle, Sara, Jeanelle Sheeder, Lisa S. Kelly and Catherine Stevens-Simon. 2008. "Association of Conventional Goals and Perceptions of Pregnancy with Teenagers' Pregnancy Avoidance Behavior and Attitudes." *Perspectives on Sexual and Reproductive Health.* 40: 74-80.

Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s to 2000s.* New York: Russell Sage Foundation.

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology.* 24: 395-421.

Kreider, Rose M. 2005. "Number, Timing and Duration of Marriages and Divorces: 2001." *Current Population Reports.* P70-97. U.S. Census Bureau.

Kreider, Rose M. and Renee Ellis. 2011. "Number, Timing and Duration of Marriages and Divorces: 2009." *Current Population Reports.* P70-125, U.S. Census Bureau.

Lareau, Annette. 2015. "Cultural Knowledge and Social Inequality." *American Sociological Review.* 80: 1-27.

Levine, Judith Adrienne. 2013. *Ain't No Trust: How Bosses, Boyfriends and Bureaucrats Fail Low-Income Mothers and Why It Matters.* Berkeley: University of California Press.

Lichter, Daniel T., Sharon Sassler and Richard N. Turner. 2014. "Cohabitation, Post-Conception Unions and the Rise of Nonmarital Fertility." *Social Science Research.* 47: 134-147.

Liefbroer, Aart C., Liesbeth Gerritsen and Jenny De Jong Gierveld. 1994. "The Influence of Intentions and Life Course Factors on the Union Formation Behavior of Young Adults." *Journal of Marriage and Family.* 56: 193-203.

Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables.* Thousand Oaks: SAGE Publications.

Lopoo, Leonard M. and Bruce Western. 2005. "Incarceration and the Formation and Stability of Marital Unions." *Journal of Marriage and Family.* 67: 721-734.

Manlove, Jennifer. 1998. "The Influence of High School Dropout and School Disengagement on the Risk of School-Age Pregnancy." *Journal of Research on Adolescence*. 8: 187-220.

Manning, Wendy D. 2001. "Childbearing in Cohabiting Unions: Racial and Ethnic Differences." *Family Planning Perspectives.* 33: 217-233.

Manning, Wendy D. and Pamela J. Smock. 2002. "First Comes Cohabitation, Then Comes Marriage? A Research Note." *Journal of Family Issues.* 23: 1065-1087.

Mare, Robert D. 1981. "Change and Stability in Educational Stratification." *American Sociological Review.* 46: 72-87.

Martin, Joyce A., Brady E. Hamilton, Michelle J.K. Osterman, Sally C. Curtin and T.J. Matthews. 2015. "Births: Final Data for 2013." *National Vital Statistics Reports* 64.1. National Center for Health Statistics.

Martin, Steven P. 2000. "Diverging Fertility: Fertility among U.S. Women Who Delay Childbearing Past Age 30." *Demography.* 37: 523-533.

Mathews, T.J. and Brady E. Hamilton. 2014. "First Births to Older Women Continue to

Rise." *NCHS Data Brief* 152. National Center for Health Statistics.

McClendon, David, Janet Chen-Lan Kuo and R. Kelly Raley. 2014. "Opportunities to Meet: Occupational Education and Marriage Formation in Young Adulthood." *Demography.* 51: 1319-1344.

McLanahan, Sara. 2004. "Diverging Destinies: How Children are Faring under the Second Demographic Transition." *Demography.* 41: 607-627.

McLanahan, Sara and Gary Sandefur. 1994. *Growing Up with a Single Parent: What Hurts, What Helps.* Cambridge: Harvard University Press.

McQuillan, Julia, Arthur L. Greil, Karina M. Shreffler, and Andrew V. Bedrous. 2015. "The Importance of Motherhood and Fertility Intentions among U.S. Women." *Sociological Perspectives.* 58:20-35.

Mirowsky, John and Catherine E. Ross. 2007. "Life Course Trajectories of Perceived Control and Their Relationship to Education." *American Journal of Sociology.* 112: 1339-1382.

Morgan, S. Philip. 2001. "The Direction of Fertility in the United States." U.S. Census Bureau.

Musick, Kelly. 2002. "Planned and Unplanned Childbearing among Unmarried Women." *Journal of Marriage and Family.* 64: 915-929.

Musick, Kelly, Jennie E. Brand and Dwight Davis. 2012. "Variation in the Relationship between Education and Marriage: Marriage Market Mismatch." *Journal of Marriage and Family.* 74:53-69.

National Center for Health Statistics. 2010. *Marriage and Cohabitation in the United States: A Statistical Portrait Bases on Cycle 6 (2002) of the National Survey of*

Family Growth.

Presser, Harriet B. and Amy G. Cox. 1997. "The Work Schedules of Low-Educated American Women and Welfare Reform." *Monthly Labor Review* 120: 25-34.

Presser, Harriet B. 2001. "Comment: A Gender Perspective for Understanding Low Fertility in Post-Transitional Societies." *Population and Development Review.* 27: 177-183.

Raley, R. Kelly and Elizabeth Wildsmith. 2004. "Cohabitation and Children's Family Instability." *Journal of Marriage and Family.* 66: 210-219.

Ross, Catherine C., John Mirowsky and Shana Pribesh. 2001. "Powerlessness and the Amplification of Threat: Neighborhood Disadvantage, Disorder and Mistrust." *American Sociological Review.* 66: 568-591.

Ryan, Camille L. and Julie Siebens. 2012. "Educational Attainment in the United States: 2009." Current Population Report. U.S. Census.

Schneider, Daniel. 2011. "Wealth and the Marital Divide." *American Journal of Sociology.* 117:627-667.

Schoen, Robert, Young J. Kim, Constance A. Nathanson, Jason Fields and Nan Marie Astone. 1997. "Why Do Americans Want Children?" *Population and Development Review.* 23: 333-358.

Schoen, Robert, Nan Marie Astone, Young J. Kim, Constance A. Nathanson, and Jason M. Fields. 1999. "Do Fertility Intentions Affect Fertility Behavior" *Journal of Marriage and Family.* 61: 790-799.

Schwartz, Christine R. and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage." *Demography* 42: 621-646.

Shafer, Kevin and Spencer L. James. 2013. “Gender and Socioeconomic Status Differences in First and Second Marriage Formation.” *Journal of Marriage and Family.* 75: 544-564.

Shattuck, Rachel M. and Rose M. Kreider. 2013. “Social and Economic Characteristics of Currently Unmarried Women with a Recent Birth: 2011.” *American Community Survey Reports.* U.S. Census Bureau.

Shreffler, Karina M., Arthur L. Greil, Katherine Stamps Mitchell and Julia McQuillan. 2015. “Variation in Pregnancy Intendedness across U.S. Women’s Pregnancies.” *Maternal and Child Health Journal.* 19: 932-938.

Simmons, Tavia and Martin O’Connell. 20013. “Married-Couple and Unmarried-Partner Households: 2000.” *Census 2000 Special Reports.* U.S. Census Bureau.

Singh, Susheela, Jacqueline E. Darroch and Jennifer J. Frost. 2001. “Socioeconomic Disadvantage and Adolescent Women’s Reproductive Behavior: The Case of Five Developed Countries.” *Family Planning Perspectives.* 33: 251-259.

Smith, Herbert L., S. Philip Morgan, and Tanya Koropeckyj-Cox. 1996. "A Decomposition of Trends in Nonmarital Fertility Ratios of Blacks and Whites in the United States, 1960-1992." *Demography.* 33: 141-151.

Smock, Pamela J. 2000. “Cohabitation in the United States: An Appraisal of Research Themes, Finding and Implications.” *Annual Review of Sociology.* 26:1-20.

StataCorp. 2013. *Stata Statistical Software: Release 13*. College Station, TX: StataCorp LP.

Sweeney, Megan M. 2002. “Two Decades of Family Change: The Shifting Economic Foundations of Marriage.” *American Sociological Review.* 67: 132-147.

Trent, Katherine and Kyle Crowder. 1997. "Adolescent Birth Intentions, Social Disadvantage and Behavioral Outcomes." *Journal of Marriage and Family.* 59: 523-535.

Uphadhyay, Ushma D., Shari L. Dworkin, Tracy A. Weitz, and Diana Greene Foster. 2014. "Development and Validation of a Reproductive Autonomy Score." *Studies in Family Planning.* 45: 19-41.

U.S. Bureau of Labor Statistics. 2000. Standard Occupational Classification. http://www.bls.gov/soc/2000/soc_majo.htm. Accessed 9/19/15.

Usdansky, Margaret L. 2009. "A Weak Embrace: Popular and Scholarly Depictions of Single Parent Familes, 1900-1998." *Journal of Marriage and Family.* 71: 209-225.

Ventura, Stephanie J. 2009. "Changing Patterns of Nonmarital Childbearing in the United States." National Center for Health Statistics. NCHS Data Brief No. 18.

Waller, Maureen R. and Sarah S. McLanahan. 2005. "His and Her Marriage Expectations: Determinants and Consequences." *Journal of Marriage and Family.* 67:53-67.

Williams, Lindy, Joyce Abma, and Linda J. Piccinino. 1999. "The Correspondence Between Intention to Avoid Childbearing and Subsequent Fertility: A Prospective Analysis." *Family Planning Perspectives.* 31: 220-227.

Willoughby, Brian J., Soctt S. Hall and Heather P. Luczak. 2015. "Marital Paradigms: A Conceptual Framework for Marital Attitudes, Values and Beliefs." *Journal of Family Issues.* 36: 188-211.

Winslow-Bowe, Sarah.2006. "The Persistence of Wives' Income Advantage." *Journal of*

Marriage and Family. 68: 824-842.

Wu, Chi-Fang and Mary Keegan Eamon. 2013. "Employment, Economic Hardship, and Sources of Assistance in Low-Income Single-Mother Families before, during, and after the Great Recession." *Journal of Poverty.* 17:135-156.

Wu, Lawrence L., Steven P. Martin and Daniel A. Long. 2001. "Comparing Data Quality of Fertility and First Sexual Intercourse Histories." *Journal of Human Resources.* 36:520-555.

Chapter 3: Retrospective versus Panel Reports of First Employment in the Life Courses of U.S. Women

Abstract

We investigate the accuracy of young women's retrospective reporting on their first employment, examining hypotheses that longer duration of recall, employment histories with lower salience and higher complexity, and an absence of "anchoring" biographical details will adversely affect reporting accuracy. We compare reports about the timing of two different operationalizations of first substantial job or employment—whether respondents had a first job by 2002, and age at first job attained before 2008-10—from retrospective questions in the 2006-2010 National Survey of Family Growth, in the initial waves of the 2004 and 2008 panels of the Survey of Income Program Participation, and in Wave 4 of the National Longitudinal Survey of Adolescent to Adult Health (Add Health) to these same statistics derived from annual panel reports in the National Longitudinal Survey of Youth 1997. We test for differences in reporting accuracy by sociodemographic groups, by salience and complexity of respondents' employment experience, and by anchoring family-formation events in respondents' lives. We find some evidence that sociodemographic groups—notably non-Hispanic White women and women with college-educated mothers—whose early employment histories are in aggregate more complex (multiple jobs) and lower in salience (more part-time jobs), underreport the incidence of their early first job or employment, and misreport their first job or employment as occurring at an older age. We also find evidence that retrospective reports of the timing of first employment may be skewed towards underreporting earlier,

shorter jobs and overreporting longer, later jobs. Overall, however, our results indicate that retrospective questions capture these summary indicators of first stable employment reasonably accurately.

Introduction

Studies to date have evaluated the accuracy of retrospective survey reporting on life course events such as sexual activity, family formation, and labor force participation. Survey questions on such topics present a cognitive challenge to respondents because they necessitate recall of both the occurrence and the timing of events (Tourangeau, Rips and Rasinski 2000). The accuracy of data on these topics is critically important to life course research, for which timing and sequencing of events are central concepts, and the occurrence of key events signals transition into different life stages (Shanahan 2000; Wu, Martin and Long 2001). Here, we evaluate the accuracy of reporting about first substantial employment among young women.

First substantial employment is a life course event that typically occurs in early adulthood. The life course importance of first substantial employment is magnified in the current context of the deindustrializing U.S. economy, in which an individual's success or failure in finding first employment may set the stage for his or her labor force activities in the long term, and may in turn affect his or her ability to maintain a household, enter into marriage, and financially support children. To the extent that socioeconomic discrepancies in workforce entry and attachment are a central feature of inequality in the U.S., with far-reaching implications for the intergenerational reproduction of poverty, the accuracy of reporting on first stable or significant employment is a topic of methodological interest to many social scientists.

Young Women's Early Employment

Early employment is an important marker of adult status in the life course, and both a forecast and determinant of employment success (or lack thereof) to come. In their early employment experiences, young adults develop skills, amass human capital, adopt workplace norms and develop preferences for future work roles (Becker 1975; Mortimer, Harley and Aronson 1999). By serving as a track record of an individual's activities and capabilities, early employment may influence an individuals' ability to achieve further employment in the future, and is a strong predictor of the stability of employment to come (Alon, Donohoe and Tienda 2001). Early employment is also critical to individuals' ability to amass earnings: the majority of individual-level earnings growth occurs in the first ten years in the labor market (Bernhardt, Morris, Handcock and Scott 2001).

Since the 1970s, earnings inequality has increased between American workers in the upper and lower earnings quartiles (Bernhardt, Morris, Handcock and Scott 2001; Kalleberg 2011). The disappearance of well-paid manufacturing jobs, the decline in the power of unions, the growth of the service sector, and the presence in the workforce of increased numbers of low-skilled workers have effectively raised the stakes on young people's ability to either acquire a college education that will qualify them for a lucrative white collar job, or to embark on a path toward one of the ever-shrinking number of stable, well-paying blue collar jobs (Presser 1989; Presser and Cox 1997; Bernhardt, Morris, Handcock and Scott 2001; Kalleberg 2011). Furthermore, time spent employed in early adulthood critically but differentially affects cumulative earnings for more-skilled and less-skilled workers, such that timely transition to stable employment is

especially important for those without a bachelor's degree (Alon and Tienda 2005; Alon and Haberfeld 2007). More-educated workers, who hold salaried jobs that increase simultaneously both in seniority and in compensation, benefit economically from early job switching, and can buffer time out of paid employment. In contrast, less-educated workers' lifetime earnings are primarily dependent on the accumulation of lower wages earned through consistent working hours. In the U.S. context, few policy or institutional supports exist for aiding young people's transition from school into the workforce. Whereas many other industrialized countries have well-established institutional mechanisms for providing youth with job training and assistance on the path to successful careers—including well-resourced vocational educational tracks (Reisel 2013), combined work-and-schooling arrangements (Kerckhoff 2001), and strong placement and recruiting links between schools and firms (Yu and Chiu 2014)—no such supports are present in the U.S., putting the onus young people to make use of their own knowledge and networks in finding jobs. U.S. young people's knowledge about the job market, as well as their ability to both deploy personal resources in the job search, and to make contacts who can assist them in gaining stable, well-paying employment are heavily differentiated by their race/ethnicity and socioeconomic status in their families of origin (Newman 1999; Elliott 2000; Lareau 2003; Hardie 2015).

Although the deindustrialization of the U.S. economy affects male and female workers alike, the timing specifically of women's labor force entry is of particular importance to both work-family research and life-course research, and is highly relevant to social policy that seeks to steer low-income young single mothers toward strong labor force attachment as a path out of poverty (Pavetti and Acs 2001). Occupational sex

segregation serves as a barrier to women's entry into lucrative career paths (Anker 1997; Cohen and Huffman 2003; Bergmann 2010), while the gender wage gap and a motherhood wage penalty decrease women's financial returns to employment relative to men (Goldin 1990; Budig and England 2001; Blau and Kahn 2007). Furthermore, societal norms that posit women's family roles as more important than their work roles mean women shoulder a disproportionate share of child care responsibility, and women's family commitments are more likely to keep them from employment than their male counterparts (Folbre 1999; Gornick and Meyer 2000). All of these factors may stand in the way of, and/or delay young women's entry into substantial employment. Among low-income young women in particular, early childbearing presents a major barrier to strong labor force attachment. In the absence of a partner to share caregiving duties or funds to pay for day care, low-income single mothers must rely heavily on their informal networks of family and friends for child care. They may be forced out of paid employment by the difficulty of arranging childcare in the face of irregular and nonstandard hours (Presser 1989; Presser and Cox 1997), or may find work in the informal economy (Edin and Lein 1997). In the face of Welfare policy change that emphasizes work over cash entitlements (Wu and Eamon 2013), and despite these heavy obstacles to their strong labor force attachment, the economic wellbeing of low-income single mothers and their children alike is primarily dependent on their labor market success.

Given the centrality of research on women's employment to broad questions of labor market gender equity, to the evaluation of current U.S. Welfare policy, and to an assessment of how socioeconomic and gender inequalities are perpetuated through the

labor market, it is critical that large-scale survey data on women's entry into paid employment—particularly as it relates to their family-formation behavior—be accurate. If it is not accurate, social scientists risk at best misunderstanding the true dimensions of young women's work careers, and at worst perpetuating gender- and socioeconomically-based inequality by the misdirection of social service and policy interventions. For this reason, we undertake to evaluate the accuracy of data on young women's first substantial employment entry and timing in three surveys that retrospectively interview respondents in this topic: the Survey of Income and Program Participation (SIPP), the National Survey of Family Growth (NSFG) and the National Longitudinal Study of Adolescent to Adult Health (Add Health).

Contributions to Research on Employment Reporting Accuracy

Although the substantive topic we study relates to broad questions of gender and social inequality, we also aim to contribute to a growing literature that seeks to evaluate the accuracy of large-scale survey data based on theory about the role of cognition and memory in retrospective reporting on employment histories. Our study is novel because it focuses on reporting about employment (versus unemployment), because it focuses on reporting about *first* employment in particular, and because it focuses on employment reporting in the United States. Recent research about the accuracy of survey reporting on employment histories has focused to a large extent on Europe (Jurges 2007; Manzoni et al 2010, 2011; Kyrra and Wilke 2014). Few recent studies have examined retrospective reports of employment histories in the U.S. Furthermore, most studies both on the U.S.

and on Europe have focused on reporting about unemployment more than employment. Studies that compare reports of unemployment and employment spells find that unemployment spells are much more likely to be underreported than employment spells (Pierret 2001; Jacobs 2002; Jurges 2007; Manzoni et al 2010). Jurges (2007), for example, compares contemporaneous reports of employment status in a given month with retrospective reports one year later, using the German Socioeconomic Panel. He finds that as many as one fifth of unemployment spells were either omitted or reported with incorrect durations one year later, whereas fewer than 1% of employment spells were misreported a year later. Using the Swedish Level of Living Survey, Manzoni et al (2010) compare respondents' reports of employment status in the previous year with their retrospective reports about employment status in that same calendar year that are given 10 years later. They find that whereas 40% fewer unemployment spells were reported 10 years later than in the previous year, only 4% fewer employment spells were reported 10 years later than in the previous year.

Our study is also novel to the extent that it examines reports made about a recall period of relatively lengthy duration—between the occurrence of a respondent's first job and the time at which she is interviewed about it—which for some of our respondents is a period of fifteen years or more. Research into the reporting of employment histories in the U.S. has largely examined only relatively short periods of recall, of one or two years (Sudman and Bradburn 1973; Evans and Leighton 1994; Horvath 1982; Morgenstern and Barrett 1974; Bowers and Horvath 1984; Duncan and Hill 1985; Mathiowetz and Duncan 1988; Pierret 2001). However, panel surveys, like the Survey of Income and Program Participation (SIPP, U.S. Census Bureau 2014) and the National Longitudinal Study of

Adolescent to Adult Health (Add Health, Harris 2009) and cross-sectional surveys like the National Survey of Family Growth (NSFG, National Center for Health Statistics 2014) frequently ask respondents for employment histories covering periods longer than one or two years. Retrospective employment histories may ask about more recent jobs in detail, but questions about first employment experience tend to be covered in summary form only. The SIPP asks only about the individual's first job of 6 months or longer, without distinguishing fulltime from part-time employment. Add Health asks only for the first fulltime job that was not a summer job, and that was undertaken while not primarily a student without specification for length of job (Harris 2009). Whereas the 1995 and previous cycles of the NSFG included fairly extensive employment histories, the 2002 and 2006-2010 cycles only include questions about the start date of the individual's first spell of fulltime employment of six months or longer duration. Social demographers have devoted considerable attention to the accuracy of reporting on other questions about early life history and first-experienced events in domains including births, cohabitation and marriage, and sexual activity (Kahn et al 1988; Peters 1988; Lauritson and Swicegood 1997; Wu et al 2001; Joyner et al 2012). However, we are unaware of any previous efforts to evaluate the accuracy of summary questions such as these about first significant employment or job experience, despite its importance in the early adult life course.

In the present paper, we expand upon earlier research on inaccuracies in survey reporting about employment and unemployment (Mathiowetz and Duncan 1988; Manzoni 2012), to focus specifically on the accuracy of young women's reporting about the timing of their first substantial employment. We also build on the focus in previous research on the importance of the duration of the survey recall period, the complexity and

salience to the respondent of the topic being reported on (Mathiowetz and Duncan 1988; Pierret 2001), and the role of "anchoring" events in promoting recall accuracy (Manzoni 2012). Our focus specifically on recall about employment is conceptually distinct from previous literature on recall about *un*employment because remembering employment involves remembering the presence of an activity rather than its absence, and involves grounding details such as a distinct workplace, colleagues and activities (Tourangeau, Rips and Rasinski 2000).

We evaluate retrospective reporting on the timing of first substantial employment, as differently defined in the three surveys we evaluate. In the 2006-2010 National Survey of Family Growth (NSFG) we evaluate reporting on the first period of continuous fulltime employment of six months or more. In the 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP), we evaluate reporting on the first job of six months or more, irrespective of whether the job is a part-time or fulltime job, using a retrospective question in the first wave of each SIPP panel. In the National Longitudinal of Adolescent to Adult Health (Add Health), we evaluate reporting on the first fulltime job of any length that was not a summer job and not undertaken while the respondent was primarily a student. We evaluate the NSFG, SIPP, and Add Health's one-time retrospective reports against the equivalent statistics derived from annual panel reports of employment for the same cohorts in the National Longitudinal Survey of Youth (NLSY97).

We investigate the accuracy of retrospective reporting on the timing of first substantial employment in two different dimensions. First, we examine differences in the accuracy of reporting on whether first substantial employment occurred by 2002. Next,

among those who attained first substantial employment by 2008-2010, we examine differences in the reported age when first substantial employment began. The first measure allows us to assess the accuracy of retrospective reporting specifically on *early* first employment and to take account of how different sociodemographic characteristics may affect women's entry into substantial employment, and may also affect their recall of that event. The second measure allows us to consider more closely how sociodemographic characteristics affect recall specifically of the *timing* of first employment, as well as to examine directly how measures of job salience and employment history complexity affect recall of first employment timing.

Women's Employment Reporting

Previous research suggests that women's retrospective reporting on their employment may be overall less accurate than men's and may be affected by different factors than those affecting men's recall. Previous research on women's survey reporting has almost uniformly found women to underreport unemployment episodes by greater magnitudes than men. Women have been found to frequently either omit unemployment episodes entirely or, more frequently, to recast them as periods of home-making (Morgenstern and Barrett 1974; Akerlof and Yellen 1985; Jacobs 2002; Jurges 2007). Morgenstern and Barrett (1974) attribute this phenomenon to lower labor-force attachment among women than among men. Jacobs (2002) suggests that given the positive social connotations attached to women's caregiving role, women themselves may not distinguish clearly between periods of unemployment and periods of care for their families.

More generally, the greater complexity and density of women's work and family lives due to the disproportionately large share of child care that employed women shoulder (Bianchi and Milkie 2010) may plausibly also result in more errors in reporting employment histories among women than men, because more events across these different domains may result in greater "interference" for women as new memories replace old memories (Tourangeau, Rips and Rasinski 2000; Wingfield and Byrnes 1981). Alternatively, the timing of significant family events may serve as "anchoring" details that enable women to more accurately report the timing of employment (Manzoni 2012). Women's employment histories themselves may also be more complex than those of men, involving more exits and entries into the workforce, more part-time work and more mobility between job types and sectors (Mathiowetz and Duncan 1988; Budig and England 2001). Individuals with more complex job histories have been found to have more difficulty reporting accurately on job start and stop times, and more difficulty reporting accurately on total number of employers than have individuals with less complex job histories (Mathiowetz and Duncan 1988; Pierret 2001).

Existing studies of U.S. women's employment-history reporting, however, are by now quite dated. The assumption of low labor force attachment among women (Morgenstern and Barrett 1974) may be inaccurate, given women's large-scale entry into paid employment and the substantial share of the workforce they now represent (Goldin 1990). Earlier studies also tend to describe, implicitly or explicitly, married women. In a more recent study of women and men across European countries, Kyrra and Wilke (2014) find that single women and all men have lower propensities to underreport unemployment than do married women. In our study, we account for respondents' marital

status as it relates to the accuracy of their reporting on both the occurrence versus non-occurrence of early employment (2002 and earlier), and the timing of jobs among those women who have had jobs (over a period up to 2008-2010). In this first part of our analysis, respondents are still quite young, and most are unmarried. In the second part of our analysis, higher proportions of respondents have married. We include whether respondents have married as a predictor variable in our analyses so that we may investigate whether this is associated with worse reporting on both dimensions of employment reporting among contemporary young women in the U.S.

Sociodemographic Differences in Reporting Accuracy

We examine differences in the accuracy of young women's reporting of first substantial employment according to the sociodemographic dimensions of single-year birth cohort, race/ethnicity, and early family-formation behavior. In our assessment of the NSFG and Add Health, we also include mother's education as a proxy for socioeconomic status (SES). In our analysis, we use these sociodemographic categories both as meaningful predictors of differences in the timing of entry into substantial employment, and, secondarily, as broadly representing differing group-level experiences of employment history salience and complexity. We also use early family-formation behavior (which we define as ever having married or given birth by 2002) as indicating the presence or absence of "anchoring" life details that may improve recall accuracy on employment timing. Substantively, we include race/ethnicity and SES variables in our analysis because to do so is important to understanding employment reporting specifically in the U.S. context, in which racial and socioeconomic inequalities may lead

to large differences in early working-life experience by race and SES education (Bernhardt, Morris, Handcock and Scott 2001; Kalleberg 2011). Existing evidence on race/ethnic differences in retrospective reporting is mixed. Mathiowetz and Duncan (1988) find no race/ethnic differences in reporting on unemployment after controlling for the difficulty of the recall task, whereas Morgenstern and Barrett (1974) find that White women's reporting on unemployment is worse than that of non-White women, and men.

Regarding SES, Mathiowetz and Duncan (1988) find that more education is associated with fewer errors in reports of unemployment, but that this association also disappears after controlling for the complexity of employment history. This is consistent with evidence that respondents with complex employment histories—such as multiple entries and exits in close proximity, and multiple concurrent jobs—are disproportionately low-wage workers (Presser and Cox 1997). It is less clear, however, that among young women at the beginning of their working lives, lower SES will be associated with more complex employment histories. Middle- and higher-SES women are more likely to pursue post-secondary education, which may frequently be combined with part-time and short-duration (e.g. summer break) fulltime employment.

We also examine differences in the accuracy of young women's reporting of first substantial employment by whether or not they engage in early family-formation behavior. As we discuss above, family transitions may affect both the complexity and salience of a woman's employment experience, and may thereby affect reporting accuracy. In addition, some evidence suggests that reporting error may be higher for women with children than women without children when they retrospectively report on unemployment (Jurges 2007). However, Manzoni (2012) reports contradictory evidence,

showing that in reporting of dates of job entry and exit, women with children appear to use dates of childbirth as "anchoring" time cues. Hence, the retrospective reports of women with children may alternatively be more accurate than those of women without children.

Comparing Add Health respondents to NLSY97 respondents who have had first substantial jobs, we examine differences in accuracy of young women's reporting about the timing of their first substantial employment by the length of their first reported job, and the number of jobs they report having had between 2001 and the time of interview. For reasons we discuss below, we treat the length of the first job as a measure of the salience of that job to the individual worker, and we treat the number of reported jobs since 2001 as a measure of the complexity of the respondent's employment history. Respondents with greater employment history complexity may be more likely to forget the occurrence and timing of some jobs, and to give overall less accurate reports on their employment history. Jobs of longer duration are more likely to be remembered more clearly because they take up more time in the life of the individual, and hence are likely to have greater social and economic consequences for that individual (Linton 2000). In retrospective reports, individuals may be more likely to report on the occurrence of longer jobs because they remember them more clearly, while they may be more apt to forget shorter jobs. The "salience" phenomenon may mean that the details of longer jobs are reported with greater accuracy than those of shorter jobs; however, if forgetting shorter jobs leads to their being omitted from the respondents' report altogether, this may result in lesser overall reporting accuracy.

Theory on Factors Affecting Reporting Accuracy and Application to Employment Histories

At least five major factors have been claimed to account for inaccuracies in respondents' reporting of life course events (see, for example, Schaeffer and Presser 2003), and we use these in formulating our study hypotheses below. These five factors are: (1) the respondent's own interest in the topic and its practical and emotional salience to him or her; (2) the length of the period over which the respondent is asked to recall events and the amount of time that has elapsed since an event and the interview itself—what we here jointly term "recall duration"; (3) the complexity of the topic on which the respondent is being asked to report; (4) the extent to which the topic being reported on can be situated chronologically in the context of other "anchoring" events; and (5) the normative implications of the topic being reported on. Below we discuss these factors specifically as they relate to reporting on employment, and with respect to their implications for our study.

Respondent lack of interest may be a source of underreporting in surveys on labor force behavior, especially among those with relatively weak labor force attachment. Evidence suggests that younger respondents who have not fully embarked on their employment careers are more likely to underreport unemployment (Morgenstern and Barrett 1974). Workers near retirement age are more likely to describe a period of unemployment as the start of their retirement than those who are farther from retirement (Jurges 2007). Women are more likely to underreport their episodes of unemployment than are men, and are also more likely to retrospectively redefine their unemployment time as time out spent of the labor force for the purpose of keeping house or caring for

family (Jacobs 2002; Jurges 2007). Although women's recasting of unemployment as homemaking may be partially due to social desirability bias (Nederhof 1985), it may plausibly also be due to a relative lack of interest in employment among a subset of women with low labor force attachment.

Respondents are more likely to remember and report the occurrence of events that are salient to them, and may also report more accurately about the details of events that are more salient to them. More salient events are rarer, and have higher social and economic consequences, whether positive or negative (Linton 2000). Applied to employment histories, measures of salience can include loss of life satisfaction when respondents are unemployed versus when they are employed, as well as how common or uncommon it is to be unemployed at the time of the respondent's unemployment (Mathiowetz and Duncan 1988; Jurges 2007). Episodes of employment may plausibly be more salient to respondents than episodes of unemployment. Manzoni et al (2011) show that respondents are less likely to underreport episodes of employment than episodes of unemployment. This may perhaps be because respondents' memories of employment episodes are grounded in concrete details, such as a particular job location, duties, and colleagues (Sudman, Bradburn and Schwarz 1996; Tourangeau, Rips and Rasinski 2000; Schaeffer and Presser 2003). These concrete details may result in more accurate reporting. In the context of the present study, we assert that holding fewer jobs makes the jobs that are held more salient to the individual respondent. Jobs of longer duration also have greater salience because they take up more time in the individual's life, and have an impact on his or her finances and daily social interactions for a longer period of time than do shorter jobs.

Whereas more salient events are easier for respondents to remember, more complex topics are harder for them to remember (Sudman, Bradburn and Schwarz 1996). In an employment context, complexity refers to multiple and layered job patterns, with many starts and stops of jobs, overlapping of jobs, and spells of both fulltime and part-time employment. Comparing Panel Study of Income Dynamics (PSID) self-reports and company administrative records, Mathiowetz and Duncan (1988) find that respondents with more, shorter spells of unemployment within a period of time (i.e., multiple start and stop dates) report their unemployment less accurately than respondents with single, longer spells of unemployment, or no unemployment.

Both the length of the period the respondent is asked to recall and the time elapsed since the event being reported on present cognitive challenges to respondents' recall abilities (Sudman, Bradburn and Schwarz 1996). Although the period of recall and the time elapsed since the event are conceptually distinct, for the purposes of this paper we combine them into the concept of "recall duration." We do so because when respondents are asked to recall their complete employment histories and to report on events from that period, period of recall and time elapsed since the event increase in tandem—i.e., the longer one's work history, the longer the period one describes, and the more time has elapsed since its beginning. Because we evaluate the accuracy of reporting on first employment in the context of recall on complete employment histories, we use one concept of "recall duration."

Longer recall duration can result not only in underreporting of the occurrence of discrete events, but also in oversimplification of reporting on sequences of events (Pierret 2001; Jurges 2007; Manzoni 2010; Dex and McCulloch 1998; Manzoni et al 2011). In a

study of reporting on unemployment, Jurges (2007) shows that respondents who reported that they were unemployed at the date of a first interview were less likely to report an unemployment spell at that time when they are surveyed one year later. Manzoni et al (2010) found underreporting of both employment and unemployment episodes when Swedish Level of Living Survey respondents' 2000 reports were compared to the same respondents' 1991 reports on the same period. Manzoni et al (2010) and Manzoni et al (2011) found a "smoothing" effect of reporting on complex employment after extended recall time has elapsed, with, respectively, reports of full-career sequencing in the Swedish Level of Living Survey displaying fewer episodes of employment, self-employment, unemployment and non-employment when reported in 2000 versus 1991, and oversimplifying of employment careers in retrospective reports versus panel surveys of employment transitions in Germany.

The use of individuals' life events as cues to "anchor" their recall of the timing of other events being reported on can also play a role in reporting accuracy. Memory of the timing of an event may be linked to a surrounding chronological context. Individuals who either can recall a topic in relation to a personally significant event, or are prompted to report on the timing of an event specifically as occurring before or after a shared publicly significant event, report more accurately on event timing than those with no such anchoring details (Loftus and Marburg 1983). Individuals who have had such salient life experiences as marriage and childbirth may use the dates of these events to recall the timing of other events being reported on, resulting in more accurate reporting. Manzoni (2012) finds that women with children report on their employment transitions more

accurately than women without children, although she does not find this same effect for married versus unmarried women.

Regarding the normative implications of the topic, misreporting of employment information may also be accounted for in part by social desirability response bias, the tendency to claim normatively acceptable traits and disavow less acceptable traits in a research context (Nederhof 1985). This can take the form of either direct deception of the interviewer, or unintentional self-deception, if the respondent remembers an event as something more normatively acceptable than it actually was. Social desirability may play a role in women's reporting themselves as homemaking during periods of unemployment (Jacobs 2002).

Data and Methods

Outcome Variables

We evaluate the accuracy of women's retrospective survey reporting on the date of their first substantial employment using retrospective questions from the 2006-2010 NSFG, Wave 1 of the SIPP 2004 and 2008 panels, and Wave 4 of Add Health, against dating of equivalently-defined first substantial employment from reporting in annual panel interviews in the NLSY97. We focus on reporting among women born in the U.S. between 1980 and 1984 who are non-Hispanic White, non-Hispanic Black, and Hispanic of any race. We ground our hypotheses in the evidence from research to date on the accuracy of retrospective reporting about employment and unemployment, which focuses mainly on the effects of recall duration, the complexity of the respondent's employment

or unemployment history, the salience of employment or unemployment to the respondent, and the presence or absence of biographical anchoring details.

We first examine the accuracy of retrospective reporting on the event of having experienced a first substantial job or employment spell up to the end of calendar year 2002, among women born in the United States between 1980 and 1984 in the National Survey of Family Growth (NSFG), and the Survey of Income and Program Participation (SIPP). In Add Health, we examine the accuracy of retrospective reporting on the event of having experienced a first substantial employment spell at or before the respondent's age at the end of 2002, among women born in the United States between 1980 and 1982. For the sake of brevity, below we will generally refer to first substantial jobs "by 2002" as a way of encompassing both the age-based and date-based versions of the 2002 chronological cutoff. These two different operationalizations of the 2002 cutoff are due to the different ways the retrospective questions about the start of first substantial employment are asked in the three surveys. The NSFG asks respondents for the month and year, and the SIPP for the year, when their first job started, whereas Add Health asks for the age at which respondents began their first job.

Second, we examine the accuracy of respondents' retrospective reporting on the *timing* of their first substantial employment, among those who attained first substantial employment by their interviews in 2008-2010. We operationalize timing of first employment as the respondent's age at the start of the substantial job or employment spell she reports as being her first. In this second analysis, we exclude the SIPP 2004 panel, because the period it covers is too short to offer a meaningful comparison of first employment timing among women born in 1980-1984.

Due to differences in how the SIPP, NSFG and Add Health ask their retrospective questions about first employment, we define "first substantial employment" differently in each comparison with the NLSY97. In the SIPP/NLSY97 comparison, first substantial employment is defined as a first job, whether fulltime or part-time, of six months or more. In the NSFG/NLSY97 comparison, it is defined as a first period of fulltime work of six months or more (though not necessarily all the same job). In the Add Health/NLSY97 comparison, it is defined as a first period of fulltime work of any duration, undertaken while not a student, and not including summer jobs. More details on the survey questions are included in Appendix A. For the sake of brevity, we refer to the three distinct operationalizations of first employment collectively as "first substantial employment" on the assumption that they each refer to one variety of "substantial" work—whether it covers fulltime hours, is of non-trivial duration, or is not undertaken while primarily engaged in studies, or explicitly for the summer only.

We use annual panel reporting from the National Longitudinal Survey of Youth-1997 (NLSY97) as the standard against which to evaluate the accuracy of retrospective reporting in the NSFG, the SIPP and Add Health. In the NLSY97, respondents are asked to list their job information at each interview, and this information is stored from year to year. They then are asked at the next interview if they still work for any of the employers they listed as current at the last interview, as well as to report any new employers (Bureau of Labor Statistics 2014). Pierret (2001) shows that annual reporting of employment in the National Longitudinal Survey of Youth -1979 (NLSY79), which has a comparable interview structure to the NLSY97, yields substantially more accurate reports of numbers of employers relative to biennial interviews. For these reasons, we assume that NLSY97

reports offer a more accurate picture of the work activities of our respondents than do the SIPP, NSFG and Add Health.

Survey of Income and Program Participation (SIPP)

The SIPP is a household-based panel survey (U.S. Census Bureau 2009) that has drawn new samples approximately every four years beginning in 1996. In the present study, we use the 2004 and 2008 panels, begun respectively in approximately those two years (with the first 2004 panel interviews beginning in late 2003). These two SIPP panels are representative of the U.S. household population at the time each panel began. The SIPP oversamples low-income households. Each household member aged 15 and above is interviewed if possible, and otherwise proxy responses are obtained from another household member. Out of our focal sample of women born in the U.S. between 1980 and 1984 who are non-Hispanic White, non-Hispanic Black and Hispanic of any race, 45% of interviews on first employment were given by proxy in the 2004 panel, and 28% of interviews on first employment were given by proxy in the 2008 panel. Proxy and self-reports are quite evenly distributed across all our sociodemographic categories of interest, except for the fact that, particularly in the 2004 panel, women from later birth cohorts (i.e. younger women, who were more likely to be living with parents at the time of interview) are more likely to have proxy reports. Each panel respondent is surveyed repeatedly on topics including employment, fertility, earnings, income and benefits receipt, and including both prospective and retrospective components. The retrospective questions on employment history that we evaluate are asked of individuals ages 18 and above (to a maximum age of 75) in Wave 1 of each panel. For both the 2004 and 2008

panels, this included all women born between 1980 and 1984. Respondents were asked to report on the timing of their first job of six months or more, which could be either a fulltime or part-time job. This is our outcome variable. See question details in Appendix A. We derive our predictor variables from questions asked in Wave 1 and Wave 2 of each panel. Between interview Waves 1 and 2, 16.3% and 16.8% of cases were lost to attrition in the 2004 and 2008 panels, respectively. We lose to item non-response 224 cases from the 2004 SIPP panel, which represents 9.1% of this group, and 70 cases from the 2008 SIPP panel, which represents 3.2% of this group.

National Survey of Family Growth 2006-10

The 2006-2010 NSFG is a nationally-representative sample of the household population aged 15 to 44 (National Center for Health Statistics 2014). It includes oversamples of African-Americans and Hispanics, and of young adults aged 15-24. The NSFG 2006-2010 is a cross-sectional survey that interviewed each respondent in person once over the 2006-2010 period. The NSFG 2006-2010 contains an array of information on respondents' demographic characteristics, family history and living situation, sexual behavior, and contraceptive history. All respondents were asked whether they had ever worked fulltime (defined as 35 hours per week or more) for six months or longer. If they answered yes, they were then asked the month and year in which their first fulltime period of work of six months or more began. This period could include one job or multiple jobs, but the respondent was not asked to report on the number of jobs held. See question details in Appendix A. From our sample of non-Hispanic White, non-Hispanic Black and Hispanic women of any race who were born in the U.S. between 1980 and

1984, we lose to item nonresponse 13 cases, which represents less than 1% of this group. Item non-response is low in our sample because item nonresponse is already very low for the NSFG variables we use, and some of the NSFG respondents who did not respond to these questions are not included in our sample restrictions. We use values on "mother's education" for 17 respondents in which these values were imputed by NSFG staff using multiple regression imputation. We believe this is justifiable because these imputed values represent a very small number of respondents, and are not values on the outcome variable. The rest of the data we use is based directly on respondent reports.

National Longitudinal Study of Adolescent Health (Add Health)

Add Health is nationally representative of adolescents in grades 7-12 during the 1994-1995 school year (Harris 2009). Subsequent interviews were conducted in 1996, 2001-2, and 2007-8. Add Health oversamples for students who are African-American, Chinese, Cuban and Puerto Rican, as well as students with disabilities, and siblings. The survey asks questions about respondents' family of origin, socioeconomic, health, friendship and relationship characteristics, and labor market and family-formation experiences. At Wave 4, all respondents were asked if they had ever worked for 35 hours per week or more, at a paying job while not primarily a student, and not including summer jobs. Those who answered yes were asked how old they were when they first began working fulltime. Those who answered yes were also asked how many jobs they had had at which they worked at least ten hours per week for nine weeks or more, between 2001 and the Wave 4 interview. Those who were not still employed at their first fulltime job were asked the length of their first fulltime job. Those who were still

employed at their first fulltime job at the time of interview were asked the start date of the job. See question details in Appendix A. Of our group of interest, 553 women dropped out of the survey prior to Wave 4, which represents 16.3% of the original group of non-Hispanic White, non-Hispanic Black and Hispanic women of any race who were born in the U.S. between 1980 and 1982 and were interviewed in Wave 1. We lose to item non-response from our group of interest an additional 551 Wave 4 respondents, which represents 19.4% of our focal group members still in the survey at Wave 4. Non-response on the mother's education variable accounts for almost all of these missing cases because it uses a self-report by the parent completing the Wave 1 parent survey. Respondents with no mother's education variable either do not have a parent's report on this variable, or have a self-report from another adult family member who is not the respondent's biological or adoptive mother.

National Longitudinal Survey of Youth – 1997 (NLSY97)

The NLSY97 is representative of people living in the United States who were aged 12-16 in 1997, with oversamples for Hispanic and African-American respondents. Respondents were interviewed annually from 1997 through 2011, and biennially thereafter (Bureau of Labor Statistics 2014).We use the NLSY97 to obtain annual panel reporting about jobs respondents held after they turned 16, including jobs that began before they turned 16 but which continued while they were aged 16 or older. Sixteen is the age at which the U.S. Fair Labor Standards Act no longer sets limits on the number of hours an individual can work (U.S. Department of Labor 2015), which we consider to be a prerequisite for our definition of "substantial" work. NLSY97 respondents over age 14

were asked in the first interview (1997) to report all jobs, and then in subsequent interviews, to report all jobs since their last interview. Respondents who were under age 14 at the first interview began to be asked about their work histories at subsequent interviews after they turned 14, including reporting on jobs that began before they turned 14. At each interview, respondents report on both fulltime and part-time work, and a specific question asks them to report how many hours per week they worked at each job. They are asked to report start and end dates of each job, as well as details about the employer and their activities in the job. From among the non-Hispanic White, non-Hispanic Black, and Hispanic women of any race who were born in the U.S. between 1980 and 1984, we lose to item non-response 30 cases in the comparison with the SIPP, which represents less than 1% of the sample, and 197 cases in the comparison with the NSFG, which represents 6.3% of the sample. In the comparison with Add Health, from among the non-Hispanic White, non-Hispanic Black, and Hispanic women of any race who were born in the U.S. between 1980 and 1982, we lose to item non-response 115 cases, which represents 6.7% of the sample.

Sample Restrictions and Data Matching

Our population of interest is women born in the U.S. between 1980 and 1984 who are non-Hispanic White, non-Hispanic Black, and Hispanic of any race. For brevity, we will refer to these three groups below as White, Black, and Hispanic, respectively. We include in our study only women born in the U.S. because the foreign-born population sampled in 1994 for Add Health and 1997 for the NLSY97 differs substantially enough from that sampled in the mid to late 2000s for the NSFG and the SIPP that the difference

in reporting between these groups would reflect population difference rather than reporting inaccuracies. We also limit our study to include only White, Black and Hispanic women because of the relatively small numbers of women of other race/ethnic categories in our four surveys. We examine 1980-1984 birth cohorts in the NSFG and SIPP because adequate numbers of women born in these years can be found in both these two surveys and the NLSY97. We examine Add Health respondents born in 1980-1982 only, and compare them to NLSY97 women born in those same years, because no women born in 1984 and only very few women born in 1983 are present in Add Health. Women born in 1980 to 1984 were aged 18 to 22 in 2002; those born in 1980 to 1982 were aged 20 to 22. Between 2008 and 2010, women born in 1980 to 1984 ranged in age from 24 to 30; those born in 1980 to 1982 ranged in age from 26 to 30.

To create the NLSY97 sample for comparison to the SIPP and NSFG on the measure of whether a first substantial job was held before 2002, we include NLSY97 respondents who were interviewed every year, with no attrition or skipped years, through either a 2003-wave interview or a 2002-wave interview that took place during or after December 2002. To create the NLSY97 sample for comparison to Add Health on the measure of whether a first substantial jobs was held by the respondent's age at the end of 2002, we include NLSY97 respondents who were interviewed every year, with no attrition or skipped years, through either a 2004-wave interview or a 2003-wave interview that took place during or after December 2003. In excluding respondents who were not interviewed continuously through the end of 2002, we lose to attrition 679 cases from our group of interest, which represents 21.6% of the sample of White, Black and Hispanic women born in the U.S. 1980-1984. In excluding respondents who were not

interviewed continuously through the end of 2003, we lose 819 cases from our group of interest, which represents 21.4% of the sample of White, Black and Hispanic women born in the U.S. 1980-1982.

When the outcome variable is the respondent's age at her first reported substantial employment, we observe NLSY97 respondents until the last relevant interview date of the comparison survey. For the SIPP comparison, we include NLSY97 respondents who were interviewed continuously at every wave up through an interview covering December 2008, including both 2008 and 2009 interviews. For the NSFG comparison, we include NLSY97 respondents who were interviewed continuously at every wave up through an interview covering June 2010, including 2010 interviews only. For the Add Health comparison, we include NLSY97 respondents who were interviewed continuously at every wave up through an interview covering February 2009, including both 2009 and 2010 interviews. In excluding respondents not interviewed continuously through December 2008 in the SIPP comparison, we lose to attrition an additional 523 cases, 17.1% of those with a first job in the SIPP definition who were interviewed through the end of 2002. In excluding respondents not interviewed continuously through June 2010 in the NSFG comparison, we lose to attrition an additional 526 cases, 18.3% of those with a first employment spell in the NSFG definition who were interviewed through the end of 2002. In excluding respondents not interviewed continuously through February 2009 in the Add Health comparison, we lose to attrition an additional 406 cases, 14.6% of those with a first job in the Add Health definition who were interviewed through the end of 2003.

For our use of the NLSY97 to evaluate the SIPP, we designate as the "first substantial job" the chronologically earliest-starting job reported by the respondent as lasting at least six months. For our evaluation of the NSFG, we identify NLSY97 respondents' first period of fulltime employment lasting six months or longer by counting consecutive months in which the respondent held a fulltime job (but not necessarily the same job across the six months). For our evaluation of Add Health, we identify the chronologically-earliest fulltime job reported that did not both start and end during summer months of the same year, and that did not completely overlap with either enrollment in secondary school or fulltime enrollment in college or graduate school; we place no restrictions on the duration of this job. Thus for comparison with the NSFG 2006-10 and Add Health, we limit jobs reported to fulltime jobs only, and for comparison with the SIPP we include both fulltime and part-time jobs.

Analyses

We examine two outcome variables. Our first outcome variable is whether or not a woman had a first substantial job or employment experience by the end of calendar year 2002 in the NSFG and SIPP, and at or before the respondent's age at the end of calendar year 2002 for Add Health (ages 20-22). We choose 2002 as a cutoff point both for practical reasons—the year 2002 is the latest full year reported on by members of the 2004 SIPP panel—and also because it serves as a meaningful marker of "early employment" for all five birth cohorts.

Our second outcome variable is the respondent's age at the beginning of her first reported substantial employment, among those respondents who have held a job by their

retrospective interviews in 2008-2010. We choose this measure because it is an intuitive indication specifically of the *timing* of first substantial employment. We define age at first substantial employment as follows. In the SIPP/NLSY97 comparison, we subtract the respondent's year of birth from her stated year of first job. In the NSFG/NLSY97 comparison, we take the respondent's age in the starting month of her stated first six month fulltime employment spell. Add Health respondents were directly asked the age at which their first substantial employment began; to match this measure in the NLSY, we take the respondent's age in the starting month of the comparably-defined first substantial employment period.

We generate both bivariate and multivariate analyses of the accuracy of first employment reporting in retrospective versus panel reports, with an emphasis on evaluating the effects on reporting accuracy of recall duration, biographical anchoring, job salience, and employment history. In the bivariate analyses, we first compare the overall proportions of NLSY97 respondents who have had first substantial employment by 2002 to the comparable proportions from the SIPP, NSFG and Add Health. We make the same comparison with respect to respondents' age at first job for those women who had a first job by 2008-2010. These bivariate analyses allow us to draw conclusions about the effect on reporting accuracy of recall duration, with retrospective reports representing longer recall duration than NLSY97 reports.

In the Add Health comparison only, we can also include direct measures of the complexity and salience of an individual's employment history. We compare respondents from the NLSY97 and Add Health on measures of the length of their first reported fulltime job, and the number of jobs of at least 10 hours per week lasting 9

weeks they report having between 2001 and February 2009. The length of the first reported fulltime job is intended as a measure of the effect of job salience on reporting accuracy. If retrospective Add Health reports are skewed more toward reporting longer jobs overall than NLSY97 reports, this likely indicates that longer jobs are being overreported as first jobs because of their greater salience. The number of jobs reported as taking place from 2001 to 2009 is intended as a measure of the effect of employment history complexity on retrospective reporting. If retrospective Add Health reports are skewed toward reporting fewer jobs than NLSY97 reports, this likely indicates that Add Health respondents with more complex job histories have forgotten some of their jobs, and hence underreport their job totals.

To measure employment history salience and complexity in the SIPP and NSFG comparisons, we rely on aggregate differences in job histories by sociodemographic group. We use the NLSY97 to descriptively compare the complexity and salience of employment histories by single-year birth cohort, race/ethnicity, mother's education, and family-formation by 2002. We identify complexity and salience by proportions with two or more jobs of any type in a given year, two or more part-time jobs in a given year and any part-time jobs in a given year, and whether the respondent's first job was fulltime or part-time. We interpret a higher number of jobs in a given year as indicating higher complexity, and we interpret fulltime jobs as being more salient than part-time jobs. We use these findings about different levels of employment salience and complexity among different groups to make inferences about how varying levels of salience and complexity may lead women of different socio-demographic groups to report more or less accurately their first substantial employment.

In the multivariate component of our analysis, we separately pool NLSY97 and NSFG data, NLSY97 and SIPP data, and NLSY97 and Add Health data, and conduct two regression analyses. The first regression analysis is a logistic regression in which the outcome variable is whether the respondent attained first substantial employment by 2002, when aged 18-22. We include both women who have and women who have not reported having a substantial job by 2002. In each pooled sample, we test for differences in the retrospectively-reported first employment outcome measures relative to those same measures derived from the NLSY97 panel reports. We include as a covariate a variable denoting whether the respondent is drawn from the relevant survey with retrospective reporting (NSFG, SIPP, or Add Health) versus from the NLSY97. We interact this "retrospective survey" variable with our socio-demographic covariates, which include single-year birth cohort, race/ethnicity, whether a woman has ever given birth or ever married by the end of calendar year 2002 (in the SIPP and NSFG) and whether she has ever given birth or ever married at or before the age she attained in December 2002 (in Add Health). In regressions contrasting the NSFG versus NLSY97, and Add Health versus NLSY97, we also include mother's educational attainment as a covariate. (No comparable mother's-education variable is available in the SIPP.) We test our hypotheses about recall accuracy in retrospective reporting of first employment based on the "retrospective survey" main effect and the interactions of "retrospective survey" with other covariates. In this step in the analysis, the emphasis is on assessing whether retrospectively reporting women are more or less likely to report *having had* a first substantial job by 2002, taking into account the fact that captured in this outcome variable are both some women who have been employed but may forget early jobs, as

well as other women who may not have had first substantial employment during this period, or at all.

We use the covariates representing whether a respondent has ever given birth or married by 2002 as measures of biographical anchoring. That is, if women who have given birth and those who have ever married more accurately report the timing of their first substantial employment, we infer that the dates of a child's birth or a marriage may serve as biographical cues for accurate reporting about employment timing. In this first regression analysis, our measurement of employment salience and complexity is indirect, through our inclusion of sociodemographic covariates. We do not include direct measures of employment salience and complexity in this analysis because such measures of the overall patterns of fulltime and part-time work in the reporting period would be too highly correlated with the outcome variable of having or not having a job—i.e. employment salience and complexity would exist only for women who had ever had a job.

Our second regression analysis is a linear regression in which the outcome variable is the respondent's age at her first reported substantial employment. We limit the sample to women who reported having a first substantial job at any time by 2008-2010. This includes respondents to the SIPP 2008 panel, NSFG respondents interviewed between 2008 and 2010, Add Health respondents interviewed at Wave 4, and samples of NLSY97 respondents matched to the comparison survey interview schedule as described above. The emphasis here is on evaluating the accuracy of women's reporting about *when* their first substantial employment occurred. We include the same sociodemographic covariates as in the logistic regression of first job or employment by

2002. In the Add Health/NLSY97 comparison of age at first job at fulltime employment, we also include as covariates the length of the job that the respondent says was her first fulltime job, and the number of jobs the respondent reported having had of at least 10 hours per week and lasting at least nine weeks between 2001 and the survey date. (Comparable measures are not available in the SIPP or NSFG.) Here, the length of the job that the respondent says is her first is intended as a measure of the salience of the reported first job, with longer jobs interpreted as being more salient. Theory suggests that respondents give greater emphasis in their reporting to the occurrence of more-salient jobs versus less-salient jobs. If longer jobs are more salient, then Add Health respondents should be more likely to report longer jobs as their first jobs, forgetting shorter jobs that may have come earlier. If reporting more-salient jobs as first jobs means forgetting earlier, less-salient jobs, then Add Health respondents who report longer jobs as their first jobs will report their age at first substantial employment as inaccurately high, compared with the more-accurate NLSY97. The number of jobs held is intended as a measure of the complexity of the respondent's job history, with more reported jobs indicating greater complexity. If Add Health respondents with relatively more-complex employment histories are more likely to report their first jobs as happening later than NLSY97 respondents with comparable employment history complexity, then we can infer that these Add Health women may be forgetting their early jobs. It is worth noting, however, that this measure of employment complexity is imperfect as it begins only in 2001, and may or may not cover the same period when a respondent's first substantial employment occurred.

In both sets of regression models, we use the normalized sample weights of the two surveys (SIPP and NLSY97, NSFG and NLSY97, or Add Health and NLSY97) to account for differences in the sample designs and oversampling plans over and above those included in the regressor variables.[1]

Independent Variables

The covariates we include in our two regression models represent sociodemographic characteristics that at the same time both meaningfully affect the actual timing of women's entry into first substantial employment, and may also play a role in affecting reporting recall about first employment through group-level aggregate employment history salience and complexity, duration of recall, and biographical anchoring.

The respondent's year of birth affects her probability of being employed before 2002, with older women experiencing more exposure to potential employment. We also use the respondent's birth year as one way to operationalize duration of recall. (See more details on this below.) We include race/ethnicity and mother's educational attainment because group-level differences in labor market experiences among different race/ethnic groups and by socioeconomic status may affect whether and when women engage in first substantial employment. Group-level race/ethnic and socioeconomic differences in job history salience and complexity may also affect the accuracy of women's reporting on first employment. We treat family-formation status as bearing directly on the probability of employment itself because marriage, partnership, and children can all either hinder

[1] Unweighted models are overall very similar to weighted models in terms of direction of effects, with some variations in magnitude and statistical significance of effects. In general, weighting increases both the magnitude and statistical significance of effects.

employment or promote it, depending on individuals' particular circumstances. We also treat marriage and childbirth as biographical anchors for the timing of first substantial employment

We offer two alternative perspectives about how the patterns of employment salience and complexity may differ between more- versus less-advantaged socioeconomic and race/ethnic groups, and between women who engaged in early family-formation versus those who did not. Since the literature on socioeconomic discrepancies in U.S. workers' labor market experience suggests that low-wage workers are more likely to engage in nonstandard work schedules, working at multiple part-time jobs and during nonstandard hours (Presser and Cox 1997), respondents with lower socioeconomic status might be more likely to display complex employment histories more than respondents with higher socioeconomic status and lesser job complexity. An alternative possibility is that, because more-advantaged women face fewer barriers to entering and finishing post-secondary education (McLanahan 2004), more-advantaged women might be more likely to delay first substantial employment with the goal of beginning work after completing college or graduate school. As a result, they might display a pattern of early employment with more part-time and short-lived jobs (Alon, Donohoe and Tienda 2005).

Women who engaged in early family-formation might potentially have higher employment complexity and lower employment salience than those who did not, for two reasons. First, early family-formation might interfere with steady and fulltime employment. Second, this group of women might be overall less-advantaged than women who postpone childbearing and marriage, and have had poorer labor market

prospects prior to family-formation (Edin and Kefalas 2005). Alternatively, women who engaged in early family-formation behavior might do so as part of an overall "accelerated adulthood" pattern of relatively early engagement in adult life course behaviors (Vuolo, Mortimer and Staff 2013). Thus married women and women with children might have more steady and fulltime employment and hence lower employment complexity and higher employment salience.

Hypotheses

Recall Duration

We evaluate differences in reporting accuracy according to the amount of time that has elapsed since the respondent's first employment ("recall duration") in two ways. First, we compare responses to the 2008 and 2004 panels of the retrospective SIPP questions to one another. Second, treating the NLSY97 as the more-accurate standard, we compare the retrospective SIPP, NSFG and Add Health responses to the NLSY97 responses. We hypothesize that reporting on first employment from the 2008 panel of the SIPP will be less accurate than reporting from the 2004 panel, and that reporting in both panels of the SIPP, the NSFG and Add Health will be less accurate than reporting in the NLSY97. We additionally use the birth year of the respondent to measure differences in recall duration, since for earlier birth cohorts, more time will have elapsed on average between the retrospective interview and the first-employment outcome they are reporting on. We hypothesize that the earlier cohorts' reporting on first employment will be less accurate than that of younger respondents.

Salience and Complexity

We make the following hypotheses about the effects of employment salience and complexity for the portion of our analysis in which we indirectly draw inferences about respondents' employment salience and complexity based on race/ethnicity and SES. We hypothesize that because of the greater amount of respondents' weekly time that they take up, fulltime jobs will be more salient than part-time jobs and hence easier for respondents to remember, such that respondents with fulltime jobs will be less likely to underreport their first jobs. We hypothesize that job histories that include part-time work and multiple jobs within a given year will present more complexity, and be harder for respondents to remember, such that respondents with more employment history complexity will be more likely to underreport their first jobs. By extension, we also hypothesize that whichever groups of women have the highest employment complexity and the lowest employment salience will exhibit the most underreporting of first employment.

For the portion of our analysis in which we measure salience and complexity more directly, we hypothesize that longer jobs will be more salient, and hence less likely to be forgotten, possibly leading to underreporting of shorter first jobs in favor of later, more salient jobs. That is, when a longer job is a first job, it will make reporting about that first job more accurate. However, when a longer job is not a first job, it will make reporting about the respondent's actual first job (which is shorter, and less salient) less accurate. We hypothesize that employment histories featuring higher numbers of jobs held will increase the complexity of the recall task, and hence may lead to forgetting of early jobs and over-reporting of later jobs as "first" jobs.

Sociodemographic Characteristics

The exposure period for first employment before 2002 is longest for earlier cohorts because they reach ages at which it is legally permissible and socially acceptable to work in earlier years than later cohorts. Because of this longer exposure period, we expect that older cohorts of women will have had more jobs overall, including fulltime, part-time and multiple overlapping jobs, and thus hypothesize that their reporting on first employment will thus be less accurate than that of early cohorts.

For each of the other sociodemographic dimensions of our model, we offer two competing hypotheses about the relationship of membership in a particular group to employment salience and complexity. Each set of competing hypotheses hinges on different projections about how the labor market success that accrues disproportionately to the well-educated and those who delay family-formation may differentiate women's early career patterns. Because race/ethnicity, socioeconomic status, and likelihood of early family-formation are all closely tied both to one another and to the likelihood of attaining postsecondary education, our hypotheses about the relationship between reporting accuracy and membership in these groups are also interconnected.

On the one hand, because of labor market dynamics that give those with a bachelor's degree easier access to stable, well-paying jobs (Kalleberg 2011), we speculate that respondents from more-advantaged socioeconomic backgrounds and those who are members of overall more-advantaged race/ethnicities may be less likely to display more complex employment histories involving fewer, shorter, and more part-time jobs than less-advantaged groups (Presser and Cox 1997). Based on this scenario, we

hypothesize that White women, and those whose mothers have more education will underreport first jobs less than less-advantaged respondents with lesser job complexity. In this scenario, the retrospective reports of White women and those whose mothers have a college education will be more likely to reflect first substantial employment by 2002, and less likely to show older ages at first substantial employment versus the retrospective reports of Black and Hispanic women and women whose mothers have lower educational attainment. On the other hand, because women from more-advantaged socioeconomic backgrounds and race/ethnic groups are more likely to attend college (Schwartz and Mare 2005), they may delay their first significant and fulltime employment until schooling is complete, which may result in their having on average more part-time jobs of short-duration (e.g. summer jobs and internships), and fewer full-time jobs and jobs of longer duration (Alon and Tienda 2005). Based on this alternative scenario, we hypothesize that White women and those from more socioeconomically advantaged backgrounds will be more likely to underreport their early employment. In this scenario, the retrospective reports of White women and those whose mothers have a bachelor's degree or more will be less likely to reflect substantial employment by 2002 and show older ages at first substantial employment versus the reports of Black and Hispanic women, and women with less-educated mothers.

We also offer two sets of competing hypotheses with respect to the association between early family-formation and reporting accuracy based on the employment salience and complexity. Because of the association between early family-formation and disadvantaged socioeconomic status, we speculate that women who engage in early family-formation behavior may be less likely to be employed overall and may have more

complex employment histories than women who postpone family formation. In addition, because of its affective importance, family life may render employment less emotionally salient than paid work, which may lead married women and women with children to underreport their employment. That is, women with spouses and children may "care" less about work than never-married and childless women. Based on this scenario, we hypothesize that the retrospective reports of ever-married women and women with children will be less likely to include first substantial employment by 2002, and more likely to show older ages at first substantial employment.

Alternatively, we speculate that women who engage in early family-formation may be more likely to have steady early employment whether because of a need to support family members, or because their early family-formation is part of an overall "accelerated adulthood" pattern of early engagement in adult life course behaviors (Vuolo, Mortimer and Staff 2013), of which early substantial employment and early family-formation are both components. In addition, among women who gave birth or married prior to their first employment, family responsibilities—in particular the need to arrange for child care, and the need to financially support family members—may render employment more practically salient because of the added work-life pressures these responsibilities entail. That is, women with spouses and children may remember their jobs more clearly because of the conflicts they create with family life (Bianchi and Milkie 2010; Milkie et al 2010). Furthermore, dates of marriage and childbirth may serve as biographical anchors that improve the accuracy of retrospective reports on first employment timing. Based on this scenario, we hypothesize that ever-married women

and women with children will be less likely to underreport first substantial employment by 2002, and more likely to report younger ages at first substantial employment.

Results

Table 3.1 shows the composition of the analytic samples by year of birth, race/ethnicity, and family-formation status for all three surveys, and mother's education for the NLSY97, NSFG and Add Health. Table 1 also compares the length of the first reported fulltime job, and the reported number of jobs of 10 hours or per week of 9 or more weeks in duration, between Add Health and the NLSY97. Because Add Health includes no respondents born in 1984 and only very few born in 1983, we limit the Add Health sample to women born between 1980 and 1982, and show comparisons with NLSY respondent from these same birth cohorts. The NSFG and SIPP 2004 and 2008 panels do not differ statistically significantly from the NLSY97 on distributions of women by birth year within each sub-sample. In addition, the NSFG and Add Health do not differ statistically significantly from the NLSY97 with respect to race/ethnicity and family-formation behavior. However, women in the NSFG and Add Health have overall somewhat more highly-educated mothers than do women in the NLSY97. Women in the 2004 and 2008 panels of the SIPP have a statistically significantly different race/ethnic distribution than those in the NLSY97, with a somewhat higher proportion of Hispanics and lower proportion of African-Americans in the SIPP panels. This may be due to the changed composition of the U.S.-born population between 1997 and the mid-late 2000s, or it may reflect differences in sampling procedures between the two surveys. Women

from the SIPP 2004 and 2008 panels are also more likely to have ever married by the end of calendar year 2002 than are women in the NLSY97.

Consistent with our hypothesis that longer jobs will be more salient and thus be more likely to be reported retrospectively as being first jobs, two thirds of first fulltime jobs reported retrospectively in the Add Health were of at least 6 months duration, whereas just under half of first fulltime jobs in the NLSY97 were of at least 6 months duration.

Also consistent with our hypothesis that longer recall duration induces forgetting of employment history details, substantially higher percentages of Add Health than NLSY97 respondents reported having had two or fewer jobs between 2001 and 2009 (a third versus a fifth), whereas substantially lower percentages of Add Health respondents reported 6-9 jobs (11% versus 29%).

[TABLE 3.1 ABOUT HERE]

Table 3.2 compares retrospective reporting on the outcome variables to NLSY97 panel reports of those variables. It compares percentages with any job of six months or more before 2002 between the SIPP 2004 and 2008 panels and the NLSY97. It compares percentages with a first six-month period of full-time employment between the NSFG and the NLSY97. It compares percentages who ever worked fulltime while not primarily a student, not including summer jobs, between Add Health and the NLSY97. Table 2 also compares the distribution of respondents' ages at the start of first substantial

employment between the NLSY97 and the three comparison surveys, according to the three different definitions of "substantial employment."

[TABLE 3.2 ABOUT HERE]

Consistent with our hypothesis that longer recall duration induces underreporting, women in all three retrospective-reporting surveys were less likely to have reported having a first substantial job or employment by the end of calendar year 2002 than women in the NLSY97 (see Panel A). bbThe differences, however, are in all cases quite small. Women in the SIPP 2004 and 2008 panels were respectively 2.9 and 4.9 percentage points less likely to have reported a having had a first job of six months or more by 2002 than women in the NLSY97. Women in the NSFG reported were 3.5 percentage points less likely to have reported a fulltime employment spells of six months or more by 2002 than women in the NLSY97. Women in the Add Health were 2.9 percentage points less likely to have reported a first fulltime, non-summer jobs undertaken while not primarily a student between than women in the NLSY97, but this difference is significant only at the .10 level.

Also consistent with our hypothesis that longer recall duration induces forgetting of earlier jobs, retrospective reports from the SIPP, NSFG and Add Health exhibit higher proportions of respondents reporting older ages at their first substantial employment than in the NLSY97, and on this metric the differences from the NLSY97 are greater (see Panel B). Between 8 and 9 percentage points fewer SIPP and NSFG women reported retrospectively that their first substantial employment occurred when they were aged 18

to 21, and 5 to 6 percentages points more reported that it began when they were aged 22 to 24, compared to in the NLSY97. In the Add Health, 9 percentage points fewer women reported a first substantial job at age 17 or younger than in the NLSY97 (12.7% versus 21.4%).

Before comparing the SIPP and NSFG retrospective reports of first stable job or employment to the NSLY97 in a multivariate model, we use the NLSY97's panel-reporting detail to compare the complexity and salience of employment histories by our four main socio-demographic dimensions: year of birth, race/ethnicity, family-formation (ever married and any children born by 2002) and mother's education. See Table 3.3 for these results. We interpret percentages of years with no job and with two or more jobs as indicating employment histories with lower and higher complexity, respectively. We interpret higher percentages of employed months in which the only job held was a part-time job as indicating lower job salience, whereas higher percentages of women for whom their first job of six months was fulltime represent higher job salience. We interpret higher percentages of employed months in which two or more part-time jobs were held as indicating both higher employment-history complexity and lower salience.

[TABLE 3.3 ABOUT HERE]

Among women from the 1984 birth cohort (who were therefore younger at the end of calendar year 2002) 25.6% report having experienced a higher percentage of years with no jobs compared with 17.7% of women from the 1980 birth cohort. Among women from the 1983 and 1984 birth cohorts, 32.1 and 40.7% respectively experienced

years with two or more jobs, as compared with 41.5% of women born in 1980. Of years when employed, higher percentages of women from the 1982, 1983 and 1984 cohorts had months in which they held only a part-time job (65.6%, 70.7%, and 76.8%, respectively) relative to 64% in the 1980 cohort. For those who report a job of 6 months or more, women from the 1982, 1983 and 1984 birth cohorts were less likely than women born in 1980 to have had a first job that was fulltime, with the largest difference between 21.1% of women born in 1984, as compared with 33.6% of women born in 1980. These statistics likely reflect the later-born women's shorter period of exposure to holding any job, more than one job, and a fulltime job.

The breakdown of employment salience and complexity along the four other socio-demographic dimensions is consistent with a scenario in which more-advantaged women delay significant first employment in favor of schooling whereas less-advantaged women begin their significant employment sooner. White women display higher employment complexity and lower employment salience than Black and Hispanic women. Among White women, 44.8% had a year with two or more jobs, compared with roughly 32% among both Black and Hispanic women. Among White women, 9.9% had months in which two or more part-time jobs were held, as compared with roughly 5% for both Black and Hispanic women. Among White women, 31.9% had a first job that was fulltime, compared with 39.2% and 38.1% for Black and Hispanic women, respectively. Women whose mothers had a bachelor's degree also display the highest amount of employment complexity and the lowest salience relative to women whose mother have less education. Among women whose mothers had a bachelor's degree, 73.1 had years with two employed months with only a part-time job, as compared with 56.6% of women

whose mothers had less than high school. Among women whose mothers had a bachelor's degree, 12.1% had months in which two or more part-time jobs were held, as compared with 4.6% of women whose mothers had less than high school. Among women whose mothers had a bachelor's degree, 23.9% of women had a first job that was fulltime, as compared with 41% of women whose mothers had less than high school.

The employment salience and complexity of women who engage in early family-formation follows a similar pattern to that of women who are relatively disadvantaged racially and socioeconomically, and in turn have employment histories with high salience and low complexity. Among women who had ever given birth by the end of 2002, 35.7% had years with two or more jobs, as compared with 42.9% of women who had never given birth. Among women who had ever given birth by the end of 2002, 3.8% had had employed months in which two or more part-time jobs were held, compared with 9.9% among women who had not given birth. Among women who had ever given birth by the end of 2002, 46.8% had a first job that was fulltime, as compared with 30.7% of women who had never given birth. Among women who had ever married by the end of 2002, 4.8% had had employed months in which two or more part-time jobs were held, compared with 9.2% among women who had not married. Among women who had ever married by the end of 2002, 49.5% had a first job that was fulltime, compared with 31.5% among women who had not married. These indicate higher job salience for ever-married than never-married women.

In summary, women from later birth cohorts (and so with fewer years of exposure to early-adult employment), White women, and daughters of mothers with a bachelor's degree have employment histories exhibiting low salience and high complexity. These

are the women for whom reporting of first substantial employment can be expected to be on average poorer. Black and Hispanic women, women with less educated mothers, women who have ever married, and women with children have employment histories with high salience and low complexity. These are the women for whom reporting of first substantial employment can be expected to be on average better.

We report the results of tests of all our hypotheses below, using the sign and statistical significance of coefficients on the retrospective-survey indicator variable and on the interactions of retrospective-survey with other covariates to test these hypotheses, in regressions pooling data between each of the three retrospective-report surveys (SIPP, NSFG, and Add Health) and the panel-report survey (NLSY97). We also conducted bivariate statistical tests of the regression outcome variable across each predictor variable, comparing each retrospective survey to the NLSY97. The results of these bivariate tests are reported in Appendix Tables A, B, and C, but are not discussed here.

Table 3.4 shows the results of logistic regressions estimating the log odds of reporting first substantial employment before the end of calendar year 2002, or age at the end of calendar year 2002, in the SIPP relative to the NLSY97, in the NSFG relative to the NLSY97, and in Add Health relative to the NLSY97. Again, in the comparison between the SIPP and the NLSY97, the dependent variable is operationalized as a first job, either fulltime or part-time, of six months or more. In the comparison between the NSFG and the NLSY97, the dependent variable is operationalized as a first fulltime employment spell of six months or more (but which may contain only one or multiple jobs). In the comparison between Add Health and the NLSY97, the dependent variable is

operationalized as a first fulltime job that is not a summer job and that is not undertaken while a fulltime student.

In these regressions, the main-effect coefficient for each of the socio-demographic variables represents the reporting of those groups in the reference-category survey, the NLSY97. The coefficients of interest for testing hypotheses are those that indicate differences in the outcome variable between the retrospective survey (NSFG, SIPP, or Add Health) and the NLSY97: these coefficients are the "retrospective survey" main effect and the "retrospective survey" interaction coefficients. A statistically-significant negative coefficient for the retrospective survey main effect indicates underreporting of first substantial employment by 2002 among respondents in the retrospective survey who are members of the reference category groups of the socio-demographic variables. The interactions between "retrospective survey" and each sociodemographic group describe how the gap between reporting of first substantial employment in the NSLY97 versus in the retrospective survey (NSFG, SIPP or Add Health) expands (reporting gets worse) or contracts (reporting gets better) according to the value on the socio-demographic variable. A positive interaction coefficient indicates less underreporting among members of a particular sociodemographic group in the retrospective survey compared to retrospective reporting among members of the reference-category of that variable. A negative interaction coefficient indicates greater underreporting among members of a particular sociodemographic group in the retrospective survey as compared to retrospective reporting among members of the reference-category value of that variable.

[TABLE 3.4 ABOUT HERE]

In the SIPP/NLSY97 comparison, consistent with our recall-duration hypothesis, women in the 2004 and 2008 SIPP are statistically significantly less likely to report a first six-month job by 2002 than are women in the NLSY, and women in the 2008 SIPP panel are less likely to report such a job than are women in the 2004 SIPP panel. In a version of the model in which we set the reference survey category to be the 2004 SIPP panel, SIPP 2004 respondents are .58 more likely to report a first job by 2002 than SIPP 2008 respondents with statistical significance of p=.009 (results not shown). Consistent with our recall-duration hypothesis, there is a statistically significant difference in reporting between women who were older and younger at their retrospective interviews, although it is limited to a difference between the reporting of women from the 1984 and 1980 birth cohorts. Although recall duration since a first six-month job is likely to be longer for the earlier birth cohorts, earlier birth cohorts had higher employment salience, as their first jobs were more likely to have been fulltime. These two factors may have been offsetting. Consistent with our hypothesis that women with higher employment salience and lower complexity would be less likely to retrospectively underreport first substantial employment by 2002, Black women and women who had ever given birth by the end of calendar year 2002—two groups with among the highest employment salience and lower complexity—are more likely than White women and women who had never given birth by the end of calendar year 2002 to report a first six-month job in the SIPP relative to women in the NLSY97. This result is also consistent with our hypothesis that women with biographical anchoring details—in this case the birth of one or more children—would report on their employment more accurately. In contrast, Hispanic women's

reporting did not differ significantly from White women's, despite the higher employment salience and lower complexity of Hispanic women's employment histories. Moreover, being ever-married did not significantly reduce underreporting, despite the higher salience in this group's employment histories, and the anchoring detail of a marriage date.

In the NSFG/NLSY97 comparison, the direction and significance of the birth year coefficients are consistent with our recall-duration hypothesis, such that women from earlier birth cohorts in the NSFG are statistically significantly less likely than women from later birth cohorts in the NSFG to report a first six-month fulltime employment spell, relative to women in the NLSY97. This suggests more retrospective underreporting of first employment among women from earlier birth cohorts. Consistent with our hypothesis that women with higher employment salience and lower complexity would be less likely to retrospectively underreport their first employment, Hispanic women and Black women in the NSFG are more likely than White women in the NSFG to report a first six-month fulltime employment spell in the NSFG, relative to women in the NLSY97. This suggests more retrospective reporting error among White women, who have the highest employment complexity and lowest salience of the three race/ethnic groups in our model. However, no statistically-significant difference is found by mother's educational attainment or family-formation status as of the end of 2002. Although our anchoring hypothesis also predicted better reporting by those with family-formation events, neither the birth nor marriage interaction coefficient is statistically significant.

In the Add Health/NLSY97 comparison, consistent with our salience and complexity hypothesis, Hispanic Add Health respondents are more likely than White Add Health respondents to report first substantial employment by 2002. Consistent with the salience and complexity, and anchoring hypotheses, women who had a birth by 2002 are more likely to report first stable employment by 2002 than women with a birth in the NLSY97. However, there is no statistically significant overall difference between how likely women from Add Health versus those from the NLSY97 are to report first substantial employment. There is also no statistically significant difference in the reporting of women from earlier versus later birth cohorts, nor is there any difference in reporting accuracy by mother's education. In addition, Add Health women who had ever married by 2002 were less likely to report a first stable job than women who had ever married by 2002 in the NLSY97. Although this result does not offer support for our anchoring hypothesis, it is consistent with an interpretation in which some women who marry early are less-invested in paid work than women who postpone marriage.

Table 3.5 shows the results of our linear regression model of age at the start of first reported substantial employment. Again, first substantial employment is defined as a first fulltime or part-time job of six months or more in the SIPP 2008 comparison, a first period of fulltime employment of six months or more in the NSFG comparison, and a first fulltime work spell of any length undertaken while not a student and not including summer jobs in the Add Health comparison. Here, positive coefficients represent increases to the respondent's reported age at first job. A statistically significant positive coefficient for "retrospective survey" main effects indicates that retrospective reports in that survey are less accurate, due to underreporting of earlier jobs, and overreporting of

later jobs as first jobs. A statistically significant negative interaction coefficient indicates that retrospective reports from the group to which the coefficient refers are more accurate—i.e. they engage in less underreporting of earlier jobs and less overreporting of later jobs—than retrospective-survey respondents who are members of the reference category.

[TABLE 3.5 ABOUT HERE]

In the NLSY97/SIPP 2008 comparison, consistent with our duration of recall hypothesis, SIPP 2008 respondents are statistically significantly more likely to report their first substantial employment as occurring at older ages than NLSY97 respondents, by about half a year. There is no statistically significant difference, however, in reporting accuracy among earlier and later birth cohorts of women. Consistent with our salience and complexity and anchoring hypotheses, SIPP respondents who had a birth by 2002 are statistically significantly more likely to report younger (i.e. more accurate) ages at their first employment, that are younger by nearly a year, relative to those without births, as compared with respondents with and without births by 2002 in the NLSY97. However, there is no statistically significant difference in reporting accuracy between women who did and did not marry by 2002, nor is there a statistically significant difference in reporting accuracy by race/ethnicity.

In the NSFG/NLSY97 comparison, consistent with our duration of recall hypothesis, NSFG respondents are more likely to report older ages at their first substantial employment, by about half a year, although these results are statistically

significant only at the .10 level. Consistent with our salience and complexity hypothesis, Hispanic NSFG respondents are more likely to report ages at first substantial employment that are younger by more than half a year, relative to White NSFG respondents, versus the contrast between Hispanic and White women in the NLSY97. Consistent with both the salience and complexity and anchoring hypotheses, women with a birth by 2002 are more likely to report ages at first substantial employment that are younger by more than half a year, relative to women without a birth by 2002, versus women with and without early births in the NLSY97. However, there is no statistically significant difference in reporting accuracy between earlier and later birth cohorts, between women with differing levels of mother's educational attainment, or between those who did and did not marry by 2002.

In the Add Health/NLSY97 comparison, consistent with our duration of recall hypothesis, Add Health respondents are more likely to report older ages at first substantial employment than NLSY97 respondents, by about half a year. Also consistent with our duration of recall hypotheses, Add Health women who were born in 1982 report statistically significantly younger (i.e. more accurate) ages at first substantial employment than women born in 1980, versus the contrast between NLSY97 1980 and 1982 birth cohorts. Consistent with our indirectly-tested salience and complexity hypotheses, Add Health respondents whose mothers have less than a high school education, or a high school diploma only, report younger ages at first substantial employment by more than half a year relative to Add Health respondents whose mothers have some college or a Bachelor's degree, as compared to NLSY97 respondents. Also consistent with our salience and complexity hypotheses, Hispanic women report younger ages at first

substantial employment than White women, although these results are significant only at the .10 level. Consistent with our directly-tested salience hypothesis, and in contrast with NLSY97 respondents, Add Health women who say their first job was of 3-5 months' duration report those purported first jobs as beginning at ages that are younger by more than half a year, relative to those who report that their first jobs lasted 2 months or less, while Add Health women who say their first jobs lasted 6 months or more report those purported first jobs as beginning at ages that are older by nearly a year and half relative to those who report the shortest first jobs. However, there is no statistically significant difference in reporting accuracy between Black and White Add Health respondents, between women by early family-formation status, or between women who reported having more or fewer jobs between 2001 and 2009.

Although these results directly testing our salience hypothesis are not monotonic in their direction, they are nonetheless consistent with our hypothesis, because theory suggests that more-salient jobs don't necessarily contribute to more accurate overall reporting, so much as they are simply given greater emphasis in respondents' reports. Evidence suggests that jobs of longer duration tend to occur when respondents are older, whereas earlier jobs tend to be shorter jobs. In this particular measure in Add Health, we can only know the length of the job that the respondent *says* was her first, which may or may not be her actual first job. If her first job lasted six months or more, she might be more apt to remember and report accurately the timing of its occurrence. But, for example, if her first two jobs lasted less than two months, and her third job lasted six months or more, she might forget the occurrence of her first two jobs, and report her third, longer job as being her first job.

Our results here suggest that among Add Health respondents who report that relatively short jobs (of less than six months) were their first fulltime jobs, those who report first jobs of 3-5 months' duration remember the timing of their jobs better (reporting them as beginning at younger ages) than those who reported first jobs of less than two months. Hence, respondents with first jobs of 3-5 months retrospectively report their age at the start of these longer short first jobs *more* accurately because of the jobs' greater salience. On the other hand, when Add Health respondents report (*even more* salient) jobs of six months or more as being their first jobs, they are more likely to report those jobs as starting at *older* ages versus Add Health respondents with 0-2 months jobs, in comparison with comparable NLSY97 respondents with 0-2-month and 6-plus-month jobs. This suggests that some of the Add Health respondents who report jobs of six months or more as being their first jobs have in fact forgotten earlier, shorter jobs due to the longer, later jobs' higher salience. Their greater reporting of longer jobs that occurred at older ages indicates that their reporting is less accurate.

Discussion and Conclusions

In this study, we have examined the accuracy of retrospective survey reporting on first substantial employment among young women born in the U.S. between 1980 and 1984 in three major nationally-representative surveys, the SIPP, the NSFG, and Add Health. Our study expands the U.S. literature about survey reporting on employment histories to focus on the accuracy of reporting specifically about employment. Prior studies evaluating retrospective reporting of employment have mainly evaluated

European surveys (Manzoni et al 2010; Manzoni et al 2011; Jurges 2007). The majority of prior U.S. studies on employment history reporting have focused on respondents' reports of *un*employment spells (Mathiowetz and Duncan 1988; Akerlof and Yellen 1985). We contend that reporting on employment may represent a cognitively different reporting task from reporting on unemployment, because employment involves the presence of particular colleagues, work locations and job activities, rather than their absence. Furthermore, in choosing to focus on the reporting of first employment—a key symbolic marker of adult status, source of economic resources and independence, and major determinant of employment to come—we seek to ground this study in a life-course research approach that views a first substantial employment experience as an important marker of women's early-adult career and socioeconomic trajectories. We know of no previous study that looks specifically at the accuracy of retrospective reporting on first employment, despite its importance to life-course research.

Methodologically, we draw conclusions about the accuracy of reporting based on the time that has elapsed between first employment and the date of interview, and the length of the period under review. Because these two constructs are functionally identical in the data we analyze, we combine them for our purposes into what we term "recall duration." Given that longer recall period has been previously found to lead to poorer reporting of both employment and unemployment (Mathiowetz and Duncan 1988; Pierret 2001; Manzoni et al 2010; Manzoni 2012; Jurges 2007), we hypothesized that longer duration since the reported event would result in underreporting of first substantial employment spell. Our results reinforced these previous findings and are consistent with the theoretical expectation that longer recall duration adversely affects accuracy of

reporting. Consistent with our hypothesis that greater time elapsed since first employment would result in less-accurate reporting, we found that women in the SIPP, NSFG and Add Health overall report having had fewer instances of first substantial employment experienced by 2002 (ages 18-22) than women in the NLSY97. This hypothesis is supported in the results of our logistic regression models, in which women in the SIPP and NSFG underreport first substantial employment relative to women in the NLSY, after controlling for differences by year of birth, race/ethnicity, mother's education and early family formation. This hypothesis is also supported in our linear regression model of age at first substantial job, in which SIPP, NSFG and Add Health respondents report older ages at their first job relative to women in the NLSY97. Our recall-duration hypothesis is only weakly supported, however, by our analyses of birth cohort effects on reporting accuracy. In relatively few cases were earlier cohorts' reports less accurate than those of later cohorts. This, however, may be due to the confounding of longer recall duration with higher employment-history salience among women with more years of exposure to potential substantial employment.

We also draw conclusions about the effect of employment-history salience and complexity on the accuracy of respondents' reporting on employment. We hypothesized that jobs with greater *salience* would receive greater emphasis in respondents' reports. This would improve reporting accuracy in some scenarios but worsen it in others, for example when a respondent's true first job was an earlier but lower-salience job. We hypothesized that greater employment *complexity* would worsen reporting (Mathiowetz and Duncan 1988; Pierret 2001). We considered how these hypothesized differences in the accuracy of reporting relate to differences in employment experience by

race/ethnicity and socioeconomic status (represented by mother's education) and among women who engage in early family-formation behavior versus those who do not.

Our hypothesis that groups with more employment complexity and less salience would exhibit worse reporting is in several cases supported by the retrospective-survey interaction coefficients of our regression models. We operationalized group-level measures of aggregate employment salience as the prevalence of first jobs that were fulltime, and employment complexity as the prevalence of multiple and part-time jobs within a given year or month. In our descriptive results, we found that White women and women with college-educated mothers have more complexity and less salience in their early employment histories than Black and Hispanic women and women whose mothers have less education. This is consistent with more-advantaged women delaying their first substantial employment. Consistent with the salience and complexity hypotheses, we found that in retrospective reports in both the SIPP and the NSFG, Black women are less likely than White women to underreport first substantial employment by ages 18-22. In retrospective reports in the NSFG and Add Health, Hispanic women are also less likely than White women to underreport first substantial employment by ages 18-22, and in the NSFG they are less likely to misreport as older their age at first substantial employment. This implies overall less underreporting of first substantial employment among Black and Hispanic women than among White women, consistent with the overall lesser complexity and greater salience of Black and Hispanic women's early employment histories. We found that Add Health women with less-educated mothers were less likely to misreport as older their age at first substantial employment than women with more-educated mothers,

again consistent with our salience hypothesis given that the daughters of less-educated mothers have lower early employment complexity and higher salience.

We found that women who engage in early family-formation (marrying and having children by 2002) are more likely to be employed, more likely to be employed fulltime, and less likely to have multiple jobs than childless and never-married women. That is, their early employment histories have higher salience and lower complexity. We also treat early family-formation behavior as offering respondents anchoring biographical details that may help them better remember the timing of their first employment, aided by its sequencing relative to the well-remembered dates of a marriage or the birth of a child. We mostly found support for the expectation that these salience, complexity and anchoring dimensions would lead to better reporting. Consistent with the lower complexity and higher salience of their employment histories, as well as with the anchoring hypothesis, women with a birth by 2002 in the SIPP and Add Health are less likely than women who had never given birth by 2002 to underreport first stable employment by ages 18-22. We also found that women with births by 2002 in the SIPP and NLSY97 more accurately report their age at first substantial employment than women without early births. Contrary to our hypotheses, however, we found that Add Health respondents who were ever-married by 2002 were more likely to underreport their first stable employment by ages 18-22 than were never-married women.

We also found some support for our hypotheses on the effects of employment complexity and salience in our analysis of the direct measures of individuals' employment histories (available only in the Add Health). In the measure of complexity, we found that retrospective reporters are more likely to forget some of the jobs they held,

reporting less-complex employment histories (fewer jobs) retrospectively in the Add Health than in the annual panel reports in the NLSY97. Consistent with our hypothesis that more-salient jobs would receive greater emphasis in respondents' retrospective reports, we found that retrospective reports are skewed toward listing longer jobs as first jobs. Also consistent with this hypothesis, we found that the timing of short jobs of somewhat longer duration (3-5 months) is reported on more accurately than were the shortest jobs (0-2 months). Add Health respondents who retrospectively report longer jobs (of six months or more) as being their first jobs are more likely to report these jobs as starting at older ages versus respondents with very short jobs, relative to reporting on timing of longer and shorter jobs in panel reports from the NLSY97. This result suggests that respondents who retrospectively report long jobs as first jobs are forgetting earlier, shorter jobs, and hence misreporting their ages at the start of their first substantial employment.

Overall, our results therefore offer some support for previous findings that greater complexity of the topic reported on may result in less-accurate reporting, and that more-salient jobs receive more emphasis in respondents' reports. The greater emphasis on more-salient jobs may in some cases be to the detriment of reporting accuracy, as when earlier, shorter jobs are forgotten in favor of later, longer jobs. Differences in employment-history complexity and salience can explain differences in reporting accuracy across socio-demographic groups (Mathiowetz and Duncan 1988; Pierret 2001). Mathiowetz and Duncan found that greater complexity of the recall task explained the worse recall of unemployment histories of Black respondents and those with less education, among respondents of all working ages. Building on this finding, we showed

among younger respondents that *lower* complexity of the recall task explains the *better* recall of early-employment histories of Black and Hispanic women, and of women whose mothers have lower educational attainment. Our results extend the evidence for the role of employment history complexity and salience specifically to women's retrospective reporting on their first substantial employment, an important life-course variable whose reporting accuracy has not been evaluated in previous studies.

Despite the evidence our analyses show for greater underreporting of first employment with more time elapsed since the event, and among groups with aggregate lower employment salience and higher complexity, our results are nonetheless quite reassuring with respect to the possibility for surveys to capture indicators of first substantial employment with acceptable accuracy in retrospective questions. The magnitudes of difference between the estimates of first substantial employment or job based on retrospective versus annual panel reports are relatively small, both before and after controlling for sociodemographic characteristics and indicators of employment history salience and complexity. Although in our regression results, women with higher early employment history complexity and lower salience (i.e. White women, women with high-SES, and women who do not engage in early family-formation) are more likely to underreport the occurrence of their first employment, or misreport its timing, the magnitude of the difference is once again relatively small. Furthermore, given both the policy importance of early employment for the analysis of welfare and work programs (Pavetti and Acs 2001), and the larger context of socioeconomic inequality in labor market outcomes, it is also reassuring that underreporting in retrospective survey questions is a lesser problem in early adulthood for women from disadvantaged groups

than for those from more-advantaged groups. We thus conclude from our results that race/ethnic, socioeconomic, and early family differences in reporting on first employment present a relatively small problem for survey research, at least among respondents at the young ages that we examine.

APPENDIX A: DATA SOURCES

The Survey of Income and Program Participation (SIPP)

The retrospective questions on employment history are asked of individuals ages 18 and above (to a maximum age of 75). This youngest age of 18 means that data for women with years of birth 1985 and earlier are available in the 2004 SIPP. The questions include the following "first long-term job" questions (U.S. Census Bureau 2009):

Was [ ] the first job or business [fill TEMPNAME] had that lasted 6 straight months or more?

In filling in [ ], the interviewers are asked to *"Count any job or business, either fulltime or part-time enter (N) for never worked 6 straight months at a job or business."*

How old was she when she [STARTEDWRKFIL]?

(Or do you remember the year?)

So she was about [fill AGE] when her first long-term job or business started – is that right?

That would be around [fill MAKEMTHYR]. Is that correct?

I'm sorry. What year was it?

Interviewers are asked to *"Enter start year of the person's first '6-straight month or more' job or business."*

National Survey of Family Growth (NSFG 2006-10)

All respondents are asked specifically about their first fulltime work and, if they have ever worked, about current fulltime or part-time work, but not about any work in

between their first and current jobs. The questionnaire doesn't differentiate between civilian and military employment.

Questions relating to the start of first work are as follows:

Now I'm interested in knowing if you've ever worked fulltime, for 6 months or longer. By fulltime, I mean 35 or more hours a week. If you've ever taken leave from work, such as family leave, vacations, disability leave, strikes, and temporary layoffs, that counts as still working, as long as you were still officially employed. Have you ever worked for pay, fulltime, for six months or longer?

When, in what month and year, did you start your first period of fulltime work that lasted 6 months or longer altogether?

National Longitudinal Study of Adolescent to Adult Health (Add Health)

All respondents are asked at Wave 4 about whether they have ever worked full time at least 35 hours a week at a paying job while they were not primarily a student, and not including summer work. Respondents who answer that they have had a fulltime job are also asked about how many jobs they have had where they worked at least ten hours per week, and that lasted nine weeks or more, how old they were when their first fulltime job began, and how long they worked at their first job. Those still in their first job at the time of the Wave 4 interview are asked the start date of that job. Questions are as follows.

Have you ever worked full time at least 35 hours a week at a paying job while you were not primarily a student? Do not include summer work.

Thinking back over the period from 2001 to the previous year how many total jobs have you had? Include only paying jobs that lasted 9 weeks or more and were at least 10 hours a week.

How old were you when you first began working full time (at least 35 hours a week) at a paying job while you were not primarily a student?

How long did you work at your first full time job?

In what month and year did you begin your (current/most recent) primary job?

National Longitudinal Survey of Youth -1997(NLSY97)

Respondents are not asked specifically about their first job. Respondents over age 14 are asked in the first interview (1997) to report all jobs, and then in subsequent interviews, to report all jobs since last interview. They are asked to report on civilian and military jobs as part of the same portion of the interview, though the survey includes a question to differentiate between the two. Respondents report on both fulltime and part-time work, and a specific question asks them to report how many hours per week they worked at each job.

Respondents report start and end dates of each job, as well as details about the job and their activities in the job, including whether the job was an employer- or self-employment job, a "temp" job, or a private, government, nonprofit or military employer or unpaid work on a family farm, as well as rank, job activities, pay, hours worked per week. Respondents who reported paid internships in the education section of the interview are also prompted to include paid internships in their employment reporting. These questions are too numerous to concisely list here, but can be found in the

"employment" questionnaire sections for each survey year at the Bureau of Labor Statistics' web site: http://www.bls.gov/nls/quex/y97quexcbks.htm.

References

Akerlof, George A. and Janet L. Yellen. 1985. “Unemployment through the Filter of Memory.” *Quarterly Journal of Economics.* 100: 747-773.

Alon, Sigal, Debra Donohoe and Marta Tienda. 2001. “The Effects of Early Work Experience on Young Women’s Labor Force Attachment.” *Social Forces.* 79: 1005-1034.

Alon, Sigal and Yitchak Haberfeld. 2007. “Labor Force Attachment and the Evolving Wage Gap between White, Black and Hispanic Young Women.” *Work and Occupations.*34: 369-398.

Anker, Richard. 1997. "Theories of Occupational Segregation by Sex: An Overview." *International Labor Review.* 136: 315-39.

Becker, Gary S. 1975. *Human Capital.* New York: National Bureau of Economic Research Press.

Bergmann, Barbara R. 2010. "Sex Segregation in the Blue-Collar Occupations: Women's Choices, or Unremedied Discrimination? Comment on England." *Gender and Society*. 25: 88-93.

Bernhardt, Annette, Martina Morris, Mark S. Handcock and Marc A. Scott. 2001. *Divergent Paths: Economic Mobility in the New American Labor Market.* New York: Russell Sage Foundation.

Bianchi, Suzanne M. and Melissa A. Milkie. 2010. "Work and Family Research in the First Decade of the 21st Century." *Journal of Marriage and Family.* 72:705-725.

Blau, Francine D. and Lawrence Kahn. 2007. "The Gender Pay Gap: Have Women Gone

As Far As They Can?" *Academy of Management Perspectives*. 21: 7-23.

Bowers, Norman and Francis W. Horvath. 1984. “Keeping Time: An Analysis of Measures of Employment Duration.” *Journal of Business & Economic Statistics*. 2: 140-149.

Budig, Michelle J. and Paula England. 2001. "The Wage Penalty for Motherhood." *American Sociological Review*. 66.2: 204-225.

Bureau of Labor Statistics (2014) National Longitudinal Survey of Youth 1997 cohort. http://www.bls.gov/nls/nlsy97.htm

Cohen, Philip N. and Matt L. Huffman. 2003. "Occupational Segregation and Devaluation of Women's Work across U.S. Labor Markets.” *Social Forces.* 81: 881-908

Dex, Shirley and Andrew McCulloch. 1998. “The Reliability of Retrospective Unemployment History Data.” *Work, Employment and Society.* 12: 497-509.

Duncan, Greg J. and Daniel H. Hill. 1985. “An Investigation of the Extent and Consequences of Measurement Error in Labor-Economic Survey Data.” *Journal of Labor Economics.* 3:508-532.

Dykema, Jennifer and Nora Cate Schaeffer. 2000. “Events, Instruments and Reporting Errors.”*American Sociological Review*. 65: 619-629.

Edin, Kathryn and Laura Lein. 1997. "Work, Welfare and Single Mothers' Economic Survival Strategies." *American Sociological Review* 62: 253-266.

Edin, Kathryn and Maria Kefalas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood before Marriage.* Berkeley: University of California Press.

Elliott, James R. 2000. “Class, Race and Job Matching in Contemporary Urban Labor

Markets."*Social Science Quarterly.* 81: 1036-1052.

Evans, David S. and Linda S. Leighton. 1995. "Retrospective Bias in Displaced Worker Surveys." *Journal of Human Resources.* 30: 386-396.

Folbre, Nancy. 1995. *Who Pays for the Kids? Gender and the Structure of Constraint*. New York: Routledge.

Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Gornick, Janet C. and Marcia K. Meyers. 2003. *Families that Work: Policies for Reconciling Parenthood and Employment.* New York: Russell Sage Foundation.

Hardie, Jessica Halliday. 2015. "The Best Laid Plans: Social Capital in the Development of Girls' Educational and Occupational Plans." *Social Problems.* 62: 241-265.

Harris, Kathleen Mullan. 2009. The National Longitudinal Study of Adolescent to Adult Health (Add Health), Waves I & II, 1994–1996; Wave III, 2001–2002; Wave IV, 2007-2009 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill. DOI: 10.3886/ICPSR27021.v9

Horvath, Francis W. 1982. "Forgotten Unemployment: Recall Bias in Retrospective Data."*Monthly Labor Review*. 105: 40-44.

Jacobs, Sheila C. 2002. "Reliability of Recall and Unemployment Events Using Retrospective Data." *Work, Employment, and Society.* 16: 43-548.

Joyner, Kara, H. Elizabeth Peters, Kathryn Hynes, Asia Sikora, Jamie Rubenstein Taber, and Michael S. Rendall. 2012. The quality of male fertility data in major U.S. surveys *Demography* 49(1):101-124.

Jürges, Hendrik. 2007. "Unemployment, Life Satisfaction and Retrospective Error." *Journal of the Royal Statistical Society: Series A.* 170, Part 1:43-61.

Kahn, Joan R., William D. Kalsbeek and Sandra L. Hofferth. 1988. "National Estimates of Teenage Sexual Activity: Evaluating the Comparability of Three National Surveys." *Demography.* 25:189-204.

Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970sto 2000s.* New York: Russell Sage Foundation.

Kerkhoff, Alan C. 2001. "Education and Social Stratification Processes in Comparative Perspective. "*Sociology of Education"*. 74: 3-18.

Kyyra, Tomi and Ralf A. Wilke. 2014. "On the Reliability of Retrospective Employment Information in European Household Panel Data." *Empirical Economics*. 46: 1473-1493.

Lareau, Annette. 2003. *Unequal Childhoods: Class, Race and Family Life.* Berkeley: University of California Press.

Lauritsen, Janet L. and C. Gray Swicegood. 1997. "The Consistency of Self-Reported Initiation of Sexual Activity." *Family Planning Perspectives.* 29: 215-221.

Linton, Marigold. 2000. "Transformations of Memory in Everyday Life." *Memory Observed: Remembering in Natural Contexts.* Ed. Ulric Neisser and Ira D. Hyman. New York:Worth Publishers.

Loftus, Elizabeth F. and Wesley Marburger. 1983. "Since the Eruption of Mt. St. Helens, Has Anyone Beaten You Up? Improving the Accuracy of Retrospective Reports with Landmark Events." *Memory & Cognition.* 11:114-120.

Manzoni, Anna. 2012. “In and Out of Employment: Effects in Panel and Life History Data.” *Advances in Life Course Research.* 17: 11-24.

Manzoni, Anna, Jeroen K. Vermunt, Ruud Luijkx and Ruud Muffels. 2010. “Memory Bias in Retrospectively Collected Employment Careers: A Model-Based Approach to Correct for Measurement Error.” *Sociological Methodology.* 40: 39-73.

Manzoni, Anna, Ruud Luijkx, and Ruud Muffels. 2011. “Evaluating Differences in Labour Market Transitions between Panel and Life-course Data.” *Quantity and Quality.* 45:241-261.

Mathiowetz, Nancy and Greg J. Duncan. 1988. “Out of Work, Out of Mind: Response Errors in Retrospective Reports of Unemployment.” *Journal of Business and Economic Statistics.* 6: 221-229.

Milkie, Melissa A., Sarah M. Kendig, Kei M. Nomaguchi and Kathleen E. Denny. 2010. “Time with Children, Children's Well-Being, and Work-Family Balance among Employed Parents.” *Journal of Marriage and Family* 72: 1329-1343.

Morgenstern, Richard S. and Nancy S. Barrett. 1974. “The Retrospective Bias in Unemployment Reporting by Sex, Race and Age.” *Journal of the American Statistical Association.* 69:355-357.

Mortimer, Jeylan T., Carolyn Harley, and Pamela J. Aronson. 1999. “How Do Prior Experiences in the Workplace Set the Stage for Transitions to Adulthood?” *Transitions to Adulthood in a Changing Economy: No Work, No Family, No Future?* Ed. Alan Booth, Ann C. Crouter and Michael J. Shanahan. Westport, CT: Praeger.

National Center for Health Statistics (2014) "About the National Survey of Family Growth" http://www.cdc.gov/nchs/nsfg/about_nsfg.htm Accessed 10/13/2014.

Nederhof, Anton J. 1985. "Methods of Coping with Social Desirability Bias: A Review." *European Journal of Social Psychology*. 15: 263-280.

Newman, Katherine S. 1999. *No Shame in My Game: The Working Poor in the Inner City.* New York: Russell Sage Foundation.

Pavetti, LaDonna and Gregory Acs. 2001."Movin Up, Moving Out, or Going Nowhere? A Study of the Employment Patterns of Young Women and the Implications for Welfare Mothers." *Journal of Policy Analysis and Management.* 20: 721-736.

Peters, H.E. 1988. "Retrospective versus Panel Data in Analyzing Life Cycle Events." *Journal of Human Resources* 23:488-513.

Pierret, Charles R. 2001. "Event History Data and Survey Recall: An Analysis of the National Longitudinal Survey of Youth 1979 Recall Experiment." *The Journal of Human Resources.* 36: 439-466.

Presser, Harriet B. 1989. "Can We Make Time for Children? The Economy, Work Schedules, and Child Care." *Demography* 26: 523-543.

Presser, Harriet B. and Amy G. Cox. 1997. "The Work Schedules of Low-Educated American Women and Welfare Reform." *Monthly Labor Review* 120: 25-34.

Reisel, Liza. 2013. "Is More Always Better? Early Career Returns to Education in the United States and Norway." *Research in Social Stratification and Mobility.* 31: 49-68.

Schaeffer, Nora Cate and Stanley Presser. 2003. "The Science of Asking Questions." *Annual*

Review of Sociology. 29:65-88.

Shanahan, Michael J. 2000. "Pathways to Adulthood in Changing Societies: Variability and Mechanisms in Life Course Perspective." *Annual Review of Sociology*. 26: 677-92.

Song, Youngwhan. 2007. "Recall Bias in the Displaced Workers Survey: Are Layoffs Really Lemons?" *Labour Economics*. 14:335-345.

Sudman, S., Bradburn, N.M. 1973. "Effects of Time and Memory Factors on Response in Surveys." *Journal of the American Statistical Association.* 68, 805–815.

Tourangeau, Roger, Lance J. Rips and Kenneth Rasinski. 2000. *The Psychology of Survey Response.* Cambridge: Cambridge University Press.

U.S. Census Bureau. 2014. "SIPP Introduction and History" http://www.census.gov/programs-surveys/sipp/about/sipp-introduction-history.html# Accessed 10/13/2014.

U.S. Census Bureau. 2009. *Survey of Income and Program Participation (SIPP) 2004 Panel Wave 1 Topical Module Microdata File.*

U.S. Department of Labor. 2015. "Youth and Labor." http://www.dol.gov/dol/topic/youthlabor/agerequirements.htm. Accessed 7/25/2015.

Vuolo, Mike, Jeylan T. Mortimer, and Jeremy Staff. 2013. "Adolescent Precursors of Pathways from School to Work." *Journal of Research on Adolescence.* 24: 145-162.

Wingfield, Arthur and Dennis L. Byrnes. 1981. *The Psychology of Human Memory.* New York: Academic Press.

Wu, Chi-Fang and Mary Keegan Eamon. 2013. “Employment, Economic Hardship, and Sources of Assistance in Low-Income Single-Mother Families before, during, and after the Great Recession.” *Journal of Poverty.* 17:135-156.

Wu, Lawrence L., Steven P. Martin and Daniel A. Long. 2001. “Comparing Data Quality of Fertility and First Sexual Intercourse Histories.” *Journal of Human Resources.* 36:520-555.

Yu, Wei-hsin and Chi-Tsun Chiu. 2014. “Off to a Good Start: A Comparative Study of Changes in Men’s First Job Prospects in East Asia.” *Research in Social Stratification and Mobility.* 37: 3-22.

Chapter 4: The Military Marriage-Market-Plus: How Composition, Socioeconomic Attainment and Equalitarian Norms Facilitate Veterans' Race/Ethnic Intermarriage

Abstract

This paper seeks to explain veterans' higher rates of race/ethnic intermarriage relative to non-veterans, as well as veterans' faster increase in rates of intermarriage from the 20th-21st centuries. Previous research on intermarriage has focused separately on how either socioeconomic factors or settings that facilitate intergroup contact increase the likelihood of intermarriage. Our focus on the military context allows us to consider how compositional, socioeconomic, and normative factors combine to increase veterans' odds of intermarriage in the long-term. Using 1962-2012 data from the Current Population Survey (CPS) supplemented by Decennial Census and American Community Survey (ACS) data, we show that a combination of exposure to diverse race/ethnic composition in a military setting, training and benefits that facilitate veterans' socioeconomic advancement, and military policies and norms that hold personnel to standards of nondiscriminatory behavior jointly contribute to increasing veterans' likelihood of intermarriage relative to non-veterans among all the race/ethnic groups we consider. These effects are strongest for black and white veterans.

Introduction

Although marriages between partners of different race/ethnic backgrounds still comprise less than ten percent of all marriages in the U.S., the percentage of Americans who intermarry[1] has increased steadily since the mid-20th century (Gullickson 2006; Fryer 2007; Qian and Lichter 2011). Race/ethnic intermarriage is more common among military veterans than in the general population, and has increased at a faster rate among veterans than non-veterans from the 1960s to the present. Whereas the rate of intermarriage was roughly .2 for both veterans' and nonveterans' marriages in 1960, by 2000, the rate of intermarriages was 1.3 for veterans, compared with .9 for non-veterans (Fryer 2007). In this paper, we identify characteristics of the military environment and of veterans themselves that may explain this discrepancy.

Previous research has identified three major factors that contribute to an individual's likelihood of race/ethnic intermarriage. These are an individual's socioeconomic status (Fu 2001; Gullickson 2006), the race/ethnic composition of his or her environment (Bratter and Zuberi 2001), and his or her racial attitudes and normative environment (Perry 2013). Because military employment simultaneously affects individual service members' long-term economic and educational prospects, the race/ethnic composition of their environment, and the racial norms to which their behavior is subject, we are able to consider how all three of these factors may converge for the same individual to increase his or her likelihood of intermarriage. In addition, our

[1] In this paper we use the terms "intermarry" and "intermarriage" to refer to marriages between two people from different race/ethnic backgrounds. Although some such pairings are "interracial" we do not use this term because we encompass pairings between Hispanics and non-Hispanic whites. The U.S. Census Bureau designates "Hispanic origin" as an ethnicity, and many U.S. Hispanics identify their race as white.

focus on veterans means we are able to minimize the overlapping attitudinal and socioeconomic selection effects that limit some of the causal claims of studies on intermarriage to date. Unlike other contexts in which intergroup contact commonly takes place (Bobo and Zubrinsky 2001), the military is not selective of individuals either with high socioeconomic status (MacLean and Elder 2007), or with more-liberal political views (Davis 2001; Holsti 2001).

Military service is an early life course event that serves to increase veterans' long-term socioeconomic status, that diversifies their network of colleagues and prospective friends and partners, and that subjects their behavior to normative standards that emphasize non-discrimination and the formation of intergroup bonds. Military training and educational benefits contribute to post-service labor market success for all veterans (MacLean and Elder 2007; Kleykamp 2009). For minorities in particular, the military represents a source of steady employment, and, because it has relatively transparent criteria for advancement relative to civilian employment (Moskos and Butler 1996; Lundquist 2004), may facilitate economic advancement more than civilian employment. Furthermore, the military may function as a marriage-market that is particularly conducive to intermarriage, bringing together similar-aged people of different race/ethnic backgrounds on equal social footing (Heaton and Jacobson 2003). The military's explicit promotion of non-discriminatory behavior and its encouragement of intergroup bonds may facilitate the formation of interracial couples, and limit the resistance they face from others (Kalmijn 1998). Furthermore, the military's family-based employment benefits (Albano1994; Wadsworth and Southwell 2011) and pro-marriage norms (Lundquist

2004) may encourage exogamous couples to marry more than couples that do not include one more veterans (Lofquist et al 2012).

We use the Current Population Survey (CPS), supplemented with data from the Decennial Census and American Community Survey (ACS) to observe cohorts of married men interviewed from 1962 to 2012. We examine differences in likelihood of entry into intermarriage between veterans and non-veterans, and between veterans from different race/ethnic backgrounds, and consider how these differ as the military context changes over time. We test hypotheses concerning the role of increased socioeconomic attainment among veterans, changes to military race/ethnic composition, and increased equalitarianism in the normative environment of the military as they affect individuals' likelihood of intermarriage. We find evidence to suggest that diverse race/ethnic composition, increased socioeconomic attainment, and equalitarian military norms all play a joint role in the increasing the likelihood of intermarriage among veterans from among all the race/ethnic groups we consider, with effects that are strongest for non-Hispanic blacks and whites.

Social Significance of Intermarriage

Although more than fifty years have passed since *Brown v. Board of Education* and the passage of legislation barring discrimination in housing and employment (Murray 1950; Frey and Farley 1996; Daugherity and Bolton 2008), most of the institutions that comprise social life in the United States remain highly segregated. Residential segregation has declined since the 1990s, but these changes are nonetheless relatively

small, and blacks remain even more segregated from whites than Asians or Hispanics (Farley and Frey 1996; Frey and Meyers 2005). Workplace segregation has declined since the 1960s, but nonetheless plateaued in the 1980s (Tomaskovic-Devey et al 2006). Although diversity in religious congregations continues to increase, in more than 80% of religious congregations, one race/ethnic group predominates (Chaves and Anderson 2014). Friendship and acquaintanceship networks also remain highly segregated by race/ethnicity (DiPrete et al 2011). In contrast, the military itself (U.S, Department of Defense 2012), and the geographic areas surrounding military bases (Farley and Frey 1999) are significantly more diverse and less segregated than these civilian settings.

Although rates of intermarriage have increased since *Loving v. Virginia* struck down antimiscegenation laws in 1967 (Fryer 2007; Hoewe and Zeldes 2012), marriage between partners of different race/ethnic backgrounds is still relatively rare. As of 2010, interracial couples comprise approximately 7% of all married couples, while couples in which one partner is Hispanic and the other is not comprise roughly 4% of married couples (Lofquist et al 2012).

In the context of highly-segregated social life in the U.S., the extent of intermarriage between different race/ethnic groups is an indicator of the closeness of these groups' contact within marriage markets, and within social settings more broadly (Kalmijn 1993; Johnson and Jacobson 2005; Gullickson 2006; King and Bratter 2007), as well as being a partial indicator of groups' attitudes toward one another (Johnson and Jacobson 2005; Perry 2013). Increases in minority groups' intermarriage specifically with whites may be viewed as an indicator of increases in these groups' socioeconomic status (Alba and Nee 2003). Intermarriage in itself contributes to the weakening of group boundaries, by

overlapping spouses' family and friend networks, and by facilitating the births of children shared between families of different race/ethnic backgrounds (Qian and Lichter 2007). Intermarriage can also lead to changes in the race/ethnic composition of the U.S. Rates of intermarriage between members of different race/ethnic groups offers a forecast of the extent to which the mixed-race population in the U.S. will grow, with concomitant changes to notions of racial boundaries, and potential for increased fluidity in race/ethnic identification (Liebler et al 2014).

Theories of Race/Ethnic Intermarriage

Theories of intermarriage can be grouped into two categories: those that focus on the socioeconomic attainment of those who intermarry (Fu 2001;Gullickson 2006) and those that focus on social settings that bring together prospective partners from different race/ethnic backgrounds, and facilitate their forming romantic relationships and/or marriages (Johnson and Jacobson 2005; Perry 2013).

Socioeconomic Theories

In discussions of intermarriage in the contemporary U.S., status exchange theory is used primarily to describe marriages between non-Hispanic whites and minority group members (Davis 1941; Merton 1941; Fu 2001; Gullickson 2006). Status exchange theory takes a view of marriage in which "whiteness" is a valued quantity among people seeking to marry, and in order to marry a white spouse, non-white partners must exchange socioeconomic resources of high value. Evidence suggests that status exchange may be

empirically supported only in particular historical contexts and/or among particular types of pairings. For example, Kalmijn (1993) shows status exchange patterns in black/white intermarriages from the 1960s through the 1980s. Fu (2001) shows status exchange patterns in marriages between blacks and whites and between Mexican-Americans and whites in the 1990 Census, but finds no such pattern for marriages between whites and Japanese-Americans. Rosenfeld (2005) shows that in more recent cohorts, educational homogamy is much more prevalent than educational discordance among pairs of intermarried partners. Status exchange theory may have only limited empirical support in part because its implicit assumption both of primarily instrumental economic and status-maximization motivations in partnering decisions, and of the notion that whites are preferred marriage partners, may not square with social reality (Alba and Nee 2003; Qian and Lichter 2007).

In contrast with status exchange theory, structural assimilation theory maintains that minority group members who have higher levels of resources are more likely to intermarry, but posits instead that they are more likely to marry a non-coethnic with comparably high resources, particularly someone white. Because of the disproportionate share of economic resources held by whites, minorities with high SES are more likely to come into contact with disproportionate numbers of whites (Gullickson 2006). Structural assimilation theory places particular focus on educational attainment as a measure of socioeconomic status, in part because education is believed to promote egalitarian norms and to reduce in-group attachments for all race/ethnic groups (Schuman, Steeh and Bobo 1985), and because college campuses may bring together young people of different race/ethnic backgrounds and provide a setting in which the can form close relationships

(Fischer 2008). Structural assimilation theory also has mixed empirical support. Qian and Lichter (2011) show that high educational attainment for both spouses is significantly related to intermarriage with non-Hispanic whites for Hispanics and Asians, but not Native Americans or African Americans. Gullickson (2006) shows that highly-educated African Americans who intermarry are no more or less likely to marry someone highly educated than someone less-educated. Gullickson (2006) also shows that educationally homogamous pairings are equally likely between black man/white woman couples as between white man/white woman pairing. Again, structural assimilation's limited empirical support may derive from the fact that its implicit assumption that people of color find white customs and institutions normatively most-desirable to join may not square with reality (Alba and Nee 2003).

Despite the shortcomings of both these theories, an association of intermarriage with higher socioeconomic status is nonetheless supported across many studies. This may plausibly be due in part to the fact that marriage itself is selective of the more well-to-do (Schwartz and Mare 2005). With the so-called "retreat from marriage" since the latter part of the twentieth century (Cherlin 2004) and the concomitant increase in educational assortative mating (Schwartz and Mare 2005), individuals with more education and resources are more likely to marry and to marry one another, while those with less education and lower incomes are less likely to marry at all. Thus, exogamous couples who marry may be economically better off overall than exogamous couples who do not marry.

Contact Theories

Theories of intermarriage that focus on the role of social settings in facilitating intermarriage emphasize the necessity of geographical and institutional settings where members of different groups can come into contact ("marriage markets"), as well as the particular group-level norms and individual-level attitudes that may make individuals more or less receptive to engaging in close friendships and romantic relationships with members of other race/ethnic groups. In order to marry, interracial couples must meet in some geographical and/or institutional context on relatively equal footing (Kalmijn 1998). Greater race/ethnic diversity of a setting raises the chances that such meetings will occur. Intermarriage is more common in geographical locations where members of different race/ethnic groups are present in large numbers, and able to come into relatively easy social contact, such as metropolitan areas (Heaton and Jacobson 2000). Students on more race/ethnically diverse college campuses are more likely to have members of out-groups in their social circles (Fischer 2008). Individuals who lived as children in neighborhoods with greater race/ethnic diversity are also more likely to have more diversity among their friends in adulthood (Emerson, Kimbro and Yancey 2002).

Whereas the composition of more-diverse settings raises the likelihood that prospective partners of different race/ethnic groups will meet, the particular characteristics of locations and institutions may reduce the social distance between groups, shape individuals' attitudes toward out-group members, and alter the balance of power between groups. These in turn affect the extent to which members of different race/ethnic groups are receptive to joining each other's social networks, and forming friendships and romantic relationships. The contact hypothesis posits that contact with

minority out-groups positively affects the attitudes of in-group members toward those groups. Allport (1954) argues that such effects are enhanced under conditions in which contact is intimate and sustained, members of the outgroup are of equal or higher status than the ingroup members, members of different groups work together toward shared goals, and leaders or institutions support intergroup cooperation. Evidence in support of the contact hypothesis for whites' attitudes to minorities emphasizes that for contact to be associated with improved attitudes, it must occur in relatively small-scale settings, such as religious congregations, or close friend relationships (Levin, Van Laar and Sidanius 2003; Tropp 2007; Johnson and Jacobson 2005; Perry 2013).

Although much "contact hypothesis" research has focused on whites' attitudes to minority groups, only a relatively small amount of research examines the effects of contact with whites on minority group members' attitudes to whites. Evidence suggests that any contact effects that exist among minority group members may not be as pronounced as among whites (Irizarry 2012). Because minority group members are outnumbered by whites in society at large, their interactions with whites are more frequent than whites' contact with minorities, and may be negative and/or hierarchical in nature, thus counterbalancing any more positive contact with individual whites (Ellison and Powers 1994; Tropp 2003; Tropp 2007; Irizarry 2012). Nonetheless, previous research has indicated that African Americans who report having white friends and white coworkers, who went to integrated schools and lived in integrated neighborhoods as children, and who attend religious congregations with whites, have generally more positive attitudes to interracial dating and to whites in general (Ellison and Powers 1994; Powers and Ellison 1995; Tropp 2007). Black, Asian and Hispanic college students have

more positive attitudes toward a particular outgroup when they have friends among its members (Levin, van Laar and Sidanius 2003).

Overlapping Selection Effects

A limitation of the theories that draw a connection between greater likelihood of intermarriage and intergroup contact, and between greater likelihood of intermarriage and high socioeconomic status, is that each of these effects may be due to some amount of selection. Individuals who are already positively inclined toward intergroup contact may choose to enter settings where such contact can take place. For example, truly racially balanced neighborhoods are few in number. Although blacks overwhelmingly express the desire to live in racially integrated settings, the proportion of whites who express the same preference is much smaller (Bobo and Zubrinsky 1996). Thus, whites who live in diverse neighborhoods may choose to live there because of their already-positive attitudes toward diversity and intergroup contact (Irizarry 2013). The association between high socioeconomic status and positive racial attitudes may further confound this relationship. Blacks and whites with higher socioeconomic status are more likely to endorse a les-competitive view of contact between race/ethnic groups than do to their coethnics with lower socioeconomic status (Oliver and Wong 2003). Because of whites' disproportionate share of resources in the U.S., blacks who live with substantial numbers of whites either in childhood or adulthood may be more likely to have high socioeconomic status than those who live in more-segregated areas. This may mean that they in turn have pre-existing positive attitudes to whites, and have relatively positive interactions with high-SES whites who in turn have more-positive attitudes to minorities

(Bobo and Zubrinsky 1996; Krysan and Farley 2002). Thus, the associations of both high socioeconomic status and intergroup contact with greater likelihood of intermarriage may be due to overlapping causal factors.

Is Military Service Conducive to Race/Ethnic Intermarriage?

The military is unique context that increases veterans' socioeconomic status in the long run, that creates opportunities for contact between members of different race/ethnic groups, and that normatively encourages the formation of close bonds between them. These characteristics may increase the likelihood of intermarriage among service members and veterans.

Race/Ethnic Composition

The military has a higher share of racial and ethnic minorities than the U.S. population at large (Armor 1996; Armor and Gilroy 2010). In 2012, the composition of active duty service members was 30.2% minority (U.S. Department of Defense 2012), compared with 24.7% minority in the U.S. population in the 2010 Census (Humes, Jones and Ramirez 2011). The high percentages of minorities in the military means that the race/ethnic composition of the colleagues and prospective friends and partners to whom all service members are exposed are more diverse than in more-segregated civilian settings. The race/ethnic composition of women in the military is even more highly minority, and especially African American, than that of male service members. In 2011, 30.8% of women in the active duty military were African American (U.S. Department of

Defense 2015) as compared with the roughly 13% black women in the wider U.S. population (U.S. Census Bureau 2011). With women comprising only 16% of military personnel (U.S. Department of Defense 2012) the skewed sex ratio in the military, further increases the possibility that if a white male service member or veteran marries a female fellow service members or veteran that they will be marrying someone from a different race/ethnic background (Farley 1999).

Compositional effects of the military environment extend beyond service members themselves to include family and friends, and surrounding residential areas. Service members and veterans who form same-sex intergroup friendships with one another may introduce their friends to opposite-sex friends and relatives, thus leading to intergroup romantic pairings (McClendon, Kuo and Raley 2014). Metropolitan areas whose economies are centered around military bases are consistently ranked among the least-segregated in the United States, thus facilitating contact between service members and veterans with individuals of different race/ethnic groups outside of a military setting (Farley and Frey 1999). Taken together, all these factors may serve to create what one might term "extended intermarriage market" for military personnel and veterans.

Veterans' Socioeconomic Attainment

Although military service is a form of employment that service members enter at a young age and most also exit while relatively young, military service has potentially life-long effects for the labor market prospects of those who serve. The effects of the military on veterans' subsequent work careers are generally positive. For many men who saw combat during World War II and the Korean War, the military served as a definitive

break with earlier patterns of disadvantage in favor of socioeconomic advancement (Elder 1986). In the all-volunteer era, the military continues to function as a mechanism for socioeconomic advancement among those without a bachelor's degree, beyond what they would be likely to attain in the civilian labor market (Moskos and Butler 1996; Lundquist 2004). Service members gain training and skills while in the military, and may acquire post-secondary education both during and after military service (MacLean and Elder 2007; Kleykamp 2009). Civilian employers may view veteran status as signaling hard work and dedication, which may function as a bonus in hiring (Kleykamp 2009). Since the mid-1980s, military personnel and their families have also had access to an array of health, education and financial benefits (Albano 1994; Wadsworth and Southwell 2011; Blaisure et al 2012), many of which veterans retain after they leave the service. These benefits may function to further boost veterans' socioeconomic status over the long term.

Positive socioeconomic effects of the military may be particularly pronounced for minority vetereans. As a source of steady employment, in which criteria for pay and advancement are clearly formalized, and in which discrimination is low relative to the civilian labor force, military employment may facilitate the socioeconomic advancement of minority group members relative to their civilian coethnics even more than it does for whites (Moskos and Butler 1996; Lundquist 2004; Teachman 2007). For minority veterans, the training gained in military service and the positive signaling effects of veteran status may lead to even greater subsequent gains in the civilian labor market relative to non-veteran coethnics than white veterans achieve (Browning, Lopreato and Poston 1973; Kleykamp 2009) Thus, there may be smaller gaps between the

socioeconomic characteristics of veterans of color and their white veteran peers, compared with larger racial gaps in SES among those in the civilian labor force.

Military Racial Norms and Attitudes

Since President Harry S. Truman's 1954 Executive Order desegregating the U.S. armed forces, racial norms in the military have been regarded as more equalitarian than in U.S. society at large (Bogart 1969; Moskos and Butler 1996; Lundquist 2004). In addition to creating mixed-race companies, the desegregation order mandated that minority service members be treated equally to whites in assignments, pay and promotion (Bogart 1969; Lawrence and Kane 1995). The Army Affirmative Action plan of 1975 further improved minority representation and advancement in the military (Lawrence and Kane 1995). Although some degree of discrimination remains, military non-discrimination policies are generally viewed as very successful. Furthermore, institutional norms for acceptable behavior are explicitly anti-racist, and encourage of the formation of intergroup bonds (Moskos and Butler 1996; Lundquist 2004).

Evidence is mixed on whether serving in the armed forces leads service members of different race/ethnic backgrounds to have more-positive views of one another. Butler and Wilson (1978) show that both blacks and whites who have served in the military express less support for racial separatism than non-veteran coethnics, and Ellison (1992) also shows this result for black veterans. Leal (2003) shows that Hispanic veterans are more likely than Hispanic non-veterans to have non-Hispanic white friends. On the other hand, Jennings and Markus (1977) and Lawrence and Kane (1995) also show that white veterans have less positive attitudes to blacks than white non-veterans. Nteta and Tarsi

(2015) show that white veterans, especially in later cohorts, are more likely to ascribe African Americans' on-average lower socioeconomic status relative to whites to a lack of initiative, more than to endemic discrimination.

Despite the mixed evidence on veterans' racial attitudes, the military promotes clear equalitarian institutional norms, and veterans' behavior is subject to these standards (Bogart 1969; Lawrence and Kane 1995). Furthermore, any apparent positive or negative effects on veterans' racial attitudes are likely not the result of selection, but rather of the military environment itself. Evidence suggests that the military is not selective of individuals who are either more politically liberal or politically conservative, and by extension, of individuals who hold more or less racially progressive ideals (Johnson and Jacobson 2005; Tropp 2007). Military officers are somewhat more likely than civilians to identify as Republicans and/or ideologically conservative (Davis 2001; Holsti 2001). Enlisted personnel and veterans in general do not appear to be either more ideologically conservative or liberal, or more Republican- or Democrat-identified than the general U.S. population (Segal et al 2001; Teigen 2007). Thus, any difference between veterans' race-related attitudes and/or behaviors (including intermarriage) are not likely due to any selection into the military of more racially-progressive individuals.

"Marriage-Market-Plus": Individuals, Relationships and the Military Structural Setting

The military appears to create conditions that are conducive to military personnel and veterans entering into intermarriages. It brings together young people of disparate race/ethnic backgrounds who would not likely have met in typically more-segregated

schools or residential settings (Farley and Frey 1994; Fischer 2008). It increases men's attractiveness as marriage partners with steady work and good pay. Opportunities for economic and career advancement offered by the military for men of color may contrast even more strongly with the civilian labor market than for whites (Browning, Lopreato and Poston 1973). In addition to bringing together prospective partners, the military incentivizes marriage with the availability of housing and other benefits to married personnel only (Albano1994; Wadsworth and Southwell 2011) and traditionalist family norms (Lundquist 2004). Furthermore, the military's racially equalitarian policies mandate equal treatment for minorities, and encourage the formation of close bonds between members of different race/ethnic groups. In sum, we contend that the social context of the military—its geographic and institutional settings, and its socioeconomic and normative aftereffects for veterans—may together function as a "marriage-market-plus" that facilitates entry into intermarriages among military personnel and veterans.

In this paper, we investigate how veterans' exposure to a diverse military setting, their own socioeconomic characteristics, and their experience of military norms that hold them to a standard of non-discriminatory behavior may all contribute to their greater likelihood of intermarriage. We consider veterans' likelihood of intermarriage in contrast with that of non-veterans, who have not experience this same set of factors in the military. We also consider how changes to the military environment over time may have contributed to a divergence in the rates of increase in intermarriage between veterans and non-veterans (Fryer 2007).

We focus on married men, who were interviewed from 1962 to 2012. We exclude women from our study, believing that because female veterans are so much

fewer in number than male veterans, their military and intermarriage experiences are likely to be unique, and deserving of a separate study. We include in our study only men who are married to women. Therefore, all the focal respondents in our study—veteran and nonveteran alike—are men, and all of their spouses are women.

Hypotheses

Military Composition Hypotheses: Because the military brings together individuals from different race/ethnic backgrounds who would be unlikely to meet in other settings, thereby creating a marriage market that is less segregated than civilian settings, we hypothesize that both white veterans and veterans of color will be more likely to be intermarried with a wife who is also a veteran. We hypothesize that white veterans who serve during military eras in which minority representation in the military is higher will be more likely to intermarry because the pool of both prospective female partners, and male friends who may facilitate contact with female friends and relatives, is more highly minority at those times. We hypothesize that veterans of color from cohorts in which minority representation in the military is higher may be less likely to intermarry because of the higher available proportion of coethnics among their female veteran counterparts in their extended military marriage market. Alternatively, the less-segregated character of the military environment may mean that even when they come into contact with more coethnics, minorities will still be progressively more likely to intermarry in later cohorts. Minorities were most prevalent among military personnel during the All-Volunteer Force and Post-9/11 eras, followed by the Vietnam War era. Minorities were least prevalent in

the military in the World War II, Korea, and Cold War eras (Bolté and Harris 1947; Evans 1955; MacGregor 1981; Armor and Gilroy 2010; U.S. Department of Defense 2015).[2]

Socioeconomic Attainment- Shared High SES Hypothesis: Structural assimilation theory posits that people of all race/ethnic backgrounds with relatively high levels of socioeconomic resources, and in particular, college education, are more likely to intermarry. Military service functions to raise the socioeconomic status of both white and minority group members by facilitating access to post-secondary education and improving their long-term labor market prospects. We hypothesize that due to this socioeconomic leveling, both white and minority veterans with higher levels of resources—operationalized as having a bachelor's degree—will be more likely to intermarry.

Socioeconomic Advancement- Uneven SES Hypothesis: Status exchange theory posits that individuals of color who intermarry with whites exchange their own high level of socioeconomic resources for the spouse's whiteness, such that partners of color in an intermarriage typically have higher resources than their white partners. If status exchange theory is to be believed, the fact that the military facilitates minority individuals' socioeconomic advancement may facilitate minority veterans' intermarriage in "status exchange" patterns. In such a scenario, we hypothesize that veteran men of

[2]Our current cohort-based measure of military composition is imperfect, and based on a combination of military reports and secondary literature. A future version of this paper will include a direct measure of military minority composition over time. Information in this level of detail is not publically available, and a FOIA request will be necessary to acquire it.

color with high levels of resources will be more likely to be married to white wives with lower levels of resources relative to non-veteran men.

Military Norms Hypothesis: The military is a workplace setting in which employees of color are subject to less discrimination than in the civilian labor market. Furthermore, dominant norms in the military favor equal treatment, and encourage the formation of close bonds between service members from different race/ethnic backgrounds. At two major junctures in the twentieth century, military policy on race was changed to promote more equal treatment and norms. We hypothesize that veterans who served in periods in which policy and implementation were most supportive of race/ethnic equality will be more likely to cohabit and intermarry. The period of greatest equalitarian norms occurred after the 1975 overhaul of the Army's affirmative action policy (1975-2012 in our data), followed by the period between desegregation of the armed forces and this overhaul (1948-1974), and the period before desegregation of the armed forces (1939-1947) (Bogart 1969; Lawrence and Kane 1995).

Data and Methods

We use data from the IPUMS March Current Population Survey (CPS) from 1964 to 2012. The CPS is representative of the U.S. household population aged 16 and over, with separate sampling procedures designed to reflect demographic and labor market conditions in each of the 50 states and the District of Columbia. It includes a wealth of information on household demographics, labor force behavior, and income (King et al

2010). We supplement these data with one aggregate-level measure of racial attitudes from the Presidential election year "Times Series" surveys of the American National Election Studies (ANES) from survey years 1956-2008. The ANES is nationally representative of the U.S. population in the contiguous 48 states. It surveys Americans about their opinions on social and economic topics of national significance, as well as their views on the Presidential and Congressional candidates at each election.

As a sensitivity check of our CPS analysis, we also conduct a parallel analysis using data from the Decennial Census and American Community Survey (ACS), covering the years 1960-2012 (Ruggles et al 2010). Results are shown in the Appendix, and discussed briefly in the results section below.

We limit the CPS file to married men only. We exclude women on the belief that female veterans' experience of both the military and intermarriage is likely to be quite different from men's, and therefore worthy of a separate study. We include variables linking our male focal respondents to information about their wives on the focal covariates. Because race/ethnic categories that included both "Hispanic" and "Asian/Pacific Islander" simultaneously were not available in the CPS prior to interview year 1988, we run two parallel logistic regression models. In our first analysis we limit the sample to non-Hispanic black and non-Hispanic white men in interview years 1960-2012. Here the outcome variable is intermarriage between one white and one black spouse, versus endogamous marriage. The sample size is 677,181. We lose 813,843 cases from the larger file of married black and white men due to item non-response. The overwhelming majority of these are lost because of missing information either on the veteran status variable or on information about the respondent's wife. In the second

regression, we investigate whether differences in patterns of intermarriage appear when minority respondents include a wider array of race/ethnic groups. We include in this sample married men who list a single race, excluding "other, "and who are non-Hispanic white, non-Hispanic black, non-Hispanic Asian/Pacific Islander, and non-Hispanic Native American, as well as Hispanic men of any race, covering interview years 1988-2012. In this second regression model, the outcome variable is intermarriage between any race/ethnic pairing versus homogamous marriage in the models testing our "composition," "structural assimilation" and "military norms" hypotheses. In the model testing our "status exchange" hypothesis, the outcome variable is intermarriage between one white partner and one partner of color versus endogamous marriage. Here, the sample size is 831,702. We lose 48,869 cases to item non-response, again with the majority missing on either the respondent's veteran status, or information about his wife. Both regression models are weighted with the CPS weight for household-level analysis.

Independent Variables

To test for differences in patterns of intermarriage between veterans and non-veterans, we divide our sample between veterans and non-veterans and run our models on these two separate sub-samples. To test for statistically significant differences between veterans and non-veterans, we generate pooled models in which we interact "veteran" with all covariates and two-way interactions. We report the results of these significance tests along with the results of our parallel "veteran" and "non-veteran" models below.

The focal contrasts in our analyses are between patterns of intermarriage for veterans versus non-veterans, and for veterans from different race/ethnic backgrounds.

To test our hypotheses, we generate 5 models in which we sequentially introduce interactions of different variables with "race/ethnicity." Model 1 is a baseline model. In this baseline model, we include as covariates measures of the respondent's race/ethnicity, his wife's veteran status, a "cohort" measure based on his birth year denoting the period when he would first be eligible to serve in the military, and his age at interview. As a measure of individual-level resources, we include a covariate for whether the respondent has a bachelor's degree. We include a measure of whether the respondent lived in a metropolitan area at the time of interview. Because metropolitan areas have higher levels of race/ethnic diversity, this measure serves as a rough control for the composition of the respondent's surroundings at the time of interview.

We include an aggregate measure of American attitudes about racial discrimination from the ANES, which we attach to each CPS and ACS/Census survey year. This measure is intended to function as a "period" measure that accounts for societal-level changes to racial attitudes. From 1956-1972 and again from 1988-2008, the ANES included a question asking how strongly the respondent favors federal government intervention to ensure non-discrimination against minorities in employment (and, in 1956 and 1960, in housing) according to a five-point Likert scale. We code 5 as representing the greatest favorability to such measures, and implicitly, the greatest support for racial equality.[3] To capture societal-level racial attitudes at the time of each of our CPS and ACS/Census respondents' interviews, we impute the mean of all valid

[3] This variable is an imperfect measure of "racial attitudes" because it may also to some degree encompass ANES respondents' attitudes about the role of the federal government. However, it is the only measure we are aware of that covers the beginning and the end of our period under study, as well as most of the years in between.

ANES responses from the last Presidential election year prior to their CPS interview year.[4]

Model 2 tests our hypotheses about whether the high representation of minorities both among female service members, and among military personnel in general, play a role in male veterans' greater likelihood of intermarriage relative to non-veterans. To test whether white veterans and veterans of color are more likely to intermarry with a wife who is also a veteran, we interact race/ethnicity and veteran status with the veteran status of the respondent's wife. To test whether veterans are more likely to intermarry if they were part of service-cohorts in which military minority composition was higher, we interact race and veteran status with cohort of potential military service.

Model 3 tests our hypotheses about the role of veterans' socioeconomic status in their greater likelihood of intermarrying relative to non-veterans. To test whether the military's positive effects on veterans' socioeconomic status lead to "structural assimilation" patterns in which veterans with higher resources are more likely to intermarry, we interact educational attainment (has a bachelor's degree or not) with race. To test for a "status exchange" patterns in which intermarried veterans of color have higher resources than their white spouses, we introduce a variable measuring difference

[4] For CPS interviews in which 1976, 1980 or 1984 was the prior Presidential election year, we impute the mean of the 1972 and 1988 means. We believe this is justifiable for the following reasons. The general trend of mean sentiment in favor of government intervention against job and housing discrimination increased from the 1960s through 1972, resumed in 1988 at around the same level as in 1972, and then trended slightly downward through 2008. In addition, the mean of a different Likert scale measure taken from 1972-2008 that asks how strongly respondents favor government intervention to improve minorities' social and economic position remains roughly steady during the period when the job discrimination question is not asked. The mean scores on the "social and economic position" question are consistently higher than those on the job discrimination question and hence this variable cannot be substituted for the job discrimination question in the years when the job question is not asked. However, the two measures are moderately correlated in the years in which they are asked of the same respondents. The steady trend of opinion on the social and economic position question implies that there were likely not major spikes or drops in the responses to job discrimination question between 1972 and 1988. Hence taking the mean of the 1972 and 1988 means likely adequately approximates general public sentiment in those years.

between the respondents' educational attainment and that of their wives (whether both spouses either have or don't have bachelor's degrees, whether the respondent has a BA but his wife does not, and whether the respondent's wife has a BA but he does not). We interact this resource-difference variable with race/ethnicity. In Model 3, we also include a control for an age difference between spouses of five years or more, which could account in itself for different educational attainment, particularly among individuals who were younger at the time of interview.

Model 4 pools all covariates from Models 1-3 to test whether either military race/ethnic composition or veterans' socioeconomic status appears to have an appreciably stronger role in explaining veterans' greater likelihood of intermarrying relative to non-veterans.

Model 5 tests our hypothesis about the role of the military's relatively-equalitarian normative environment in veterans' greater likelihood of intermarrying relative to non-veterans. We attempt to differentiate changes in veterans' intermarriage over time that are due to changes in military composition from changes that are due to the military's changing normative environment. To do so, we substitutes for the previous cohort measure a "military normative environment" variable, denoting cohorts of men who either served (in the case of veterans), or could have served (in the case of nonveterans) under successively more-equalitarian policy regimes in the military. These are 1.) before desegregation of the military, 2.) between desegregation and the 1975 change to the affirmative action policy, and 3.) between this policy change and the present. Veterans in each of these successive service cohorts would have experienced a

more racially-equalitarian military environment. We interact this "military normative environment" variable with race/ethnicity.

In our second set of models that include black, white, Asian/Pacific Islander, Native American and Hispanic men, we run the same set of models above, with one key difference. We include separate models testing our structural assimilation (Model 3) and status exchange (Model 4) hypotheses. The outcome variable in Model 3 is any intermarriage pairing. The outcome variable in Model 4 is intermarriage between a white and non-white spouse, as reflects the fact that "status exchange" theory describes only marriages between one white spouse and one spouse of color.

Results

Descriptive Statistics

[TABLE 4.1 ABOUT HERE]

Table 4.1 shows the intermarriage, educational and other sociodemographic characteristics of married men, divided by veteran status. The left side of the table shows the characteristics of the group of married black and white men observed in interview years 1962-2012. The right side of the table shows the characteristics of the group of married Non-Hispanic white, black, Asian/Pacific Islander and Native American men, and Hispanic men of any race, observed in interview years from 1988-2012. In both groups of men, approximately one third of respondents are veterans, though this

percentage is slightly higher in the 1962-2012 sample. In both groups of men, the difference between the percentages of veterans and non-veterans who are intermarried is negligible, indicating that the difference in rates of intermarriage between veterans and non-veteran is likely concentrated among groups with particular characteristics, or among particular cohorts. In both groups of men, veterans are roughly four times as likely to have a wife who is a veteran relative to non-veterans, although these percentages nonetheless remain quite low. Slightly less than a third of respondents in both groups of men overall have a bachelor's degree. In both groups of men, veterans are about 7-8 percentage points less likely to have a bachelor's degree than non-veterans. Somewhat more than three-quarters of both groups of men live in a metropolitan area. In the 1988-2012 sample, non-veterans are about 3 percentage points more likely live in a metropolitan area than veterans. Respondents in both groups of men are overall more likely to come from later 20th-century service-cohorts, with the All-volunteer force representing the largest share, followed by Vietnam. In both groups of men, veterans are more prevalent in later cohorts. In both groups of men, veterans are represented roughly evenly from the World War II through Vietnam cohorts. Similarly, with respect to the cohort measure for normative environment in the military during potential service, veterans are present in smaller numbers in roughly even percentages in the earliest and latest cohorts, and most prevalent in the middle cohort. Non-veterans are present in the highest percentages in the latest two cohorts. In both groups of men, about 80% of veterans and non-veterans have comparable educational attainment to their wives. No appreciable differences appear between veterans and non-veterans on this measure. In both the 1962-2012 and 1988-2012 groups, whites comprise the largest percentage of the

sample. In both groups of men, veterans are more likely to be white and less likely to be minority. This is likely due to the high representation in the sample of veterans from earlier, less highly-minority cohorts. The higher white proportion of veterans may also be accounted for veterans' older mean age at interview, with a difference between veterans and non-veterans of about 13 years in both samples. Despite the cohort and age differences between veterans and non-veterans, there is no appreciable difference between the aggregate mean favorability to government antidiscrimination measures in their survey year.

Black and White Men, 1964-2012

Table 4.2 shows the results of our first regression analysis. Model 1 is a baseline model designed to show the basic contrasts between veterans and non-veterans in likelihood of intermarrying according to the respondent's race, his wife's veteran status, his cohort of potential service, and his educational attainment. As in all subsequent models, Model 1 controls for the respondent's age at interview, whether he lives in a metropolitan area, and the mean aggregate favorability to government antidiscrimination measures in his interview year. Model 1 shows that among both veterans and non-veterans, black men, men whose wives are veterans, men in later cohorts, and men with bachelor's degrees are more likely to intermarry.

[TABLE 4.2 ABOUT HERE]

Model 2 investigates the role played by the race/ethnic composition of the military in veterans' higher likelihood of intermarriage relative to non-veterans. Model 2 shows that both white and black veterans are more likely to intermarry when their wife is also a veteran, although this difference is not statistically significantly different from non-veterans. White and black veterans are more likely to intermarry in progressively more highly-minority cohorts. This increase is statistically significantly higher than that of white non-veterans in the all-volunteer force and post-9/11 cohorts. These findings offer support for our hypotheses that veterans of all race/ethnic backgrounds are more likely to intermarry because the military is more race/ethnically diverse, and less segregated than civilian environments.

Model 3 investigates whether military service increases veterans' likelihood of intermarrying by increasing veterans' socioeconomic status over the long term. Because the G.I. Bill facilitates veterans' access to post-secondary education, socioeconomic status is here operationalized as having or not having a bachelor's degree. The results show that both black and white veterans are more likely to intermarry when they have a Bachelor's degree, both relative to veterans without a BA and relative to non-veterans with a BA. Both black and white veterans are also more likely to intermarry when their wife has a bachelor's degree and they do not, statistically significantly more so than non-veterans. These results offer support for our hypothesis that the military's increases to socioeconomic status make them more likely to intermarry, but not for the status exchange hypothesis that veterans of color will be more likely to have more education than their white wives.

Model 4 combines the previous two models to test whether either veterans' socioeconomic attainment or their exposure to race/ethnic diversity in the military plays a demonstrably stronger role in veterans' higher likelihood of intermarriage relative to non-veterans. Associations from the previous two models stay consistent, indicating that both elements are important contributing factors to veteran/non-veteran differences in intermarriage rates.

Model 5 investigates the role of the military's racially-equalitarian normative environment in veterans' greater likelihood of intermarrying relative to non-veterans. Results show that white and black veterans who served under each more-equalitarian policy regime were more likely to intermarry than white veterans who served in the segregated forces, although these results do not differ statistically significantly from non-veterans. This offers partial support for our hypothesis that military experience increases the likelihood of intermarriage among veterans by enforcing non-discriminatory behavior and encouraging the formation of intergroup bonds. In this model, the coefficient for aggregate-level support for government antidiscrimination measures both increases and becomes statistically significant. This may indicate that some of the effect of society-wide trends toward favoring non-discrimination was mediated through the previous cohort measure, although the difference between these results for veterans and those for non-veterans are not statistically significant.

Black, White, Asian/Pacific Islander, Native American and Hispanic Men, 1988-2012

Table 4.3 shows the results of our analysis that investigates whether patterns of intermarriage between veterans and non-veterans differ when non-black minority groups

are included among respondents. (Due to size and readability constraints, Table 3 is presented below in two sections. Models 1-4 are included in the first section. Models 5 and 6 are included in the second section.) In all models in this table except Model 4, the outcome variable is marriage between any exogamous race/ethnic pairing. Model 4, tests status exchange theory. Here, the outcome variable is defined as marriage between one white and one non-white spouse to reflect the marriages described by this theory.

In Model 1, the baseline model, results are consistent with those in Table 2. Men of color are more likely to intermarry than whites, as are men whose wives are veterans, those from later cohorts, and those with bachelor's degrees.

[TABLE 4.3 ABOUT HERE]

Model 2 investigates the role played by the race/ethnic composition of the military in veterans' higher likelihood of intermarriage relative to non-veterans. Results show that having a wife who is a veteran is associated with greater likelihood of intermarriage for minority veterans, but not for white veterans. Black, Asian/Pacific Islander and Hispanic veterans are more likely than white veterans to intermarry if their wife is also a veteran. White veterans and some minority veterans are also more likely to intermarry with increased minority representation in the military. White, black, and Asian/Pacific Islander veterans are also more likely to intermarry as minority representation in the military increases, at statistically significantly larger magnitudes than white non-veterans. These results offer support for our hypothesis that because the military creates a marriage market that is less-segregated than civilian environments, both

white and minority veterans will be more likely to intermarry when their wife is a veteran, and more likely to intermarry as diversity in the military increases.

Models 3 and 4 investigate the role of veterans' socioeconomic status in their greater likelihood of intermarrying relative to non-veterans. Model 3 tests the hypothesis that veterans of all race/ethnic backgrounds who have a bachelor's degree will be more likely to intermarry. Results show that black and Hispanic veterans are more likely to intermarry with a bachelor's degree than coethnic non-veterans, but white veterans are not. Model 4 tests the status exchange hypothesis. The results offer no support for status exchange.

Model 5 combines the covariates from Models 2 and 3 to investigate whether either composition or socioeconomic factors appear to more strongly predict veterans' likelihood of intermarriage. Coefficients for both sets of factors stay consistent with the previous two models, implying that both are important to explaining veteran intermarriage.

Model 6 investigates the role of the military's racially-equalitarian normative environment in veterans' greater likelihood of intermarrying relative to non-veterans. If this variable successfully captures a normative component of the military environment, these results indicate that any normative effects of the military environment captured in this model are stronger for black and white veterans than for other veterans. White and black veterans are more likely to intermarry in each cohort that corresponds with more-equalitarian periods, with statistically significantly larger magnitude than white non-veterans. However, Asian/Pacific Islander, Native American and Hispanic veterans are all less likely to intermarry in later cohorts. As in Table 2, the inclusion of the "military

normative environment" variable increases the magnitude of the association for veterans between intermarriage and mean favorability to antidiscrimination measures. This may indicate that the "military normative environment variable" meaningfully captures normative changes in the military that are distinct from those in larger society. However, the increases in white and black veterans' likelihood of intermarrying among those who served under more-equalitarian policies in the military may also reflect some combination of increasing military diversity and decreased opposition to race/ethnic intermarriage in society at large that increased during these same periods.

Parallel Census/ACS Analysis

As a sensitivity check on the results we find in the CPS, we conduct a parallel analysis with data from the Decennial Census and the American Community Survey (ACS). These results are shown in Appendix Tables 1-4. The Decennial Census surveys all residents of the United States every ten years in years ending in "0," on demographic, social, economic, and housing topics. The ACS is a collection of yearly microcensus data taken beginning in 2000, on demographic, social, economic, and housing topics parallel to the Decennial Census. It is nationally representative of the U.S. household population (Ruggles et al 2010). A major flaw of these data are that the Decennial Census has 10-year chronological gaps between when it interviews respondents during post of the period we investigate. We find the more-frequent interviews of the CPS more suitable to our purposes.

With Census/ACS data, we use parallel questions to those in the CPS to reproduce our results, and look at outcomes for all respondents from years 1960-2012. We do not

include significance testing for the difference between veterans and non-veterans in this model because to do so leads to empty cells. These results are shown in the appendix, in Tables 4.4-4.7). The Census/ACS results offers additional support for the apparent meaningfulness of the "normative environment" variable, with white veterans statistically significantly more likely to marry a black woman than a white non-veteran in the post-1975 cohort of service. These results contradicts those of our CPS analysis, however, with respect to "status exchange" patterns. They show that black veterans are more likely to marry a white women when he has a Bachelor's degree and she does not. See Appendix Tables 1 and 2 for these results. (Note that Table 2 is presented in two sections.)

We also run on our models using an ACS file from the years 2008-2012, which includes a variable that allows us measure whether the marriage was a first marriage, or a higher-order marriage for at least one of the partners. We use this file to selectively test whether controls for this variable can partially explain differences between our models below between those that cover black and white respondents from earlier cohorts at both younger and older ages, but early-cohort respondents from other race/ethnic backgrounds only at older ages. These results indicate that the greater likelihood of veterans to divorce and remarry makes little difference to the patterns of intermarriage that our CPS models show. Comparing a parallel model to our CPS 1988-2012 model with one that controls for whether or not the marriage is a re-marriage for at least one spouse shows no meaningful differences between the two. See the appendix tables 3 and 4 for these results. (Note that Tables 3 and 4 are each presented in two sections.)

Discussion and Conclusions

In this study, we have investigated the determinants of intermarriage among U.S. male veterans from the 1960s through 2012. We have considered contrasting patterns in the major drivers of intermarriage for veterans relative to non-veterans, as well as differences in the determinants of intermarriage among veterans from different race/ethnic backgrounds. We find that veterans' greater likelihood of intermarriage is driven by a combination of the diverse race/ethnic composition of military settings, increased socioeconomic attainment of veterans, and a normative environment that that both discourages discriminatory behavior, and encourages the formation of intergroup bonds.

Our contribution to the literature on intermarriage is unique because by focusing on veterans we are able to consider how compositional, socioeconomic, and normative factors *jointly* contribute to intermarriage at the individual- and couple-level. Previous literature on intermarriage has tended to focus separately on socioeconomic factors that influence entry into exogamous marriages (Fu 2001; Gulllickson 2006), or on the kinds of geographic and institutional contexts that facilitate the formation of intergroup bonds, whether by bringing members of different groups together in "marriage markets" or by encouraging close contact between members of different groups (Bratter and Zuberi 2001; Johnson and Jacobson 2005; Perry 2013). By examining the "marriage market plus" context of the military, we are able to consider how all of these factors combine simultaneously in one institutional setting to increase veterans' likelihood of forming

intermarriages in the long term. Military service is an all-encompassing life course event that for most service members begins and ends in young adulthood, but which has long-term effects on veterans' labor market prospects, social networks, and value orientations.

We make a particular contribution to considering the role of diverse composition and intergroup contact in facilitating the formation intergroup bonds. That is, to the extent that veterans intermarry more than non-veterans, this means that veterans more than non-veterans engage in close relationships with members of different race/ethnic groups from their own, including not only the romantic relationships that comprise intergroup marriages themselves, but also the intergroup friendships that may often facilitate introductions to exogamous partners, and the intergroup familial relationships that result from intermarriages. A major caveat of previous "contact hypothesis" literature on the role of contact per se in facilitating intergroup bonds or improving different groups' attitudes toward each other has been the selection of those with pre-existing pro-diversity and racially progressive attitudes into settings where such contact is possible (Bobo and Zubrinsky 2001). Because the military is not selective of people with more politically liberal or racially progressive beliefs (and may indeed be slightly more politically conservative than the U.S. general population) (Holsti 2001; Davis 2001; Segal et al 2001; Teigen 2007), we are able to assert with relative confidence that intergroup contact within the military setting likely facilitates the formation of such close bonds between members of different race/ethnic groups.

Because representation of minorities is higher in the military than in the U.S. general population (Armor 1996; Armor and Gilroy 2010), and because it brings together individuals from different race/ethnic backgrounds who would be unlikely to meet in

relatively more-segregated schools and residential neighborhoods (Farley and Frey 1994), we hypothesized that both white veterans and veterans of color would be more likely to intermarry with a wife who was also a veteran. We found support for this first hypothesis, for both white and minority veterans. We also found support for the hypothesis that white and minority veterans would be increasingly likely to intermarry as minority representation in the military increased and the diversity of this pool of colleagues, friends, and prospective partners grew. Although Native American and Hispanic veterans from more-diverse cohorts were less likely to intermarry, white, black and Asian/Pacific Islander veterans were all more likely to intermarry as military diversity increased.

Military service is a stable form of employment in itself. It also facilitates veterans' labor market success in the long term through a combination of training, access to postsecondary education, and the positive "signaling" that civilian employers associate with veteran status (MacLean and Elder 2007; Kleykamp 2009). We considered the role of socioeconomic factors in contributing to veterans' high rates of intermarriage, as guided by two existing theories of how socioeconomic attainment relates to intermarriage. If structural assimilation theory (Fu 2001; Gullickson 2006) explained veterans' higher rates of intermarriage, we hypothesized that we would see a stronger association between having a bachelor's degree and intermarrying for veterans versus non-veterans. If status exchange theory explained veterans' higher rates of intermarriage, we hypothesized that we would see a stronger association with intermarriage for veterans in educationally discordant, white/minority pairings, in which the spouse of color would have higher educational attainment than the white spouse. We found support for the

hypothesis that higher socioeconomic status facilitates veterans' intermarriage for white, black and Hispanic veterans relative to non-veterans. We did not, however, find overall support for a status exchange pattern among intermarried veterans.

The military has long been widely regarded a less-discriminatory workplace than is common in the civilian labor market (Moskos and Butler 1996). It has enforced successively more-equalitarian policies designed to ensure equal treatment between minority and white service members (Bogart 1969; Lundquist 2004). Military norms encourage the formation of close bonds between service members from different race/ethnic backgrounds. We hypothesized that veterans who served under more-equalitarian military policies would be more likely to intermarry. By extension, we hypothesized that this particular cohort breakdown would not lead to varying levels of intermarriage for non-veterans. In support of this hypothesis, we found that among veterans, whites and blacks from cohorts who served in more-equalitarian normative environments were more likely to intermarry than non-veterans. We offer a caveat for these findings, however, that because changes to military policy occurred concomitant with increasing diversity in the military and changes to racial attitudes in society at large, our measures may not perfectly capture the effects of military norms per se.

Taking these findings together, we conclude that the combination of the diverse composition of the military as well as the "extended intermarriage market" that it creates, the socioeconomic advancement that the military facilitates for veterans of all race/ethnic backgrounds, and the uniquely equalitarian normative environment of the military, all combine to facilitate intermarriages for veterans. Research to date on intergroup contact suggests that contact between whites and minorities mainly has behavioral and attitudinal

effects for whites (Irizarry 2012), increasing their positive feelings toward members of the minority groups members with whom they come into contact. However, the military context is unique insofar as it appears to increase the likelihood of intermarriage not only for whites, but also for minority group members, especially African Americans. Given that previous research suggests that the military is not selective of people with particularly anti-racist or politically liberal attitudes (Holsti 2001; Segal et al 2001) we speculate that at least some of these intermarriages occur between partners who would have been more likely to marry exogamously were it not for their experience of the military setting. Entry into an intermarriage does not necessarily mean that an individual has more-positive attitudes toward other members of his exogamous spouse's race/ethnic group, or toward other race/ethnic outgroups in general (Jackman and Crane1986). However, regardless of the contents of individuals' conscious or unconscious thoughts, the *behavior* of forming intermarriages and by extension intergroup families in itself both reflects and contributes to the erosion of social distance between groups (Liebler et al 2014). As such, to the extent that military service facilitates intermarriage among veterans, and limits the opposition exogamous couples face from military and veteran peers, it can be said to promote relatively racially and ethnically equalitarian behavior.

Our study has several limitations. First, we only examine determinants of intermarriage for male veterans. The experience of female veterans in the military context, and their patterns of intermarriage, may be quite different from those of male veterans, thus meriting a separate study. Second, we are unable to capture all intergroup pairings due to the current nature of Census racial categories. For example, a couple including an East Asian American husband and South Asian American wife would likely

consider themselves to be in an intermarriage, but would not be captured by our measures. Furthermore, we do not consider the intermarriage behavior of individuals with mixed race/ethnic heritage, although literature suggests they are more likely to enter intermarriages. Furthermore, as we have noted above, we can only observe the behavior of earlier cohorts of Asian/Pacific Islander, Native American and Hispanic respondents at older ages, although we have attempted to account for this to some extent with our supplementary ACS analysis. Finally, we consider the determinants of intermarriage only for men who marry women. Same-sex marriages may show different patterns in the likelihood that they involve partners from different race/ethnic backgrounds.

Despite these caveats, however, we believe that our findings offer strong support for a view of the military as a unique "marriage market plus" that facilitates intermarriage through a combination of compositional, socioeconomic and normative mechanisms. Our findings contribute to the broader literature on how intergroup contact affects individual-level attitudes and behaviors, by illuminating the role that race/ethnic composition and institutional norms can play in the formation of close intergroup bonds and the perpetuation of intermarriage.

References

Alba, Richard and Victor Nee. 2003. *Rethinking the American Mainstream: Assimilation and Contemporary Immigration.* Cambridge: Harvard University Press.

Albano, Sondra. 1994. "Military Recognition of Family Concerns: Revolutionary War to 1993." *Armed Forces & Society.* 20:283-302.

Allport, Gordon W. 1954. *The Nature of Prejudice.* Reading, MA: Addison-Wesley Publishing Company.

The American National Election Studies (www.electionstudies.org). THE ANES GUIDE TO PUBLIC OPINION AND ELECTORAL BEHAVIOR. Ann Arbor, MI: University of \ Michigan, Center for Political Studies [producer and distributor].

Armor, David J. 1996. "Race and Gender in the U.S. Military." *Armed Forces & Society.* 23: 7-27.

Armor, David J. and Curtis L. Gilroy. 2010. "Changing Minority Representation in the U.S. Military." *Armed Forces & Society.* 36: 223-246.

Becker, Gary S. 1981. A Treatise on the Family. Cambridge: Harvard University Press.

Blaisure, Karen Rose, Tara Saathoff-Wells, Angela Pereira, Shelley McDermid Wadsworth and Amy Laura Dombro. 2012. *Serving Military Families in the 21st Century.* New York: Routledge.

Bobo, Lawrence and Camille Zubrinsky. 1996. "Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice." *Social Forces.* 74: 883-909.

Bogart, Leo. 1969. *Social Research and the Desegregation of the U.S. Army: Two*

Original 1951 Field Reports. Chicago: Markham Publishing Company.

Bolté, Charles C. and Louis Harris. 1947. *Our Negro Veterans.* New York: Public Affairs Committee, Inc.

Boxer, Christie F., Mary C. Noonan and Christine B. Whelan. 2015. "Measuring Mate Preferences: A Replication and Extension." *Journal of Family Issues.* 36: 163-187.

Bratter, Jenifer and Tukufu Zuberi. 2001. "The Demography of Difference: Shifting Trends of Racial Diversity and Interracial Marriage, 1960-1990." *Race & Society.* 4: 133-148.

Browning, Harley L., Sally C. Lopreato and Dudley L. Poston Jr. 1973. "Income and Veteran Status: Variations among Mexican-Americans, Blacks and Anglos." *American Sociological Review.* 38: 74-85.

Butler, John Sibley and Kenneth L. Wilson. 1978. "The American Soldier Revisited: Race Relations and the Military." *Social Science Quarterly.* 59: 451-467.

Chaves, Mark and Shawna L. Anderson. 2014. "Changing American Congregations: Findings from the Third Wave of the National Congregations Study." *Journal for the Scientific Study of Religion.* 53: 676-686.

Cherlin, Andrew. 2004. "The Deinstitutionalization of Marriage." *Journal of Marriage and Family.* 66:848-861.

Daugherity, Brian J. and Charles C. Bolton. 2008. *With All Deliberate Speed: Implementing Brown v. Board of Education.* Fayetteville: University of Arkansas Press.

Davis, James A. 2001. "Attitudes and Opinions among Senior Military Officers and a

U.S. Cross-Section, 1998-99." *Soldiers and Civilians: The Civil-Military Gap and American National Security.* Cambridge, MA: The MIT Press.

Davis, Kingsley. 1941. "Intermarriage in Caste Societies." *American Anthropologist* 43:376–95.

Elder, Glen H. Jr. 1986. "Military Times and Turning Points in Men's Lives." *Developmental Psychology.* 22: 233-245.

Ellison, Christopher G. 1992. "Military Background, Racial Orientations, and Political Participation among Black Adult Males." *Social Science Quarterly.* 73: 360-378.

Ellison, Christopher G. and Daniel A. Powers. 1994. "The Contact Hypothesis and Racial Attitudes among Black Americans." *Social Science Quarterly.* 75: 385-400.

Emerson, Michael O., Rachel Tolbert Kimbro and George Yancey. 2002. "Contact Theory Extended: The Effects of Prior Racial Contact on Current Social Ties." *Social Science Quarterly.* 83: 745-761.

Evans, James C. 1955. *Integration in the Armed Services: A Progress Report.* Washington, DC: Office of the Assistant Secretary of Defense.

Farley, Reynolds and William H. Frey. 1994. "Changes in Segregation of Whites from Blacks During the 1980s: Small Steps toward a More Integrated Society." *American Sociological Review.* 59: 23-45.

Fischer, Mary J. 2008. "Does Campus Diversity Promote Friendship Diversity? A Look at Interracial Friendships in College." *Social Science Quarterly.* 89: 631-655.

William H. Frey and Reynolds Farley. 1996. "Latino, Asian and Black Segregation in U.S. Metropolitan Areas: Are Multiethnic Metros Different?" *Demography.* 33:35-50.

Frey, William H. and Dowell Meyers. 2005. "Racial Segregation in U.S. Metropolitan Areas and Cities, 1990-2000: Trends, Patterns and Explanations." Report 05-573, Population Studies Center, University of Michigan Institute for Social Research.

Fryer, Roland G. Jr. 2007. "Guess Who's Been Coming to Dinner? Trends in Interracial Marriage over the 20th Century." *Journal of Economic Perspectives.* 21: 71-90.

Folbre, Nancy. 1994. *Who Pays for the Kids? Gender and the Structures of Constraint.* London: Routledge.

Fu, Vincent Kang. 2001. "Racial Interracial Marriage Pairings." *Demography.* 38: 147-159.

Gullickson, Aaron. 2006. "Education and Black-White Interracial Marriage." *Demography.* 43: 673-689.

Harknett, Kristen and Arielle Kuperberg. 2011. "Education, Labor Markets and the Retreat from Marriage." *Social Forces.* 90: 41-63.

Heaton, Tim B. and Cardell K. Jacobson. 2000. "Intergroup Marriages: An Examination of Opportunity Structures." *Sociological Inquiry.* 70: 30-41.

Hoewe, Jennifer and Geri Alumit Zeldes. 2012. "Overturning Antimiscegenation Laws: News Media Coverage of the Lovings' Civil Case against the State of Virginia." *Journal of Black Studies.* 43:427-443.

Holsti, Ole R. 2001. "Of Chasms and Convergences: Attitudes and Beliefs of Civilians and Military Elites at the Start of the New Millennium." *Soldiers and Civilians: The Civil-Military Gap and American National Security.* Cambridge, MA: The MIT Press.

Humes, Karen R., Nicholas A. Jones, and Roberto R. Ramirez. 2011. "Overview of Race and Hispanic Origin: 2010." *2010 Census Briefs.* C2010BR-02.

Irizarry, Yasmiyn. 2013. "Is Measuring Interracial Contact Enough? Racial Concentration, Racial Balance, and Perceptions of Prejudice among Black Americans." *Social Science Quarterly.* 94: 591-615.

Jackman, Mary R. 1994. *The Velvet Glove: Paternalism and Conflict in Gender, Class and Race Relations.* Berkeley: University of California Press.

Jackman, Mary R. and Marie Crane. 1986. "'Some of My Best Friends Are Black…': Interracial Friendship and Whites' Racial Attitudes." *The Public Opinion Quarterly.* 50: 459-486.

Jennings, M. Kent and Gregory B. Markus. 1977. "The Effect of Military Service on Political Attitudes." *The American Political Science Review.* 71: 131-147.

Johnson, Bryan R. and Cardell K. Jacobson. 2005. "Contact in Context: An Examination of Social Settings on Whites' Attitudes toward Interracial Marriage." *Social Psychology Quarterly.* 4: 387-399.

Kalmijn, Matthijs. 1993. "Trends in Black/White Interracial Marriage." *Social Forces.* 72: 119-146.

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology.* 24: 395-421.

King, Miriam, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. 2010. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-readable database].

Minneapolis, MN: Minnesota Population Center [producer and distributor].

King, Rosalind Berkowitz and Jenifer Bratter. 2007. “A Path toward Interracial Marriage: Women’s First Partners and Husbands across Racial Lines.” *The Sociological Quarterly.* 48: 343-369.

Kleykamp, Meredith. 2009. “A Great Place to Start? The Effect of Prior Military Service on Hiring.” *Armed Forces & Society.* 35: 266-285.

Krysan, Maria and Reynolds Farley. 2002. “The Residential Preferences of Blacks: Do They Explain Persistent Segregation?” *Social Forces.* 80: 937-980.

Lawrence, George H. and Thomas D. Kane. 1995/6. “Military Service and Racial Attitudes of White Veterans.” *Armed Forces & Society.* 22:235-255.

Leal, David L. 2003. “The Multicultural Military: Military Service and the Acculturation of Latinos and Anglos.” *Armed Forces & Society.* 29:205-226.

Lemmon, Megan, Mira Whyman and Jay Teachman. 2009. “Active-duty Military Service in the United States: Cohabiting Unions and the Transition to Marriage.” *Demographic Research.* 20:195-207.

Lesthaeghe, Ron. 2010. "The Unfolding Story of the Second Demographic Transition." *Population and Development Review*. 36: 211-251.

Levin, Shana, Colette van Laar, and Jim Sidanius. 2003. “The Effect of Ingroup and Outgroup Friendships on Ethnic Attitudes in College: A Longitudinal Study.” *Group Processes and Intergroup Relations.* 6: 76-92.

Liebler, Carolyn A., Sonya Rastogi, Leticia E. Fernandez, James E. Noon and Sharon R. Ennis. 2014. “America’s Churning Races: Race and Ethnic Response Changes between the 2000 and 2010 Census.” U.S. Census Bureau Center for

Administrative Records Research and Applications Working Paper Series #2014-09.

Lofquist, Daphne, Terry Lugail, Martin O'Connell, and Sarah Feliz. 2011. "Households and Families: 2010." *2010 Census Briefs.* C2010BR-14. U.S. Census Bureau.

Lundquist, Jennifer Hickes. 2004. "When Race Makes No Difference: Marriage and the Military." *Social Forces.* 88: 731-757.

Lundquist, Jennifer Hickes. 2006. "The Black-White Gap in Marital Dissolution among Young Adults: What Can a Counterfactual Scenario Tell Us?" *Social Problems.* 53: 421-441.

MacGregor, Morris J. 1981. *The Integration of the Armed Forces: 1940-1965.* Washington, DC: Center of Military History.

MacLean, Alair and Glen H. Elder Jr. 2007. "Military Service in the Life Course." *Annual Review of Sociology.* 33: 175-196.

McClendon, David, Janet Chen-Lan Kuo and R. Kelly Raley. 2014. "Opportunities to Meet: Occupational Education and Marriage Formation in Young Adulthood." *Demography.* 51: 1319-1344.

McClintock, Elizabeth Aura. 2014. "Beauty and Status: The Illusion of Exchange in Partner Selection." *American Sociological Review.* 79: 575-604.

Merton, Robert.K. 1941. "Intermarriage and the Social Structure: Fact and Theory." *Psychiatry.* 4: 361–74.

Moskos, Charles C. and John Sibley Butler. 1996. *All That We Can Be: Black Leadership and Integration the Army Way.* New York: Basic Books.

Murray, Pauli. 1950. *States' Laws on Race and Color and Appendices Containing*

International Documents, Federal Laws and Regulations, Local Ordinances and Charts. Cincinnati: Women's Division of Christian Service, Board of Missions and Church Extension, Methodist Church.

Nederhof, Anton J. 1985. "Methods of Coping with Social Desirability Bias: A Review." *European Journal of Social Psychology*. 15: 263-280.

Nteta, Tatishe M. and Melinda R. Tarsi. 2015. "Self-Selection versus Socialization Revisited: Military Service, Racial Resentment, and Generational Membership." *Armed Forces & Society.* 1-24.

Perry, Samuel L. 2013. "Racial Composition of Social Settings, Interracial Friendship, and Whites' Attitudes to Interracial Marriage" *The Social Science Journal.* 50: 13-22.

Phillips, L. Taylor and Brian S. Lowery. 2015. "The Hard-Knock Life? Whites Claim Hardships in Response to Racial Inequality." *Journal of Experimental Psychology.* 61: 12-18.

Pollak, Robert A. 2000. Theorizing Marriage." The Ties That Bind: Perspectives on Marriage and Cohabitation. Ed. Linda S. Waite. New York: Aldine de Gruyter.

Powers, Daniel A. and Christopher G. Ellison. 1995. "Interracial Contact and Black Racial Attitudes: The Contact Hypothesis and Selectivity Bias." *Social Forces.* 74: 205-226.

Qian, Zenchao and Daniel T. Lichter. 2007. "Social Boundaries and Marital Assimilation." *American Sociological Review.* 72: 68-94.

Qian, Zenchao and Daniel T. Lichter. 2011. "Changing Patterns of Interracial Marriage in a Multiracial Society." *Journal of Marriage and Family.* 73: 106-1084.

Rosenfeld, Michael J. 2005. "A Critique of Exchange Theory in Mate Selection." *American Journal of Sociology.* 110: 1284-1325.

Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor].

Schuman, Howard, Charlotte Steeh and Lawrence Bobo. 1985. *Racial Attitudes in America: Trends and Interpretations.* Cambridge, MA: Harvard University Press.

Schwartz, Christine R. and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage." *Demography* 42: 621-646.

Segal, David R., Peter Freedman-Doan, Jerald G. Bachman, and Patrick M. O'Malley. 2001. "Attitudes of Entry-Level Enlisted Personnel: Pro-Military and Politically Mainstreamed." *Soldiers and Civilians: The Civil-Military Gap and American National Security.* Cambridge, MA: The MIT Press.

Stouffer, Samuel A. 1949. *The American Soldier.* Princeton: Princeton University Press.

Sweeney, Megan M. 2002. "Two Decades of Family Change: The Shifting Economic Foundations of Marriage." *American Sociological Review.* 67: 132-147.

Taylor, Marylee. 1998. "How Whites Attitudes Vary with Racial Composition of Local Populations: Numbers Count." *American Sociological Review.* 63: 512-535.

Teachman, Jay. 2007. "Race, Military Service and Marital Timing: Evidence from the NLSY-79." *Demography.* 44:389-404.

Teigen, Jeremy M. 2007. "Veterans' Party Identification, Candidate Affect, and Vote Choice in The 2004 U.S. Presidential Election." *Armed Forces & Society.*

33: 414-437.

Tomaskovic-Devey, Donald, Catherine Zimmer, Kevin Stainback, Corre Robinson, Tiffany Taylor and Tricia McTague. 2006. "Documenting Desegregation: Segregation in American Workplaces by Race, Ethnicity and Sex, 1966-2003." *American Sociological Review.* 71: 565-588.

Tropp, Linda R. 2003. "The Psychological Impacts of Prejudice: Implications for Intergroup Contact." *Group Processes & Intergroup Relations.* 6: 131-149.

Tropp, Linda R. 2007. "Perceived Discrimination and Interracial Contact: Predicting Interracial Closeness among Black and White Americans." *Social Psychology Quarterly.* 70: 70-81.

U.S. Census Bureau. 2011. "Population" Estimates and Projections by Age, Sex, Race/Ethnicity, Table 6: Resident Population by Sex, Race, and Hispanic-Origin Status: 2000 to 2009." *The 2012 Statistical Abstract.*

U.S. Department of Defense. 2012. "Demographics: Profile of the Military Community." http://download.militaryonesource.mil/12038/MOS/Reports/2012_Demographics Report.pdf. Accessed 10/6/15.

U.S. Department of Defense. 2015. "Population Representation in the Military Services" Reports, for years 1997-2011. http://prhome.defense.gov/RFM/MPP/AP/POPREP.aspx. Accessed 9/1/15.

Wadsworth, Shelley MacDermid and Kenona Southwell. 2011. "Military Families: Extreme Work and Extreme 'Work-Family.'" *Annals of the American Academy of Political and Social Science.* 638: 163-183.

Willoughby, Brian J., Scott S. Hall and Heather P. Luszak. 2015. "Marital Paradigms: A

Conceptual Framework for Marital Attitudes, Values and Beliefs." *Journal of Family Issues.* 36: 188-211.

Yancey, George. 2002. "Who Interracially Dates: An Examination of the Characteristics of Those Who Have Interracially Dated." *Journal of Comparative Family Studies.* 33: 179-190.

Chapter 5: Conclusion

The three papers of this dissertation consider three contexts for the intersection of early employment experience and family formation. I consider early employment and family formation as two early life course events that can mutually influence each other, and thereby have long-term effects on individuals' subsequent work careers and family lives.

In the first chapter, I examine how young women's early employment intersects with their individual-level preferences to affect the timing and marital or nonmarital context of their childbearing. I treat early employment as a mechanism by which women gain access to material resources in the near term, as a context through which women are connected to a pool of prospective partners, and as a forecast of women's long-term ability to command resources. By jointly affecting the extent to which women believe they will be able to engage in lucrative work over the long term and have access to normatively "marriageable" partners, all of these function to incentivize either earlier, nonmarital childbearing versus later marital childbearing or postponed childbearing. Differences in this confluence of early adult resources plays a major role in creating the well-documented socioeconomic differentials in which women with lower levels of resources are more likely to have earlier, nonmarital births, and women with higher levels of resources are more likely to postpone childbearing until after marriage.

My major contribution to the literature on the intersection between women's work and family in this first paper concerns my consideration of how women's preferences about marital versus nonmarital childbearing come to bear on this process. Previous literature has separately considered how socioeconomic factors affect individuals'

likelihood of entry into marriage, and how individuals' intentions about childbearing and marriage affect their likelihood of having children, or marrying, respectively. However, no previous research has specifically examined how much women's likelihood of eventually having a marital or nonmarital birth is affected by their stated preferences for or against nonmarital birth. Nor have any previous studies been able to prospectively address how the realization of these preferences might vary by the amount of material resource to which individual women have access. I use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to focus on the preferences about nonmarital childbearing expressed by young women in adolescence (ages 11-21) before they begin childbearing. I follow these women across time up to ages 25-35, considering how these stated preferences interact with the resources to which they and their pool of partners have access to affect their likelihood of having a nonmarital birth, a marital birth, or postponing childbearing.

I find that individual-level preferences about marital versus nonmarital childbearing are strongly predictive of women's family formation outcomes. However, although the majority of women express a preference against nonmarital childbearing, one quarter of the women who express this preference go on to have a nonmarital first birth. I find that individual-level preference against having a nonmarital birth is more strongly predictive of postponing childbearing versus having a nonmarital birth than it is of having a marital birth versus a nonmarital birth. Taking into account women's and their partners' access to resources enhances the importance of preferences for the likelihood of postponing childbearing. However, the predictive power of resources cancels out that of preferences in predicting whether women have a nonmarital versus

marital first birth. This suggests that although individual preferences about unmarried motherhood are meaningful predictors of whether women will or won't have a nonmarital first birth, these preferences are nonetheless heavily circumscribed by socioeconomic factors.

This study has two major limitations which could reasonably be addressed by future research. The first of these is the fact that women are observed only up through their ages 25-35, at Wave 4 of Add Health. Some women who have postponed childbearing versus having a nonmarital first birth in my study may nonetheless go on to have a nonmarital first birth later. The eventual release of Add Health Wave 5 will allow for updating of this information. Second, the present study focuses only on women's first births, but does not consider the role of preferences in the marital or nonmarital context of subsequent births. Future research may consider whether preferences play a role in predicting whether women who had a nonmarital first birth may have subsequent marital births, or vice versa.

In the second chapter of my dissertation, I investigate the accuracy of women's retrospective reporting on their first employment timing, considering early family formation as one of a number of factors that may affect reporting accuracy. In this paper, I focus on first employment as an early life course event that is an important forecast and determinant of women's potential labor market success to come. To the extent that first employment is a signal of women's long-term labor market prospects, it also may affect family formation behavior, by incentivizing postponed childbearing for higher-earning women and earlier and frequently nonmarital childbearing for lower-earning women. The early employment experience of low-income single mothers in particular is of critical

policy importance. In the context of the deindustrializing U.S. economy and in the absence of entitlement-based income supports, their own and their children's wellbeing is mainly determined by their successful labor market attachment. For this reason, accurate estimates of young women's first employment timing is critical both to policy evaluation and to inequality research.

My study fills a gap in the literature on reporting accuracy by it focusing on reporting about *first* employment in particular, and by focusing on employment reporting in the United States. Recent research about the accuracy of survey reporting on employment histories has focused to a large extent on Europe, and few recent studies have examined retrospective reports of employment histories in the U.S. Furthermore, most studies both on the U.S. and on Europe have focused on reporting about unemployment more than employment.

I evaluate the accuracy of young women's retrospective reporting on their first employment by comparing retrospective reports from the 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP), the 2006-2010 cycle of the National Survey of Family Growth (NSFG) and Wave 4 of the National Longitudinal Study of Adolescent to Adult Health (Add Health), with annual panel reports from the National Longitudinal Survey of Youth – 1997 (NLSY97). I evaluate the accuracy of the timing of first employment by comparing NLSY97 vs. retrospective estimates of whether or not a first job occurred by 2002, and of the age at which the first job was reported as occurring. I consider whether the duration of recall since first employment, the salience and complexity of women's employment histories, and the presence or absence of "anchoring" biographical affect women's reporting accuracy. I also test for differences

in reporting accuracy by race/ethnicity and mother's educational attainment, in the context of the employment history and salience of these sociodemographic groups. I find that women who had early births more accurately report the timing of their first employment, which I attribute to the "anchoring" detail of a child's well-remembered date of birth to serve as a reference for the timing of first employment. I find that non-Hispanic White women and women whose mothers have a bachelor's degree on average somewhat underreport the incidence of their early first job or employment, and misreport their first job or employment as occurring at an older age, whereas Black and Hispanic women and those whose mothers have lower educational attainment give more accurate reports. I attribute this to the fact that White and high-SES women have early employment histories that are in aggregate more complex (multiple jobs) and lower in salience (more part-time jobs). I also find evidence that retrospective reports of the timing of first employment may be skewed towards underreporting earlier, shorter jobs and overreporting longer, later jobs.

A limitation of this study is the fact that it examines only the accuracy of reporting on first employment, and considers women's reporting when they are still relatively young. It finds that women with lower employment salience and complexity—here, White and high-SES women—are less accurate reporters. However, given that over the long term, high-SES women's employment careers are more likely to be fulltime and steady relative to lower-SES women, these patterns of reporting accuracy may reverse themselves. Future research might productively evaluate the retrospective reporting accuracy of women at later ages, and of employment after the first job.

In the third chapter of this dissertation, I examine how early employment in the military contributes to veterans' greater likelihood of intermarrying relative to non-veterans among married men. I consider the military as a form of early employment that most often begins and ends in young adulthood, but which nonetheless boosts veterans' socioeconomic attainment, diversifies their pool of prospective partners, and potentially changes their race-related attitudes and behaviors across the life course. Previous literature on intermarriage has focused separately either on how socioeconomic factors contribute to greater likelihood of intermarriage, or how contact among members of different race/ethnic groups makes them more or less inclined to intermarriage and inter-group dating relationships. Evidence to date shows a general pattern in which individuals with relatively high socioeconomic status are more likely to intermarry. Evidence also suggests that those who come into close social contact with people from different race/ethnic backgrounds from their own are more likely to feel positively toward those groups, and more likely to intermarry. However, no study of which I am aware has considered how socioeconomic status and the compositional and normative components of social settings might all jointly influence individuals' likelihood of intermarriage.

Focusing on the military allows me to fill this gap in the literature on determinants of intermarriage. Military employment, training and benefits function to increase service members' earnings even after they leave the service, and give them access to postsecondary education, thereby increasing their socioeconomic status relative to their civilian and non-veteran counterparts. This increase is particularly pronounced for veterans of color. The highly-minority composition of military personnel and veterans, especially women, and the high race/ethnic diversity of military-centered metropolitan

areas creates work and social contexts for veterans that are much less-segregated than many non-military settings. The equalitarian norms of the military ensure non-discrimination against minority personnel and encourage the formation of intergroup bonds. Taken together, this indicates that socioeconomic and contextual factors converge, making veterans more likely to intermarry. I term this phenomenon a "marriage-market-plus."

I use data from the Current Population Survey (CPS), supplemented with data from the Decennial Census and American Community Survey (ACS) to investigate whether each of these three factors—socioeconomic attainment, composition, and norms—explains the higher likelihood of intermarrying among veterans. I find support for the hypothesis that the diversity of military composition contributes to veterans' greater likelihood of intermarrying, with both White and minority veterans more likely to intermarry with a wife who is also a veteran, and more likely to intermarry when they serve in the context of greater race/ethnic diversity in the military. I find support for the hypothesis that socioeconomic attainment facilitates veterans' intermarriage for veterans, with veterans who had bachelors' degrees more likely to intermarry than non-veterans. I find support for the hypothesis that the relatively equalitarian normative environment of the military contributes to veterans' greater likelihood of intermarrying, among Whites and Blacks. My findings offer support for a view of the military as a unique "marriage market plus" that facilitates intermarriage through a combination of compositional, socioeconomic and normative mechanisms.

A major limitation of this paper is the fact that I am unable to follow individual veterans longitudinally to see how their patterns of intermarriage play out over the life

course, but rather must rely on a snapshot of individual lives. This means both that I am unable to consider in much depth how much variation there is in likelihood of intermarriage among first versus second or higher marriages, and that I am unable to directly measure how much the apparent "marriage-market-plus" effects of the military become more or less salient according the duration of the time since veterans leave the military. If data constraints were removed, I would turn my future research efforts to this question.

In sum this dissertation has considered the profound interrelationship between individuals' early employment opportunities and contexts, and their family formation. Early wages and employment experiences play a role in connecting women to different pools of prospective partners, and materially incentivizing or disincentivizing early nonmarital births. Early family formation is strongly associated with women's early entry into fulltime work, and improves women's ability to offer accurate retrospective reports on their first employment. Military employment exposes men to a diverse pool of partners and normatively facilitates their formation of intermarriages. These three sets of findings speak to life course importance of early employment and to the interrelatedness of the ostensibly different domains of work and family.

Table 2.1: Family Formation Outcomes and Socioeconomic Characteristics by Ages 24-34 by Nonmarital Birth Preferences Expressed in Adolescence, among Women with No Births at Ages 11-21

	Total	Would consider a nomarital birth	Would not consider a nonmarital birth	P-value for between-group difference of distribution or mean
Family formation preferences at Wave 1				
Would consider a nonmarital birth	23.9	--	--	
Would not consider a nonmarital birth	76.1	--	--	
Percentages - Time-varying variables measured after their occurrence, through Wave 4				
First birth status				<.001
Nonmarital birth	28.2	39.1	24.8	
Marital birth	21.1	18.2	21.9	
No birth	50.7	42.7	53.3	
Initiated sexual intercourse before age 14	9.4	14.1	7.9	<.001
Percentages - Time-constant variables measured at Wave 1				
Year of respondent's birth				<.001
1974	0.2	0.2	0.2	
1975	0.3	0.2	0.4	
1976	3.8	5.3	3.4	
1977	16.3	23.0	14.1	
1978	16.2	19.1	15.3	
1979	17.1	19.2	16.5	
1980	16.7	14.6	17.3	
1981	16.8	11.2	18.5	
1982	12.5	7.3	14.1	
1983	0.1	0.0	0.2	
Mother's educational attainment				0.061
Less than high school	15.5	17.6	14.9	
High school	44.3	44.3	44.3	
Some college	17.4	18.0	17.2	
Bachelor's degree or more	22.8	20.0	23.6	
Race/ethnicity				<.001
White, non-Hispanic	69.3	63.8	71.0	
Black, non-Hispanic	14.8	20.5	13.0	
Asian/Pacific Islander, non-Hispanic	3.7	2.2	4.2	
Hispanic	12.2	13.5	11.8	
Family intact at Wave 1	68.4	60.1	71.0	<.001
Means - Time-constant variables measured at Wave 1				
Perceived likelihood of being married by age 25 (out of 5)	3.3	3.3	3.3	0.475
Perceived likelihood of going to college (out of 5)	4.3	4.0	4.4	<.001
Self-assessed planfulness and rewards to own work (out of 25)	15.4	15.1	15.4	<.001
Sample N	6,246	1,599	4,647	

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health)
Note: Estimates are weighted

Table 2.2: Age, Education, Work and Relationship Characteristics Measured in Person-Months of Exposure, by Nonmarital Birth Preferences Expressed in Adolescence, among Women with No Births at Ages 11-21

	Total	Would consider a nomarital birth	Would not consider a nonmarital birth
Percentages			
Ever graduated with a high school diploma or GED	67.2	68.9	66.7
Ever graduated with an Associate's degree	7.0	7.8	6.8
Ever graduated with a Bachelor's degree	16.3	15.1	16.6
Ever had a part-time non-professional job	59.0	60.7	58.5
Ever had a fulltime non-professional job	37.8	41.5	36.8
Ever had a part-time professional job	7.9	8.7	7.8
Ever had a fulltime professional job	23.0	24.5	22.6
Ever cohabited	10.8	11.8	10.5
Ever dated a man with some college	6.5	5.4	6.8
Ever dated a man with a bachelor's degree	4.1	4.2	4.1
Mean			
Age	21.0	21.2	20.9
Sample N	665,557	149,213	516,344

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health)
Note: Estimates are weighted

Table 2.3: Multinomial Logistic Regression Model of the Competing of Hazard of Having a Marital First Birth or No Birth vs. a Nonmarital First Birth by Ages 24-34 , among Women with No Births at Ages 11-21

	Model 1		Model 2		Model 3		Model 4		Model 5‡	
	Baseline		Resource Acquisition in Young Adulthood		Perceived Capability and Future Options		Relationship Experience		All Variables and Interactions	
	Marital first birth vs. nonmarital first birth	No birth vs. nonmarital first birth	Marital first birth vs. nonmarital first birth	No birth vs. nonmarital first birth	Marital first birth vs. nonmarital first birth	No birth vs. nonmarital first birth	Marital first birth vs. nonmarital first birth	No birth vs. nonmarital first birth	Marital first birth vs. nonmarital first birth	No birth vs. nonmarital first birth
Time-constant variables, measured Wave 1										
Stated preference against nonmarital birth	0.52***	0.44***	0.51***	0.42***	0.50***	0.40***	0.50***	0.38***	0.15	0.62***
	(0.112)	(0.071)	(0.116)	(0.070)	(0.115)	(0.073)	(0.117)	(0.075)	(0.348)	(0.159)
Odds ratio	1.68	1.55	1.67	1.52	1.65	1.49	1.65	1.46	1.16	1.86
Mother's educational attainment (vs. Less than high school)										
High school	-0.12	0.13	-0.23	0.06	-0.24	0.04	-0.26†	0.03	-0.25	0.04
	(0.165)	(0.092)	(0.157)	(0.093)	(0.156)	(0.095)	(0.153)	(0.093)	(0.155)	(0.093)
Some college	0.16	0.50***	0.02	0.37**	0.00	0.34*	-0.04	0.31*	-0.03	0.31*
	(0.190)	(0.125)	(0.186)	(0.126)	(0.189)	(0.131)	(0.186)	(0.130)	(0.191)	(0.130)
Bachelor's degree	0.17	0.99***	-0.01	0.75***	-0.05	0.70***	-0.09	0.64***	-0.08	0.64***
	(0.209)	(0.131)	(0.202)	(0.132)	(0.206)	(0.137)	(0.204)	(0.134)	(0.204)	(0.134)
Family intact at Wave 1	0.38***	0.52***	0.34**	0.48***	0.34**	0.47***	0.34**	0.44***	0.33**	0.44***
	(0.104)	(0.079)	(0.105)	(0.080)	(0.104)	(0.081)	(0.105)	(0.081)	(0.107)	(0.081)
Race/ethnicity (vs. White, non-Hispanic)										
Black, non-Hispanic	-1.71***	-0.73***	-1.66***	-0.72***	-1.67***	-0.73***	-1.66***	-0.75***	-1.66***	-0.75***
	(0.174)	(0.108)	(0.173)	(0.105)	(0.173)	(0.105)	(0.175)	(0.103)	(0.177)	(0.104)
Asian/Pacific Islander, non-Hispanic	0.19	0.48	0.17	0.39	0.14	0.35	0.15	0.37	0.15	0.37
	(0.443)	(0.377)	(0.441)	(0.361)	(0.440)	(0.360)	(0.447)	(0.361)	(0.448)	(0.363)
Hispanic, any race	-0.54*	-0.21	-0.51*	-0.21	-0.50*	-0.20	-0.49*	-0.19	-0.48*	-0.19
	(0.235)	(0.139)	(0.233)	(0.133)	(0.233)	(0.134)	(0.233)	(0.136)	(0.234)	(0.135)
Perceived likelihood of marrying by age 25	0.17***	-0.08**	0.15**	-0.08**	0.15**	-0.08**	0.17***	-0.06*	0.16***	-0.07*
	(0.047)	(0.028)	(0.048)	(0.028)	(0.047)	(0.028)	(0.047)	(0.029)	(0.047)	(0.028)
Perceived likelihood of attending college					0.04	0.07*	0.03	0.06	0.03	0.06!
					(0.047)	(0.036)	(0.049)	(0.037)	(0.048)	(0.036)
Self-assessed planfulness and rewards to own work					0.01	0.01	0.01	0.01	0.01	0.01
					(0.020)	(0.014)	(0.020)	(0.013)	(0.020)	(0.013)
Time-varying variables measured at Waves 2-4										
Age	0.33***	-0.05†	0.26***	-0.08**	0.26***	-0.07*	0.26***	-0.06*	0.26***	-0.06*

	(0.039)	(0.025)	(0.042)	(0.026)	(0.042)	(0.027)	(0.042)	(0.027)	(0.042)	(0.026)
Age-squared	0.01**	0.03***	0.01***	0.03***	0.01**	0.03***	0.01***	0.03***	0.02**	0.03***
	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)
Period	-0.07†	0.04	-0.06†	0.05*	-0.06†	0.04†	-0.06†	0.05*	-0.05	0.06*
	(0.036)	(0.023)	(0.036)	(0.022)	(0.035)	(0.022)	(0.036)	(0.022)	(0.036)	(0.022)
Initiated intercourse before age 14	-0.64***	-0.75***	-0.57**	-0.66***	-0.56**	-0.64***	-0.58**	-0.66***	-0.57**	-0.64***
	(0.176)	(0.104)	(0.174)	(0.105)	(0.176)	(0.107)	(0.179)	(0.105)	(0.177)	(0.105)
Current eductional attainment										
Graduated from high school[a]			0.60**	0.21*	0.57**	0.17	0.58**	0.20†	0.29	0.19
			(0.185)	(0.104)	(0.189)	(0.107)	(0.191)	(0.111)	(0.348)	(0.157)
Graduated with an Associate's degree[a]			0.53**	0.31*	0.52**	0.28†	0.53**	0.28†	0.37	0.37
			(0.188)	(0.148)	(0.189)	(0.150)	(0.190)	(0.154)	(0.384)	(0.316)
Graduated with a Bachelor's degree[a]			0.67***	0.84***	0.65***	0.80***	0.62**	0.72***	0.46	0.78*
			(0.180)	(0.166)	(0.185)	(0.169)	(0.184)	(0.169)	(0.374)	(0.308)
Employment history										
Ever had a part-time non-professional job[a]			0.07	-0.07	0.06	-0.08	0.07	-0.07	0.12	0.02
			(0.138)	(0.083)	(0.138)	(0.082)	(0.137)	(0.081)	(0.236)	(0.130)
Ever had a fulltime non-professional job[a]			-0.16	-0.50***	-0.16	-0.50***	-0.12	-0.44***	-0.13	-0.37***
			(0.124)	(0.083)	(0.124)	(0.085)	(0.126)	(0.083)	(0.193)	(0.107)
Ever had a part-time professional job[a]			0.24	0.36*	0.22	0.34*	0.24	0.35*	-0.03	0.49!
			(0.195)	(0.150)	(0.196)	(0.149)	(0.198)	(0.150)	(0.437)	(0.278)
Ever had a fulltime professional job[a]			0.20	0.08	0.19	0.07	0.18	0.06	0.31	0.20
			(0.134)	(0.097)	(0.133)	(0.097)	(0.133)	(0.091)	(0.274)	(0.166)
Relationship history										
Ever cohabited[a]							-0.30*	-0.88***	-0.18	-0.62***
							(0.118)	(0.098)	(0.229)	(0.159)
Ever dated a man with some college[b]							0.21	0.20	0.08	0.07
							(0.211)	(0.146)	(0.373)	(0.249)
Ever dated a man with an Bachelor's degree[b]							0.24	0.44†	0.43	0.47
							(0.249)	(0.245)	(0.602)	(0.526)
Interactions										
Preference against nonmarital birth x Graduated from high school									0.40	0.02
									(0.360)	(0.169)
Preference against nonmarital birth x Graduated with an Associate's degree									0.17	-0.13
									(0.434)	(0.345)
Preference against nonmarital birth x Graduated with a Bachelor's degree									0.18	-0.06

									(0.420)	(0.324)
Preference against nonmarital birth x Had a part-time non-professional job									-0.09	-0.14
									(0.258)	(0.149)
Preference against nonmarital birth x Had a fulltime non-professional job									-0.00	-0.09
									(0.195)	(0.126)
Preference against nonmarital birth x Had a part-time professional job									0.28	-0.22
									(0.513)	(0.352)
Preference against nonmarital birth x Had a fulltime professional job									-0.20	-0.22
									(0.273)	(0.192)
Preference against nonmarital birth x Ever cohabited									-0.21	-0.39*
									(0.276)	(0.176)
Preference against nonmarital birth x Ever dated a man with some college									0.17	0.19
									(0.437)	(0.287)
Preference against nonmarital birth x Ever dated a man with a bachelor's degree									-0.22	-0.01
									(0.784)	(0.634)
Constant	-3.50***	4.70***	-3.25***	4.89***	-3.48***	4.53***	-3.55***	4.23***	-3.40***	3.97***
	(0.685)	(0.443)	(0.684)	(0.429)	(0.802)	(0.498)	(0.785)	(0.467)	(0.846)	(0.489)
Observations	665,557	665,557	665,557	665,557	665,557	665,557	665,557	665,557	665,557	665,557
-2 Log likelihood	56,995,632		56,603,340		56,581,915		56,202,860		56,159,026	

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health).

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, † p<0.10. Estimates are weighted with the Add Health post-stratified grand sample untrimmed cross-sectional weight for the wave of respondents' last interview. [a] As of the month immediately before exposure, measured at Waves 3 and 4. [b] As of the month immediately before exposure, measured at Wave 3. ‡ A likelihood ratio test of the difference in goodness of fit between Models 4 and 5 shows a better fit for Model 5. (LRχ2= 43,834, DF= 10, p<.001)

Table 3.1: Descriptive Statistics, Women Born in the U.S. between 1980 and 1984

A. Sociodemographic Characteristics

	NSFG	SIPP04	SIPP08	NLSY97, Born 1980-1984	NLSY97, Born 1980-1982	Add Health
Race/ethnicity						
White, non-Hispanic	73.4	72.7	73.4	72.8	73.8	75.7
Black, non-Hispanic	16.1	14.3	13.8	16.2	15.8	14.1
Hispanic, any race	10.5	13.0	12.7	11.1	10.5	10.2
Chi-squared p value	0.857	0.024	0.021			0.335
Birth year						
1980	19.3	20.6	21.6	20.2	32.4	39.0
1981	20.8	18.8	20.9	19.9	33.7	36.3
1982	20.2	20.8	19.3	20.5	33.9	24.7
1983	20.4	18.7	17.8	19.3		
1984	19.3	21.1	20.4	20.0		
Chi-squared p value	0.823	0.715	0.373			<0.001
Mother's education*						
Less than high school	11.3			16.2	16.5	14.3
High school	35.2			36.1	35.0	44.6
Some college	28.5			26.6	26.3	19.4
BA or more	25.0			21.0	22.1	21.8
Chi-squared p value	<0.001					<0.001
Ever given birth by end of year 2002†	18.5	21.8	21.6	20.2	27.3	29.0
Chi-squared p value	0.485	0.165	0.214			0.229
Ever married by end of year 2002†	12.2	13.4	15.0	11.1	18.8	19.4
Chi-squared p value	0.223	0.018	<0.001			0.626
Unweighted sample size	1,840	2,455	2,206	3,145	1,626	2,295

B. Employment History Characteristics

Length of first job fulltime job while not primarily a student by February 2009, not including summer jobs						
Two months or less					28.1	21.3
3-5 months					26.7	11.3
6 months or more					45.2	67.4
Chi-squared p value						<0.001
Number of jobs of at least 10 hours per week lasting 9 weeks more reported as occurring between 2001 and February 2009						
Two jobs or fewer					19.5	35.3

3-5 jobs	48.6	50.9
6-9 jobs	28.9	10.9
Ten jobs or more	2.9	3.0
Chi-squared p value		<0.001
Unweighted sample size	1,317	2,122

Sources: National Longitudinal Survey of Youth 1997 (NLSY97), National Survey of Family Growth 2006-10(NSFG), Survey of Income and Program Participation (SIPP) 2004 and 2008 panels, and National Longitudinal Study of Adolescent to Adult Health (Add Health) Waves 1-4. Included NLSY97 respondents born between 1980 and 1984 were interviewed at every survey round up to and including an interview covering the entire calendar year 2002; those born between 1980 and 1982 were interviewed at every survey round up to and including an interview covering the entire calendar year 2003 in the "sample characteristics" section, and through February 2009 in the "employment history characteristics" section. Sample includes respondents with a valid value on each of the variables included in the relevant logistic regression model. 1980-1984 NLSY97 percentages reported are for respondents with a valid value on the variables included in the SIPP04/SIPP08 regression analysis, except when noted with a *, in which case they represent respondents with a valid value on the variables included in the NSFG regression analysis.

† The family formation histories of Add Health respondents and NLSY97 respondents in the parallel sample are coded as ever having given birth, or ever having married, at or before the respondent's age at the end of 2002.

Notes: chi-squared p value indicates statistical significance of difference in the distribution of retrospective surveys from the comparable distribution in NLSY97. Estimates are weighted.

Table 3.2: Reporting of First Job Timing and Characteristics, Women Born in the U.S. between 1980 and 1984

	NSFG	SIPP04	SIPP08	NLSY97, Born 1980-1984	NLSY97, Born 1980-1982	Add Health
Had any job of 6 months or more by 2002		78.1	76.1	81.0		
Chi-squared p value		<0.001	<0.001			
Had a spell of fulltime employment of 6 months or more by 2002*	46.1			49.6		
Chi-squared p value	0.019					
Ever worked fulltime at least 35 hours per week while not primarily a student by age at end of 2002, not including summer jobs					69.6	66.7
Chi-squared p value						0.060
Unweighted sample size	1,840	2,455	2,206	2,950	1,626	2,162
Age at first any job of 6 months or more by December 2008						
17 or younger			59.6	58.9		
18 to 21			27.4	35.1		
22 to 24			11.1	5.4		
25 or more			1.9	0.6		
Chi-squared p value			<0.001			
Age at start of first six month fulltime employment spell by June 2010						
17 or younger	24.9			24.3		
18 to 21	40.0			48.6		
22 to 24	29.4			23.9		
25 or more	5.7			3.3		
Chi-squared p value	<0.001					
Age at first fulltime job while not primarily a student by February 2009, not including summer jobs						
17 or younger					21.4	12.7
18 to 21					51.1	55.1
22 to 24					23.5	27.6
25 or more					3.9	4.6
Chi-squared p value						<0.001
Unweighted sample size	1,030		2,058	2,205	1,317	2,122

Sources: National Longitudinal Survey of Youth 1997 (NLSY97), National Survey of Family Growth 2006-10(NSFG), Survey of Income and Program Participation (SIPP) 2004 and 2008 panels, and National Longitudinal Study of Adolescent to Adult Health (Add Health) Waves 1-4. NLSY97 respondents included in the "by 2002" measures were interviewed at every survey round up to and including an interview covering the entire calendar year 2002; for age at first employment measures, NLSY97 respondents were interviewed at every round up through an interview that inclues reporting on the date noted in the table. Sample includes respondents with a valid value on each of the variables included in the relevant logistic regression model.

Notes: chi-squared p value indicates statistical significance of difference in distribution of retrospective question responses from the comparable distribution in NLSY97. Estimates are weighted.

Table 3.3 : Complexity of Employment History Experienced up to End of Calendar Year 2002, by Year of Birth, Race/Ethnicity, Mother's Education and Family Demographics among Women Born in the U.S. between 1980 and 1984

	Years with no job		Years with 2 or more jobs		Employed months in which the only type of job held was a part-time job[a]		Employed months in which two or more part-time jobs were held[a]		First job of six months was fulltime[b]	
	Percentage	Chi-squared p-value*	Percentage	Chi-squared p-value*	Percentage	Chi-squared p-value*	Percentage	Chi-squared p-value*	Percentage	Chi-squared p-value*
Total	19.8		41.5		64.0		8.7		33.6	
Year of birth										
1980†	17.7	--	45.6	--	53.5	--	8.7	--	39.7	--
1981	19.3	0.209	43.6	0.196	54.1	0.759	7.9	0.381	40.9	0.700
1982	16.4	0.301	45.6	0.985	65.6	<.001	10.8	0.032	33.1	0.032
1983	19.9	0.123	40.7	0.003	70.7	<.001	8.9	0.775	30.2	0.002
1984	25.6	<.001	32.1	0.000	76.8	<.001	7.2	0.102	21.1	<.001
Race/ethnicity										
White, non-Hispanic†	16.8	--	44.8	--	65.3	--	9.9	--	31.9	--
Black, non-Hispanic	30.2	<.001	32.1	<.001	60.0	0.001	5.0	<.001	39.2	0.002
Hispanic, any race	25.0	<.001	32.9	<.001	60.4	0.007	5.7	<.001	38.1	0.019
Mother's education										
Less than high school	27.9	<.001	34.3	<.001	56.6	<.001	4.6	<.001	41.0	<.001
High school	19.1	0.181	42.1	0.053	61.0	<.001	7.8	<.001	37.1	<.001
Any college	17.6	0.908	42.1	0.070	65.1	<.001	9.7	0.017	32.3	0.003
Bachelor's degree or more†	17.5	--	45.3	--	73.1	--	12.1	--	23.9	--
Ever given birth by year end 2002										
Yes	25.8	<.001	35.7	<.001	52.2	<.001	3.8	<.001	46.8	<.001
No†	18.4	--	42.9	--	38.7	--	9.9	--	30.7	--
Ever married by year end 2002										
Yes	20.2	0.771	42.4	0.570	46.7	<.001	4.8	<.001	49.5	<.001
No†	19.8	--	41.4	--	66.1	--	9.2	--	31.5	--
Unweighted sample size	2,950		2,950		2,851		2,851		2,454	

Source: Annual panel reports for respondents interviewed at every wave between 1997 and end of calendar year 2002 in the National Longitudinal Survey of Youth 1997 (NLSY97). All percentages are weighted.

Notes: * Chi-squared p-value is for each group vs. the reference category. † Indicates the reference category for the relevant chi-squared test. [a] Among with any employment by year-end 2002. [b] Among women with a job of six months or more by year-end 2002.

Table 3.4: Logistic Regression Estimates of Reporting First Substantial Employment or Job, Women Born in the U.S. between 1980 and 1984

	NLSY97, SIPP 2004 and SIPP 2008			NLSY97 and NSFG			NLSY97 and Add Health		
	Log odds of reporting any first job (either part-time or fulltime) of six months or more that occurred before the end of calendar year 2002			Log odds of reporting a first fulltime employment spell of six months or more that occurred before the end of calendar year 2002			Log odds of reporting a first fulltime employment spell of any length that began at or before the age of the respondent at the end of calendar year 2002*		
	Coefficient	StdErr	p-value	Coefficient	StdErr	p-value	Coefficient	StdErr	p-value
Birth year (vs. 1980)									
1981	-0.04	0.19	0.842	-0.33 *	0.13	0.011	-0.64 ***	0.15	<0.001
1982	-0.29	0.19	0.118	-0.92 ***	0.13	<0.001	-1.17 ***	0.15	<0.001
1983	-1.20 ***	0.17	<0.001	-1.41 ***	0.13	<0.001			
1984	-2.05 ***	0.17	<0.001	-2.27 ***	0.14	<0.001			
Race/ethnicity (vs. White, non-Hispanic)									
Black, non-Hispanic	-0.88 ***	0.12	<0.001	-0.21 †	0.12	0.067	-0.10	0.17	0.542
Hispanic, any race	-0.37 *	0.15	0.013	-0.07	0.14	0.609	-0.19	0.20	0.341
Mother's education (vs. Bachelor's degree or more)									
Less than high school				0.66 ***	0.14	<0.001	1.13 ***	0.21	<0.001
High school				0.71 ***	0.11	<0.001	0.95 ***	0.15	<0.001
Some college				0.49 ***	0.12	<0.001	0.69 ***	0.16	<0.001
Ever given birth by end of 2002*	-0.88 ***	0.13	<0.001	0.02	0.11	0.890	0.34 *	0.15	0.027
Ever married by end of 2002*	0.01	0.18	0.943	0.77 ***	0.15	<0.001	0.90 ***	0.19	<0.001
NSFG respondent				-0.81 ***	0.19	<0.001			
SIPP 2004 respondent	-0.54 **	0.19	0.005						
SIPP 2008 respondent*	-0.69 ***	0.19	<0.001						
Add Health respondent							-0.28	0.20	0.151
Birth year x survey									
1981 x retrospective survey	-0.27	0.23	0.241	0.08	0.20	0.686	-0.22	0.19	0.260
1982 x retrospective survey	-0.30	0.23	0.179	0.52 **	0.20	0.009	-0.09	0.20	0.644
1983 x retrospective survey	0.06	0.21	0.779	0.63 **	0.20	0.002			
1984 x retrospective survey	0.56 **	0.21	0.007	0.79 ***	0.22	<0.001			
Race/ethnicity x survey									
Black, non-Hispanic x retrospective survey	0.39 *	0.16	0.013	0.44 *	0.18	0.016	-0.37 †	0.23	0.098
Hispanic, any race x retrospective survey	-0.11	0.18	0.542	0.44 *	0.22	0.046	0.57 *	0.27	0.037
Mother's education x survey									
Less than high school x retrospective survey				-0.22	0.24	0.360	0.34	0.28	0.225
High school x retrospective survey				0.21	0.18	0.224	0.20	0.20	0.302
Some college x retrospective survey				0.21	0.18	0.245	-0.03	0.21	0.903

Family status x survey									
Ever given birth by end of 2002 x retrospective survey	0.68 ***	0.16	<0.001	0.18	0.18	0.308	0.41 *	0.20	0.045
Ever married birth by end of 2002 x retrospective survey	0.28	0.22	0.210	0.08	0.23	0.718	-0.64 **	0.24	0.008
Intercept	2.75 ***	0.15	<0.001	0.42 **	0.12	0.001	0.64 ***	0.15	<0.001
N	7,806			4,790			3,545		

Source: National Survey of Family Growth 2006-10 (NSFG); Survey of Income and Program Participation (SIPP), 2004 and 2008 Panels; National Longitudinal Study of Adolescent to Adult Health (Add Health) Waves 1-4; National Longitudinal of Youth-1997 (NLSY97)respondents interviewed at every wave through the end of calendar year 2002 in the NSFG and SIPP comparisons, and through the end of 2003 in the Add Health comparison

Notes: † p<.10, * p < .05, ** p < .01, *** p < .001. The family formation histories of Add Health respondents and NLSY97 respondents in the parallel sample are coded as ever having given birth, or ever having married at or before the respondent's age at the end of 2002. In the Add Health/NLSY97 comparison, jobs are limited, per the Add Health questionnaire, to those undertaken while not a primarily a student, and do not include summer jobs. SIPP 2008 panel respondents are statistically significantly less likely to report a first job than SIPP 2004 panel respondents (p= .009)."Retrospective survey" refers to either the SIPP, the NSFG, or Add Health. Regressions are weighted.

Table 3.5 : Linear Regression (OLS) Model of Age at First Job, among Women Born in the U.S. 1980-1984 with a First Job or Employment Spell by 2008-2010

	NLSY97 and SIPP 2008			NLSY97 and NSFG			NLSY97 and Add Health		
	Age at first any job of six months or more, by December 2008			Age at start of first fulltime employment spell of six months or more, by June 2010			Age at first fulltime employment while not a student, and not including summer jobs, by February 2009		
	Coefficient	StdErr	p-value	Coefficient	StdErr	p-value	Coefficient	StdErr	p-value
Birth year (vs. 1980)									
1981	-0.11	0.26	0.667	-0.20	0.18	0.264	0.02	0.16	0.908
1982	-0.17	0.27	0.520	-0.18	0.18	0.325	0.09	0.17	0.595
1983	-0.21	0.27	0.434	-0.18	0.19	0.350			
1984	-0.28 †	0.16	0.081	-0.38	0.19	0.046			
Race/ethnicity (vs. White, non-Hispanic)									
Black, non-Hispanic	0.99 ***	0.27	<0.001	0.21	0.17	0.207	0.46 *	0.19	0.019
Hispanic, any race	0.40	0.31	0.194	0.07	0.20	0.719	0.05	0.23	0.826
Mother's education (vs. Bachelor's degree or more)									
Less than high school				-0.75 ***	0.21	<0.001	-1.10 ***	0.24	<0.001
High school				-0.90 **	0.16	<0.001	-0.76 ***	0.18	<0.001
Some college				-0.48 **	0.17	0.004	-0.68 ***	0.19	<0.001
Ever given birth by end of 2002*	0.93 ***	0.27	<0.001	-0.26	0.17	0.123	-0.82 ***	0.17	<0.001
Ever married by end of 2002*	0.07	0.33	0.841	-0.89 ***	0.20	<0.001	-0.86 ***	0.19	<0.001
Number of jobs held since 2001 (vs. two jobs or fewer)									
3-5 jobs							-0.01	0.02	0.659
6 or more jobs							0.02	0.20	0.912
Length of first reported fulltime job (vs. less than two months)									
3-5 months							0.20	0.18	0.255
6 months or more							-0.80 ***	0.16	<0.001
SIPP 2008 respondent	0.55 **	0.19	0.004						
NSFG respondent				0.58 †	0.31	0.059			
Add Health respondent							0.56 *	0.28	0.045
Birth year x survey									
1981 x retrospective survey	-0.14	0.29	0.627	-0.09	0.32	0.772	-0.29	0.21	0.156

1982 x retrospective survey	-0.03	0.30	0.920	-0.41	0.32	0.200	-0.53 *	0.22	0.015
1983 x retrospective survey	0.01	0.30	0.980	-0.25	0.33	0.452			
1984 x retrospective survey	0.01	0.32	0.983	-0.23	0.35	0.514			
Race/ethnicity x survey									
Black, non-Hispanic x retrospective survey	0.01	0.32	0.983	-0.20	0.29	0.490	-0.13	0.25	0.616
Hispanic, any race x retrospective survey	-0.02	0.36	0.949	-0.82 *	0.36	0.021	-0.54 †	0.29	0.069
Mother's education x survey									
Less than high school x retrospective survey				0.58	0.40	0.141	-0.79 *	0.31	0.010
High school x retrospective survey				0.12	0.28	0.672	-0.60 *	0.23	0.010
Some college x retrospective survey				0.15	0.29	0.596	-0.25	0.26	0.320
Family status x survey									
Ever given birth by end of 2002 x retrospective survey	-0.92 **	0.31	0.003	-0.71 *	0.29	0.014	-0.33	0.22	0.129
Ever married by end of 2002 x retrospective survey	-0.56	0.37	0.131	-0.30	0.35	0.393	0.41 †	0.24	0.087
Number of jobs since 2001 x retrospective survey									
3-5 jobs x retrospective survey							0.00	0.02	0.968
6 or more jobs x retrospective survey							-0.13	0.27	0.636
Length of first reported fulltime job x retrospective survey (vs. less than two months)									
3-5 months x retrospective survey							-0.64 *	0.27	0.017
6 months or more x retrospective survey							1.42 ***	0.21	<0.001
Intercept	17.21 ***	0.19	<0.001	20.37 ***	0.17	<0.001	20.77 ***	0.22	<0.001
N	4,532			3,235			3,318		

Source: Survey of Income and Program Participation, 2008 Panel; National Survey of Family Growth 2006-2010, 2008-2010 interviews; National Longitudinal Study of Adolescent to Adult Health Waves 1-4; National Longitudinal of Youth 1997 respondents interviewed at every wave through the end of calendar year 2008 in the SIPP comparison; through June 2010 in the NSFG comparison; and through February 2009 in the Add Health comparison

Notes: † p<.10, * p < .05, ** p < .01, *** p < .001. In Add Health, age at first job is asked directly of the respondent; for this comparison in the NLSY97, we calculated age at first job as the respondent's age in the starting month of her first reported job. In the SIPP/NLSY97 comparison, we calculated age at first job as year of first reported job minus year of birth. In the NSFG/NLSY97 comparison, we calculated the respondent's age in the first month of her fulltime employment spell of six months or more using her month and year of birth. The family formation histories of Add Health respondents and NLSY97 respondents in the parallel sample are coded as ever having given birth, or ever having married at or before the respondent's age at the end of 2002. "Retrospective survey" refers to the SIPP, NSFG or Add Health. Regressions are weighted.

Table 3.6 (Appendix Table A): Retrospective versus Panel Reporting of Any First Job of 6+ Months Duration, Percentage of Women Born in the U.S. 1980-1984

Percentage with a first six month job occuring in or before 2002

	Retrospective reporting in the Survey of Income and Program Participation (SIPP)				Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)				
	Percentage with a 1st job of 6+ months by 2002		Difference, 2004 SIPP - 2008 SIPP		Percentage with a 1st job of 6+ months by 2002	2004 SIPP difference from NLSY97		2008 SIPP difference from NLSY97	
Year of birth	2004 SIPP	2008 SIPP		p value			p value		p value
1980	90.8	84.9	5.8 **	0.005	89.8	-0.9	0.605	4.9 *	0.018
1981	84.5	84.0	0.5	0.825	89.7	5.2 *	0.011	5.7 **	0.005
1982	82.4	77.3	5.1 †	0.054	88.1	5.7 **	0.007	10.8 ***	<.001
1983	69.3	70.7	-1.3	0.676	76.1	6.7 *	0.014	5.4 *	0.056
1984	63.4	62.3	1.1	0.719	61.0	-2.4	0.383	-1.3	0.661
1980-84	78.1	76.1	2.0	0.110	81.0	2.9 **	0.007	4.9 ***	<.001
Race/ethnicity									
White, non-Hispanic	80.3	78.8	1.4	0.299	84.5	4.25 **	0.001	5.7 ***	<.001
Black, non-Hispanic	73.4	66.7	6.7 †	0.051	67.5	-5.93 *	0.034	0.8	0.789
Hispanic, any race	70.9	70.6	0.3	0.939	77.6	6.71 *	0.037	7.0 *	0.029
Unweighted sample N	2,455	2,206			3,147				

Age at first job, observed through December, 2008

Year of birth	Retrospective reporting in the Survey of Income and Program Participation (SIPP) 2008 panel	Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)	SIPP 08 difference from NLSY97	p value
1980	17.9	17.6	-0.3	0.301
1981	17.6	17.5	-0.1	0.604
1982	17.7	17.3	-0.3	0.110
1983	17.7	17.3	-0.4 †	0.063
1984	17.6	17.3	-0.2	0.712
1980-84	17.7	17.4	-0.3 **	0.005
Race/ethnicity				
White, non-Hispanic	17.5	17.2	-0.3	0.398
Black, non-Hispanic	18.5	18.3	-0.2	0.374
Hispanic, any race	17.9	17.7	-0.2	0.455
Unweighted sample N	2,058	2,530		

Sources: Survey of Income and Program Participation (SIPP) and National Longitudinal Survey of Youth-1997 (NLSY97)
Notes: † p<.10, * p < .05, ** p < .01, *** p < .001. Job may be fulltime or part-time. Estimates are weighted.

Table 3.7 (Appendix Table B): Retrospective versus Panel Reporting of First Fulltime Employment Spell of 6+ Months Duration Occurring by 2002, and Age at Start of First Fulltime Employment Spell by 2008-2010, among Women Born in the U.S. 1980-1984

	Percentage with a first fulltime employment spell by 2002				Age at start of first fulltime employment spell, by 2008-2010 [a]				
	Retrospective reporting in the National Survey of Family Growth 2006-2010 (NSFG)	Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)	NSFG difference from NLSY97	p value		Retrospective reporting in the National Survey of Family Growth 2006-2010 (NSFG)	Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)	NSFG difference from NLSY97	p value
Year of birth					**Year of birth**				
1980	61.7	72.8	11.1 ***	<.001	1980	19.9	19.6	-0.3	0.256
1981	54.7	65.0	10.3 **	0.001	1981	19.8	19.4	-0.4 †	0.096
1982	49.8	50.7	0.9	0.781	1982	19.6	19.6	0.0	0.990
1983	39.2	38.3	-0.9	0.770	1983	19.8	19.6	-0.3	0.269
1984	25.0	19.9	-5.1 †	0.063	1984	19.8	19.4	-0.3	0.123
1980-84	46.1	49.4	3.3 *	0.024	1980-84	19.8	19.5	-0.3 *	0.017
Unweighted sample N	1,853	3,147			**Unweighted sample N**	1,041	2,343		
Race/ethnicity					**Race/ethnicity**				
White, non-Hispanic	44.6	50.1	5.5 **	0.005	White, non-Hispanic	19.9	19.5	-0.3 *	0.016
Black, non-Hispanic	49.6	45.7	-3.9	0.173	Black, non-Hispanic	19.8	19.6	-0.2	0.293
Hispanic, any race	51.3	50.4	-1.0	0.791	Hispanic, any race	19.1	19.4	0.3	0.327
Unweighted sample N	1,853	3,147			**Unweighted sample N**	1,041	2,343		
Mother's education					**Mother's education**				
Less than high school grad.	45.4	53.5	8.1 *	0.025	Less than high school grad.	19.4	19.2	-0.2	0.465
High school grad.	54.4	54.3	-0.1	0.960	High school grad.	19.4	19.2	-0.2	0.299
Any college	48.1	49.0	0.8	0.770	Any college	19.9	19.6	-0.3	0.132
Bachelors or more	32.4	39.2	6.8 *	0.033	Bachelors or more	20.4	20.1	-0.3 *	0.013
Unweighted sample N	1,840	2,952			**Unweighted sample N**	1,030	2,206		

Sources: National Survey of Family Growth 2006-2010 (NSFG) and National Longitudinal Survey of Youth-1997 (NLSY97)

Notes: † p<.10, * p < .05, ** p < .01, *** p < .001. Estimates are weighted. [a] For the age at first job measure, we include NSFG 2006-10 respondents whose interviews occurred in calendar years 2008, 2009 and 2010, and NLSY97 respondents interviewed at every wave through an interview covering the end of calendar year 2010

Table 3.8 (**Appendix Table C):** Retrospective versus Panel Reporting of First Fulltime Job of Any Duration Occurring by 2002, not Including Jobs Undertaken while Currently a Student, or Summer Jobs, among Women Born in the U.S. 1980-1982

Percentage with a first fulltime job by 2002					Age at first reported fulltime job by 2009				
	Retrospective reporting in the National Longitudinal Study of Adolescent to Adult Health (Add Health) Wave 4	Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)	Add Health difference from NLSY97	p value		Retrospective reporting in the National Longitudinal Study of Adolescent to Adult Health (Add Health) Wave 4	Panel reporting in the National Longitudinal Survey of Youth 1997 (NLSY97)	Add Health difference from NLSY97	p value
Year of birth					**Year of birth**				
1980	79.0	82.2	3.1	0.136	1980	20.1	19.5	-0.5 ***	<.001
1981	63.8	70.0	6.1 *	0.014	1981	19.9	19.6	-0.3 †	0.077
1982	54.2	56.8	2.7	0.349	1982	19.9	19.8	-0.1	0.594
1980-82	67.4	69.5	2.1	0.138	1980-82	20.0	19.6	-0.3 ***	<.001
Race/ethnicity					**Race/ethnicity**				
White, non-Hispanic	65.4	69.1	3.7	0.111	White, non-Hispanic	20.1	19.7	-0.4 **	<.001
Black, non-Hispanic	65.4	71.0	5.6	0.164	Black, non-Hispanic	19.8	19.8	0.0	0.827
Hispanic, any race	78.8	71.4	-7.4 *	0.039	Hispanic, any race	19.2	19.3	0.2	0.468
Unweighted sample N	2,603	1,741			**Unweighted sample N**	2,593	1,412		
Mother's education					**Mother's education**				
Less than high school grad.	82.3	80.1	-2.2	0.482	Less than high school grad.	18.9	19.0	0.0	0.937
High school grad.	74.5	75.6	1.1	0.627	High school grad.	19.7	19.4	-0.2 **	0.105
Any college	61.8	69.3	7.5 *	0.023	Any college	20.2	19.6	-0.6 **	0.001
Bachelors or more	44.1	52.6	8.6 **	0.017	Bachelors or more	21.4	20.4	-0.9 ***	<.001
Unweighted sample N	2,164	1,626			**Unweighted sample N**	2,134	1,318		

Sources: National Longitudinal Study of Adolescent to Adult Health (Add Health) and National Longitudinal Survey of Youth-1997 (NLSY97)
Notes: † p<.10, * p < .05, ** p < .01, *** p < .001. Estimates are weighted.

Table 4.1: Characteristics of Non-Hispanic Black and White Married Men in Interview Years 1962-2012, and Non-Hispanic Black, White, Asian/Pacific Islander, Native American, and Hispanic Married Men, 1988-2012

Married White and Black Men, 1962-2012

	Total	Non-veterans	Veterans
Percentages			
Veteran	32.6	--	--
Intermarried	0.7	0.7	0.6
Wife is a veteran	1.1	0.6	2.2
Has a bachelor's degree	29.0	31.6	23.7
Lives in a metropolitan area	77.4	77.7	76.7
Cohort of potential military service			
World War II	9.0	3.5	20.3
Korea	10.0	5.1	20.3
Cold War	16.3	13.3	22.5
Vietnam	23.7	24.2	22.7
All-volunteer force	40.5	53.3	14.0
Post-9/11	0.4	0.6	0.1
Normative environment in military during period of potential service			
Segregated	5.8	2.5	12.7
After desegregation, before revision of affirmative action policy	58.4	50.1	75.5
After revision of affirmative action policy	35.8	47.4	11.9
Educational difference from wife			
Both spouses either do or don't have a Bachelor's degree	80.3	80.1	80.6
Respondent has a Bachelor's degree, wife does not	11.8	11.5	12.4
Wife has a Bachelor's degree, respondent does not	7.9	8.3	7.0
Race			
White	91.6	91.1	92.7
Black	8.4	8.9	7.3

Married Non-Hispanic White, Black, Asian/Pacific Islander, and Hispanic (Any Race) Men, 1988-2012

	Total	Non-veterans	Veterans
Percentages			
Veteran	29.9	--	--
Intermarried	4.8	4.8	4.8
Wife is a veteran	1.0	0.5	2.2
Has a bachelor's degree	28.3	30.3	23.5
Lives in a metropolitan area	79.4	80.2	77.4
Cohort of potential military service			
World War II	8.2	3.4	19.5
Korea	9.4	4.9	19.9
Cold War	15.6	12.7	22.5
Vietnam	23.2	23.2	23.1
All-volunteer force	43.1	55.1	15.0
Post-9/11	0.5	0.7	0.1
Normative environment in military during period of potential service			
Segregated	5.3	2.3	12.2
After desegregation, before revision of affirmative action policy	56.2	48.1	75.1
After revision of affirmative action policy	38.5	49.5	12.7
Educational difference from wife (Intermarried respondents include White/minority marriages only)			
Both spouses either do or don't have a Bachelor's degree	81.1	81.3	80.6
Respondent has a Bachelor's degree, wife does not	11.3	10.9	12.4
Wife has a Bachelor's degree, respondent does not	7.6	7.8	7.0
Race/Ethnicity			
White	79.7	76.1	88.3
Black	7.3	7.4	6.9
Asian/Pacific Islander	4.0	5.3	1.0
Native American	0.5	0.5	0.5

				Hispanic, any race	8.5	10.7	3.3
Means and Standard Errors				**Means and Standard Errors**			
Age in interview year	49.6	45.2	58.5	Age in interview year	48.8	44.8	58.1
	0.02	0.02	0.03		0.02	0.02	0.03
Mean favorability to federal anti-employment discrimination measures ininterview year	3.1	3.1	3.1	Mean favorability to federal anti-employment discrimination measures ininterview year	3.1	3.1	3.1
	0.00	0.00	0.00		0.00	0.00	0.00
Sample N	677,181	468,416	208,765	**Sample N**	831,702	598,445	233,257

Source: Current Population Survey (CPS)
Note: Estimates are weighted

Table 4.2: Logistic Regression Model of Intermarriage between a Black and White Spouse versus Endogamous Marriage, among Black and White Married Men, 1962-2012

	Baseline		Composition		Socioeconomic Factors		Composition and Socioeconomic Factors		Normative Environment		P-value, veterans vs. non-veterans §
	Model 1		Model 2		Model 3		Model 4		Model 5		
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	
Black	3.15***	3.32***	2.08***	3.00***	2.98***	3.35***	1.95***	2.90***	2.04***	2.71***	0.091
	(0.046)	(0.075)	(0.442)	(0.337)	(0.060)	(0.095)	(0.443)	(0.342)	(0.605)	(0.444)	
Wife is a veteran	0.76***	0.68***	1.33***	0.86***	0.73***	0.73***	1.27***	0.89***	1.26***	0.91***	0.274
	(0.163)	(0.123)	(0.252)	(0.233)	(0.165)	(0.122)	(0.253)	(0.235)	(0.253)	(0.234)	
Cohort of potential military service (vs. World War II)											
Korea	0.52	0.83***	-0.27	0.66*	0.49	0.79***	-0.30	0.60*			0.097
	(0.271)	(0.199)	(0.463)	(0.284)	(0.271)	(0.200)	(0.463)	(0.283)			
Cold War	0.79***	1.06***	0.26	0.49	0.74**	0.99***	0.23	0.38			0.730
	(0.238)	(0.201)	(0.338)	(0.286)	(0.238)	(0.202)	(0.338)	(0.287)			
Vietnam	0.96***	1.25***	0.28	1.06***	0.89***	1.21***	0.24	0.95***			0.104
	(0.238)	(0.217)	(0.330)	(0.286)	(0.238)	(0.219)	(0.330)	(0.287)			
All-volunteer force	1.15***	1.87***	0.50	1.90***	1.07***	1.86***	0.45	1.74***			0.005
	(0.247)	(0.255)	(0.331)	(0.312)	(0.248)	(0.257)	(0.331)	(0.315)			
Post-9/11	1.21***	2.72***	0.57	2.72***	1.14***	2.86***	0.52	2.72***			0.005
	(0.319)	(0.682)	(0.388)	(0.688)	(0.321)	(0.676)	(0.389)	(0.686)			
Has a bachelor's degree	0.26***	0.43***	0.26***	0.43***	-0.02	0.62***	-0.01	0.63***	-0.01	0.65***	0.001
	(0.047)	(0.075)	(0.047)	(0.075)	(0.094)	(0.158)	(0.095)	(0.159)	(0.096)	(0.158)	
Age at interview	-0.02***	-0.00	-0.02***	-0.00	-0.03***	-0.01	-0.03***	-0.01	-0.03***	-0.02***	0.002
	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.005)	(0.002)	(0.004)	
Lives in a metropolitan area	0.31***	0.21*	0.31***	0.20*	0.31***	0.21*	0.31***	0.20*	0.31***	0.19*	<.001
	(0.062)	(0.096)	(0.062)	(0.096)	(0.062)	(0.096)	(0.062)	(0.096)	(0.062)	(0.096)	
Mean favorability to federal anti-employment-discrimination measures †	0.87***	0.29	0.87***	0.28	0.87***	0.26	0.87***	0.26	0.88***	0.54**	0.005
	(0.119)	(0.184)	(0.119)	(0.183)	(0.119)	(0.184)	(0.120)	(0.183)	(0.115)	(0.177)	
Age difference between spouses of five years or more					0.51***	0.94***	0.51***	0.94***	0.51***	0.93***	<.001
					(0.045)	(0.064)	(0.045)	(0.065)	(0.045)	(0.065)	
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)											
Respondent has a bachelor's degree, wife does not					0.25*	-0.33	0.24	-0.31	0.25*	-0.32	0.027
					(0.126)	(0.217)	(0.128)	(0.218)	(0.128)	(0.218)	
Wife has a bachelor's degree, respondent does not					0.07	0.59**	0.07	0.58**	0.07	0.59**	0.027
					(0.121)	(0.192)	(0.121)	(0.193)	(0.121)	(0.192)	

Military normative environment in period of potential service (vs. Segregated military)											
After desegregation, before revision of affirmative action policy									0.41	0.75*	0.555
									(0.475)	(0.336)	
After revision of affirmative action policy									0.70	1.57***	0.151
									(0.481)	(0.372)	
Race x Wife's veteran status											
Black x Wife is a veteran			-0.82*	-0.23			-0.78*	-0.22	-0.75*	-0.22	0.188
			(0.321)	(0.272)			(0.323)	(0.274)	(0.324)	(0.273)	
Race x Cohort of potential military service											
Black x Korea			1.28*	0.34			1.29*	0.37			0.194
			(0.586)	(0.391)			(0.586)	(0.390)			
Black x Cold War			0.91	0.94*			0.89	1.01**			0.843
			(0.469)	(0.377)			(0.469)	(0.377)			
Black x Vietnam			1.14*	0.37			1.11*	0.49			0.292
			(0.454)	(0.364)			(0.455)	(0.364)			
Black x All-volunteer force/Post-9/11			1.08*	0.10			1.05*	0.31			0.192
			(0.445)	(0.353)			(0.446)	(0.354)			
Race x Educational attainment											
Black x Has a bachelor's degree					0.46***	-0.18	0.44***	-0.20	0.46***	-0.17	0.005
					(0.116)	(0.196)	(0.116)	(0.197)	(0.117)	(0.197)	
Race x Educational difference from wife											
Black x Respondent has a bachelor's degree, wife does not					-0.22	0.43	-0.21	0.40	-0.22	0.39	0.051
					(0.161)	(0.272)	(0.162)	(0.273)	(0.162)	(0.273)	
Blacl x Wife has a bachelor's degree, respondent does not					0.09	-0.67**	0.09	-0.66**	0.10	-0.64**	0.005
					(0.145)	(0.224)	(0.145)	(0.225)	(0.145)	(0.225)	
Race x Military normative environment											
Black x After desegregation, before revision of affirmative action policy									0.98	0.84	0.853
									(0.610)	(0.449)	
Black x After revision of affirmative action policy									0.93	0.41	0.494
									(0.608)	(0.457)	
Constant	-9.26***	-8.44***	-8.62***	-8.27***	-9.05***	-8.46***	-8.44***	-8.23***	-8.64***	-8.33***	0.758
	(0.395)	(0.511)	(0.446)	(0.545)	(0.397)	(0.516)	(0.447)	(0.549)	(0.564)	(0.586)	
Observations	468,416	208,765	468,416	208,765	468,416	208,765	468,416	208,765	468,416	208,765	

Source: Current Population Survey (CPS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values associated with Model 5 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4.

Table 4.3: Logistic Regression Model of Any Exogamous versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 1988-2012

	Baseline		Composition		Socioeconomic Factors				P-value, veterans vs. non-veterans §
	Model 1		Model 2		Model 3		Model 4‡		
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	
Race/ethnicity									
Black	0.93***	0.82***	-0.33	0.36	0.85***	0.72***	0.49***	0.37***	0.059
	(0.023)	(0.035)	(0.283)	(0.205)	(0.027)	(0.039)	(0.033)	(0.049)	
Asian/Pacific Islander	0.83***	1.77***	0.49	1.87***	0.93***	1.81***	0.63***	1.73***	<.001
	(0.027)	(0.063)	(0.278)	(0.251)	(0.039)	(0.076)	(0.049)	(0.093)	
Native American	3.65***	4.21***	3.85***	4.83***	3.59***	4.18***	3.48***	4.03***	0.005
	(0.041)	(0.065)	(0.294)	(0.190)	(0.044)	(0.071)	(0.048)	(0.077)	
Hispanic	1.57***	2.45***	1.60***	3.00***	1.35***	2.32***	1.15***	2.18***	<.001
	(0.017)	(0.028)	(0.129)	(0.095)	(0.018)	(0.031)	(0.020)	(0.034)	
Wife is a veteran	0.84***	0.44***	0.55***	0.13	0.82***	0.44***	0.75***	0.45***	0.003
	(0.070)	(0.054)	(0.106)	(0.078)	(0.070)	(0.054)	(0.075)	(0.056)	
Cohort of potential military service									
Korea	0.07	0.51***	-0.04	0.58***	0.08	0.51***	0.01	0.48***	<.001
	(0.074)	(0.050)	(0.104)	(0.064)	(0.074)	(0.050)	(0.077)	(0.052)	
Cold War	0.40***	0.90***	0.26**	0.97***	0.42***	0.90***	0.36***	0.86***	<.001
	(0.065)	(0.053)	(0.089)	(0.064)	(0.065)	(0.052)	(0.067)	(0.054)	
Vietnam	0.62***	1.12***	0.42***	1.21***	0.64***	1.12***	0.56***	1.10***	<.001
	(0.065)	(0.060)	(0.088)	(0.069)	(0.066)	(0.060)	(0.067)	(0.062)	
All-volunteer force	0.81***	1.48***	0.71***	1.66***	0.83***	1.48***	0.73***	1.46***	<.001
	(0.070)	(0.077)	(0.090)	(0.085)	(0.070)	(0.077)	(0.072)	(0.079)	
Post-9/11	0.83***	1.48***	0.73***	1.71***	0.86***	1.50***	0.75***	1.38***	0.004
	(0.102)	(0.334)	(0.117)	(0.319)	(0.102)	(0.327)	(0.106)	(0.347)	
Has a bachelor's degree	0.36***	0.18***	0.36***	0.19***	0.16***	0.05	0.15***	-0.11*	0.005
	(0.016)	(0.025)	(0.016)	(0.025)	(0.019)	(0.031)	(0.023)	(0.044)	
Age at interview	-0.01***	-0.00**	-0.01***	-0.00**	-0.01***	-0.00*	-0.01***	-0.01***	<.001
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	
Lives in a metropolitan area	0.38***	0.42***	0.38***	0.42***	0.40***	0.42***	0.39***	0.42***	0.546
	(0.020)	(0.029)	(0.020)	(0.029)	(0.020)	(0.029)	(0.020)	(0.030)	

Mean favorability to federal anti-employment-discrimination measures †	0.26***	0.14*	0.27***	0.14*	0.26***	0.14*	0.24***	0.12*	0.033
	(0.033)	(0.056)	(0.033)	(0.055)	(0.033)	(0.056)	(0.034)	(0.057)	
Age difference between spouses of five or more years							0.39***	0.61***	<.001
							(0.016)	(0.023)	
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)									
Respondent has a bachelor's degree, wife does not							0.12***	0.34***	0.002
							(0.031)	(0.054)	
Wife has a bachelor's degree, respondent does not							0.11***	0.13**	0.556
							(0.033)	(0.049)	
Military normative environment in period of potential service (vs. Segregated military)									
After desegregation, before revision of affirmative action policy									0.026
After revision of affirmative action policy									0.026
Race/ethnicity x Spouse's veteran status									
Black x Wife is a veteran			-0.01	0.44**					0.096
			(0.199)	(0.144)					
Asian/Pacific Islander x Wife is a veteran			2.08***	1.99***					0.805
			(0.401)	(0.370)					
Native American x Wife is a veteran			-0.16	-0.02					0.837
			(0.484)	(0.392)					
Hispanic x Wife is a veteran			1.40***	1.08***					0.185
			(0.193)	(0.168)					
Race/Ethnicity x Cohort of potential military service									
Black x Korea			1.09***	0.49*					0.127
			(0.325)	(0.236)					
Black x Cold War			1.01***	0.57*					0.214
			(0.295)	(0.221)					

Black x Vietnam	1.21***	0.32					0.015
	(0.288)	(0.216)					
Black x All-volunteer force/Post-9/11	1.33***	0.44*					0.015
	(0.284)	(0.213)					
Asian/Pacific Islander x Korea	0.62	-0.57					0.006
	(0.319)	(0.314)					
Asian/Pacific Islander x Cold War	0.39	-0.02					0.288
	(0.291)	(0.284)					
Asian/Pacific Islander x Vietnam	0.44	0.06					0.318
	(0.284)	(0.276)					
Asian/Pacific Islander x All-volunteer force/Post-9/11	0.28	-0.41					0.062
	(0.280)	(0.277)					
Native American x Korea	-0.01	-0.38					0.408
	(0.365)	(0.250)					
Native American x Cold War	0.22	-0.48*					0.083
	(0.317)	(0.231)					
Native American x Vietnam	-0.06	-0.48*					0.307
	(0.306)	(0.217)					
Native American x All-volunteer force/Post-9/11	-0.34	-1.39***					0.007
	(0.298)	(0.229)					
Hispanic x Korea	-0.14	-0.40**					0.157
	(0.164)	(0.121)					
Hispanc x Cold War	0.09	-0.54***					<.001
	(0.140)	(0.112)					
Hispanic x Vietnam	0.27*	-0.52***					<.001
	(0.133)	(0.107)					
Hispanic x All-volunteer force/Post-9/11	-0.12	-0.88***					<.001
	(0.130)	(0.107)					
Race/ethnicity x Educational attainment							
Black x Has a bachelor's degree			0.20***	0.44***	0.30***	0.54***	0.010
			(0.052)	(0.083)	(0.071)	(0.125)	
Asian/Pacific Islander x Has a bachelor's degree			-0.09	-0.12	0.01	-0.11	0.641
			(0.053)	(0.136)	(0.066)	(0.190)	
Native American x Has a bachelor's degree			0.13	0.06	0.08	-0.01	0.731
			(0.123)	(0.176)	(0.177)	(0.266)	
Hispanic x Has a bachelor's degree			1.16***	0.67***	1.62***	1.30***	<.001

	(0.037)	(0.071)	(0.047)	(0.107)	
Race /ethnicity x Educational difference from wife					
Black x Respondent has BA, wife does not			-0.09	-0.26	0.619
			(0.103)	(0.170)	
Black x Wife has BA, respondent does not			0.08	-0.21	0.318
			(0.085)	(0.125)	
Asian/Pacific Islander x Respondent has BA, wife does not			0.21*	-0.01	0.531
			(0.082)	(0.241)	
Asian/Pacific Islander x Wife has BA, respondent does not			0.19	-0.47*	0.041
			(0.114)	(0.212)	
Native American x Respondent has BA, wife does not			-0.20	0.23	0.487
			(0.244)	(0.336)	
Native American x Wife has BA, respondent does not			-0.07	0.34	0.533
			(0.151)	(0.289)	
Hispanic x Respondent has BA, wife does not			-0.81***	-0.97***	0.548
			(0.067)	(0.134)	
Hispanic x Wife has BA, respondent does not			1.16***	0.39***	<.001
			(0.056)	(0.110)	
Race/ethnicity x Normative environment in military during potential service					
Black x After desegregation, before affirmative action policy change					0.553
Black x After affirmative action policy change					0.282
Asian/Pacific Islander x After desegregation, before affirmative action policy change					0.333

Asian/Pacific Islander x After affirmative action policy change									0.204
Native American x After desegregation, before affirmative action policy change									0.388
change									0.041
Hispanic x After desegregation, before affirmative action policy change									0.185
Hispanic x After affirmative action policy change									0.166
Constant	-4.95***	-4.95***	-4.83***	-5.03***	-4.89***	-4.90***	-4.69***	-4.93***	0.284
	(0.111)	(0.153)	(0.124)	(0.156)	(0.111)	(0.153)	(0.115)	(0.158)	
Observations	598,445	233,257	598,445	233,257	598,445	233,257	595,911	232,221	

Source: Current Population Survey (CPS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values for the variables present only in Models 5 and 6 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4.

Table 4.3, Continued: Logistic Regression Model of Any Exogamous versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 1988-2012

	Composition and Socioeconomic Factors		Normative Environment		P-value, veterans vs. non-veterans §
	Model 5		Model 6		
	Non-veterans	Veterans	Non-veterans	Veterans	
Race/ethnicity					
Black	-0.36	0.30	-0.26	-0.02	0.059
	(0.283)	(0.206)	(0.327)	(0.251)	
Asian/Pacific Islander	0.53	1.92***	0.91**	2.16***	<.001
	(0.278)	(0.255)	(0.314)	(0.308)	
Native American	3.82***	4.81***	3.91***	4.83***	0.005
	(0.294)	(0.191)	(0.347)	(0.256)	
Hispanic	1.42***	2.91***	1.63***	2.73***	<.001
	(0.130)	(0.095)	(0.166)	(0.129)	
Wife is a veteran	0.54***	0.14	0.54***	0.16*	0.003
	(0.106)	(0.078)	(0.106)	(0.078)	
Cohort of potential military service					
Korea	-0.03	0.59***			<.001
	(0.104)	(0.064)			
Cold War	0.29**	0.99***			<.001
	(0.089)	(0.064)			
Vietnam	0.46***	1.23***			<.001
	(0.088)	(0.069)			
All-volunteer force	0.73***	1.66***			<.001
	(0.090)	(0.085)			
Post-9/11	0.77***	1.73***			0.004
	(0.117)	(0.313)			
Has a bachelor's degree	0.16***	0.06	0.17***	0.10**	0.005
	(0.019)	(0.031)	(0.019)	(0.031)	
Age at interview	-0.01***	-0.00**	-0.02***	-0.02***	<.001
	(0.001)	(0.002)	(0.001)	(0.001)	
Lives in a metropolitan area	0.40***	0.43***	0.41***	0.43***	0.546
	(0.020)	(0.029)	(0.020)	(0.029)	
Mean favorability to federal anti-employment-discrimination measures †	0.27***	0.13*	0.37***	0.49***	0.033
	(0.033)	(0.056)	(0.032)	(0.052)	
Age difference between spouses of five or more years					<.001

Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)					
Respondent has a bachelor's degree, wife does not					0.002
Wife has a bachelor's degree, respondent does not					0.556
Military normative environment in period of potential service (vs. Segregated military)					
After desegregation, before revision of affirmative action policy			0.33**	0.62***	0.026
			(0.107)	(0.070)	
After revision of affirmative action policy			0.58***	0.89***	0.026
			(0.110)	(0.085)	
Race/ethnicity x Spouse's veteran status					
Black x Wife is a veteran	0.01	0.42**	0.03	0.41**	0.096
	(0.199)	(0.144)	(0.200)	(0.145)	
Asian/Pacific Islander x Wife is a veteran	2.12***	1.98***	2.12***	1.88***	0.805
	(0.392)	(0.364)	(0.387)	(0.346)	
Native American x Wife is a veteran	-0.15	-0.02	-0.20	-0.01	0.837
	(0.483)	(0.388)	(0.467)	(0.388)	
Hispanic x Wife is a veteran	1.41***	1.06***	1.39***	1.04***	0.185
	(0.200)	(0.169)	(0.199)	(0.169)	
Race/Ethnicity x Cohort of potential military service					
Black x Korea	1.08***	0.46			0.127
	(0.325)	(0.236)			
Black x Cold War	0.98***	0.52*			0.214
	(0.295)	(0.221)			
Black x Vietnam	1.16***	0.29			0.015
	(0.288)	(0.216)			
Black x All-volunteer force/Post-9/11	1.29***	0.42*			0.015
	(0.284)	(0.213)			
Asian/Pacific Islander x Korea	0.66*	-0.58			0.006
	(0.318)	(0.313)			
Asian/Pacific Islander x Cold War	0.43	-0.01			0.288
	(0.291)	(0.283)			
Asian/Pacific Islander x Vietnam	0.47	0.08			0.318
	(0.284)	(0.274)			

Asian/Pacific Islander x All-volunteer force/Post-9/11	0.35	-0.38			0.062
	(0.280)	(0.276)			
Native American x Korea	-0.02	-0.39			0.408
	(0.365)	(0.250)			
Native American x Cold War	0.18	-0.49*			0.083
	(0.317)	(0.231)			
Native American x Vietnam	-0.10	-0.48*			0.307
	(0.306)	(0.217)			
Native American x All-volunteer force/Post-9/11	-0.38	-1.39***			0.007
	(0.298)	(0.229)			
Hispanic x Korea	-0.14	-0.43***			0.157
	(0.166)	(0.121)			
Hispanc x Cold War	0.06	-0.61***			<.001
	(0.141)	(0.112)			
Hispanic x Vietnam	0.20	-0.57***			<.001
	(0.134)	(0.108)			
Hispanic x All-volunteer force/Post-9/11	-0.16	-0.92***			<.001
	(0.131)	(0.107)			
Race/ethnicity x Educational attainment					
Black x Has a bachelor's degree	0.17**	0.42***	0.18***	0.43***	0.010
	(0.053)	(0.083)	(0.053)	(0.083)	
Asian/Pacific Islander x Has a bachelor's degree	-0.09	-0.16	-0.10	-0.12	0.641
	(0.054)	(0.138)	(0.054)	(0.137)	
Native American x Has a bachelor's degree	0.14	0.07	0.14	0.06	0.731
	(0.122)	(0.164)	(0.122)	(0.163)	
Hispanic x Has a bachelor's degree	1.15***	0.67***	1.15***	0.66***	<.001
	(0.037)	(0.070)	(0.037)	(0.069)	
Race /ethnicity x Educational difference from wife					
Black x Respondent has BA, wife does not					0.619
Black x Wife has BA, respondent does not					0.318
Asian/Pacific Islander x Respondent has BA, wife does not					0.531
Asian/Pacific Islander x Wife has BA, respondent does not					0.041

Native American x Respondent has BA, wife does not					0.487
Native American x Wife has BA, respondent does not					0.533
Hispanic x Respondent has BA, wife does not					0.548
Hispanic x Wife has BA, respondent does not					<.001
Race/ethnicity x Normative environment in military during potential service					
Black x After desegregation, before affirmative action policy change			1.00**	0.75**	0.553
			(0.330)	(0.255)	
Black x After affirmative action policy change			1.20***	0.75**	0.282
			(0.329)	(0.258)	
Asian/Pacific Islander x After desegregation, before affirmative action policy change			0.08	-0.35	0.333
			(0.317)	(0.313)	
Asian/Pacific Islander x After affirmative action policy change			-0.03	-0.61	0.204
			(0.316)	(0.328)	
Native American x After desegregation, before affirmative action policy change			-0.11	-0.49	0.388
			(0.353)	(0.265)	
Native American x After affirmative action policy change			-0.51	-1.44***	0.041
			(0.352)	(0.290)	
Hispanic x After desegregation, before affirmative action policy change			-0.05	-0.33*	0.185
			(0.167)	(0.133)	
Hispanic x After affirmative action policy change			-0.42*	-0.72***	0.166
			(0.166)	(0.140)	
Constant	-4.78***	-5.00***	-4.69***	-4.63***	0.284
	(0.125)	(0.156)	(0.142)	(0.168)	
Observations	598,445	233,257	598,445	233,257	

Source: Current Population Survey (CPS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values for the variables present only in Models 5 and 6 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4.

Table 4.4 (Appendix Table 1): Logistic Regression Model of Black/White Intermarriage versus Endogamous Marriage, among Black and White Married Men, 1960-2012‡

	Baseline		Composition		Socioeconomic Factors		Composition and Socioeconomic Factors		Normative Environment		P-value, veterans vs. non-veterans §
	Model 1		Model 2		Model 3		Model 4		Model 5		
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	
Black	3.14***	3.12***	2.61***	2.87***	3.15***	3.06***	2.58***	2.68***	2.41**	2.50***	0.905
	(0.075)	(0.141)	(0.622)	(0.574)	(0.110)	(0.175)	(0.622)	(0.576)	(0.736)	(0.732)	
Wife is a veteran	0.62*	0.44*	1.29**	0.85**	0.61*	0.46*	1.24**	0.85**	1.25**	0.90**	0.438
	(0.282)	(0.198)	(0.393)	(0.312)	(0.287)	(0.202)	(0.395)	(0.312)	(0.395)	(0.315)	
Cohort of potential military service (vs. World War II)											
Korea	0.83*	1.26***	0.85	0.30	0.86*	1.27***	0.86	0.32			0.511
	(0.359)	(0.337)	(0.618)	(0.534)	(0.359)	(0.337)	(0.618)	(0.535)			
Cold War	1.33***	1.59***	1.00	0.53	1.36***	1.63***	1.01	0.55			0.548
	(0.326)	(0.315)	(0.562)	(0.517)	(0.327)	(0.318)	(0.562)	(0.522)			
Vietnam	1.55***	2.11***	1.40**	1.76***	1.57***	2.13***	1.36**	1.75***			0.577
	(0.311)	(0.308)	(0.521)	(0.454)	(0.312)	(0.309)	(0.523)	(0.454)			
All-volunteer force	2.14***	2.96***	1.68**	3.25***	2.12***	2.99***	1.61**	3.17***			0.025
	(0.301)	(0.314)	(0.512)	(0.454)	(0.302)	(0.317)	(0.515)	(0.462)			
Post-9/11	2.24***	3.57***	1.79**	3.56***	2.21***	3.63***	1.71**	3.52***			0.051
	(0.412)	(0.629)	(0.587)	(0.709)	(0.417)	(0.635)	(0.592)	(0.714)			
Has a bachelor's degree	0.21**	0.31*	0.20**	0.33*	0.37**	0.29	0.40**	0.26	0.42**	0.29	0.684
	(0.072)	(0.131)	(0.072)	(0.130)	(0.143)	(0.316)	(0.144)	(0.318)	(0.145)	(0.317)	
Age at interview	-0.01*	0.01	-0.01**	0.01	-0.01***	0.00	-0.01***	0.00	-0.01***	-0.00	0.009
	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.004)	
Lives in a metropolitan area	0.18*	0.17	0.18	0.16	0.16	0.18	0.16	0.17	0.16	0.16	0.932
	(0.091)	(0.150)	(0.091)	(0.150)	(0.092)	(0.150)	(0.092)	(0.150)	(0.092)	(0.151)	
Mean favorability to federal anti-employment-discrimination measures †	0.74***	0.28	0.74***	0.26	0.73***	0.30	0.73***	0.30	0.59**	0.18	0.244
	(0.201)	(0.314)	(0.201)	(0.314)	(0.202)	(0.315)	(0.202)	(0.314)	(0.191)	(0.267)	
Age difference between spouses of five years c					0.60***	0.83***	0.60***	0.80***	0.59***	0.78***	0.142
					(0.071)	(0.117)	(0.071)	(0.116)	(0.071)	(0.116)	
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)											
Respondent has a bachelor's degree, wife does not					0.07	-0.54	0.04	-0.44	0.04	-0.47	0.284

			(0.175)	(0.403)	(0.175)	(0.405)	(0.176)	(0.403)	
Wife has a bachelor's degree, respondent does not			0.24	0.61*	0.28	0.48	0.29	0.52	0.550
			(0.187)	(0.274)	(0.190)	(0.279)	(0.190)	(0.285)	
Military normative environment in period of potential service (vs. Segregated military)									
After desegregation, before revision of affirmative action policy							1.10	1.00	0.898
							(0.590)	(0.526)	
After revision of affirmative action policy							1.55**	3.11***	0.051
							(0.590)	(0.543)	
Race x Wife's veteran status									
Black x Wife is a veteran	-0.95	-0.51			-0.90	-0.50	-0.89	-0.52	0.097
	(0.536)	(0.389)			(0.543)	(0.394)	(0.542)	(0.397)	
Race x Cohort of potential military service									
Black x Korea	-0.07	1.47*			-0.04	1.46*			0.147
	(0.757)	(0.702)			(0.757)	(0.704)			
Black x Cold War	0.45	1.57*			0.48	1.61*			0.239
	(0.682)	(0.668)			(0.682)	(0.673)			
Black x Vietnam	0.16	0.59			0.23	0.65			0.636
	(0.641)	(0.613)			(0.643)	(0.615)			
Black x All-volunteer force/Post-9/11	0.64	-0.29			0.70	-0.13			0.346
	(0.628)	(0.603)			(0.632)	(0.612)			
Race x Educational attainment									
Black x Has a bachelor's degree			-0.02	-0.01	-0.05	0.02	-0.06	0.00	0.858
			(0.179)	(0.375)	(0.182)	(0.376)	(0.183)	(0.374)	
Race x Educational difference from wife									
Black x Respondent has a bachelor's degree, wife does not			-0.43	1.03*	-0.40	0.94*	-0.39	1.00*	0.013
			(0.240)	(0.477)	(0.241)	(0.477)	(0.241)	(0.475)	
Blacl x Wife has a bachelor's degree, respondent does not			0.11	-0.63	0.07	-0.44	0.05	-0.42	0.764
			(0.219)	(0.334)	(0.224)	(0.341)	(0.224)	(0.346)	
Race x Military normative environment									
Black x After desegregation, before revision of affirmative action policy							0.44	1.33	0.401
							(0.746)	(0.751)	
policy							0.89	-0.06	0.375
							(0.745)	(0.767)	

Constant	-9.98***	-9.60***	-9.61***	-9.51***	-9.97***	-9.76***	-9.56***	-9.59***	-9.08***	-8.79***	0.983
	(0.779)	(1.109)	(0.876)	(1.118)	(0.787)	(1.117)	(0.881)	(1.126)	(0.910)	(1.111)	
Observations	202,801	101,102	202,801	101,102	202,801	101,102	202,801	101,102	202,801	101,102	

Sources: Decennial Census and American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values associated with Model 5 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4. ǂ Excludes interview years 2001-2004 when the "metro" variable was not available.

Table 4.5 (Appendix Table 2): Logistic Regression Model of Any Exogamous Marriage versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 1960-2012ǂ

	Baseline		Composition		Socioeconomic Factors				P-value, veterans vs. non-veterans §
	Model 1		Model 2		Model 3		Model 4‡		
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	
Race/ethnicity									
Black	0.92***	0.75***	0.86*	0.35	0.88***	0.66***	0.47***	0.08	0.238
	(0.038)	(0.058)	(0.356)	(0.301)	(0.045)	(0.067)	(0.060)	(0.097)	
Asian/Pacific Islander	0.43***	1.65***	1.66***	1.95***	0.44***	1.79***	0.03	1.83***	0.509
	(0.041)	(0.099)	(0.380)	(0.338)	(0.068)	(0.123)	(0.090)	(0.147)	
Native American	3.45***	3.69***	4.77***	4.86***	3.30***	3.57***	3.16***	3.45***	0.937
	(0.072)	(0.114)	(0.441)	(0.303)	(0.079)	(0.126)	(0.088)	(0.136)	
Hispanic	1.25***	2.28***	2.32***	3.05***	0.98***	2.16***	0.73***	2.00***	0.009
	(0.028)	(0.051)	(0.275)	(0.160)	(0.033)	(0.058)	(0.038)	(0.066)	
Wife is a veteran	0.52***	0.45***	0.13	0.26*	0.52***	0.44***	0.42**	0.52***	0.453
	(0.117)	(0.084)	(0.173)	(0.115)	(0.118)	(0.084)	(0.127)	(0.086)	
Cohort of potential military service									
Korea	0.58***	0.74***	0.79***	0.81***	0.59***	0.74***	0.66***	0.72***	0.981
	(0.128)	(0.079)	(0.205)	(0.105)	(0.128)	(0.079)	(0.139)	(0.082)	
Cold War	0.97***	1.29***	1.30***	1.41***	1.01***	1.29***	1.09***	1.30***	0.758
	(0.117)	(0.074)	(0.186)	(0.099)	(0.117)	(0.074)	(0.127)	(0.077)	
Vietnam	1.29***	1.65***	1.68***	1.85***	1.33***	1.65***	1.42***	1.67***	0.613
	(0.113)	(0.072)	(0.181)	(0.095)	(0.113)	(0.072)	(0.123)	(0.074)	
All-volunteer force	1.64***	2.32***	2.10***	2.64***	1.68***	2.33***	1.73***	2.33***	0.017
	(0.111)	(0.076)	(0.178)	(0.098)	(0.111)	(0.076)	(0.121)	(0.079)	
Post-9/11	1.73***	2.86***	2.18***	3.20***	1.79***	2.87***	1.85***	2.90***	0.033
	(0.146)	(0.425)	(0.201)	(0.404)	(0.145)	(0.417)	(0.158)	(0.440)	
Has a bachelor's degree	0.49***	0.17***	0.48***	0.17***	0.27***	0.05	0.31***	-0.11	<.001
	(0.024)	(0.040)	(0.024)	(0.040)	(0.029)	(0.048)	(0.035)	(0.067)	
Age at interview	-0.00***	0.01***	-0.01***	0.01***	-0.01***	0.01***	-0.01***	0.01***	<.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Lives in a metropolitan area	0.36***	0.51***	0.36***	0.52***	0.39***	0.52***	0.36***	0.53***	0.009
	(0.031)	(0.045)	(0.031)	(0.045)	(0.031)	(0.045)	(0.032)	(0.047)	

Mean favorability to federal anti-employment-discrimination measures †	0.27***	-0.53***	0.30***	-0.52***	0.27***	-0.54***	0.28***	-0.53***	<.001
	(0.068)	(0.096)	(0.069)	(0.097)	(0.069)	(0.097)	(0.072)	(0.100)	
Age difference between spouses of five or more years							0.43***	0.57***	0.013
							(0.025)	(0.039)	
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)									
Respondent has a bachelor's degree, wife does not							0.08	0.39***	<.001
							(0.044)	(0.080)	
Wife has a bachelor's degree, respondent does not							0.23***	0.15*	0.543
							(0.049)	(0.072)	
Military normative environment in period of potential service (vs. Segregated military)									
After desegregation, before revision of affirmative action policy									0.482
After revision of affirmative action policy									0.124
Race/ethnicity x Spouse's veteran status									
Black x Wife is a veteran			0.11	-0.15					0.452
			(0.344)	(0.231)					
Asian/Pacific Islander x Wife is a veteran			2.10***	1.67***					0.423
			(0.463)	(0.487)					
Native American x Wife is a veteran			-0.03	1.16					0.335
			(0.804)	(0.653)					
Hispanic x Wife is a veteran			1.59***	1.08***					0.122
			(0.323)	(0.276)					
Race/Ethnicity x Cohort of potential military service									
Black x Korea			0.03	0.81*					0.156
			(0.416)	(0.347)					
Black x Cold War			0.07	0.60					0.304
			(0.378)	(0.324)					
Black x Vietnam			-0.14	0.34					0.338
			(0.369)	(0.319)					

Black x All-volunteer force/Post-9/11	0.11	0.30					0.719
	(0.359)	(0.315)					
Asian/Pacific Islander x Korea	-0.36	-0.04					0.554
	(0.436)	(0.420)					
Asian/Pacific Islander x Cold War	-0.92*	-0.10					0.110
	(0.406)	(0.395)					
Asian/Pacific Islander x Vietnam	-1.16**	-0.36					0.097
	(0.391)	(0.383)					
Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.31***	-0.65					0.172
	(0.383)	(0.379)					
Native American x Korea	-0.73	-1.04*					0.715
	(0.566)	(0.414)					
Native American x Cold War	-1.30**	-0.75*					0.297
	(0.489)	(0.373)					
Native American x Vietnam	-0.96*	-1.21***					0.746
	(0.465)	(0.357)					
Native American x All-volunteer force/Post-9/11	-1.49***	-1.91***					0.595
	(0.450)	(0.364)					
Hispanic x Korea	-0.56	-0.38					0.597
	(0.319)	(0.205)					
Hispanc x Cold War	-0.67*	-0.54**					0.707
	(0.290)	(0.192)					
Hispanic x Vietnam	-0.78**	-0.78***					0.810
	(0.281)	(0.184)					
Hispanic x All-volunteer force/Post-9/11	-1.18***	-1.20***					0.890
	(0.277)	(0.180)					
Race/ethnicity x Educational attainment							
Black x Has a bachelor's degree			-0.03	0.37**	0.03	0.35	0.007
			(0.084)	(0.127)	(0.114)	(0.214)	
Asian/Pacific Islander x Has a bachelor's degree			0.03	-0.37	0.25*	-1.05***	0.077
			(0.083)	(0.200)	(0.107)	(0.315)	
Native American x Has a bachelor's degree			0.66**	0.74*	0.97***	1.13**	0.964
			(0.219)	(0.302)	(0.293)	(0.423)	
Hispanic x Has a bachelor's degree			1.02***	0.55***	1.51***	1.18***	<.001
			(0.056)	(0.121)	(0.070)	(0.178)	

Race /ethnicity x Educational difference from wife			
Black x Respondent has BA, wife does not	-0.44**	0.15	0.449
	(0.168)	(0.266)	
Black x Wife has BA, respondent does not	0.13	-0.13	0.292
	(0.126)	(0.202)	
Asian/Pacific Islander x Respondent has BA, wife does not	0.08	0.84*	0.031
	(0.126)	(0.351)	
Asian/Pacific Islander x Wife has BA, respondent does not	0.08	-1.85***	<.001
	(0.202)	(0.366)	
Native American x Respondent has BA, wife does not	-0.69	-0.56	0.558
	(0.426)	(0.546)	
Native American x Wife has BA, respondent does not	0.25	0.26	0.796
	(0.268)	(0.478)	
Hispanic x Respondent has BA, wife does not	-0.97***	-1.09***	0.717
	(0.102)	(0.223)	
Hispanic x Wife has BA, respondent does not	1.03***	0.17	<.001
	(0.084)	(0.168)	
Race/ethnicity x Normative environment in military during potential service			
Black x After desegregation, before affirmative action policy change			0.456
Black x After affirmative action policy change			0.751
Asian/Pacific Islander x After desegregation, before affirmative action policy change			0.043
Asian/Pacific Islander x After affirmative action policy change			0.093

Native American x After desegregation, before affirmative action policy change									0.825
Native American x After affirmative action policy change									0.353
Hispanic x After desegregation, before affirmative action policy change									0.711
Hispanic x After affirmative action policy change									0.434
Constant	-5.74***	-3.95***	-6.24***	-4.17***	-5.69***	-3.88***	-5.79***	-3.99***	<.001
	(0.260)	(0.351)	(0.299)	(0.357)	(0.261)	(0.352)	(0.275)	(0.365)	
Observations	256,599	109,905	256,599	109,905	256,599	109,905	255,358	109,428	

Sources: Decennial Census and American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values associated with Model 5 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4. ǂ Excludes interview years 2001-2004 when the "metro" variable was not available.

Table 4.5 (Appendix Table 2), Continued: Logistic Regression Model of Any Exogamous Marriage versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 1960-2012‡

	Composition and Socioeconomic Factors		Normative Environment		P-value, veterans vs. non-veterans §
	Model 5		Model 6		
	Non-veterans	Veterans	Non-veterans	Veterans	
Race/ethnicity					
Black	0.83*	0.28	0.72	0.45	0.238
	(0.356)	(0.302)	(0.471)	(0.387)	
Asian/Pacific Islander	1.68***	2.02***	2.25***	2.24***	0.509
	(0.380)	(0.338)	(0.421)	(0.462)	
Native American	4.73***	4.77***	4.40***	4.88***	0.937
	(0.442)	(0.310)	(0.717)	(0.366)	
Hispanic	2.14***	2.97***	1.90***	3.14***	0.009
	(0.277)	(0.161)	(0.407)	(0.208)	
Wife is a veteran	0.11	0.27*	0.12	0.34**	0.453
	(0.172)	(0.115)	(0.172)	(0.116)	
Cohort of potential military service					
Korea	0.81***	0.82***			0.981
	(0.205)	(0.105)			
Cold War	1.35***	1.42***			0.758
	(0.186)	(0.099)			
Vietnam	1.75***	1.85***			0.613
	(0.181)	(0.095)			
All-volunteer force	2.16***	2.64***			0.017
	(0.178)	(0.098)			
Post-9/11	2.26***	3.21***			0.033
	(0.201)	(0.398)			
Has a bachelor's degree	0.26***	0.06	0.29***	0.07	<.001
	(0.030)	(0.048)	(0.029)	(0.048)	
Age at interview	-0.01***	0.01***	-0.01***	0.00	<.001
	(0.001)	(0.001)	(0.001)	(0.001)	
Lives in a metropolitan area	0.39***	0.53***	0.39***	0.52***	0.009
	(0.031)	(0.045)	(0.031)	(0.045)	
Mean favorability to federal anti-employment-discrimination measures †	0.31***	-0.54***	0.26***	-0.57***	<.001
	(0.069)	(0.097)	(0.065)	(0.087)	

Age difference between spouses of five or more years					0.013
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)					
Respondent has a bachelor's degree, wife does not					<.001
Wife has a bachelor's degree, respondent does not					0.543
Military normative environment in period of potential service (vs. Segregated military)					
After desegregation, before revision of affirmative action policy			1.74***	1.56***	0.482
			(0.232)	(0.121)	
After revision of affirmative action policy			2.30***	2.70***	0.124
			(0.231)	(0.126)	
Race/ethnicity x Spouse's veteran status					
Black x Wife is a veteran	0.14	-0.18	0.15	-0.21	0.452
	(0.343)	(0.232)	(0.343)	(0.231)	
Asian/Pacific Islander x Wife is a veteran	2.14***	1.60***	2.12***	1.48**	0.423
	(0.460)	(0.478)	(0.458)	(0.464)	
Native American x Wife is a veteran	0.02	1.04	0.02	0.88	0.335
	(0.816)	(0.662)	(0.750)	(0.667)	
Hispanic x Wife is a veteran	1.71***	1.04***	1.72***	0.98***	0.122
	(0.330)	(0.276)	(0.330)	(0.277)	
Race/Ethnicity x Cohort of potential military service					
Black x Korea	0.01	0.78*			0.156
	(0.416)	(0.347)			
Black x Cold War	0.05	0.57			0.304
	(0.378)	(0.325)			
Black x Vietnam	-0.15	0.32			0.338
	(0.369)	(0.319)			
Black x All-volunteer force/Post-9/11	0.11	0.28			0.719
	(0.360)	(0.315)			
Asian/Pacific Islander x Korea	-0.36	-0.00			0.554
	(0.436)	(0.420)			
Asian/Pacific Islander x Cold War	-0.94*	-0.03			0.110
	(0.407)	(0.397)			
Asian/Pacific Islander x Vietnam	-1.21**	-0.30			0.097
	(0.391)	(0.386)			

Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.33***	-0.59			0.172
	(0.384)	(0.382)			
Native American x Korea	-0.79	-1.05*			0.715
	(0.568)	(0.425)			
Native American x Cold War	-1.41**	-0.76*			0.297
	(0.491)	(0.379)			
Native American x Vietnam	-1.08*	-1.28***			0.746
	(0.467)	(0.362)			
Native American x All-volunteer force/Post-9/11	-1.59***	-1.90***			0.595
	(0.451)	(0.369)			
Hispanic x Korea	-0.60	-0.40			0.597
	(0.321)	(0.205)			
Hispanc x Cold War	-0.71*	-0.58**			0.707
	(0.291)	(0.193)			
Hispanic x Vietnam	-0.90**	-0.82***			0.810
	(0.283)	(0.184)			
Hispanic x All-volunteer force/Post-9/11	-1.27***	-1.22***			0.890
	(0.279)	(0.181)			
Race/ethnicity x Educational attainment					
Black x Has a bachelor's degree	-0.04	0.37**	-0.04	0.38**	0.007
	(0.086)	(0.126)	(0.087)	(0.126)	
Asian/Pacific Islander x Has a bachelor's degree	0.05	-0.34	0.02	-0.31	0.077
	(0.085)	(0.200)	(0.085)	(0.201)	
Native American x Has a bachelor's degree	0.66**	0.64*	0.64**	0.65*	0.964
	(0.216)	(0.294)	(0.213)	(0.301)	
Hispanic x Has a bachelor's degree	1.03***	0.52***	1.01***	0.55***	<.001
	(0.055)	(0.116)	(0.055)	(0.115)	
Race /ethnicity x Educational difference from wife					
Black x Respondent has BA, wife does not					0.449
Black x Wife has BA, respondent does not					0.292
Asian/Pacific Islander x Respondent has BA, wife does not					0.031
Asian/Pacific Islander x Wife has BA, respondent does not					<.001
Native American x Respondent has BA, wife does not					0.558

Native American x Wife has BA, respondent does not					0.796
Hispanic x Respondent has BA, wife does not					0.717
Hispanic x Wife has BA, respondent does not					<.001
Race/ethnicity x Normative environment in military during potential service					
Black x After desegregation, before affirmative action policy change			-0.03	0.43	0.456
			(0.476)	(0.393)	
Black x After affirmative action policy change			0.25	0.05	0.751
			(0.474)	(0.399)	
Asian/Pacific Islander x After desegregation, before affirmative action policy change			-1.68***	-0.38	0.043
			(0.427)	(0.477)	
Asian/Pacific Islander x After affirmative action policy change			-1.89***	-0.78	0.093
			(0.426)	(0.503)	
Native American x After desegregation, before affirmative action policy change			-0.89	-1.07**	0.825
			(0.724)	(0.386)	
Native American x After affirmative action policy change			-1.26	-2.04***	0.353
			(0.724)	(0.425)	
Hispanic x After desegregation, before affirmative action policy change			-0.62	-0.79***	0.711
			(0.409)	(0.215)	
Hispanic x After affirmative action policy change			-1.04*	-1.41***	0.434
			(0.408)	(0.226)	
Constant	-6.22***	-4.10***	-6.15***	-3.64***	<.001
	(0.301)	(0.357)	(0.329)	(0.348)	
Observations	256,599	109,905	256,599	109,905	

Sources: Decennial Census and American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 1960-2008. § P-values associated with Model 5 are derived from a fully-interacted version of each of these models. All other p-values are derived from a fully-interacted version of Model 4. ǂ Excludes interview years 2001-2004 when the "metro" variable was not available.

Table 4.6 (Appendix Table 3): Logistic Regression Model of Any Exogamous versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 2008-2012 - Does Not Control for Second or Higher Marriages

	Baseline		Composition		Socioeconomic Factors			
	Model 1		Model 2		Model 3		Model 4‡	
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans
Race/ethnicity								
Black	0.92***	0.75***	0.86*	0.35	0.88***	0.66***	0.47***	0.08
	(0.038)	(0.058)	(0.356)	(0.301)	(0.045)	(0.067)	(0.060)	(0.097)
Asian/Pacific Islander	0.43***	1.65***	1.66***	1.95***	0.44***	1.79***	0.03	1.83***
	(0.041)	(0.099)	(0.380)	(0.338)	(0.068)	(0.123)	(0.090)	(0.147)
Native American	3.45***	3.69***	4.77***	4.86***	3.30***	3.57***	3.16***	3.45***
	(0.072)	(0.114)	(0.441)	(0.303)	(0.079)	(0.126)	(0.088)	(0.136)
Hispanic	1.25***	2.28***	2.32***	3.05***	0.98***	2.16***	0.73***	2.00***
	(0.028)	(0.051)	(0.275)	(0.160)	(0.033)	(0.058)	(0.038)	(0.066)
Wife is a veteran	0.52***	0.45***	0.13	0.26*	0.52***	0.44***	0.42**	0.52***
	(0.117)	(0.084)	(0.173)	(0.115)	(0.118)	(0.084)	(0.127)	(0.086)
Cohort of potential military service								
Korea	0.58***	0.74***	0.79***	0.81***	0.59***	0.74***	0.66***	0.72***
	(0.128)	(0.079)	(0.205)	(0.105)	(0.128)	(0.079)	(0.139)	(0.082)
Cold War	0.97***	1.29***	1.30***	1.41***	1.01***	1.29***	1.09***	1.30***
	(0.117)	(0.074)	(0.186)	(0.099)	(0.117)	(0.074)	(0.127)	(0.077)
Vietnam	1.29***	1.65***	1.68***	1.85***	1.33***	1.65***	1.42***	1.67***
	(0.113)	(0.072)	(0.181)	(0.095)	(0.113)	(0.072)	(0.123)	(0.074)
All-volunteer force	1.64***	2.32***	2.10***	2.64***	1.68***	2.33***	1.73***	2.33***
	(0.111)	(0.076)	(0.178)	(0.098)	(0.111)	(0.076)	(0.121)	(0.079)
Post-9/11	1.73***	2.86***	2.18***	3.20***	1.79***	2.87***	1.85***	2.90***
	(0.146)	(0.425)	(0.201)	(0.404)	(0.145)	(0.417)	(0.158)	(0.440)
Has a bachelor's degree	0.49***	0.17***	0.48***	0.17***	0.27***	0.05	0.31***	-0.11
	(0.024)	(0.040)	(0.024)	(0.040)	(0.029)	(0.048)	(0.035)	(0.067)
Age at interview	-0.00***	0.01***	-0.01***	0.01***	-0.01***	0.01***	-0.01***	0.01***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Lives in a metropolitan area	0.36***	0.51***	0.36***	0.52***	0.39***	0.52***	0.36***	0.53***
	(0.031)	(0.045)	(0.031)	(0.045)	(0.031)	(0.045)	(0.032)	(0.047)

Mean favorability to federal anti-employment-discrimination measures †	0.27***	-0.53***	0.30***	-0.52***	0.27***	-0.54***	0.28***	-0.53***
	(0.068)	(0.096)	(0.069)	(0.097)	(0.069)	(0.097)	(0.072)	(0.100)
Age difference between spouses of five or more							0.43***	0.57***
							(0.025)	(0.039)
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)								
espondent has a bachelor's degree, wife does not							0.08	0.39***
							(0.044)	(0.080)
Vife has a bachelor's degree, respondent does not							0.23***	0.15*
							(0.049)	(0.072)
Military normative environment in period of potential service (vs. Segregated military)								
After desegregation, before revision of affirmative action policy								
After revision of affirmative action policy								
Race/ethnicity x Spouse's veteran status								
Black x Wife is a veteran			0.11	-0.15				
			(0.344)	(0.231)				
Asian/Pacific Islander x Wife is a veteran			2.10***	1.67***				
			(0.463)	(0.487)				
Native American x Wife is a veteran			-0.03	1.16				
			(0.804)	(0.653)				
Hispanic x Wife is a veteran			1.59***	1.08***				
			(0.323)	(0.276)				
Race/Ethnicity x Cohort of potential military service								
Black x Korea			0.03	0.81*				
			(0.416)	(0.347)				
Black x Cold War			0.07	0.60				
			(0.378)	(0.324)				
Black x Vietnam			-0.14	0.34				
			(0.369)	(0.319)				

Black x All-volunteer force/Post-9/11	0.11	0.30				
	(0.359)	(0.315)				
Asian/Pacific Islander x Korea	-0.36	-0.04				
	(0.436)	(0.420)				
Asian/Pacific Islander x Cold War	-0.92*	-0.10				
	(0.406)	(0.395)				
Asian/Pacific Islander x Vietnam	-1.16**	-0.36				
	(0.391)	(0.383)				
Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.31***	-0.65				
	(0.383)	(0.379)				
Native American x Korea	-0.73	-1.04*				
	(0.566)	(0.414)				
Native American x Cold War	-1.30**	-0.75*				
	(0.489)	(0.373)				
Native American x Vietnam	-0.96*	-1.21***				
	(0.465)	(0.357)				
Native American x All-volunteer force/Post-9/11	-1.49***	-1.91***				
	(0.450)	(0.364)				
Hispanic x Korea	-0.56	-0.38				
	(0.319)	(0.205)				
Hispanc x Cold War	-0.67*	-0.54**				
	(0.290)	(0.192)				
Hispanic x Vietnam	-0.78**	-0.78***				
	(0.281)	(0.184)				
Hispanic x All-volunteer force/Post-9/11	-1.18***	-1.20***				
	(0.277)	(0.180)				
Race/ethnicity x Educational attainment						
Black x Has a bachelor's degree			-0.03	0.37**	0.03	0.35
			(0.084)	(0.127)	(0.114)	(0.214)
Asian/Pacific Islander x Has a bachelor's degree			0.03	-0.37	0.25*	-1.05***
			(0.083)	(0.200)	(0.107)	(0.315)
Native American x Has a bachelor's degree			0.66**	0.74*	0.97***	1.13**
			(0.219)	(0.302)	(0.293)	(0.423)

Hispanic x Has a bachelor's degree	1.02***	0.55***	1.51***	1.18***
	(0.056)	(0.121)	(0.070)	(0.178)
Race /ethnicity x Educational difference from wife				
Black x Respondent has BA, wife does not			-0.44**	0.15
			(0.168)	(0.266)
Black x Wife has BA, respondent does not			0.13	-0.13
			(0.126)	(0.202)
Asian/Pacific Islander x Respondent has BA, wife does not			0.08	0.84*
			(0.126)	(0.351)
Asian/Pacific Islander x Wife has BA, respondent does not			0.08	-1.85***
			(0.202)	(0.366)
Native American x Respondent has BA, wife does not			-0.69	-0.56
			(0.426)	(0.546)
Native American x Wife has BA, respondent does not			0.25	0.26
			(0.268)	(0.478)
Hispanic x Respondent has BA, wife does not			-0.97***	-1.09***
			(0.102)	(0.223)
Hispanic x Wife has BA, respondent does not			1.03***	0.17
			(0.084)	(0.168)
Race/ethnicity x Normative environment in military during potential service				
Black x After desegregation, before affirmative action policy change				
Black x After affirmative action policy change				
Asian/Pacific Islander x After desegregation, before affirmative action policy change				

Asian/Pacific Islander x After affirmative action policy change								
Native American x After desegregation, before affirmative action policy change								
Native American x After affirmative action policy change								
Hispanic x After desegregation, before affirmative action policy change								
Hispanic x After affirmative action policy change								
Constant	-5.74***	-3.95***	-6.24***	-4.17***	-5.69***	-3.88***	-5.79***	-3.99***
	(0.260)	(0.351)	(0.299)	(0.357)	(0.261)	(0.352)	(0.275)	(0.365)
Observations	256,599	109,905	256,599	109,905	256,599	109,905	255,358	109,428

Source: American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 2004-2008.

Table 4.6 (Appendix Table 3), Continued: Logistic Regression Mode of Any Exogamous versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 2008-2012 - Does Not Control for Second or Higher Marriages

	Composition and Socioeconomic Factors		Normative Environment	
	Model 5		Model 6	
	Non-veterans	Veterans	Non-veterans	Veterans
Race/ethnicity				
Black	0.83*	0.28	0.72	0.45
	(0.356)	(0.302)	(0.471)	(0.387)
Asian/Pacific Islander	1.68***	2.02***	2.25***	2.24***
	(0.380)	(0.338)	(0.421)	(0.462)
Native American	4.73***	4.77***	4.40***	4.88***
	(0.442)	(0.310)	(0.717)	(0.366)
Hispanic	2.14***	2.97***	1.90***	3.14***
	(0.277)	(0.161)	(0.407)	(0.208)
Wife is a veteran	0.11	0.27*	0.12	0.34**
	(0.172)	(0.115)	(0.172)	(0.116)
Cohort of potential military service				
Korea	0.81***	0.82***		
	(0.205)	(0.105)		
Cold War	1.35***	1.42***		
	(0.186)	(0.099)		
Vietnam	1.75***	1.85***		
	(0.181)	(0.095)		
All-volunteer force	2.16***	2.64***		
	(0.178)	(0.098)		
Post-9/11	2.26***	3.21***		
	(0.201)	(0.398)		
Has a bachelor's degree	0.26***	0.06	0.29***	0.07
	(0.030)	(0.048)	(0.029)	(0.048)
Age at interview	-0.01***	0.01***	-0.01***	0.00
	(0.001)	(0.001)	(0.001)	(0.001)
Lives in a metropolitan area	0.39***	0.53***	0.39***	0.52***
	(0.031)	(0.045)	(0.031)	(0.045)
Mean favorability to federal anti-employment-discrimination measures †	0.31***	-0.54***	0.26***	-0.57***
	(0.069)	(0.097)	(0.065)	(0.087)
Age difference between spouses of five or more years				

Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)				
Respondent has a bachelor's degree, wife does not				
Wife has a bachelor's degree, respondent does not				
Military normative environment in period of potential service (vs. Segregated military)				
After desegregation, before revision of affirmative action policy			1.74***	1.56***
			(0.232)	(0.121)
After revision of affirmative action policy			2.30***	2.70***
			(0.231)	(0.126)
Race/ethnicity x Spouse's veteran status				
Black x Wife is a veteran	0.14	-0.18	0.15	-0.21
	(0.343)	(0.232)	(0.343)	(0.231)
Asian/Pacific Islander x Wife is a veteran	2.14***	1.60***	2.12***	1.48**
	(0.460)	(0.478)	(0.458)	(0.464)
Native American x Wife is a veteran	0.02	1.04	0.02	0.88
	(0.816)	(0.662)	(0.750)	(0.667)
Hispanic x Wife is a veteran	1.71***	1.04***	1.72***	0.98***
	(0.330)	(0.276)	(0.330)	(0.277)
Race/Ethnicity x Cohort of potential military service				
Black x Korea	0.01	0.78*		
	(0.416)	(0.347)		
Black x Cold War	0.05	0.57		
	(0.378)	(0.325)		
Black x Vietnam	-0.15	0.32		
	(0.369)	(0.319)		
Black x All-volunteer force/Post-9/11	0.11	0.28		
	(0.360)	(0.315)		
Asian/Pacific Islander x Korea	-0.36	-0.00		
	(0.436)	(0.420)		
Asian/Pacific Islander x Cold War	-0.94*	-0.03		
	(0.407)	(0.397)		
Asian/Pacific Islander x Vietnam	-1.21**	-0.30		
	(0.391)	(0.386)		
Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.33***	-0.59		

	(0.384)	(0.382)		
Native American x Korea	-0.79	-1.05*		
	(0.568)	(0.425)		
Native American x Cold War	-1.41**	-0.76*		
	(0.491)	(0.379)		
Native American x Vietnam	-1.08*	-1.28***		
	(0.467)	(0.362)		
Native American x All-volunteer force/Post-9/11	-1.59***	-1.90***		
	(0.451)	(0.369)		
Hispanic x Korea	-0.60	-0.40		
	(0.321)	(0.205)		
Hispanc x Cold War	-0.71*	-0.58**		
	(0.291)	(0.193)		
Hispanic x Vietnam	-0.90**	-0.82***		
	(0.283)	(0.184)		
Hispanic x All-volunteer force/Post-9/11	-1.27***	-1.22***		
	(0.279)	(0.181)		
Race/ethnicity x Educational attainment				
Black x Has a bachelor's degree	-0.04	0.37**	-0.04	0.38**
	(0.086)	(0.126)	(0.087)	(0.126)
Asian/Pacific Islander x Has a bachelor's degree	0.05	-0.34	0.02	-0.31
	(0.085)	(0.200)	(0.085)	(0.201)
Native American x Has a bachelor's degree	0.66**	0.64*	0.64**	0.65*
	(0.216)	(0.294)	(0.213)	(0.301)
Hispanic x Has a bachelor's degree	1.03***	0.52***	1.01***	0.55***
	(0.055)	(0.116)	(0.055)	(0.115)
Race /ethnicity x Educational difference from wife				
Black x Respondent has BA, wife does not				
Black x Wife has BA, respondent does not				
Asian/Pacific Islander x Respondent has BA, wife does not				
Asian/Pacific Islander x Wife has BA, respondent does not				
Native American x Respondent has BA, wife does not				

Native American x Wife has BA, respondent does not				
Hispanic x Respondent has BA, wife does not				
Hispanic x Wife has BA, respondent does not				
Race/ethnicity x Normative environment in military during potential service				
Black x After desegregation, before affirmative action policy change			-0.03	0.43
			(0.476)	(0.393)
Black x After affirmative action policy change			0.25	0.05
			(0.474)	(0.399)
Asian/Pacific Islander x After desegregation, before affirmative action policy change			-1.68***	-0.38
			(0.427)	(0.477)
Asian/Pacific Islander x After affirmative action policy change			-1.89***	-0.78
			(0.426)	(0.503)
Native American x After desegregation, before affirmative action policy change			-0.89	-1.07**
			(0.724)	(0.386)
Native American x After affirmative action policy change			-1.26	-2.04***
			(0.724)	(0.425)
Hispanic x After desegregation, before affirmative action policy change			-0.62	-0.79***
			(0.409)	(0.215)
Hispanic x After affirmative action policy change			-1.04*	-1.41***
			(0.408)	(0.226)
Constant	-6.22***	-4.10***	-6.15***	-3.64***
	(0.301)	(0.357)	(0.329)	(0.348)
Observations	256,599	109,905	256,599	109,905

Source: American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 2004-2008.

Table 4.7 (Appendix Table 4): Logistic Regression Model of Intermarriage versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 2008-2012 - Controls for Second or Higher Marriages

	Baseline		Composition		Socioeconomic Factors			
	Model 1		Model 2		Model 3		Model 4‡	
	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans	Non-veterans	Veterans
Race/ethnicity								
Black	0.92***	0.75***	0.79*	0.32	0.89***	0.66***	0.48***	0.08
	(0.038)	(0.058)	(0.357)	(0.301)	(0.045)	(0.067)	(0.060)	(0.096)
Asian/Pacific Islander	0.46***	1.68***	1.80***	1.98***	0.49***	1.81***	0.07	1.84***
	(0.041)	(0.099)	(0.380)	(0.338)	(0.068)	(0.123)	(0.090)	(0.147)
Native American	3.46***	3.69***	4.86***	4.86***	3.32***	3.58***	3.18***	3.45***
	(0.072)	(0.115)	(0.468)	(0.300)	(0.078)	(0.126)	(0.088)	(0.136)
Hispanic	1.26***	2.29***	2.35***	3.05***	1.00***	2.17***	0.75***	2.01***
	(0.028)	(0.051)	(0.277)	(0.161)	(0.033)	(0.058)	(0.038)	(0.066)
Wife is a veteran	0.46***	0.45***	0.06	0.25*	0.46***	0.43***	0.38**	0.51***
	(0.117)	(0.084)	(0.173)	(0.116)	(0.117)	(0.084)	(0.127)	(0.087)
Cohort of potential military service								
Korea	0.60***	0.73***	0.80***	0.80***	0.61***	0.73***	0.67***	0.71***
	(0.129)	(0.079)	(0.206)	(0.105)	(0.129)	(0.079)	(0.140)	(0.082)
Cold War	0.99***	1.26***	1.32***	1.37***	1.02***	1.26***	1.09***	1.27***
	(0.119)	(0.074)	(0.187)	(0.099)	(0.119)	(0.074)	(0.128)	(0.077)
Vietnam	1.27***	1.59***	1.65***	1.78***	1.31***	1.58***	1.39***	1.63***
	(0.114)	(0.072)	(0.182)	(0.096)	(0.114)	(0.072)	(0.124)	(0.075)
All-volunteer force	1.56***	2.22***	2.02***	2.53***	1.60***	2.22***	1.66***	2.26***
	(0.111)	(0.077)	(0.179)	(0.100)	(0.111)	(0.077)	(0.121)	(0.080)
Post-9/11	1.67***	2.80***	2.13***	3.14***	1.73***	2.81***	1.79***	2.86***
	(0.145)	(0.427)	(0.201)	(0.405)	(0.145)	(0.419)	(0.158)	(0.441)
Has a bachelor's degree	0.51***	0.18***	0.51***	0.19***	0.30***	0.07	0.34***	-0.10
	(0.024)	(0.040)	(0.024)	(0.040)	(0.029)	(0.048)	(0.035)	(0.067)
Age at interview	-0.01***	0.01***	-0.01***	0.01***	-0.01***	0.01***	-0.01***	0.01***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Lives in a metropolitan area	0.37***	0.52***	0.37***	0.53***	0.40***	0.53***	0.37***	0.53***

	(0.031)	(0.045)	(0.031)	(0.045)	(0.031)	(0.045)	(0.032)	(0.047)
Mean favorability to federal anti-employment-discrimination measures †	0.98***	-0.22*	1.04***	-0.22*	0.97***	-0.24*	0.84***	-0.35**
	(0.081)	(0.104)	(0.082)	(0.104)	(0.081)	(0.104)	(0.084)	(0.107)
Second or higher marriage for at least one spouse	0.41***	0.27***	0.41***	0.27***	0.40***	0.27***	0.33***	0.17***
	(0.026)	(0.043)	(0.026)	(0.042)	(0.026)	(0.043)	(0.027)	(0.045)
Age difference between spouses of five or more years							0.06	0.38***
							(0.044)	(0.080)
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)								
Respondent has a bachelor's degree, wife does not							0.23***	0.15*
							(0.049)	(0.072)
Wife has a bachelor's degree, respondent does not							0.38***	0.54***
							(0.026)	(0.040)
Military normative environment in period of potential service (vs. Segregated military)								
After desegregation, before revision of affirmative action policy								
After revision of affirmative action policy								
Race/ethnicity x Spouse's veteran status								
Black x Wife is a veteran			0.13	-0.14				
			(0.345)	(0.231)				
Asian/Pacific Islander x Wife is a veteran			2.13***	1.70***				
			(0.457)	(0.502)				
Native American x Wife is a veteran			0.05	1.17				
			(0.773)	(0.657)				
Hispanic x Wife is a veteran			1.62***	1.08***				
			(0.321)	(0.279)				
Race/Ethnicity x Cohort of potential military service								
Black x Korea			0.07	0.82*				
			(0.417)	(0.346)				
Black x Cold War			0.13	0.62				
			(0.379)	(0.324)				

Black x Vietnam	-0.07	0.37				
	(0.370)	(0.319)				
Black x All-volunteer force/Post-9/11	0.18	0.33				
	(0.360)	(0.315)				
Asian/Pacific Islander x Korea	-0.43	-0.04				
	(0.435)	(0.420)				
Asian/Pacific Islander x Cold War	-1.03*	-0.11				
	(0.406)	(0.395)				
Asian/Pacific Islander x Vietnam	-1.28**	-0.36				
	(0.391)	(0.383)				
Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.42***	-0.66				
	(0.382)	(0.379)				
Native American x Korea	-0.77	-1.05*				
	(0.590)	(0.412)				
Native American x Cold War	-1.35**	-0.74*				
	(0.514)	(0.371)				
Native American x Vietnam	-1.02*	-1.24***				
	(0.490)	(0.355)				
Native American x All-volunteer force/Post-9/11	-1.58***	-1.92***				
	(0.476)	(0.363)				
Hispanic x Korea	-0.56	-0.37				
	(0.321)	(0.206)				
Hispanc x Cold War	-0.67*	-0.53**				
	(0.292)	(0.192)				
Hispanic x Vietnam	-0.79**	-0.76***				
	(0.283)	(0.185)				
Hispanic x All-volunteer force/Post-9/11	-1.21***	-1.19***				
	(0.279)	(0.181)				
Race/ethnicity x Educational attainment						
Black x Has a bachelor's degree			-0.04	0.37**	0.02	0.34
			(0.084)	(0.127)	(0.115)	(0.213)
Asian/Pacific Islander x Has a bachelor's degree			0.01	-0.37	0.23*	-1.05***
			(0.083)	(0.199)	(0.107)	(0.313)
Native American x Has a bachelor's degree			0.63**	0.73*	0.94**	1.13**
			(0.221)	(0.305)	(0.297)	(0.420)

Hispanic x Has a bachelor's degree	1.00***	0.55***	1.49***	1.18***
	(0.056)	(0.122)	(0.070)	(0.178)
Race /ethnicity x Educational difference from wife				
Black x Respondent has BA, wife does not			-0.44**	0.15
			(0.168)	(0.265)
Black x Wife has BA, respondent does not			0.12	-0.13
			(0.126)	(0.203)
Asian/Pacific Islander x Respondent has BA, wife does not			0.10	0.84*
			(0.126)	(0.350)
Asian/Pacific Islander x Wife has BA, respondent does not			0.08	-1.85***
			(0.201)	(0.365)
Native American x Respondent has BA, wife does not			-0.69	-0.58
			(0.429)	(0.548)
Native American x Wife has BA, respondent does not			0.20	0.26
			(0.266)	(0.487)
Hispanic x Respondent has BA, wife does not			-0.97***	-1.09***
			(0.102)	(0.223)
Hispanic x Wife has BA, respondent does not			1.01***	0.17
			(0.084)	(0.168)
Race/ethnicity x Normative environment in military during potential service				
Black x After desegregation, before affirmative action policy change				
Black x After affirmative action policy change				
Asian/Pacific Islander x After desegregation, before affirmative action policy change				
Asian/Pacific Islander x After affirmative action policy change				

Native American x After desegregation, before affirmative action policy change								
Native American x After affirmative action policy change								
Hispanic x After desegregation, before affirmative action policy change								
Hispanic x After affirmative action policy change								
Constant	-8.15***	-4.97***	-8.71***	-5.17***	-8.04***	-4.89***	-7.69***	-4.60***
	(0.312)	(0.386)	(0.347)	(0.390)	(0.312)	(0.387)	(0.324)	(0.395)
Observations	256,599	109,905	256,599	109,905	256,599	109,905	255,358	109,428

Source: American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 2004-2008.

Table 4.7 (Appendix Table 4), Continued: Logistic Regression Model of Intermarriage versus Endogamous Marriage, among Black, White, Asian/Pacific Islander, Native American and Hispanic Married Men, 2008-2012 - Controls for Second or Higher Marriages

	Composition and Socioeconomic Factors		Normative Environment	
	Model 5		Model 6	
	Non-veterans	Veterans	Non-veterans	Veterans
Race/ethnicity				
Black	0.77*	0.25	0.64	0.40
	(0.357)	(0.302)	(0.472)	(0.387)
Asian/Pacific Islander	1.83***	2.05***	2.38***	2.30***
	(0.380)	(0.338)	(0.423)	(0.462)
Native American	4.82***	4.78***	4.50***	4.89***
	(0.469)	(0.307)	(0.785)	(0.359)
Hispanic	2.17***	2.96***	1.91***	3.13***
	(0.279)	(0.161)	(0.411)	(0.210)
Wife is a veteran	0.04	0.26*	0.05	0.32**
	(0.173)	(0.116)	(0.172)	(0.116)
Cohort of potential military service				
Korea	0.83***	0.80***		
	(0.206)	(0.105)		
Cold War	1.37***	1.38***		
	(0.187)	(0.099)		
Vietnam	1.73***	1.79***		
	(0.182)	(0.096)		
All-volunteer force	2.08***	2.53***		
	(0.179)	(0.100)		
Post-9/11	2.20***	3.14***		
	(0.201)	(0.400)		
Has a bachelor's degree	0.29***	0.07	0.31***	0.09
	(0.030)	(0.049)	(0.030)	(0.048)
Age at interview	-0.01***	0.01***	-0.01***	-0.00
	(0.001)	(0.001)	(0.001)	(0.001)
Lives in a metropolitan area	0.40***	0.54***	0.40***	0.53***
	(0.031)	(0.045)	(0.031)	(0.045)
Mean favorability to federal anti-employment-discrimination measures †	1.03***	-0.23*	0.98***	-0.20*
	(0.082)	(0.105)	(0.077)	(0.095)
Second or higher marriage for at least one spouse	0.41***	0.27***	0.42***	0.37***

	(0.026)	(0.042)	(0.026)	(0.043)
Age difference between spouses of five or more years				
Educational difference from wife (vs. Both spouses have a Bachelor's degree, or both spouses do not)				
Respondent has a bachelor's degree, wife does not				
Wife has a bachelor's degree, respondent does not				
Military normative environment in period of potential service (vs. Segregated military)				
After desegregation, before revision of affirmative action policy			1.73***	1.51***
			(0.232)	(0.121)
After revision of affirmative action policy			2.22***	2.57***
			(0.231)	(0.128)
Race/ethnicity x Spouse's veteran status				
Black x Wife is a veteran	0.16	-0.17	0.17	-0.20
	(0.344)	(0.231)	(0.344)	(0.231)
Asian/Pacific Islander x Wife is a veteran	2.16***	1.63***	2.15***	1.52**
	(0.454)	(0.494)	(0.452)	(0.479)
Native American x Wife is a veteran	0.09	1.05	0.09	0.91
	(0.784)	(0.667)	(0.729)	(0.680)
Hispanic x Wife is a veteran	1.73***	1.04***	1.74***	0.98***
	(0.328)	(0.279)	(0.328)	(0.281)
Race/Ethnicity x Cohort of potential military service				
Black x Korea	0.05	0.79*		
	(0.417)	(0.347)		
Black x Cold War	0.11	0.58		
	(0.379)	(0.325)		
Black x Vietnam	-0.08	0.34		
	(0.370)	(0.319)		
Black x All-volunteer force/Post-9/11	0.18	0.31		
	(0.361)	(0.316)		
Asian/Pacific Islander x Korea	-0.42	-0.01		
	(0.435)	(0.420)		
Asian/Pacific Islander x Cold War	-1.04*	-0.04		
	(0.406)	(0.397)		
Asian/Pacific Islander x Vietnam	-1.32***	-0.30		
	(0.391)	(0.385)		

Asian/Pacific Islander x All-volunteer force/Post-9/11	-1.43***	-0.60		
	(0.384)	(0.382)		
Native American x Korea	-0.82	-1.06*		
	(0.594)	(0.423)		
Native American x Cold War	-1.45**	-0.74*		
	(0.516)	(0.377)		
Native American x Vietnam	-1.14*	-1.30***		
	(0.492)	(0.360)		
Native American x All-volunteer force/Post-9/11	-1.67***	-1.90***		
	(0.478)	(0.367)		
Hispanic x Korea	-0.61	-0.39		
	(0.324)	(0.206)		
Hispanc x Cold War	-0.72*	-0.57**		
	(0.294)	(0.193)		
Hispanic x Vietnam	-0.91**	-0.80***		
	(0.285)	(0.186)		
Hispanic x All-volunteer force/Post-9/11	-1.29***	-1.21***		
	(0.281)	(0.181)		
Race/ethnicity x Educational attainment				
Black x Has a bachelor's degree	-0.05	0.36**	-0.05	0.37**
	(0.086)	(0.126)	(0.087)	(0.126)
Asian/Pacific Islander x Has a bachelor's degree	0.03	-0.34	0.00	-0.32
	(0.085)	(0.199)	(0.085)	(0.201)
Native American x Has a bachelor's degree	0.63**	0.62*	0.60**	0.62*
	(0.219)	(0.296)	(0.216)	(0.302)
Hispanic x Has a bachelor's degree	1.01***	0.52***	0.99***	0.55***
	(0.056)	(0.117)	(0.056)	(0.116)
Race /ethnicity x Educational difference from wife				
Black x Respondent has BA, wife does not				
Black x Wife has BA, respondent does not				
Asian/Pacific Islander x Respondent has BA, wife does not				
Asian/Pacific Islander x Wife has BA, respondent does not				
Native American x Respondent has BA, wife does not				

Native American x Wife has BA, respondent does not				
Hispanic x Respondent has BA, wife does not				
Hispanic x Wife has BA, respondent does not				
Race/ethnicity x Normative environment in military during potential service				
Black x After desegregation, before affirmative action policy change			0.04	0.46
			(0.477)	(0.393)
Black x After affirmative action policy change			0.33	0.10
			(0.476)	(0.400)
Asian/Pacific Islander x After desegregation, before affirmative action policy change			-1.76***	-0.41
			(0.428)	(0.478)
Asian/Pacific Islander x After affirmative action policy change			-1.97***	-0.80
			(0.427)	(0.504)
Native American x After desegregation, before affirmative action policy change			-0.95	-1.09**
			(0.792)	(0.380)
Native American x After affirmative action policy change			-1.35	-2.05***
			(0.791)	(0.420)
Hispanic x After desegregation, before affirmative action policy change			-0.61	-0.78***
			(0.413)	(0.217)
Hispanic x After affirmative action policy change			-1.04*	-1.39***
			(0.412)	(0.228)
Constant	-8.63***	-5.10***	-8.59***	-4.93***
	(0.347)	(0.391)	(0.370)	(0.381)
Observations	256,599	109,905	256,599	109,905

Source: American Community Survey (ACS)

Notes: Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05. † American National Election Survey, 2004-2008.

References

Abma, Joyce, Anne Driscoll and Kristin Moore. 1998. "Young Women's Degree of Control Over First Intercourse: An Exploratory Analysis." *Family Planning Perspectives*. 30: 12-18.

Akerlof, George A. and Janet L. Yellen. 1985. "Unemployment through the Filter of Memory." *Quarterly Journal of Economics.* 100: 747-773.

Akers, Aletha Y., Melvin R. Muhammad, and Giselle Corbie-Smith. 2011. "'When You Got Nothing to Do, You Do Somebody': A Community's Perceptions of Neighborhood Effects on Adolescent Sexual Behaviors." *Social Science & Medicine* 72:91-99.

Alba, Richard and Victor Nee. 2003. *Rethinking the American Mainstream: Assimilation and Contemporary Immigration.* Cambridge: Harvard University Press.

Albano, Sondra. 1994. "Military Recognition of Family Concerns: Revolutionary War to 1993." *Armed Forces & Society.* 20:283-302.

Alon, Sigal, Debra Donohoe and Marta Tienda. 2001. "The Effects of Early Work Experience on Young Women's Labor Force Attachment." *Social Forces.* 79: 1005-1034.

Alon, Sigal and Yitchak Haberfeld. 2007. "Labor Force Attachment and the Evolving Wage Gap between White, Black and Hispanic Young Women." *Work and Occupations.* 34: 369-398.

Allport, Gordon W. 1954. *The Nature of Prejudice.* Reading, MA: Addison-Wesley Publishing Company.

The American National Election Studies (www.electionstudies.org). THE ANES GUIDE

TO PUBLIC OPINION AND ELECTORAL BEHAVIOR. Ann Arbor, MI:

Anker, Richard. 1997. "Theories of Occupational Segregation by Sex: An Overview." *International Labor Review* 136: 315-39.

Armor, David J. 1996. “Race and Gender in the U.S. Military.” *Armed Forces & Society.* 23: 7-27.

Armor, David J. and Curtis L. Gilroy. 2010. “Changing Minority Representation in the U.S. Military.” *Armed Forces & Society.* 36: 223-246.

Bachrach, Christine and S. Philip Morgan. 2001. “A Cognitive-Social Model of Fertility Intentions.” *Population and Development Review.* 39:459-485.

Barber, Jennifer S. 2000. “Intergenerational Influences on the Entry into Parenthood: Mothers’ Preferences for Family and Nonfamily Behavior.” *Social Forces.* 79: 319-348.

Barber, Jennifer S. 2001. “Ideational Influences on the Transition to Parenthood: Attitudes toward Childbearing and Competing Alternatives.” *Social Psychology Quarterly.* 64: 101-127.

Becker, Gary S. 1975. *Human Capital.* New York: National Bureau of Economic Research Press

Bernhardt, Annette, Martina Morris, Mark S. Handcock and Marc A. Scott. 2001. *Divergent Paths: Economic Mobility in the New American Labor Market.* New York: Russell Sage Foundation.

Bergmann, Barbara R. 2010. "Sex Segregation in the Blue-Collar Occupations: Women's Choices, or Unremedied Discrimination? Comment on England." *Gender and Society* 25: 88-93.

Bianchi, Suzanne M. and Daphne Spain. 1996. " Women, Work and Family in America." *Population Bulletin.* 51:2-48.

Bianchi, Suzanne M. and Melissa A. Milkie. 2010. "Work and Family Research in the First Decade of the 21st Century." *Journal of Marriage and Family.* 72:705-725.

Blair-Loy, Mary. 2004. “Work Devotion and Work Time.” *Fighting for Time: Shifting Boundaries of Work and Social Life.* ed. Cynthia Fuchs Epstein and Arne L. Kalleberg. New York: Russell Sage Foundation.

Blau, Francine D. and Lawrence Kahn. 2007. "The Gender Pay Gap: Have Women Gone As Far As They Can?" *Academy of Management Perspectives* 21: 7-23.
As Far As They Can?" *Academy of Management Perspectives*. 21: 7-23.

Bobo, Lawrence and Camille Zubrinsky. 1996. “Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice.” *Social Forces.* 74: 883-909.

Bogart, Leo. 1969. *Social Research and the Desegregation of the U.S. Army: Two Original 1951 Field Reports*. Chicago: Markham Publishing Company.

Bolté, Charles C. and Louis Harris. 1947. *Our Negro Veterans.* New York: Public Affairs Committee, Inc.

Bowers, Norman and Francis W. Horvath. 1984. “Keeping Time: An Analysis of Measures of Employment Duration.” *Journal of Business & Economic Statistics*. 2: 140-149.

Boxer, Christie F., Mary C. Noonan and Christine B. Whelan. 2015. “Measuring Mate Preferences: A Replication and Extension.” *Journal of Family Issues.* 36: 163-187.

Bratter, Jenifer and Tukufu Zuberi. 2001. “The Demography of Difference: Shifting Trends of Racial Diversity and Interracial Marriage, 1960-1990.” *Race & Society.* 4: 133-148.

Brewster, Karin L., John O.G. Billy, and William R. Grady. 1993. “Social Context and Adolescent Behavior: The Impact of Community on the Transition to Sexual Activity.” *Social Forces* 71: 713-740.

Brewster, Karin L. 1994. “Neighborhood Context and the Transition to Sexual Activity amongYoung Black Women.” *Demography* 31: 603-614.

Browning, Christopher R. and Lori A. Burrington. 2006. “Racial Differences in Sexual and Fertility Attitudes in an Urban Setting.” *Journal of Marriage and Family.* 68: 236-251.

Browning, Harley L., Sally C. Lopreato and Dudley L. Poston Jr. 1973. “Income and Veteran Status: Variations among Mexican-Americans, Blacks and Anglos.” *American Sociological Review.* 38: 74-85.

Budig, Michelle and Paula England. 2001. “The Wage Penalty for Motherhood.” *American Sociological Review.* 66:204-225.

Bureau of Labor Statistics (2014) National Longitudinal Survey of Youth 1997 cohort. http://www.bls.gov/nls/nlsy97.htm

Butler, John Sibley and Kenneth L. Wilson. 1978. “The American Soldier Revisited: Race Relations and the Military.” *Social Science Quarterly.* 59: 451-467.

Carlson, Marcia, Sarah McLanahan and Paula England. 2004. “Union Formation in Fragile Families. *Demography.* 41:237-261.

Carlson, Marcia, Alicia G. VanOrman and Natasha V. Pilkauskas. 2013. “Examining the

Antecedents of U.S. Nonmarital Fatherhood." *Demography*. 50: 1421-1447.

Chaves, Mark and Shawna L. Anderson. 2014. "Changing American Congregations: Findings from the Third Wave of the National Congregations Study." *Journal for the Scientific Study of Religion.* 53: 676-686.

Cheng, Simon, Laura Hamilton, Stacy Missari and Josef (Kuo-Hsun) Ma. 2014. "Sexual Subjectivity among Adolescent Girls: Social Disadvantage and Young Adult Outcomes." *Social Forces.* 93: 515-544.

Cherlin, Andrew. 2004. "The Deinstitutionalization of Marriage." *Journal of Marriage and Family.* 66:848-861.

Cohen, Philip N. and Matt L. Huffman. 2003. "Occupational Segregation and Devaluation of Women's Work across U.S. Labor Markets." *Social Forces.* 81: 881-908

Comings, John P., Andrea Parella, and Lisa Soricone. 1999. "Persistence among Adult Basic Education Students in Pre-GED Classes." *NCSALL Reports* Number 12. The National Center for the Study of Adult Literacy and Learning, Harvard University Graduate School of Education.

Damaske, Sarah. 2011. *For the Family? How Class and Gender Shape Women's Work.* Oxford: Oxford University Press.

Daugherity, Brian J. and Charles C. Bolton. 2008. *With All Deliberate Speed: Implementing Brown v. Board of Education.* Fayetteville: University of Arkansas Press.

Davis, James A. 2001. "Attitudes and Opinions among Senior Military Officers and a U.S. Cross-Section, 1998-99." *Soldiers and Civilians: The Civil-Military Gap and*

American National Security. Cambridge, MA: The MIT Press.

Davis, Kingsley. 1941. "Intermarriage in Caste Societies." *American Anthropologist* 43:376–95.

Dex, Shirley and Andrew McCulloch. 1998. "The Reliability of Retrospective Unemployment History Data." *Work, Employment and Society.* 12: 497-509.

Duncan, Greg J. and Daniel H. Hill. 1985. "An Investigation of the Extent and Consequences of Measurement Error in Labor-Economic Survey Data." *Journal of Labor Economics.* 3:508-532.

Dykema, Jennifer and Nora Cate Schaeffer. 2000. "Events, Instruments and Reporting Errors."*American Sociological Review.* 65: 619-629.

Easterlin, Richard A. and Eileen Crimmins. 1985. *The Fertility Revolution.* Chicago: University of Chicago Press.

Edin, Kathryn and Laura Lein. 1997. "Work, Welfare and Single Mothers' Economic Survival Strategies." *American Sociological Review* 62: 253-266.

Edin, Kathryn and Maria Kefalas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood before Marriage.* Berkeley: University of California Press.

Edin, Kathryn, Paula England, Emily Fitzgibbons Schafer and Joanna Reed. 2007. "Forming Fragile Families: Was the Baby Planned, Unplanned, or in Between?" *Unmarried Couples with Children.* Ed. Paula England and Kathryn Edin. New York: Russell Sage Foundation. 25-54.

Edin, Kathryn and Timothy J. Nelson. 2013. *Doing the Best I Can: Fatherhood in the Inner City.* Berkeley: University of California Press.

Elder, Glen H. Jr. 1986. "Military Times and Turning Points in Men's Lives."

Developmental Psychology. 22: 233-245.

Ellison, Christopher G. 1992. "Military Background, Racial Orientations, and Political Participation among Black Adult Males." *Social Science Quarterly.* 73: 360-378.

Ellison, Christopher G. and Daniel A. Powers. 1994. "The Contact Hypothesis and Racial Attitudes among Black Americans." *Social Science Quarterly.* 75: 385-400.

Elliott, James R. 2000. "Class, Race and Job Matching in Contemporary Urban Labor Markets."*Social Science Quarterly.* 81: 1036-1052.

Emerson, Michael O., Rachel Tolbert Kimbro and George Yancey. 2002. "Contact Theory Extended: The Effects of Prior Racial Contact on Current Social Ties." *Social Science Quarterly.* 83: 745-761.

Entwisle, Doris R., Kari L. Alexander, and Linda Steffel Olson. 2004. "Temporary as Compared To Permanent High School Dropout." *Social Forces.* 82: 1181-1205.

Evans, David S. and Linda S. Leighton. 1995. "Retrospective Bias in Displaced Worker Surveys." *Journal of Human Resources.* 30: 386-396.

Evans, James C. 1955. *Integration in the Armed Services: A Progress Report.* Washington, DC: Office of the Assistant Secretary of Defense.

Farley, Reynolds and William H. Frey. 1994. "Changes in Segregation of Whites from Blacks During the 1980s: Small Steps toward a More Integrated Society." *American Sociological Review.* 59: 23-45.

Finer, Lawrence B. and Mia R. Zolna. 2011. "Unintended Pregnancy in the United States: Incidence and Disparities, 2006." *Contraception.* 84: 478-485.

Fischer, Mary J. 2008. "Does Campus Diversity Promote Friendship Diversity? A Look at Interracial Friendships in College." *Social Science Quarterly.* 89: 631-655.

Folbre, Nancy. 1995. *Who Pays for the Kids? Gender and the Structures of Constraint.* New York: Routledge.

William H. Frey and Reynolds Farley. 1996. "Latino, Asian and Black Segregation in U.S. Metropolitan Areas: Are Multiethnic Metros Different?" *Demography.* 33:35-50.

Frey, William H. and Dowell Meyers. 2005. "Racial Segregation in U.S. Metropolitan Areas and Cities, 1990-2000: Trends, Patterns and Explanations." Report 05-573, Population Studies Center, University of Michigan Institute for Social Research.

Fryer, Roland G. Jr. 2007. "Guess Who's Been Coming to Dinner? Trends in Interracial Marriage over the 20th Century." *Journal of Economic Perspectives.* 21: 71-90.

Fu, Vincent Kang. 2001. "Racial Interracial Marriage Pairings." *Demography.* 38: 147-159.

Gassanov, Margaret A., Lisa M. Nicholson, and Amanda Koch-Turner. 2008. "Expectations to Marry among American Youth." *Youth & Society.* 40: 265-288.

Geronimus, Arline T. and Sanders Korenman. 1993. "The Socioeconomic Costs of Teenage Childbearing: Evidence and Interpretation." *Demography*. 30: 281-290.

Gibson-Davis, Christina, Kathryn Edin, and Sara McLanahan. 2005. "High Hopes but Even Higher Expectations: The Retreat from Marriage among Low-Income Couples." *Journal of Marriage and Family* 67: 1301-1312.

Gibson-Davis, Christina M. 2009. "Money, Marriage and Children: Testing the Financial Expectations and Family Formation Theory." *Journal of Marriage and Family.* 71:146-160.

Gibson-Davis, Christina M. 2011. “Mothers but Not Wives: The Increasing Lag between Nonmarital Births and Marriage.” *Journal of Marriage and Family.* 73:264-278.

Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Gornick, Janet C. and Marcia K. Meyers. 2003. *Families that Work: Policies for Reconciling Parenthood and Employment.* New York: Russell Sage Foundation.

Gullickson, Aaron. 2006. “Education and Black-White Interracial Marriage.” *Demography.* 43: 673-689.

Guzzo, Karen Benjamin. 2009. “Marital Intentions and the Stability of First Cohabitations.” *Journal of Family Issues.* 30.2: 179-205.

Guzzo, Karen Benjamin and Sarah Hayford. 2011. “Fertility Following an Unintended First Birth.” *Demography.* 48:1493-1516.

Hardie, Jessica Halliday. 2015. “The Best Laid Plans: Social Capital in the Development of Girls’ Educational and Occupational Plans.” *Social Problems.* 62: 241-265.

Harknett, Kristen and Arielle Kuperberg. 2011. “Education, Labor Markets and the Retreat from Marriage.” *Social Forces.* 90: 41-63.

Harris, Kathleen Mullan. 2009. The National Longitudinal Study of Adolescent to Adult Health (Add Health), Waves I & II, 1994–1996; Wave III, 2001–2002; Wave IV, 2007-2009 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill. DOI: 10.3886/ICPSR27021.v9

Hartmann, Heidi. 1976. "Capitalism, Patriarchy and Job Segregation by Sex." *Signs.* 1: 137-169.

Hayford, Sarah R. 2009. “The Evolution of Fertility Expectations over the Life Course.” *Demography.* 46: 765-783.

Heaton, Tim B. and Cardell K. Jacobson. 2000. “Intergroup Marriages: An Examination of Opportunity Structures.” *Sociological Inquiry.* 70: 30-41.

Hodges, Melissa J. and Michelle J. Budig. 2010. "Who Gets the Daddy Bonus? Organizational Hegemonic Masculinity and the Impact of Fatherhood on Earnings." *Gender and Society.* 24: 717-745.

Hoewe, Jennifer and Geri Alumit Zeldes. 2012. “Overturning Antimiscegenation Laws: News Media Coverage of the Lovings’ Civil Case against the State of Virginia.” *Journal of Black Studies.* 43:427-443.

Holsti, Ole R. 2001. “Of Chasms and Convergences: Attitudes and Beliefs of Civilians and Military Elites at the Start of the New Millennium.” *Soldiers and Civilians: The Civil-Military Gap and American National Security.* Cambridge, MA: The MIT Press.

Horn, Laura, Stephanie Nevill, and James Griffith. 2006. “Profile of Undergraduates in U.S. Post-Secondary Institutions: 2003-2004, with a Special Analysis of Community College Students.” U.S. Department of Education. NCES 2006-184.

Horvath, Francis W. 1982. “Forgotten Unemployment: Recall Bias in Retrospective Data.”*Monthly Labor Review*. 105: 40-44.

Hosmer, David W., Stanley Lemeshow and Susanne May. 2008. *Applied Survival Analysis:Regression Modeling of Time-to-Event Data.* Hoboken, NJ: John Wiley & Sons, Inc.

Humes, Karen R., Nicholas A. Jones, and Roberto R. Ramirez. 2011. “Overview of Race

and Hispanic Origin: 2010." *2010 Census Briefs.* C2010BR-02.

Irizarry, Yasmiyn. 2013. "Is Measuring Interracial Contact Enough? Racial Concentration, Racial Balance, and Perceptions of Prejudice among Black Americans." *Social Science Quarterly.* 94: 591-615.

Jackman, Mary R. 1994. *The Velvet Glove: Paternalism and Conflict in Gender, Class and Race Relations.* Berkeley: University of California Press.

Jackman, Mary R. and Marie Crane. 1986. "'Some of My Best Friends Are Black…': Interracial Friendship and Whites' Racial Attitudes." *The Public Opinion Quarterly.* 50: 459-486.

Jacobs, Sheila C. 2002. "Reliability of Recall and Unemployment Events Using Retrospective Data." *Work, Employment, and Society.* 16: 43-548.

Jacobson, Cardell and Timothy Heaton. 2003. "Intergroup Marriage and United States Military Service." *Journal of Political and Military Sociology.* 31: 1-22.

Jennings, M. Kent and Gregory B. Markus. 1977. "The Effect of Military Service on Political Attitudes." *The American Political Science Review.* 71: 131-147.

Johnson, Bryan R. and Cardell K. Jacobson. 2005. "Contact in Context: An Examination of Social Settings on Whites' Attitudes toward Interracial Marriage." *Social Psychology Quarterly.* 4: 387-399.

Joyner, Kara, H. Elizabeth Peters, Kathryn Hynes, Asia Sikora, Jamie Rubenstein Taber, and Michael S. Rendall. 2012. The quality of male fertility data in major U.S. surveys *Demography* 49(1):101-124.

Jumping-Eagle, Sara, Jeanelle Sheeder, Lisa S. Kelly and Catherine Stevens-Simon. 2008. "Association of Conventional Goals and Perceptions of Pregnancy with

Teenagers' Pregnancy Avoidance Behavior and Attitudes." *Perspectives on Sexual and Reproductive Health.* 40: 74-80.

Jürges, Hendrik. 2007. "Unemployment, Life Satisfaction and Retrospective Error." *Journal of the Royal Statistical Society: Series A.* 170, Part 1:43-61.

Kahn, Joan R., William D. Kalsbeek and Sandra L. Hofferth. 1988. "National Estimates of Teenage Sexual Activity: Evaluating the Comparability of Three National Surveys." *Demography.* 25:189-204.

Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970sto 2000s.* New York: Russell Sage Foundation.

Kalmijn, Matthijs. 1993. "Trends in Black/White Interracial Marriage." *Social Forces.* 72: 119-146.

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology.* 24: 395-421.

Kalmijn, Matthijs and Henk Flap. 2001. "Assortative Meeting and Mating: Unintended Consequences of Organized Settings for Partner Choices." *Social Forces.* 79: 1289-1312.

Kerkhoff, Alan C. 2001. "Education and Social Stratification Processes in Comparative Perspective. "*Sociology of Education".* 74: 3-18.

King, Miriam, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. 2010. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-readable database].

Minneapolis, MN: Minnesota Population Center [producer and distributor].

King, Rosalind Berkowitz and Jenifer Bratter. 2007. "A Path toward Interracial Marriage: Women's First Partners and Husbands across Racial Lines." *The Sociological Quarterly.* 48: 343-369.

Kleykamp, Meredith. 2009. "A Great Place to Start? The Effect of Prior Military Service on Hiring." *Armed Forces & Society.* 35: 266-285.

Krahn, Harvey J., Andrea L. Howard and Nancy L. Galambos. 2015. "Exploring or Floundering? The Meaning of Employment and Educational Fluctuations in Emerging Adulthood." *Youth & Society.* 47: 245-266.

Kreider, Rose M. 2005. "Number, Timing and Duration of Marriages and Divorces: 2001." *Current Population Reports.* P70-97. U.S. Census Bureau.

Kreider, Rose M. and Renee Ellis. 2011. "Number, Timing and Duration of Marriages and Divorces: 2009." *Current Population Reports.* P70-125, U.S. Census Bureau.

Krysan, Maria and Reynolds Farley. 2002. "The Residential Preferences of Blacks: Do They Explain Persistent Segregation?" *Social Forces.* 80: 937-980.

Kyyra, Tomi and Ralf A. Wilke. 2014. "On the Reliability of Retrospective Employment Information in European Household Panel Data." *Empirical Economics*. 46: 1473-1493.

Lareau, Annette. 2003. *Unequal Childhoods: Class, Race and Family Life.* Berkeley: University of California Press.

Lareau, Annette. 2015. "Cultural Knowledge and Social Inequality." *American Sociological Review.* 80: 1-27.

Lauritsen, Janet L. and C. Gray Swicegood. 1997. "The Consistency of Self-Reported

Initiation of Sexual Activity." *Family Planning Perspectives.* 29: 215-221.

Lawrence, George H. and Thomas D. Kane. 1995/6. "Military Service and Racial Attitudes of White Veterans." *Armed Forces & Society.* 22:235-255.

Leal, David L. 2003. "The Multicultural Military: Military Service and the Acculturation of Latinos and Anglos." *Armed Forces & Society.* 29:205-226.

Lee, JoAnn S. 2014. "An Institutional Framework for the Study of the Transition to Adulthood." *Youth & Society.* 46: 706-730.

Lemmon, Megan, Mira Whyman and Jay Teachman. 2009. "Active-duty Military Service in the United States: Cohabiting Unions and the Transition to Marriage." *Demographic Research.* 20:195-207.

Lesthaeghe, Ron. 2010. "The Unfolding Story of the Second Demographic Transition." *Population and Development Review*. 36: 211-251.

Levin, Shana, Colette van Laar, and Jim Sidanius. 2003. "The Effect of Ingroup and Outgroup Friendships on Ethnic Attitudes in College: A Longitudinal Study." *Group Processes and Intergroup Relations.* 6: 76-92.

Levine, Judith Adrienne. 2013. *Ain't No Trust: How Bosses, Boyfriends and Bureaucrats Fail Low-Income Mothers and Why It Matters.* Berkeley: University of California Press.

Lichter, Daniel T., Diane K. McLaughlin, George Kephart and David J. Landry. 1992. "Race and the Retreat from Marriage: A Shortage of Marriageable Men?" *American Sociological Review.* 557: 781-799.

Lichter, Daniel T., Sharon Sassler and Richard N. Turner. 2014. "Cohabitation, Post-Conception Unions and the Rise of Nonmarital Fertility." *Social Science*

Research. 47: 134-147.

Liebler, Carolyn A., Sonya Rastogi, Leticia E. Fernandez, James E. Noon and Sharon R. Ennis. 2014. "America's Churning Races: Race and Ethnic Response Changes between the 2000 and 2010 Census." U.S. Census Bureau Center for Administrative Records Research and Applications Working Paper Series #2014-09.

Liefbroer, Aart C., Liesbeth Gerritsen and Jenny De Jong Gierveld. 1994. "The Influence of Intentions and Life Course Factors on the Union Formation Behavior of Young Adults." *Journal of Marriage and Family.* 56: 193-203.

Linton, Marigold. 2000. "Transformations of Memory in Everyday Life." *Memory Observed: Remembering in Natural Contexts.* Ed. Ulric Neisser and Ira D. Hyman. New York:Worth Publishers.

Loftus, Elizabeth F. and Wesley Marburger. 1983. "Since the Eruption of Mt. St. Helens, Has Anyone Beaten You Up? Improving the Accuracy of Retrospective Reports with Landmark Events." *Memory & Cognition.* 11:114-120.

Lofquist, Daphne, Terry Lugail, Martin O'Connell, and Sarah Feliz. 2011. "Households and Families: 2010." *2010 Census Briefs.* C2010BR-14. U.S. Census Bureau.

Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables.* Thousand Oaks: SAGE Publications.

Lopoo, Leonard M. and Bruce Western. 2005. "Incarceration and the Formation and Stability of Marital Unions." *Journal of Marriage and Family.* 67: 721-734.

Lundquist, Jennifer Hickes. 2004. "When Race Makes No Difference: Marriage and the Military." *Social Forces.* 88: 731-757.

Lundquist, Jennifer Hickes. 2006. "The Black-White Gap in Marital Dissolution among Young Adults: What Can a Counterfactual Scenario Tell Us?" *Social Problems.* 53: 421-441.

MacGregor, Morris J. 1981. *The Integration of the Armed Forces: 1940-1965.* Washington, DC: Center of Military History.

MacLean, Alair and Glen H. Elder Jr. 2007. "Military Service in the Life Course." *Annual Review of Sociology.* 33: 175-196.

Manlove, Jennifer. 1998. "The Influence of High School Dropout and School Disengagement on the Risk of School-Age Pregnancy." *Journal of Research on Adolescence*. 8: 187-220.

Manning, Wendy D. 2001. "Childbearing in Cohabiting Unions: Racial and Ethnic Differences." *Family Planning Perspectives.* 33: 217-233.

Manning, Wendy D. and Pamela J. Smock. 2002. "First Comes Cohabitation, Then Comes Marriage? A Research Note." *Journal of Family Issues.* 23: 1065-1087.

Manzoni, Anna. 2012. "In and Out of Employment: Effects in Panel and Life History Data." *Advances in Life Course Research.* 17: 11-24.

Manzoni, Anna, Jeroen K. Vermunt, Ruud Luijkx and Ruud Muffels. 2010. "Memory Bias in Retrospectively Collected Employment Careers: A Model-Based Approach to Correct for Measurement Error." *Sociological Methodology.* 40: 39-73.

Manzoni, Anna, Ruud Luijkx, and Ruud Muffels. 2011. "Evaluating Differences in Labour Market Transitions between Panel and Life-course Data." *Quantity and Quality.* 45:241-261.

Mare, Robert D. 1981. “Change and Stability in Educational Stratification.” *American Sociological Review.* 46: 72-87.

Martin, Joyce A., Brady E. Hamilton, Michelle J.K. Osterman, Sally C. Curtin and T.J. Matthews. 2015. “Births: Final Data for 2013.” *National Vital Statistics Reports* 64.1. National Center for Health Statistics.

Martin, Steven P. 2000. “Diverging Fertility: Fertility among U.S. Women Who Delay Childbearing Past Age 30.” *Demography.* 37: 523-533.

Mathews, T.J. and Brady E. Hamilton. 2014. “First Births to Older Women Continue to Rise.” *NCHS Data Brief* 152. National Center for Health Statistics.

Mathiowetz, Nancy and Greg J. Duncan. 1988. “Out of Work, Out of Mind: Response Errors in Retrospective Reports of Unemployment.” *Journal of Business and Economic Statistics.* 6: 221-229.

McClendon, David, Janet Chen-Lan Kuo and R. Kelly Raley. 2014. “Opportunities to Meet: Occupational Education and Marriage Formation in Young Adulthood.” *Demography.* 51: 1319-1344.

McClintock, Elizabeth Aura. 2014. “Beauty and Status: The Illusion of Exchange in Partner Selection.” *American Sociological Review.* 79: 575-604.

McLanahan, Sara. 2004. “Diverging Destinies: How Children are Faring under the Second Demographic Transition.” *Demography.*41: 607-627.

McLanahan, Sara and Gary Sandefur. 1994. *Growing Up with a Single Parent: What Hurts, What Helps.* Cambridge: Harvard University Press.

McQuillan, Julia, Arthur L. Greil, Karina M. Shreffler, and Andrew V. Bedrous. 2015. “The Importance of Motherhood and Fertility Intentions among U.S. Women.”

Sociological Perspectives. 58:20-35.

Merton, Robert.K. 1941. "Intermarriage and the Social Structure: Fact and Theory." *Psychiatry.* 4: 361–74.

Milkie, Melissa A., Sarah M. Kendig, Kei M. Nomaguchi and Kathleen E. Denny. 2010. "Time with Children, Children's Well-Being, and Work-Family Balance among Employed Parents." *Journal of Marriage and Family* 72: 1329-1343.

Mirowsky, John and Catherine E. Ross. 2007. "Life Course Trajectories of Perceived Control and Their Relationship to Education." *American Journal of Sociology.* 112: 1339-1382.

Morgan, S. Philip. 2001. "The Direction of Fertility in the United States." U.S. Census Bureau.

Morgenstern, Richard S. and Nancy S. Barrett. 1974. "The Retrospective Bias in Unemployment Reporting by Sex, Race and Age." *Journal of the American Statistical Association.* 69:355-357.

Mortimer, Jeylan T., Carolyn Harley, and Pamela J. Aronson. 1999. "How Do Prior Experiences in the Workplace Set the Stage for Transitions to Adulthood?" *Transitions to Adulthood in a Changing Economy: No Work, No Family, No Future?* Ed. Alan Booth, Ann C. Crouter and Michael J. Shanahan. Westport, CT: Praeger.

Moskos, Charles C. and John Sibley Butler. 1996. *All That We Can Be: Black Leadership and Integration the Army Way.* New York: Basic Books.

Murray, Pauli. 1950. *States' Laws on Race and Color and Appendices Containing International Documents, Federal Laws and Regulations, Local Ordinances and*

Charts. Cincinnati: Women's Division of Christian Service, Board of Missions and Church Extension, Methodist Church.

Musick, Kelly. 2002. "Planned and Unplanned Childbearing among Unmarried Women." *Journal of Marriage and Family.* 64: 915-929.

Musick, Kelly, Jennie E. Brand and Dwight Davis. 2012. "Variation in the Relationship between Education and Marriage: Marriage-Market Mismatch." *Journal of Marriage and Family.*74:53-69.

National Center for Health Statistics. 2010. *Marriage and Cohabitation in the United States: A Statistical Portrait Bases on Cycle 6 (2002) of the National Survey of Family Growth.*

National Center for Health Statistics (2014) "About the National Survey of Family Growth" http://www.cdc.gov/nchs/nsfg/about_nsfg.htm Accessed 10/13/2014.

Nederhof, Anton J. 1985. "Methods of Coping with Social Desirability Bias: A Review." *European Journal of Social Psychology*. 15: 263-280.

Newman, Katherine S. 1999. *No Shame in My Game: The Working Poor in the Inner City.* New York: Russell Sage Foundation.

Nteta, Tatishe M. and Melinda R. Tarsi. 2015. "Self-Selection versus Socialization Revisited: Military Service, Racial Resentment, and Generational Membership." *Armed Forces & Society.* 1-24.

Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *American Journal of Sociology* 94: 563-591.

Oppenheimer, Valerie Kincade. 2000. "The Continuing Importance of Men's Economic Position in Marriage Formation." *The Ties That Bind: Perspectives on Marriage*

and Cohabitation. ed. Linda S. Waite. New York: Aldine de Gruyter. 166-301.

Pavetti, LaDonna and Gregory Acs. 2001."Movin Up, Moving Out, or Going Nowhere? A Study of the Employment Patterns of Young Women and the Implications for Welfare Mothers." *Journal of Policy Analysis and Management.* 20: 721-736.

Perry, Samuel L. 2013. "Racial Composition of Social Settings, Interracial Friendship, and Whites' Attitudes to Interracial Marriage" *The Social Science Journal.* 50: 13-22.

Peters, H.E. 1988. "Retrospective versus Panel Data in Analyzing Life Cycle Events." *Journal of Human Resources* 23:488-513.

Pierret, Charles R. 2001. "Event History Data and Survey Recall: An Analysis of the National Longitudinal Survey of Youth 1979 Recall Experiment." *The Journal of Human Resources.* 36: 439-466.

Phillips, L. Taylor and Brian S. Lowery. 2015. "The Hard-Knock Life? Whites Claim Hardships in Response to Racial Inequality." *Journal of Experimental Psychology.* 61: 12-18.

Pollak, Robert A. 2000. Theorizing Marriage." The Ties That Bind: Perspectives on Marriage and Cohabitation. Ed. Linda S. Waite. New York: Aldine de Gruyter.

Powers, Daniel A. and Christopher G. Ellison. 1995. "Interracial Contact and Black Racial Attitudes: The Contact Hypothesis and Selectivity Bias." *Social Forces.* 74: 205-226.

Presser, Harriet B. 1989. "Can We Make Time for Children? The Economy, Work Schedules, and Child Care." *Demography.* 26: 523-543.

Presser, Harriet B. and Amy G. Cox. 1997. "The Work Schedules of Low-Educated

American Women and Welfare Reform." *Monthly Labor Review* 120: 25-34.

Foundations of Marriage." *American Sociological Review.* 67: 132-147.

Quesnel-Vallée, Amélie and S. Philip Morgan. 2003. "Missing the Target? Correspondence of Fertility Intentions and Behavior in the U.S." *Population Research and Policy Review.* 22; 497-525.

Qian, Zenchao and Daniel T. Lichter. 2007. "Social Boundaries and Marital Assimilation." *American Sociological Review.* 72: 68-94.

Qian, Zenchao and Daniel T. Lichter. 2011. "Changing Patterns of Interracial Marriage in a Multiracial Society." *Journal of Marriage and Family.* 73: 106-1084.

Raley, R. Kelly and Elizabeth Wildsmith. 2004. "Cohabitation and Children's Family Instability." *Journal of Marriage and Family.* 66: 210-219.

Reisel, Liza. 2013. "Is More Always Better? Early Career Returns to Education in the United States and Norway." *Research in Social Stratification and Mobility.* 31: 49-68.

Rosenfeld, Michael J. 2005. "A Critique of Exchange Theory in Mate Selection." *American Journal of Sociology.* 110: 1284-1325.

Ross, Catherine C., John Mirowsky and Shana Pribesh. 2001. "Powerlessness and the Amplification of Threat: Neighborhood Disadvantage, Disorder and Mistrust." *American Sociological Review.* 66: 568-591.

Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis, MN: Minnesota

Population Center [producer and distributor].

Ruhm, Christopher J. 2011. "Policies to Assist Parents with Young Children." *Future of Children.* 21: 37-68.

Ryan, Camille L. and Julie Siebens. 2012. "Educational Attainment in the United States: 2009." Current Population Report. U.S. Census.

Schaeffer, Nora Cate and Stanley Presser. 2003. "The Science of Asking Questions." *Annual Review of Sociology.* 29:65-88.

Schneider, Daniel. 2011. "Wealth and the Marital Divide." *American Journal of Sociology.* 117:627-667.

Schoen, Robert, Young J. Kim, Constance A. Nathanson, Jason Fields and Nan Marie Astone. 1997. "Why Do Americans Want Children?" *Population and Development Review.* 23: 333-358.

Schoen, Robert, Nan Marie Astone, Young J. Kim, Constance A. Nathanson, and Jason M. Fields. 1999. "Do Fertility Intentions Affect Fertility Behavior" *Journal of Marriage and Family.* 61: 790-799.

Schuman, Howard, Charlotte Steeh and Lawrence Bobo. 1985. *Racial Attitudes in America: Trends and Interpretations.* Cambridge, MA: Harvard University Press.

Schwartz, Christine R. and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage." *Demography* 42: 621-646.

Segal, David R., Peter Freedman-Doan, Jerald G. Bachman, and Patrick M. O'Malley. 2001. "Attitudes of Entry-Level Enlisted Personnel: Pro-Military and Politically Mainstreamed." *Soldiers and Civilians: The Civil-Military Gap and American National Security.* Cambridge, MA: The MIT Press.

Shafer, Kevin and Spencer L. James. 2013. “Gender and Socioeconomic Status Differences in First and Second Marriage Formation.” *Journal of Marriage and Family.* 75: 544-564.

Shanahan, Michael J. 2000. “Pathways to Adulthood in Changing Societies: Variability and Mechanisms in Life Course Perspective.” *Annual Review of Sociology.* 26: 667-692.

Shattuck, Rachel M. and Rose M. Kreider. 2013. “Social and Economic Characteristics of Currently Unmarried Women with a Recent Birth: 2011.” *American Community Survey Reports.* U.S. Census Bureau.

Shreffler, Karina M., Arthur L. Greil, Katherine Stamps Mitchell and Julia McQuillan. 2015. “Variation in Pregnancy Intendedness across U.S. Women’s Pregnancies.” *Maternal and Child Health Journal.* 19: 932-938.

Simmons, Tavia and Martin O’Connell. 20013. “Married-Couple and Unmarried-Partner Households: 2000.” *Census 2000 Special Reports.* U.S. Census Bureau.

Singh, Susheela, Jacqueline E. Darroch and Jennifer J. Frost. 2001. “Socioeconomic Disadvantage and Adolescent Women’s Reproductive Behavior: The Case of Five Developed Countries.” *Family Planning Perspectives.* 33: 251-259.

Smith, Herbert L., S. Philip Morgan, and Tanya Koropeckyj-Cox. 1996. "A Decomposition of Trends in Nonmarital Fertility Ratios of Blacks and Whites in the United States, 1960-1992." *Demography.* 33: 141-151.

Smock, Pamela J. 2000. “Cohabitation in the United States: An Appraisal of Research Themes, Finding and Implications.” *Annual Review of Sociology.* 26:1-20.

Song, Youngwhan. 2007. “Recall Bias in the Displaced Workers Survey: Are Layoffs

Really Lemons?" *Labour Economics*. 14:335-345.

Spence, Michael. 2002. "Signaling in Retrospect and the Informational Structure of Markets." *The American Economic Review.* 96: 434-459.

StataCorp. 2013. *Stata Statistical Software: Release 13*. College Station, TX: StataCorp LP.

Stouffer, Samuel A. 1949. *The American Soldier.* Princeton: Princeton University Press.

Sudman, S., Bradburn, N.M. 1973. "Effects of Time and Memory Factors on Response in Surveys." *Journal of the American Statistical Association.* 68, 805–815.

Sweeney, Megan M. 2002. "Two Decades of Family Change: The Shifting Economic Foundations of Marriage." *American Sociological Review.* 67: 132-147.

Taylor, Marylee. 1998. "How Whites Attitudes Vary with Racial Composition of Local Populations: Numbers Count." *American Sociological Review.* 63: 512-535.

Teachman, Jay. 2007. "Race, Military Service and Marital Timing: Evidence from the NLSY-79." *Demography.* 44:389-404.

Teigen, Jeremy M. 2007. "Veterans' Party Identification, Candidate Affect, and Vote Choice in the 2004 U.S. Presidential Election." *Armed Forces & Society.* 33: 414-437.

Tomaskovic-Devey, Donald, Catherine Zimmer, Kevin Stainback, Corre Robinson, Tiffany Taylor and Tricia McTague. 2006. "Documenting Desegregation: Segregation in American Workplaces by Race, Ethnicity and Sex, 1966-2003." *American Sociological Review.* 71: 565-588.

Trent, Katherine and Kyle Crowder. 1997. "Adolescent Birth Intentions, Social Disadvantage and Behavioral Outcomes." *Journal of Marriage and Family.*

59: 523-535.

Tourangeau, Roger, Lance J. Rips and Kenneth Rasinski. 2000. *The Psychology of Survey Response.* Cambridge: Cambridge University Press.

Tropp, Linda R. 2003. "The Psychological Impacts of Prejudice: Implications for Intergroup Contact." *Group Processes & Intergroup Relations.* 6: 131-149.

Tropp, Linda R. 2007. "Perceived Discrimination and Interracial Contact: Predicting Interracial Closeness among Black and White Americans." *Social Psychology Quarterly.* 70: 70-81.

Uphadhyay, Ushma D., Shari L. Dworkin, Tracy A. Weitz, and Diana Greene Foster. 2014. "Development and Validation of a Reproductive Autonomy Score." *Studies in Family Planning.* 45: 19-41.

U.S. Bureau of Labor Statistics. 2000. Standard Occupational Classification. http://www.bls.gov/soc/2000/soc_majo.htm. Accessed 9/19/15.

U.S. Census Bureau. 2009. *Survey of Income and Program Participation (SIPP) 2004 Panel Wave 1 Topical Module Microdata File.*

U.S. Census Bureau. 2011. "Population" Estimates and Projections by Age, Sex, Race/Ethnicity, Table 6: Resident Population by Sex, Race, and Hispanic-Origin Status: 2000 to 2009." *The 2012 Statistical Abstract.*

U.S. Census Bureau. 2014. "SIPP Introduction and History" http://www.census.gov/programs-surveys/sipp/about/sipp-introduction-history.html# Accessed 10/13/2014.

U.S. Department of Defense. 2012. "Demographics: Profile of the Military Community."

http://download.militaryonesource.mil/12038/MOS/Reports/2012_Demographics Report.pdf. Accessed 10/6/15.

U.S. Department of Defense. 2015. "Population Representation in the Military Services" Reports, for years 1997-2011. http://prhome.defense.gov/RFM/MPP/AP/POPREP.aspx. Accessed 9/1/15.

U.S. Department of Labor. 2015. "Youth and Labor." http://www.dol.gov/dol/topic/youthlabor/agerequirements.htm. Accessed 7/25/2015.

Usdansky, Margaret L. 2009. "A Weak Embrace: Popular and Scholarly Depictions of Single Parent Familes, 1900-1998." *Journal of Marriage and Family.* 71: 209-225.

Ventura, Stephanie J. 2009. "Changing Patterns of Nonmarital Childbearing in the United States." National Center for Health Statistics. NCHS Data Brief No. 18.

Vuolo, Mike, Jeylan T. Mortimer, and Jeremy Staff. 2013. "Adolescent Precursors of Pathways from School to Work." *Journal of Research on Adolescence.* 24: 145-162.

Wadsworth, Shelley MacDermid and Kenona Southwell. 2011. "Military Families: Extreme Work and Extreme 'Work-Family.'" *Annals of the American Academy of Political and Social Science.* 638: 163-183.

Waller, Maureen R. and Sarah S. McLanahan. 2005. "His and Her Marriage Expectations: Determinants and Consequences." *Journal of Marriage and Family.* 67:53-67.

Williams, Lindy, Joyce Abma, and Linda J. Piccinino. 1999. "The Correspondence

Between Intention to Avoid Childbearing and Subsequent Fertility: A Prospective Analysis." *Family Planning Perspectives.* 31: 220-227.

Willoughby, Brian J., Soctt S. Hall and Heather P. Luczak. 2015. "Marital Paradigms: A Conceptual Framework for Marital Attitudes, Values and Beliefs." *Journal of Family Issues.* 36: 188-211.

Wingfield, Arthur and Dennis L. Byrnes. 1981. *The Psychology of Human Memory.* New York: Academic Press.

Winslow-Bowe, Sarah.2006. "The Persistence of Wives' Income Advantage." *Journal of Marriage and Family.* 68: 824-842.

Wu, Chi-Fang and Mary Keegan Eamon. 2013. "Employment, Economic Hardship, and Sources of Assistance in Low-Income Single-Mother Families before, during, and after the Great Recession." *Journal of Poverty.* 17:135-156.

Wu, Lawrence L., Steven P. Martin and Daniel A. Long. 2001. "Comparing Data Quality of Fertility and First Sexual Intercourse Histories." *Journal of Human Resources.* 36:520-555.

Yancey, George. 2002. "Who Interracially Dates: An Examination of the Characteristics of Those Who Have Interracially Dated." *Journal of Comparative Family Studies.* 33: 179-190.

Yu, Wei-hsin and Chi-Tsun Chiu. 2014. "Off to a Good Start: A Comparative Study of Changes in Men's First Job Prospects in East Asia." *Research in Social Stratification and Mobility.* 37: 3-22.