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Family Formation, Socioeconomic Standing, and Well-Being in Comparative and Historical Context

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Family Formation, Socioeconomic Standing, and Well-Being in Comparative and Historical Context

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in Sociology

by

Karra Rachel Greenberg

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ABSTRACT OF THE DISSERTATION

Family Formation, Socioeconomic Standing, and Well-Being

in Comparative and Historical Context

by

Karra Rachel Greenberg

Doctor of Philosophy in Sociology

University of California, Los Angeles, 2017

Professor Megan McDonnell Sweeney, Chair

Across Europe, the 1960s to 1990s was a period of major economic transformation and change in the normative context of women's work. This coincided with a series of dramatic demographic changes— including delays in marriage, potential increases in never-marrying, and "delayed adulthood"— in which individuals entered work and family roles at later ages. In contexts of macro-level economic change and increases in women's work, Oppenheimer theorized that the relationship between individuals' economic prospects and marriage had changed over this time, disproportionately affecting men with the weakest economic prospects and increasing marital inequality. The Theory of Social Stress and the Stress Process Model provide frameworks with which to understand how young persons' delayed adulthood transitions may have a mental health consequence for their older parents who are instrumentally and

emotionally involved in their lives. In three dissertation chapters, I empirically and comparatively explore these theories across a number of European countries. In Chapter 1, I utilize event-history techniques to investigate change over time in the relationship between individuals' economic prospects and marriage timing for men and women born between 1938 and 1959. In Chapter 2, I investigate change over time in the relationship between economic prospects and ever-marrying for men and women born between 1938 and 1970. In Chapter 3, I explore if adult offspring's delayed adulthood transitions are significantly associated with parental depressive symptomatology.

Broadly speaking, I find support for these theories. With respect to marriage formation, my results suggest that marriage timing is a distinct phenomenon from ever-marrying. In Chapter 1, I find that in contexts where women's work was normative from the 1960s to 1980s, men's labor market standing was less important for marriage timing, while women's labor market standing mattered for marriage timing. Men with weaker labor market positions experienced reduced likelihoods of marrying younger over this historical time in a number of countries. Moreover, my results suggest that country-specific labor market policies, rather than broad-sweeping economic instability, may better explain the changing relationship between economic prospects and marriage timing. In Chapter 2, and in contrast to findings for marriage timing, I find that men's education is strongly important for ever marrying, regardless of gender equality levels across Europe. However, similar to findings for marriage timing, gender equality appears to matter for the economic underpinnings of ever-marrying among women. Also similar to findings for marriage timing, men with the poorest education experienced absolute reductions in their prospects for ever-marrying from the 1960s to 1990s. Change in the relationship between economic prospects and ever-marrying is only observed in countries that experienced dramatic

macro-level change with the end of communism. In Chapter 3, I find that delayed adulthood does have a significant association with parents' depressive symptomatology across Europe, with a depressive effect of offspring unemployment being the most commonly observed. Further, parental depression appears more sensitive to negative event stressors which capture offspring loss of a formerly-held adulthood role, rather than "non-event" stressors which capture anticipation of offspring occupying an adult role in the future. My findings also indicate that country context, such as unemployment rates and divorce rates, may inform the relationship between adult offspring unemployment or divorce and parental depressive symptomatology. In all three chapters, the importance of economic prospects in influencing people's lives, either for demographic outcomes such as marriage, or for mental health outcomes such as depressive symptomatology, is widely observed across Europe.

The dissertation of Karra Rachel Greenberg is approved.

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2017

Table of Contents

List of Tables

Chapter 1:

Chapter 2:

Chapter 3:

List of Figures

Chapter 1:

Chapter 2:

Chapter 3:

List of Appendix Tables

Chapter 1:

Vita

Karra Rachel Greenberg earned her B.A. at Brown University and her M.Phil. in Sociology at the University of California, Los Angeles. Karra Rachel Greenberg's Ph.D. in Sociology at the University of California, Los Angeles is expected in 2017.

Introduction

From the 1960s to 1990s, Europe experienced major economic transformations paired with change in the normative context of women's work. This coincided with the Second Demographic Transition, a series of dramatic changes in demographic behavior. These changes included steep rises in the age of first marriage and first childbirth, and increasing divorce rates (Van de Kaa 1987; Sardon 1993; Lesthaeghe 1995). On the individual level, these demographic patterns meant that young people were delaying and/or finding new paths into adulthood and family roles. Theory (Oppenheimer 1988; 1994) suggests that, in a macro-level context of economic change and increases in women's work, the importance of economic prospects for marriage changed over this time for men and women. Social theories of mental health (Pearlin et al. 1981) suggest that these new demographic behaviors for young persons may present as stressors for their older parents and have negative, mental health consequences. Moreover, variation in country-level characteristics, such as normative contexts for women's work and welfare regime types, may explain variation across Europe in individual-level relationships between young people's economic prospects and their marrying behavior (Esping-Andersen 2009; Mills & Blossfeld 2005). There is reason to believe that the mental health impact of delayed adulthood transitions also varies across national contexts.

In a macro-context of soaring unemployment rates and growth in female labor force participation, Oppenheimer hypothesized that men's and women's delayed marriage was tied to shifts in their economic prospects over the course of the 20th Century: Over the 1960s to 1980s, men with the poorest economic prospects may have experienced reduced likelihoods of marrying (at younger ages), while women's newfound economic power may have become important (attractive) for marriage in a context where two-earner households became increasingly necessary (Oppenheimer 1988; 1994). However, little research has empirically explored if this is

the case. In Chapter 1, I directly investigate change over time in the relationship between men's and women's labor market standing and marriage timing across Europe for the theoretically important decades of the 1960s to the 1980s (for cohorts born 1938-1959).

While delayed marriage may reflect weak economic prospects at the beginning of a career, there remains the possibility that even those with weaker economic prospects will eventually marry. Never-marrying is a distinct phenomenon from delayed marriage (Dixon 1978; Oppenheimer 1997). Second Demographic Transition patterns of increased ages of first marriage inspired hypotheses of future reductions in the proportion of people ever-marrying (Becker 1981). According to these theories, individuals' economic prospects may have become an important factor which distinguished who would ever marry towards the end of the 20th Century and into the 21st Century (Becker 1981; Oppenheimer 1988; 1994)—a concept that is reminiscent of marital inequality across much of Europe for the 19th and Early 20th Century **(**Hajnal 1965; Dixon 1978; Coontz 2006). However, little research has explored the relationship between economic prospects and ever-marrying throughout Europe over the 20th Century. Even less research has explored if and how this relationship may have changed over this time (Perelli-Harris & Lyons-Amos 2014). I directly explore this in Chapter 2 by looking at the educational gradients of ever-marrying across Europe for men and women born between 1938 and 1970 (marrying from the 1960s through the 1990s).

Social theories of mental health (Pearlin et al. 1981) suggest that delays in obtaining adulthood roles for young people in Europe may be accompanied by mental health consequences—for their parents. Changes in family formation and dissolution patterns have a multi-generational effect, and one that can influence the older generation, or parents who share

"linked lives" (Elder et al. 2003; Knoester 2003) with their adult offspring in contemporary Europe. Adulthood is marked by a number of transitions, each of whose delay or unsuccessful attainment may affect parental mental health. In Chapter 3, I test the association between parental depression and a number of adult offspring role statuses to understand if offspring delayed adulthood is associated with older parental mental health across Europe.

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Chapter 1:

Change over Time in the Importance of Men's and Women's Labor-Market Standing for Marriage Timing in Europe 1960-1985

Abstract

Across the Western world, the 1970s to mid-1980s was a period marked by major, macro-level social and economic transformations. Over this same period, proportions of young men and women who were unmarried rose across Western countries. These phenomena inspired Oppenheimer's influential theory (1988) about the influence of social and economic change on the relationship between men's and women's individual labor market standing and their prospects for marrying. However, surprisingly little empirical research has directly explored if women's work became important for marriage timing, and if men's labor-market standing became more important for marriage, over this historic period. Using data from 14 countries from the Survey of Health, Aging, and Retirement in Europe (SHARE) Waves 1-3 (2004-2009), (N=15,033), I test these theories utilizing event-history techniques. I find support for Oppenheimer's theory and also welfare regime perspectives which predict that men's labor-market standing is more important for marriage timing in contexts of lower rates of female labor force participation and less generous welfare regimes. I provide empirical evidence that men with weaker labor market positions experienced weakened marital prospects over this historical period. However, I find mixed support that marriage timing inequality has strengthened for men over time. My results suggest that country-specific labor market policies may better explain these individual-level relationships than shared macro-level characteristics across countries. I find that women's labor market standing is positively associated with marriage timing before the 1970s in countries with relatively more generous welfare regimes, while non-significant and negative relationships are observed in the least generous welfare regimes.

Introduction

Europe led the Western world in many of the dramatic demographic changes observed in family formation processes from the 1960s through the 1980s—amongst the first signs of which were rises in the mean age of first marriage (Lesthaeghe 1995, 2010; Van de Kaa 1987). Simultaneously, many European countries experienced major social change such as growth in female educational attainment and female labor force participation, and major economic challenges, including serious recessions connected to oil crises, rising unemployment rates, and the advent of precarious employment often linked to increased globalization levels (Kalleberg 2000; Kalleberg 2009). The coincidence of delayed marriage, women's increased attachment to the labor market, and weakened economies over this time motivated scholars to theorize that macro-level social and economic changes had transformed the relationship between economic prospects and marriage timing for men and women at the individual level.

Theories linking macro-level economic conditions with marriage delay for men stipulate that men marry when they are financially capable of doing so. Dixon (1971, 1978) argued that significant delays in marriage in Europe at the turn of the 20th Century reflected macro-level economic contexts in which men with poorer economic prospects did not perceive that marriage was feasible until much older ages. Similarly, Oppenheimer (1988; 1994) theorized that macro-level economic change during the 1970s to 1990s influenced men's delayed marriage because, in part, the relationship between men's economic prospects and marriage timing had strengthened over this time.[1] Oppenheimer argued that men with poorer labor market standing had been particularly affected by the weakened United States economy over the 1970s. Acknowledging

[1] The other part of Oppenheimer's theory of delayed marriage is compositional in nature: In a poor economy, a larger proportion of men may be unemployed or have reduced wages, thus population-level delays in marriage will also reflect increased proportions of the population that delay marriage due to its unfeasibility.

that men from all economic backgrounds may have delayed marriage due to the poor economy, Oppenheimer (1994) theorized that men with poorer labor market standing were disproportionately affected in their marital prospects (pp.331-332); As men with the best economic prospects historically had a relative advantage in marriage timing, this relative advantage is hypothesized to have become even greater over this time—due to the absolute (non-relative) decline of the marital prospects for men with the weakest labor market positions. In this sense, Oppenheimer theory suggests that the importance of men's job type for marriage may have strengthened over this time because of the reduced economic prospects of men with the weakest labor market standing.

Regarding macro-level economic change and women's delayed marriage, Oppenheimer (1988) theorized that men may come to prize a second-breadwinner as their own economic prospects worsen. In this scenario, working women or women with strong labor-market standing would have better marriage prospects (be more likely to marry sooner) than non-working women or women with weaker labor market standing, respectively. Thus, Oppenheimer (1994) theorized that women's work came to matter for marriage from the 1960s to 1980s, because it contributed to financially enabling marriage. Relative advantage in marriage timing would thus be experienced by women with the best economic prospects. It is unclear from Oppenheimer's theory if this relative advantage would emerge as a result of increased absolute marriage standing for economically empowered women and/or if it would result from absolute declines in the martial prospects of women with the worst labor market positions. For women, Oppenheimer's theory suggests that the importance of women's job type for marriage emerged over this time because the economic prospects of women became important for marriage.

Central to Oppenheimer's theory of marriage delay for both men and women is the normative context of women's work, or sex-role specialization. Oppenheimer (1988) theorized that in contexts where women's work after marriage is less normative, more import may be placed on men's economic prospects because they alone bear breadwinning responsibilities. In such contexts, marital inequality would be more pronounced across levels of men's economic prospects because marrying younger is much more feasible for those men with the best economic prospects. Conversely, extensions of Oppenheimer's theory state that less import may be placed on men's economic prospects in contexts of low sex-role specialization because the breadwinning burden can be shared (Sweeney 2002; Kalmijn 2013). Thus, marital inequality for men would be weaker or less pronounced in these contexts as marriage may be more feasible across levels of men's economic prospects. Oppenheimer (1994) hypothesized that women's early career stability or economic prospects will matter for marriage in contexts where women's work after marriage is normative. In such a context, assortative mating is especially hindered for women with weaker labor market standing because their future economic prospects, i.e. contribution to a marital union, are unclear to potential partners (Oppenheimer 1988). Where women's work after marriage is not normative, women's economic prospects may not be important for marriage (Oppenheimer 1988; 1994).

Oppenheimer's theories of delayed marriage can be connected to theories which link sex-role specialization with welfare regime type (Esping-Andersen 2009). These theories together explain why variation in the relationship between economic prospects and marriage timing may exist across countries. Contemporary welfare regime types have existed largely in their present form since the end of World War II (Baldwin 1990; Esping-Andersen 1990; Mann 2013). Three types of distributive welfare regimes are distinguished based the degree to which "socialized

risk" is universal (available to different categories of citizens), generous, and comprehensive in the types of publically provided social assistance (Esping-Andersen's 1990; 1999). Welfare regime theories of family formation state that in less generous welfare regimes, such as Conservative regimes found throughout most of Western Europe, sex-role specialization is reinforced due to "familialism" or the fact that families are considered the primary sources of social assistance and care giving (Esping-Andersen 1999; Mills & Blossfeld 2005). Some research (Ferrera 1996) suggests that Mediterranean countries, such as Greece, Italy, and Spain, are more dramatically familialistic. "Familialism" tends to enable sex-role specialization as women often fill the family obligation of caretaking in Conservative regimes. This makes labor force attachment largely incompatible with marriage and suggests that women with the best labor market standing may pay a marriage penalty.

In contrast, the more generous regimes which "socialize risk" to a greater degree, such as Former Communist regimes (Inglot 2008) of Czech Republic and Poland, or Social Democratic regimes of Denmark and Sweden, are/were characterized by providing combinations of child and elder care, income support for maternity leave, and other benefits. As a consequence, these regimes mitigate sex-role specialization and support women's labor market attachment (Esping-Andersen 2009; Mills & Blossfeld 2005). This may suggest that women with strong economic prospects may also have the best marriage prospects. The Liberal regime of Switzerland (Trampusch 2010) facilitates less sex role specialization than Conservative regimes because it places a lesser burden of social support on families, despite narrow conceptions of "socialized

risk.[2]" As such, it too may enable a marriage timing advantage to women with the best economic prospects.

Although Oppenheimer's theory addresses change in the relationship between men's and women's work and marriage over the 1960s to 1980s (e.g. for birth cohorts from the 1940s to 1960s), little research has directly explored change over time in this relationship, let alone for these birth cohorts. Moreover, the majority of empirical research on the topic has focused on post-1960 birth cohorts, largely due to constraints on data availability. Empirical evidence which focuses on marriage timing for post-1960 birth cohorts does find support for Oppenheimer's theory that men's economic standing matters more for marriage in contexts where it is less normative for women to work (Kalmijn 2011). However, with very few exceptions, (see Sweeney 2002 for the United States and Huinink and Mayer 1995 for West Germany), empirical research which documents the importance of labor market standing for marriage timing in recent birth cohorts (post-1960) does not account for whether these gradients emerged for women and/or strengthened for men in the period of major economic and social transformation from the 1960s to late 1980s. Moreover, outside of empirical documentation for West Germany (Huinink and Mayer 1995), it is not known if steep marital inequality related to employment standing existed for men before the major economic and social transformations of the 1970s and it is not known if women's work was important for marriage before the same transformations of the 1970s across Europe.

Empirical research to date cannot assess what components of labor market-standing—such as employment status, employment type, and job type (associated with prestige and financial reward)—are most salient for understanding marriage timing in a given country. This is

[2] The United States is also a Liberal welfare regime (Esping-Andersen 1999).

due to a lack of comparative research that focuses on change over time and utilizes the same, comprehensive measures of labor-market standing for the same birth cohorts. Research which uses measures of employment status (working vs. unemployed) is unable to capture what may be great variation in the associations between marriage timing and a variety of jobs for working persons. The same is true of measures for part-time vs. full-time work as indicators of labor market attachment or career stability. Research which uses the measure of job type to account for variation in the association between marriage and labor market position sometimes includes unemployment, but such a measure misses an important component of labor market standing by not capturing if work is full-time or part-time. Due to a lack of comparative research using a comprehensive measure of job type/status across time, it is not known if change in marital prospects occurred across countries from the 1960s to the mid-1980s for men with weaker labor market standing (part-time and manual labor workers) or for women with stronger labor market standing (the generally employed, full-time employed, or clerical and professional women). It is similarly not known whether this change reflects the *strengthening* of gradients for men or the *emergence* of gradients for women. It is additionally not known which, if any, macro-level variables may explain commonly observed or heterogeneous change in the relationship between men's and women's labor market standing and their marriage timing.

In this investigation, I build on Oppenheimer's theory and welfare regime perspectives which link macro-level social and economic change, welfare regime types, individual's labor market standing, and delays in marriage. I utilize a comprehensive measure of job type and job status, which captures the full range of labor market standing, in order to test these theories. For men, I ask the following questions: Were men with the best economic standing marrying sooner than men with worse economic standing, for those born between 1938 and 1959? Was the

importance of economic standing for marriage timing stronger in countries with welfare regimes that encourage higher levels of sex-role specialization and/or countries with lower levels of female labor force participation? From the 1960s to early 1980s, did men's labor market standing become more important for marriage timing? Regarding change in the relationship between labor market standing and marriage timing, did men with mid-level or lower-level employment standing disproportionately experience (absolute) reduced marriage timing prospects over historic time? Did this drive marriage timing inequality over time? And lastly, did change in the import of men's economic standing for marriage occur in countries which experienced major weakening of their labor markets?

For women born between 1938 and 1959, was women's work important for marriage timing (i.e. did women with strong labor market standing tended to marry earlier than women who were not working or who had weaker labor market standing)? If so, is the importance of women's work for marriage timing primarily observed in countries that had high female labor force participation rates and/or welfare regimes which encourage less specialization within couples? From the 1960s to early 1980s, did women's labor market standing *become* important for marriage timing? Is there empirical evidence that women with mid-level or high-level employment standing experienced (absolute) improved marital prospects over historical time? If women's work did become important for marriage timing over this period, did it occur in countries which experienced major labor market weakening over this time?

The Importance of Studying Marriage

Rates of pre-marital cohabitation were generally negligible for Europeans who came of age between the 1960s and 1990 (birth cohorts 1940 to 1960), only approaching 20% to 30% in countries such as Sweden and Denmark. Moreover, this investigation focuses on marriage as

opposed to cohabitation because of the advantages associated with being married vs. not being married. Although causal linkages remain contested, research in Europe and North America suggests that marriage (for individuals ages 18-80) is not only associated with being significantly happier, less depressed, and less likely to abuse alcohol than being never married, but it is also associated with better mental health than cohabition. These relationships persist (some only for men) even when controlling for numerous selection and social-context factors (Brown 2000; Brown et al. 2005; Lee & Ono 2012; Marcussen 2005; Soons & Kalmijn 2009; Stavrova et. al. 2011). Controlling for socioeconomic status, elderly married individuals are less likely to be institutionalized or die when compared to the cohabiting elderly (Moustgaard & Martikainen 2009). Moreover, qualitative research finds that cohabiting individuals in some European countries (Bernhardt 2002; Wiik et. al. 2009; Perelli-Harris et. al. 2014) and the United States (Cherlin 2004; Edin & Reed 2005) do tend to value marriage and hope to marry at some point in their lives. This research suggests that marriage is regarded by many as an optimal state of union formation that is perceived as only attainable once sufficient economic stability is achieved—speaking directly to concerns of the emergence or strengthening of social inequality which ensues from differential, perceived economic feasibility of marrying (sooner). Even if single or cohabiting individuals eventually marry, they will have accrued less time in the generally advantageous state of marriage, experiencing a longer duration in a state associated with social and health disadvantage—i.e. being never married. At the same time, it is important to acknowledge heterogeneity in the benefits associated with marriage. For example, heterogeneity in relationship quality across couples is important to consider with poorer quality relationships associated with poorer physical and mental health (Wheaton 1990; Bookwala 2005; Umberson et al. 2006).

Prior Research on the Economic Underpinnings of Marriage Timing

Men

Research focusing on family formation for men born before 1960 uses a variety of indicators for labor-market standing: employment and/or training status, part-time versus full-time work status, and educational attainment (Bygren et.al. 2005; Huinink and Mayer 1995; Kieffer et.al. 2005; Noguera et. al. 2005; Sweeney 2002). Some research attempts to more finely differentiate labor-market standing amongst working individuals by including a measure of earnings (Sweeney 2002), occupational category (Kieffer et.al. 2005), or a scalar variable which measures the socioeconomic status of a given job (Huinink and Mayer 1995). Whether utilizing the variables of employed vs. unemployed, working more weekly hours vs. fewer weekly hours, having higher earnings, having a higher job SES score, or some combination therewith, studies which explore marriage timing find that men with stronger labor-market standing tend to marry sooner than men with weaker labor market standing for pre-1960 birth cohorts in the Conservative welfare country of West Germany (Huinink and Mayer 1995), the Mediterranean Conservative welfare country of Spain (Noguera et.al 2005), and the Liberal welfare country of the United States (Sweeney 2002)—suggesting a common pattern for these earlier cohort men which spans welfare regime type.

Research which directly investigates change over time in the relationship between labor-market standing and marriage timing (for pre-1960 and/or post-1960 birth cohorts of men) finds mixed results of strengthening, weakening, and no change over time in the importance of men's labor-market standing for marriage: Although no significant change over time is observed in the relationship between marriage and employment status or between marriage and training level for West German men, the importance of job socioeconomic status for marriage changed over time

for West German men. Those with higher job status in the older cohort (1929-1931) tended to marry later compared to those with lower status jobs, yet this sharply reversed for the 1939-1941 and 1949-1951 birth cohorts in which men with higher standing tended to marry earlier than those with lower standing. Moreover, no significant relationship between job socioeconomic status score and marriage is observed for the younger cohort of 1954-1956/1959-1961 (Huinink and Mayer 1995). This demonstrates that the relationship between labor-market standing and marriage timing may have changed often, and in variable ways, across the 20th Century—especially the further back in historical time that research observes. Other research on the United States explores change from the 1950-1954 birth cohort to the 1961-1965 birth cohort—the latter cohort being outside of the time period of consideration for the current investigation (Sweeney 2002). Although this research finds no significant change over time in the marital advantage of higher earnings for White men, it does find that the marital advantage of employed White men (compared to unemployed men) is significantly weakened over these cohorts.

Together, despite assessing labor-market standing with numerous measures in the same models, some research finds variation over time in the importance of labor-market standing among men who are working. Other research finds variation over time in the importance of general employment (versus unemployment). Due to different measures of labor market standing utilized in these different studies, it is unknown which specific components of labor market standing are particularly salient for marriage in different country contexts. Thus, it is unknown whether labor-market standing for marriage has become more important for working men broadly speaking (e.g. compared to unemployed men) and/or whether inequality in marriage has grown between working men in different job-types or occupations associated with different levels of prestige and financial reward—as is hypothesized by Oppenheimer (1994).

Research on European and American men born after 1960 also utilizes indicators of labor-market standing such as earnings or income, more vs. less hours worked in a given week, part-time vs. full-time status, employment class position or occupational group, and employed vs. unemployed, with these measures often tested net of each other in a single model (Bernardi and Nazio 2005; Bygren et. al. 2005; Kalmijn 2011; Kieffer et. al. 2005; Kurz et. al. 2005; Liefbroer 2005; Noguera et. al. 2005; Oppenheimer et. al. 1997). Some research incorporates the type of labor contract (temporary vs. permanent) (Kalmijn 2011; Liefbroer 2005) as the phenomenon of precarious employment has become more common over the course of the 1990s. Similar to findings for pre-1960 birth cohorts of European men, for the outcome of marriage timing (as opposed to any union formation or competing risks between marriage timing and timing to cohabitation), research on post-1960 birth cohorts broadly finds that men with stronger economic standing have greater odds of marrying sooner than men with weaker economic standing in the Mediterranean Conservative welfare countries of Italy (Bernardi and Nazio 2005) and Spain (Noguera et. al. 2005), and the Conservative welfare country of West Germany (Kurz et. al. 2005). Unfortunately, research on post-1960 birth cohorts of men in Social Democratic countries, such as Sweden (Bygren et. al. 2005), and other Conservative welfare countries (Kieffer et. al. 2005; Liefbroer 2005) focuses on the outcome of timing to first union or first cohabitation—ignoring the above discussed, important differences between the phenomena of marriage and cohabitation and similarly not allowing for cross-national comparison. However, using multi-level modeling, Kalmijn (2011) finds that that in less gender-equal countries, men's employment is more important for marriage timing than in more gender-equal countries (Kalmijn 2011), supporting Oppenheimer's theory (1988). However, it is unclear if and

when this relationship emerged over time and if it is coincident with major economic destabilization and/or rises in women's labor force participation over the 20th century.

Women

Slightly more empirical research exploring the relationship between labor-market standing and marriage timing exists for women than for men born pre-1960 in Europe or the United States. This research utilizes indicators of labor-market standing similarly used for men—employment and / or training status, part-time versus full-time work status, job SES score, earnings, and / or educational attainment (Blossfeld and Rohwer 1995; King 2005; Leridon and Toulemon 1995; Huinink and Mayer 1995; Noguera et. al. 2005; Oppenheimer et. al. 1995; Sweeney 2002).

For both Mediterranean Conservative regime Spain and Liberal regime United States, research incorporating pre-1960 birth cohorts finds that working women tend to marry earlier than non-working women, yet there is no significant difference in marriage timing between women working part-time vs. full-time jobs (King 2005; Noguera et. al. 2005). A lack of significant difference amongst occupational groups of American working women is also observed (Oppenheimer et. al. 1995). However, due to the pooling of multiple birth cohorts which span pre- and post-1960 in this research, it is not clear if observed effects of employment are present for pre-1960 birth cohorts of women or whether the aggregate effect is largely contributed by post-1960 birth cohorts of women. Moreover, due to scholars' tendency to pool pre- and post-1960 birth cohorts in these analyses, heterogeneity across cohorts in the effects of occupational class, and part-time versus full-time work, may also be masked.

Prior work points to the importance of stratifying analyses by birth cohort, or directly testing for change over time, as the importance of women's economic standing may only be present for younger cohorts: Research on American women finds that a non-significant relationship between earnings and marriage timing for the 1950-1954 birth cohort changes to a significant, positive relationship for the 1961-1965 birth cohort, suggesting that women's earnings became important for marriage from the 1970s to the1980s (Sweeney 2002). Similarly, research in West Germany for different pre-1960 birth cohorts of women finds that employed women in the birth cohort 1949-1951 and earlier had reduced odds of marrying over time, yet this relationship reversed for the 1954-1961 birth cohort in which employed women tended to marry earlier than unemployed women. Moreover, looking closer at differentiation between West German working women, those with high job socio-economic status tended to marry earlier than those with lower status for all cohorts (Huinink and Mayer 1995). Again, due to a lack of combined measurement of employment status and job-type associated with prestige, it is difficult to assess exactly which components of labor-market standing are important for marriage—general employment and/or employment within particular classes of jobs. Research which only uses an indicator of educational attainment for labor-market standing demonstrates negative associations for pre-1960 birth cohorts of women (Leridon and Toulemon 1995), yet these results are difficult to interpret in light of the fact that educational attainment also demonstrates a negative relationship with marriage timing in other research which demonstrates positive associations (Huinink and Mayer 1995) or no significant associations (Kurz et. al. 2005) between employment characteristics and marriage timing when all indicators are included in the models together.

Research focusing on marriage timing for post-1960 birth cohorts of women generally finds a positive association between employment standing and marriage that spans welfare regime type: In Mediterranean Conservative Italy, working women and inactive home-makers tend to marry earlier than unemployed women (Bernardi and Nazio 2005). Women with higher incomes in the Liberal welfare country of the United States and the Social Democratic country of Sweden tend to marry earlier than those with poorer labor market standing (Ono 2003). However, no significant relationship is observed between employment-standing and marriage timing for a post-1960 birth cohort West German women (Kurz et. al. 2005)—perhaps suggesting that the importance of labor-market standing for marriage continues to change for women in West Germany. Unfortunately, relatively little is known about the association between economic prospects and marriage timing among post-1960 birth cohorts of European women because much of the research focuses on time to first union formation (cohabitation or marriage) or time to first cohabitation.

The Current Study

Research that explores change over time in the importance of labor-market standing for men's and women's marriage timing uses different birth cohorts, different measures of labor market standing, and measures that do not comprehensively capture job-type and employment status. Thus, research to date cannot assess if change in this relationship may have occurred across different countries for similar (and theoretically important) birth cohorts, or if similarly measured, specific components of labor-market standing are salient for understanding delayed marriage in some countries, while not in others.

With its public release in 2010, The Survey of Health, Aging, and Retirement in Europe (SHARE) LIFE (Wave 3), a 14 country retrospective panel of individuals born 1938 to 1959 (age

50+ at time of interview), newly provided heretofore unavailable and extensive data on yearly employment information since age 15, along with extensive marital histories. Using these data, I expand on prior work by focusing on pre-1960 birth cohorts in a comparative fashion in order to directly explore change in the historical relationships between men's and women's labor market standing and marriage timing. Utilizing a measure of labor-market standing which captures both the importance of employment status and job type associated with financial reward and prestige, I address: 1) If men's labor market standing became more important for marriage over time, 2) If men with weaker labor market standing experienced weakening of their marriage prospects over time, 3) If women's labor market standing newly came to matter for marriage over time, and 4) If changes in these relationships are coincident with the historical period of major macro-level change from 1960 to the mid-1980s, as is popularly hypothesized. I additionally contextualize if observed patterns support theories regarding the conditioning role of women's normative work and welfare regime type. I formulate the following hypotheses:

For Men:

1. In the large majority of countries, men with job types associated with more prestige or financial reward tended to marry earlier than men with job types associated with less prestige and financial reward.
2. The importance of job type for marriage timing was stronger or more pronounced in countries with welfare regimes that encourage higher levels of sex-role specialization and/or countries with lower levels of female labor force participation (Conservative and Mediterranean Conservative countries). Conversely, less advantage/disadvantage in marriage timing will be observed across job types in countries with more generous

welfare regimes and/or higher levels of female labor force participation (e.g. Former-Communist, Social Democratic, and Liberal countries).

3. Job type became more important for marriage timing over historical time.
4. Men with job types associated with less prestige or financial reward disproportionately experienced worsened marital prospects over time.
5. The marriage advantage of men with higher prestige/reward job types increased over time in countries which experienced major labor market weakening or restructuring, reflected in rising unemployment rates.

For Women:

1. In countries where women's work was normative (high levels of female labor force participation) and/or in countries with more generous welfare regime types (i.e. Former-Communist, Social Democratic, and Liberal), women with jobs associated with higher prestige/reward tended to marry earlier than women with jobs associated with less prestige/ reward. In countries with low female labor force participation rates and/or welfare regimes which promote sex-role specialization, (i.e. Conservative and Mediterranean Conservative regimes), no significant differences in marriage timing will be observed across job types, or women with less prestige/reward jobs will tend to marry sooner.
2. The importance of women's work for marriage timing developed in countries that experienced major economic weakening or rising unemployment from the 1960s to early 1980s and/or in countries where the importance of men's economic standing for marriage strengthened.

3. In particular, women with jobs associated with more prestige/reward experienced improved marital prospects over this time (i.e. the likelihood of marrying sooner was significantly higher for these women in the younger cohort compared to these women in the older cohort).

Data, Measures, & Methodology

Data

The data for this study come from release 5.0 of The Survey of Health, Ageing and Retirement in Europe (SHARE)— a cross-national, five wave, longitudinal panel study on the current and past social and economic statuses of more than 55,000 individuals from 20 European countries. The sample is broadly representative of all non-institutionalized individuals aged 50 or over living in study countries. Wave 1 data was collected in 2004-05, Wave 2 in 2006-07, Wave 3 in 2008-09 (Wave 4 in 2010-2012 and Wave 5 is in the field). Data were collected in face-to-face interviews using computer assisted personal interviewing (CAPI). Austria used simple random sampling and all of the other countries in this investigation utilized a three-stage probability sampling design. Stage one stratified municipalities by region and stage two involved the selection of households within the municipalities: Households were selected based on individual telephone numbers which were adjusted to only list telephone numbers tied to home addresses. Stage three involved screening the selected addresses in order to ensure that at least one resident was over the age of 50 in the given year of sample participation selection.[3] In

[3] For more specific details on the sampling design of participating countries, see http://www.share-project.org/fileadmin/pdf_documentation/SHARE_release_guide.pdf

Wave 1 all individuals in the household born 1954 and earlier (age 50+) were interviewed, and in subsequent waves with new households, only one individual age 50+ was interviewed.

Analytic Sample Restrictions

This research includes only countries that participated in the first three waves: Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Italy, Netherlands, Poland, Spain, Sweden, and Switzerland. The analytic sample is limited to respondents who participated in Wave 1 or Wave 2 (where information on education and nativity is provided) and who also participated in Wave 3, when detailed marital and childhood histories were gathered. (Adjustments for multiple respondents over the age of 50 in a single household are subsequently discussed.) The individual response rate for the entire baseline sample at Wave 1 is 85.3%.[4] The attrition rate between Wave 1 and Wave 2 is 29.5%. The refresher sample from Wave 2 increases the size of the combined Wave 1 and Wave 2 sample by 44.2%. (Only Austria and Flemish-speaking Belgium do not have a refresher sample.) The attrition rate from the combined Wave 1 - Wave 2 data and the Wave 3 data is 37.9%. Thus, the sample, combining respondents from either Wave 1 or Wave 2 and all of whom were in Wave 3, contains 38,387 individuals, or 52.2% of the baseline and refresher samples (38387 / 73498). Further analytic sample restrictions were made: Non-responding household members (for whom basic demographic information is recorded) are excluded, as well as 11 individuals in the sampling frame for whom weights are missing, totaling 11,360. Individuals over the age of 70, totaling 8,795 persons, were excluded from the analysis because of concerns regarding selective mortality by employment history and marital status at older ages. Additionally, the analytic sample is limited to native-born individuals who were over the age of 50 at the time of Wave 3 interview (in

[4] Individual country response rates can be found at http://www.share-project.org/data-access-documentation/sample.html. They range from 73.7% in Spain to 93.3% in France.

2008/2009). There are 1,988 non-native individuals, and coupled for exclusion with individuals over the age of 70, an initial analytic sample of 16,244 cases remained.

The Final Sample

Ninety individuals in this sub-sample married before the age of 17 and are also excluded (further explained in 'Analytic Approach'). There are 64 individuals in this sub-sample who reported marrying but did not report the year. There are 24 individuals who did not report if they ever married. This leaves an initial analytic sample of 16,066. After all independent variables with missing cases are further excluded, totaling 765, the analytic sample for the investigation contained 15,301 cases, reflecting a non-response rate of 4.8% (765/16066). However, after all sample restrictions are applied, the East German sample is very small (N=268) and produces unstable regression estimates. As a result, East Germany is excluded from the analysis and the final analytic sample contains 15,033 respondents.

Individual calibrated cross-sectional weights for Wave 3 are utilized to account for problems of unit non-response and sample attrition. These weights allow the sample to be broadly representative of the national population of individuals born in 1959 or earlier that survive up to 2009. In order to adjust for complex sampling design, data for this study are analyzed using SVY commands in STATA with probability weights and adjustment for multiple household respondents. The analytic sample for this investigation is thus representative of native-born individuals between the ages of 50-70 (in 2009) who were not institutionalized or living abroad during the duration of the data collection process.

Contextualizing country-level data on annual unemployment rates and female labor force participation rates come from the Comparative Family Policy Database, Version 3 (2010).[5] Annual data on real GDP per capita, globalization level, the mean number of years of female education come from the Quality of Government Dataset (2010).[6] Only data for the years 1960 to 1985 are utilized.

Measures

Country-Level Measures

Real GDP per Capita in 2000 US Dollars is a country's GDP, per person living in the country, (e.g. average GDP), standardized in a base year and in a common currency—in this case US dollars in the year 2000.[7] Standardizing GDP by a base year in a common currency allows for comparison across time and across countries because it adjusts for price changes which are tied to inflation. Real GDP per capita is measured for every year of observation from 1960 to 1985 and ranges from $3,973.43 to $24,877.87.

Economic Globalization Level is an index (without units) that measures the actual flow, and restrictions on flow, of international trade and investments for each year of observation. The index ranges from 30 to 98. The higher the value, the more economically globalized is a given economy in a given year. For each country and for each year of observation dating back to 1970, the summed, weighted components of actual flows create the sub-index of 'flows' and the summed, weighted components of restrictions create the sub-index of 'restrictions'. The sub-

[5] Gauthier, A.H. (2010). Comparative Family Policy Database, Version 3 [computer file]. Netherlands Interdisciplinary Demographic Institute and Max Planck Institute for Demographic Research (distributors). Retrieved from www.demogr.mpg.de.
[6] Teorell, Jan, Marcus Samanni, Nicholas Charron, Sören Holmberg and Bo Rothstein. 2010. The Quality of Government Dataset, version 27May10. University of Gothenburg: The Quality of Government Institute, http://www.qog.pol.gu.se.
[7] More information on the Gleditsch – Expanded Trade and GDP Data can be found at: http://privatewww.essex.ac.uk/~ksg/exptradegdp.html

index of 'flows' and the sub-index of 'restrictions' are equally weighted at 50% and are summed for the creation of the overall index. The components and weights of 'flows' include: trade as a percent of GDP (19%), foreign direct investment flows as a percent of GDP (20%), foreign direct investment socks as a percent of GDP (20%), portfolio investment percent of GDP (17%), income payments to foreign nationals percent of GDP (20%); The components and weights of 'restrictions' include: hidden import barriers (22%), mean tariff rate (28%), taxes on international trade as percent of current revenue (27%), and capital account restrictions (22%).[8]

Mean Number of Years of Female Education is the average number of years of formal schooling amongst the female population age 25 and older. [9]

Unemployment Rate is an annual measure of the number of unemployed persons as a percentage of the civilian labor force ages 15 to 64 years old. It ranges from 0% to 21.6%.

Female Labor Force Participation Rate is an annual measure of the number of female civilian labor force participants (e.g. workers) as a percentage of the female population ages 15 to 64 years old. It ranges from 18.9% to 78.3%.

Individual Level Measures

Married, the focal dependent variable, is a time-varying dummy variable that indicates if an individual is married or not in a given observation year. It is based on the respondent's reported year of first marriage in the retrospective marital history section. Individuals are coded 'not married' for every year before the first marriage and 'married' for the reported year of first

[8] More information on the component variables, contributing data sources, and calculation of the *Dreher – KOF Index of Economic Globalization Level* can be found at: http://globalization.kof.ethz.ch/.
[9] More information on the Barro and Lee Average Schooling Years (2000) can be found at: http://www.cid.harvard.edu/ciddata/ciddata.html

marriage. Once individuals marry, they are dropped from the risk set for all subsequent years. Individuals who report having married but "don't know" the year or refuse to report it are recoded as missing. The same is true of respondents who "don't know" or refuse to report if they ever married.

Job Type and Status Last Year, the focal independent variable, is a five category, time-varying variable which, for every year, indicates if an individual is not working or is working full-time or part-time, paired with job type. It is lagged by one year. Its categories are: 'unemployed / not working,' 'full-time manual worker / elementary occupation,' 'full-time clerical / technician / sales job,' 'full-time professional / legislative job,' and 'part-time all job types.' This variable is based on six variables which note the year that formal education was completed, the year of starting a first job, what individuals were doing between education and a first job, and then for 20 possible jobs: the type of job, whether it was part-time or full-time, the year that a given job ended, the year that the next job started, and what one was doing between jobs.

These component variables for this measure were cleaned following the SHARE guidelines for constructing the SHARE Job Episodes Panel.[10] Although SHARE provides the constructed long-format Job Episodes Panel, SHARE notes that the panel cannot be guaranteed for compatibility with new data releases nor does the panel contain the component focal variable for this analysis—job-type. As such, I created the job panel dataset in long-format and included the component variable of job type. All years prior to a first reported job start year, as well as years between jobs, are coded as 'unemployed / not working.' This category includes the

[10] For detailed information see: http://www.share-project.org/uploads/tx_sharepublications/WP_Series_11_2013_Brugiavini_ Cavapozzi_Pasini_Trevisan.pdf

original, collapsed categories of "unemployed," "in training," "sick / disabled," "looking after home," "leisure traveling," "military service," "volunteering," or "forced labor." For jobs held, the job type original categories of "legislator" and "professional" were combined to form a single category which reflects jobs associated with greater prestige and financial rewards. The category of jobs associated with mid-level prestige and financial rewards is comprised of the original categories of "technician," "clerk," "sales work," "skilled agricultural worker," "crafts worker," and "armed forces." The category of 'manual worker / elementary occupation' reflects the collapse of these two original categories and is associated with low prestige and low financial reward jobs. The collapse of these variables was based on classifications of "high," "middle," and "low" occupation skill levels discussed by Case et. al. 2009. After the collapse of variables into three job type categories (and unemployment), these categories were then tied to full-time vs. part-time status for each year, with all part-time job types combined to create their own, fifth, category.

Cohort is a two category variable with the older cohort including individuals born in 1938 up to 1949 and the younger cohort including individuals born in 1950 up to 1959. The variable was constructed based on the year of birth of the respondent.

Educational Attainment. Each country team of SHARE had a local expert map the country-specific response categories of 'highest school degree obtained' and 'degree of further education/ vocational training' into a standardized measure based on the International Standard Classification of Education (ISCED1997). Based on this constructed variable provided by SHARE, a three category variable of low, medium, and high educational attainment is constructed following Perelli-Harris et al. (2010): A low level of education includes people from ISCED categories 0-2 (completing less than secondary school or less than approximately 11th

grade), ISCED categories 3-4 indicate mid-level education (individuals who completed secondary school or had education beyond secondary school, such as vocational or technical training). The highest education level includes ISCED categories 5-6, (some university education, a bachelor's degree, or pursued / completed an advanced degree).

Enrolled in School is a binary, time varying covariate which indicates whether an individual is enrolled in full-time education in a given observation year. For individuals who received formal education, every observation year up to and including the reported year of completing full-time continuous education is coded as being enrolled in school; all observation years thereafter are coded as not enrolled in school. Individuals with no formal education are coded as being not enrolled in school for all observation years.

Age Group is a 5-category, time-varying variable which captures the age group in which an individual falls for every observation year. Its categories are: '17-20,' '21-25,' '26-30,' '31-35,' '36-40.'

Geographic Area of Residence is a 3-category time-varying variable which captures the type of geographic location resided in for each year since birth. Start and end years of residence in each of 29 possible homes, tied to geographic locations, are utilized to construct it. The categories are 'a rural area/village,' 'a big city,' and 'a town or suburb,' the latter comprised of the collapsed categories "the suburbs or outskirts of a big city," "a large town," and "a small town."

Main Occupation of Primary Breadwinner at Age 10 is a three category variable distinguishing 'Manual / Unskilled Laborer,' 'Technician / Clerical / Sales Worker,' and 'Legislator / Professional.' These categories are based on the following collapse of the original

response categories: 'Manual / Unskilled Laborer' includes the initial response categories of "plant/machine operator / assembler," "elementary occupation," and "crafts or related trades worker". 'Technician / Clerical / Sales Worker' includes "technician or associate professional," "skilled agricultural or fishery worker," "craft or related trades worker," "service, shop or market sales worker," and "clerk." Lastly, 'Legislator / Professional' includes individuals originally coded into "professional," or "legislator, senior official or manager." Responses of "refusal," "don't know," and the spontaneous response of "there was no primary bread-winner" are recoded as missing.

Two Biological Parent Home at Age 10 is a binary variable in which individuals either lived with two biological parents at the age of 10 or lived in any other type of living arrangement. It is constructed based on the original variables which recorded whether a biological mother lived in the house at age 10 and the same for a biological father. Individuals who did not have both a biological mother and father living in the house at age 10 were coded into the 'any other type' category.

Methodology

Logistic regressions for discrete-time event-history models are estimated separately for men and women in each country who were at risk of marrying for the first time during the 1960s through the 1980s. The onset of risk was set to age 17 because marrying before this age is non-normative for the time period under investigation. The clock was stopped at age 40, right censoring individuals who did not marry or married after the age of 40. Data for this study are analyzed using SVY commands in STATA to adjust for complex sampling design. Household ID is utilized as the clustering unit to adjust for multiple respondents within households. Identical models for men and women in each country test the effect of job type and employment

status on marriage timing from the 1960s through the mid-1980s. After estimating additive models with the predictors of job type/status, birth cohort, and controls, full models are estimated with an interaction term between job type and cohort to test if the effect of job type on marrying varied over this time period. Separate country and sex analyses highlight whether variation exists in the significance and direction of the varying effect of employment status on marriage over time. In additive models, I conduct an adjusted Wald test of the null hypothesis that all coefficients for the job type/status variable are jointly equal to zero. I similarly conduct an adjusted Wald test of the null hypothesis that all coefficients for the interaction term are jointly equal to zero in the full models.

Next, figures of predicted probabilities are presented for countries in which the association between employment and marriage is significant, either in the additive or the full models. The predicted probabilities reflect the probability of marriage in a given observation year. All calculations of predicted probabilities utilize the 'margins' command in STATA, along with survey commands, allowing for generalization to national populations. Results are shown for predicted probabilities calculated using the method of marginal estimation at the means (MEM), which uses mean values on all predictors to estimate predicted probabilities. Results were assessed for sensitivity to estimation procedure by utilizing the less conservative average marginal estimation (AME) technique, which uses observed values on all predictors except for the focal independent variable.[11] I directly test for differences in predicted probability of marriage across educational categories—e.g. I do not rely on overlapping confidence intervals to demonstrate significant differences. With minor exceptions, the results are the same regarding

[11] This technique may bias predicted probabilities by giving more weight to more dense portions of distributions for other predictors in the model. This is particularly concerning if these other characteristics / independent variables are unbalanced, or correlated, with the focal independent variable, e.g. job type (Williams 2012).

significant differences found in MEM vs. AME estimation. Ninety-five percent confidence intervals note the upper and lower limits of the predicted probability. Significant differences in predicted probabilities may exist despite the appearance of overlapping confidence intervals. Country-level economic and social characteristics are utilized to formulate hypotheses and help contextualize the results.

Results

Descriptive Statistics

Change in the Macro Level Normative and Economic Context

As the 1938-1949 and 1950-1960 birth cohorts came of age and started working and marrying during the 1960s to mid-1970s and the 1970s to mid-1980s, respectively, analysis of macro-level descriptive statistics focuses on the period 1960-1975 and 1975-1985. Appendix Chart 1 contains the figures of change over time for these measures.

Insert Table 1 around Here

Countries divided into two groups regarding initial levels of real GDP per capita in 1960—the most productive and wealthy countries of Liberal regime Switzerland and Social

Democratic Denmark and Sweden (>$10,000.00), and the remainder of countries (<$6,500.00). Almost all countries in the analysis, except Former Communist countries, experienced strong growth in GDP from 1960 to 1975 (>70%) and most countries excepting Greece and Spain continued with moderate growth in real GDP from 1975 to 1985. Conservative regime Belgium and the Netherlands demonstrate high globalization levels in 1970 (~90 and ~75, respectively), trailed by Denmark (~60) and Switzerland (~65); excluding low globalization Former Communist countries, the remainder of countries tightly group together at the moderate globalization level of ~45 in 1970. Almost all countries demonstrate moderate growth in globalization (~10-20%) from 1975 to 1985, with Sweden growing the most (~45%). Despite these strong economic performances across Europe from 1960 to 1985, small unemployment rates in Mediterranean Conservative countries (~6%) and negligible rates in other countries (<2%) sizably multiplied from 1975 to 1985 in all countries except Sweden, Switzerland and Former Communist countries. Female labor force participation rates in 1960 are moderately high (~45% or more) for Former Communist countries, Social Democratic countries, Liberal regime Switzerland, and a handful of Conservative countries. Mediterranean Conservative countries and Belgium and the Netherlands group tightly together at low female labor force participation rates for 1960 (~30%). Moderate growth in female labor force participation is observed in all countries except West Germany; Denmark and Spain demonstrate the largest growth in female labor force participation from 1960 to 1975 (~50% and 75%, respectively). Women in Social Democratic countries, Liberal regime Switzerland, and Conservative West Germany have the highest mean number of schooling years for women in 1960 (~7-8 years) while Mediterranean Conservative countries have the lowest (~3-4 years). Almost all countries demonstrated mild growth (.5 – 1.5 years) over 1960 to 1975 and 1975 to 1985.

Individual Labor Market and Family Characteristics

Men

Descriptive statistics demonstrate cohort change (or lack thereof) in numerous aspects of early-career standing and marriage timing for men. Due to the fact some respondents did not receive a formal education, never worked, and/or did not marry, the sample size varies across some statistics and is noted in the table.

Insert Table 2 around Here

Marriage remains near universal (~90%) for men in all countries and cohorts, with the lowest percentages of men ever-marrying in the Social Democratic countries of Denmark and Sweden (~80%) and the highest percentages ever-marrying in the Former Communist countries of Czech Republic and Poland (~95%). A sizable decline in the percentage of men ever-married (22%) is noted in Spain, whose younger cohort demonstrates the lowest observed value for the sample (69%). A modest decline (~5%-10%) is noted for West Germany and Denmark. The mean age of first marriage for men is unchanging over time in Conservative welfare and Former Communist countries (~25 years old). In contrast, a sizable increase in the mean age of first marriage (2 - 3.5 years) is observed in the Social Democratic countries of Denmark and Sweden

and Liberal Switzerland. Younger cohort men in these countries and in Mediterranean Conservative countries marry on average at age 28.

Conservative countries along with Denmark have the most highly educated men in the sample. The least educated men in the sample are those in Mediterranean Conservative countries followed by Former Communist countries. The percentage of men attaining higher education grew sizably (50%) in Spain and the Czech Republic and modestly (30%) in West Germany. Delay in entering the labor market after schooling is a widely cited indicator that young person's early-career standing is not strong (Blossfeld et. al. 2005). A notable decrease from 1.2 to .6 years between school completion and starting a first job is observed in France, suggesting an improvement in young men's economic prospects. A small, unchanging amount of mean time (~.5 years) between educational completion and starting a first job is observed in almost all Conservative and Social Democratic countries, in Liberal Switzerland, and in Former Communist Czech Republic. However, a much larger amount of time is spent between school and starting a first job for Mediterranean Conservative men (2 - 3.5 years) and Former Communist Polish men (1-2 years), suggesting weak economic standing for young labor market entrants in these countries.

Part-time status in a first job is also a widely cited indicator that young person's early-career standing is not strong (Blossfeld et al. 2005). Part-time work for a first job increased for young men over these cohorts and across welfare regime types: While remaining non-existent in Czech Republic, Austria, and West Germany, the percentage of men working part-time first jobs increased in Conservative Belgium, France (~45%), and the Netherlands (~350%), Liberal Switzerland (~120%), and Social Democratic Denmark (~180), approximating 5% of first jobs for younger cohort men across study countries. The highest observed percentages for the sample

are for Greek men (7.8% in the younger cohort). Conservative regime men and Swedish men are the most professionalized in the sample (~12%) while some of the least professionalized men in the sample are observed in the Mediterranean Conservative countries of Italy and Spain, Social Democratic Denmark, and Former Communist Poland (~5%). Sizable growth (~20% - 35%) in clerical jobs is observed for Italy and Spain, with approximately 50% of younger cohort men working a clerical job; moderate declines (~50%) in the percentage of men working professional first jobs are observed in Conservative France, Liberal Switzerland, and Former Communist Poland, resulting in ~ 5% of younger cohort men working professional first jobs. Lengthened time between starting work and marrying may suggest that in certain countries men and women need to work for some time before it is financially feasible to transition to marriage. The mean number of years between starting a first job and marrying is between 5 and 8 for the large majority of men in the sample. This number is the greatest for Mediterranean Conservative men (~10 years), while a sizable increase of 3 years is noted over time for Denmark.

With the exception of Austria, West Germany, East Germany, and Sweden, approximately 90% of men in all countries grew up in a home with two biological parents. In all countries men predominantly grew up in small towns or rural settings and their primary breadwinner in childhood was predominantly employed in clerical work or sales.

Women

Across cohorts, marriage remains near universal (~90%) for women in almost all countries. Notable exceptions are sizable declines over time (~10% - 15%) for women in Social

Democratic Denmark and Sweden, resulting in younger cohort values which are the lowest observed for the sample (~80%). The mean age of first marriage for women is unchanging over time in Conservative, Mediterranean Conservative, and Former Communist countries (~22-23 years old). In contrast, an increase of approximately two years is observed for Social Democratic Denmark and Sweden, demonstrating the highest observed values for the younger cohort (~25-27).

Insert Table 3 around Here

Social Democratic women are among the most highly educated women in the sample. As for men, the least educated women in the sample are those in Mediterranean Conservative countries followed by Former Communist countries. However, sizable growth in higher education is observed over time in Mediterranean Greece and Spain (~250%) and modest growth (~30%) is observed in Social Democratic Denmark. A moderate decrease (~45%) in higher education is noted for Czech Republic women—a pattern opposite of that found for Czech men. As for men, delay in entering the labor market after school completion is also a sign of weaker career-standing for young people (Blossfeld et. al. 2005). Focusing on women who worked their first job before marriage or worked and never married (~85%, not shown), the average number of years between school completion and starting a first job is approximately one year for women across most cohorts and countries—approximately half a year greater than the time for men. Notable exceptions are Mediterranean Conservative countries and older cohort Poland where a

delay of ~4 to 10 years is not surprising given the slightly younger ages at which women completed school (~14 vs. 18).

Similar to men, part-time status in a first job indicates that young person's early-career standing is not strong (Blossfeld et al. 2005). Unlike for men, hardly any growth in part-time work is noted for women in study countries because moderate percentages of women (~5-10) were already working part-time jobs in the older cohort across most countries. Part-time work tripled for women in Switzerland from 1.5% to 5.6% while it became almost negligible in Poland. The large majority of women in most countries had full-time clerical jobs for their first job. Conservative regime women are generally the most professionalized in the sample, as are Social Democratic Swedish women (12%). Social Democratic Danish women and Spanish women are the least professionalized in the sample (~3%). Women with a professional first job declined by ~50% over time in Switzerland. As for men, lengthened time between starting work and marrying may suggest the need to work longer before it is financially feasible to transition to marriage. For women who worked before marriage (90% of women who married, not shown), the mean number of years between starting a first job and marrying is 5 years in the majority of countries. This stands in contrast to the observed 5-8 years for men. Mediterranean Conservative countries and Social Democratic Sweden are an exception with the highest observed number of year for the sample (~7 years) and growth by 2 years noted for Swedish women.

With the exception of Austria, West Germany, East Germany, Poland, and Sweden, approximately 90% of women in all countries grew up in a home with two biological parents. In all countries women predominantly grew up in small towns or rural settings and their primary breadwinner in childhood was predominantly employed in clerical work or sales.

Predicted Probabilities

Men

The Relationship between Job Type and Marriage: The 1960s to 1980s

My first research question asks if, before the late 1980s, men with the strongest labor market positions had a greater probability of marrying sooner than men in jobs associated with less prestige or than unemployed men. To answer this question I test the relationship between men's job type/status and marriage timing for men born between 1938 and 1959. Regression results for additive models for men are in Appendix Table 1. Figure 1 of predicted probabilities is only presented for countries with significant differences in the probabilities of marriage timing across job type categories. Predicted probabilities reflect the probability of marrying *in a given year of observation* (between the ages of 18 and 40). I utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible job-type pairs (Long & Freese 2006). Significant differences between numerous job types vs. lack of significant differences reflect the strength of the observed gradients.

Insert Figure 1 around Here

In these additive models (Figure 1 and Appendix Table 1), I find strong support for my first hypothesis: In the majority of countries, men with best economic standing have a greater likelihood of marrying sooner than men with poorer economic standing. In all study countries except Austria, West Germany, and Poland, my results demonstrate a positive job-type gradient of marriage in which men with the strongest labor market positions, or those in jobs associated with greater prestige and financial reward, have a greater probability of marrying sooner than those in jobs associated with less prestige and financial reward, or than those that are unemployed.

My second research question for men asks if the importance of economic standing for marriage timing was stronger or more pronounced in countries with welfare regimes that encourage higher levels of sex-role specialization and/or countries with lower levels of female labor force participation. I answer this question by contextualizing results for individual countries within shared country-level characteristics. My findings indicate general support for my second hypothesis: For men with better labor market positions vs. those with weaker labor market positions, advantage in marriage is more pronounced across job types in countries with welfare regimes that socialize risk to a lesser degree (Conservative regimes) and / or in countries with low levels of female labor force participation.

Mild to moderate job type gradients of marriage for men are observed in the Conservative welfare countries of Belgium, France, and the Netherlands (Figure 1). In Belgium, men who work full-time professional (PP=.07), clerical (PP=.07), manual labor (PP=.07), and part-time (PP=.10) jobs do not significantly differ in their probabilities of marrying, yet, they each have a significantly higher probability of marrying than unemployed men (PP=.03, $p<.001$, $p<.001$, $p<.001$, and $p<.05$, respectively). A more developed, moderate gradient is observed for French

men: Full-time professional men (PP=.11) have a greater probability of marrying than full-time clerical (PP=.06, p<.05), part-time (PP=.04, p<.05), and unemployed (PP=.03, p<.001) men, while full-time clerical (PP=.06) and manual laboring (PP=.06) men similarly have significantly higher probabilities of marrying than unemployed men (PP=.03, p<.001 and p<.05, respectively). Even more defined gradients are observed for Belgian and French men in models which directly test change over time, discussed below. A moderate job type gradient of marriage is also observed in the Conservative country of the Netherlands. Full-time professional (PP=.08), clerical (PP=.06), and manual laboring (PP=.05) men do not significantly differ in their predicted probabilities for marriage, yet they each have significantly greater predicted probabilities of marrying than unemployed men (PP=.02, p<.001, p<.001, and p<.05, respectively). Moreover, compared to the advantage that clerical and manual laboring men have over unemployed men (a difference in probability of .04 and .03, p<.001 and p<.05, respectively), full-time professional men in the Netherlands have the greatest marital advantage over unemployed men (.06 difference in probability, p<.001).

Like Conservative welfare countries, Mediterranean Conservative countries generally demonstrate moderate gradients, with the most numerous, significant differences in predicted probabilities across job type categories (Figure 1): Although there is no significant difference in the predicted probabilities of marrying between Greek men working full-time professional (PP=.05) and clerical (PP=.04) jobs, each group of these men has a significantly greater predicted probability of marrying (sooner) than full-time manual laboring (PP=.03, p<.01 and p<.05, respectively), part-time (PP=.02, p<.0001 for both), and unemployed men (PP=.02, p<.01 and p<.05, respectively). A less developed gradient is observed for Spanish men in which full-time professional (PP=.01), full-time clerical (PP=.03), and full-time manual-laboring (PP=.03)

men have significantly greater predicted probabilities of marrying than unemployed men (PP=.02, p<.05 for all). Italy demonstrates the most developed job type gradient of marriage in the analysis for men: Advantage in marriage is most accrued to men with the best job standing, followed by those with lower job standing, followed by those who are unemployed. Full-time professional Italian men (PP=.04) have a higher predicted probability of marrying than unemployed men (PP=.02, p<.01). A more developed job type gradient of marriage is apparent for Italian men in jobs associated with middle and lower levels of prestige and financial reward: Men working full-time clerical jobs (PP=.04) have significantly higher probabilities of marrying compared to men who are manual laborers (PP=.03, p<.05) (and who are unemployed (p<.001)), and men who are manual laborers (PP=.03) have a significantly greater probability of marrying than unemployed men (PP=.02, p<.05). The general pattern observed in Conservative Welfare regime countries is of moderate to strong status gradients of marriage: Men in jobs associated with high and middle levels of prestige and financial reward (full-time professional and clerical workers) are similarly advantaged over men in jobs associated with low levels of prestige and financial reward (manual laborers and part-time workers), or over unemployed men.

In line with support for my second hypothesis for men, more modest job type gradients of marriage, in which working men in general have an advantage over unemployed men, are observed for the Social Democratic countries of Denmark and Sweden, the Former Communist country of Czech Republic, and the Liberal welfare country of Switzerland: There is no significant difference in the predicted probabilities of marrying between Swedish men working full-time professional (PP=.12), clerical (PP=.06), manual labor (PP=.04), or part-time (PP=.05) jobs. However, full-time professional (PP=.12), clerical (PP=.06), and manual laboring (PP=.04) men have significantly greater predicted probabilities of marrying than unemployed men

(PP=.02, p<.05, p<.001, p<.05, respectively). An identical pattern is observed for the other Social Democratic country in the analysis, Denmark. Danish men working full-time professional (PP=.06), clerical (PP=.06), or manual labor (PP=.06) jobs have no significant differences between them, yet they each have significantly greater predicted probabilities of marrying than unemployed men (PP=.03, p<.05, p<.01, p<.01, respectively). A modest gradient is also observed in the Liberal welfare state of Switzerland: No significant difference is observed between the predicted probabilities of marrying for Swiss men working full-time professional (PP=.04) and clerical (PP=.04) jobs, yet each group has significantly greater predicted probabilities of marrying than unemployed men (PP=.02, p<.05 and p<.001, respectively). Unlike findings for Sweden and Denmark, Swiss men working manual labor jobs do not significantly differ from unemployed men in their predicted probabilities of marrying.

Similarly in line with my second hypothesis, the finding of a modest gradient for men in the Czech Republic is unsurprising given the fact that Former Communist countries socialized risk to a very high degree, as well as generally had very high female labor force participation rates. Unlike the modest job type gradients of marriage observed in Social Democratic and Liberal welfare regime countries, Czech men with full-time clerical jobs (PP=.08) have a significantly *greater* predicted probability of marrying than men working full-time professional jobs (PP=.04, p<.05). There are no significant differences observed between any other groups of men. This is among the first empirical evidence of a negative job type gradient of marriage timing for men in Europe. Yet, this finding is unsurprising and consistent with prior research which discusses the higher social (and economic) value placed on non-professional jobs for men in Former Communist countries (Heyns 2005). Significant change over time is observed for the

relationship between job type and marriage timing for Czech Republic men and similar findings will be discussed further below.

Change in the Relationship between Job Type and Marriage

My third research question asks whether men's labor market standing became more important for marriage timing over the 1960s to early 1980s, or if across job types relative advantage/disadvantage in marriage increased. To answer this question I directly test the relationship between marriage timing and the interaction of birth cohort with job type/status. Regression results for this model are in Appendix Table 2 and predicted probabilities for countries with significant change over time are presented in Figure 2. I again utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible job-type pairs. Moreover, the possible pairs to compare now include tests of significant differences between the same job type but in different cohorts.

Insert Figure 2 around Here

For men, significant change over time is observed in the Conservative regime countries of Belgium and France and in the Former Communist country of the Czech Republic. However, these results provide mixed support for my third hypothesis: Across job types, relative

advantage/disadvantage in marriage for men increased over time in Belgium, emerged for the Czech Republic, and reconfigured in France.

Across job types, relative advantage/disadvantage in marriage more fully developed over time for Belgian men. A modest gradient is observed for older cohort Belgian men, yet this modest gradient becomes slightly more developed over time due to the new relative advantage of part-time working men in the younger cohort: Older cohort Belgian men working full-time professional (PP=.08), clerical (PP=.08), or manual labor (PP=.06) jobs have significantly greater probabilities of marrying than men who are unemployed (PP=.03, $p<.01$, $p<.001$, $p<.001$, respectively). There is no significant difference in the predicted probabilities of marrying between part-time and unemployed men in the older cohort. However, aside from the continued advantage of full-time professional (PP=.06), clerical (PP=.06), and manual laboring (PP=.07) men over unemployed men (PP=.03, $p<.05$, $p<.05$, $p<.01$, respectively) in the younger cohort, part-time working men (PP=.14) demonstrate a new, significantly greater probability of marrying than unemployed men (PP=.03, $p<.05$) for the younger cohort. This may suggest that the importance of part-time work for marriage came to resemble the importance of full-time work for marriage in Belgium for men. Despite a continued, mild gradient over time for Belgian men, part-time working men became newly advantaged over unemployed men in the younger cohort. These results reflect the complexity and particular nature of the changing relationships between particular job types/statuses and marriage timing over this period.

Across job types, relative advantage/disadvantage in marriage newly developed for Czech Republic men, providing further support for my third hypothesis. No significant differences in marriage are observed between any groups of older cohort Czech men. However, in the younger cohort, men working full-time clerical jobs (PP=.07) have a significantly greater

predicted probability of marrying than men working full-time professional jobs (PP=.02, p<.001). This is among the first empirical evidence of change in the economic underpinnings of marital inequality for a Former Communist country during the 1960s to mid-1980s. It suggests that the lower value placed on men's professional work in Communist countries (Heyns 2005) may not have had an effect on marriage until the later years of Communism.

Relative advantage/disadvantage in marriage reconfigured for French men and mostly weakened over time. Stronger, older forms of marital advantage across job types disappeared and newer forms emerged. A strong gradient of relative advantage across job types is observed for the older cohort, yet this gradient becomes flatter, demonstrating less relative advantage between job types for the younger cohorts: In the older cohort, French men working full-time professional jobs (PP=.13) have a greater predicted probability of marrying than men working full-time clerical jobs (PP=.07, p<.01), and men in clerical jobs (PP=.07) have a significant marital advantage compared to men working manual labor jobs (PP=.04, p<.001). Older cohort full-time professional (PP=.13) and clerical (PP=.07) men also have significantly greater predicted probabilities of marrying than unemployed men (PP.04, p<.001 and p<.01, respectively). No significant difference is observed between manual laboring men and unemployed men. In the younger cohort, professional (PP=.09) and clerical men (PP=.05) retain their advantage over unemployed men (PP=.02, p<.05 and p<.001, respectively). However, no significant differences are observed between full-time professional, clerical, and manual laboring men—flattening what once was a strong gradient. Yet, new relative advantage is observed in the younger cohort: Manual laboring men (PP=.09) have a new marital advantage over unemployed men (PP=.02, p<.05), and full-time professional men (PP=.09) have a new advantage over part-time men (PP=.03, p<.05). Although the job type gradient of marriage flattened over this period

for French men, these results reflect the complexity and idiosyncrasy of the changing relationships between particular job types/statuses and marriage timing over this historical period of major economic and political change.

In light of the complexity that lies behind change in the economic underpinnings of marriage for men, I look closer at its driving factors in answering my fourth research question: Was growth or change in relative advantage for marriage timing driven by declines in the marital prospects for men with weaker labor market positions? I answer this question by directly testing if the predicted probabilities of marrying (sooner) decreased (or increased) over time for particular job types/statuses (i.e. absolute decrease/increase), and then contextualize these results within the observed gradients discussed above. My results indicate support for my fourth hypothesis that men with weaker labor market positions disproportionately experienced worsened marital prospects over time. However, evidence is mixed in support of my fourth hypothesis that worsened marital standing for these groups of men are the driving explanation behind emergent or increased marital advantage/disadvantage over this time.

Over time, Belgian and French men with weaker labor market positions experienced significant declines in their predicted probabilities of marrying. In Belgium, men working clerical jobs, or jobs associated with a mid-level of prestige and financial reward, experienced a significant decline ($p<.01$) in their predicted probabilities of marrying from the older cohort (PP=.08) to the younger cohort (PP=.06). The same phenomenon is observed in France. Men working clerical jobs experienced a significant decline ($p<.05$) in their predicted probabilities of marrying from the older cohort (PP=.07) to the younger cohort (PP=.05). Moreover, unemployed French men, or men with the poorest labor market standing, experienced a significant decline ($p<.05$) in their predicted probabilities of marrying between the older

(PP=.04) and the younger (PP=.02) birth cohorts. For Czech Republic men, no job type/status categories are observed to have significant increases or decreases over time in their predicted probabilities of marrying. The findings for Belgium and France are among the first empirical evidence that men with weaker labor market standing were disproportionately (negatively) affected in their marital prospects towards the end of the 20th Century.

My findings provide mixed support for my fifth hypothesis that relative advantage/disadvantage across labor market positions emerged or strengthened as a result of weakened marital prospects for men with weaker labor market standing. Affirmative evidence is observed in France: Unemployed French men experienced a significant decrease over time in their predicted probabilities of marrying and manual laboring French men in the younger cohort demonstrate a new marital advantage over the unemployed (discussed above). Moreover, no significant change over time in the predicted probabilities of marriage is observed for manual laboring men (i.e. no absolute change). The emergence of their new advantage, as a result of declined prospects for the unemployed, can be further demonstrated by the significant difference in the predicted probabilities of marriage between the older cohort of manual laboring men (PP=.04) and the *younger* cohort of unemployed men (PP=.02, $p<.05$)—a comparison which highlights the relative disadvantage of the unemployed in the younger cohort in light of 1) no significant change over time in the predicted probabilities of marriage for manual laboring men, and 2) the lack of a marital advantage for manual laborers (PP=.04) compared to the unemployed (PP=.04) in the older cohort. In contrast and not in support of my fifth hypothesis, although younger cohort part-time men in Belgium newly gained a marital advantage over the unemployed (discussed above), there is no direct evidence that this new marital advantage resulted from the observed, significant decline in marital prospects for Belgian clerical workers.

My full model findings for Belgium, France, and the Czech Republic are among the first to empirically document significant change in the economic underpinnings of marriage timing for men over the Late-20th Century. Overall, my findings indicate the emergence of relative advantage/disadvantage in marriage in the Czech Republic, further development of marital advantage/disadvantage in Belgium, and a reconfiguration of marital advantage/ disadvantage across job types in France. My findings for Czech Republic men are also among the first to demonstrate the development of a negative gradient in which professional men have poorer marital prospects than clerical men in the younger cohort. My findings also provide some of the first empirical evidence of declines in the absolute marital prospects of men with weaker economic standing over the Late-20th Century. Although this is observed in Belgium and France, only in France can decline in marital prospects for these men account for part of the new, observed marital inequality of the younger cohort. With little change in relative marital advantage explained by the weakened marital prospects of those with weaker labor market positions, my results indicate that observed change over time reflects complex, idiosyncratic change by job type/status in each country. This may reflect that change over time in country-specific labor policies have much to bear in explaining change in the relative advantage and disadvantage in marriage across different types of jobs.

My fifth research questions asks if change in the relationship between job type and marriage timing for men occurred in countries which experienced major weakening of their labor markets. I contextualize full model findings with macro-level characteristics and conclude that I do not find support for my hypothesis that this is so. Change for men is observed in Belgium, France, and the Czech Republic. Czech Republic experienced negligible unemployment from the 1960s to the mid-1980s while unemployment strongly rose in Belgium and France, among

numerous other countries in the analysis. Given that the majority of study countries experienced rising unemployment over this time and given the small number of countries which demonstrate significant change in the relationship between job type and marriage, country-specific labor policies may be a more important factor in conditioning change than the mere presence of high unemployment.

Women

The Relationship between Job Type and Marriage: The 1960s to 1980s

To answer my first research question of whether women's labor market position was important for marriage timing before the late 1980s, I test the relationship between women's job type/status and marriage timing for women born between 1938 and 1959. Regression results for these additive models are in Appendix Table 3. Figure 3 of predicted probabilities is only presented for countries with significant differences in the probabilities of marriage across job type categories for women. I utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible job-type pairs. Significant differences between numerous job types vs. lack of significant differences reflect the strength of the observed gradients.

Insert Figure 3 around Here

In these additive models (Figure 3 and Appendix Table 3), I find support for my first hypothesis for women: For women born 1938 to1960, women's labor market standing mattered for marriage in some European countries. In Denmark, Switzerland, and Czech Republic, a positive relationship is observed; women with stronger labor market standing demonstrate higher predicted probabilities of marrying (sooner) than women with weaker labor market standing. More specifically, I am able to answer my second research question as to whether the importance of women's work is primarily observed in countries that had high female labor force participation rates and/or welfare regimes which encourage less sex-role specialization. I look at the pattern of results for individual countries and contextualizing them within shared country-level characteristics: A positive relationship is observed between job type and marriage in countries with high levels of female labor force participation and/or more generous welfare regimes, such as Social Democratic, Liberal, or Former Communist regimes. Conversely, a negative relationship or a non-significant relationship is observed in countries which have lower rates of female labor force participation and/or welfare regimes which socialize risk to a lesser degree, such as Conservative and Mediterranean Conservative regimes.

In support of my first hypothesis are the observed positive relationships between job type/status and marriage for women born pre-1960 in the more generous welfare regime countries of Social Democratic Denmark, Liberal Switzerland, and Former Communist Czech Republic. A modest gradient is observed for Danish women: While there are no significant differences in the predicted probabilities of marrying across groups of working women, full-time clerical (PP=.10) and full-time manual laboring (PP=.09) women have higher predicted probabilities of marrying than unemployed women (PP=.06, $p<.001$ and $p<.05$, respectively). A similarly modest gradient is observed for Czech Republic women: Full-time professional

(PP=.15), clerical (PP=.17), and manual laboring (PP=.14) women have significantly greater predicted probabilities of marrying than unemployed women (PP=.07, p<.05, p<.001, p<.05, respectively). A more defined, positive gradient is observed for Swiss women: Full-time professional (PP=.09) and clerical (PP=.07) women have significantly greater predicted probabilities of marrying than manual laboring women (PP=.03, p<.01 and p<.001, respectively). These findings provide some of the first empirical evidence that women's labor market standing mattered for marriage timing for pre-1960 birth cohorts in Europe. My finding for Swiss women is some of the only evidence that, among working women, professional women had a marital advantage for pre-1960 birth cohorts.

Similarly in line with my first hypothesis, no significant relationships between job type and marriage are observed in any of the Conservative Welfare countries in this analysis—Austria, Belgium, France, West Germany, and the Netherlands. Similarly, no significant findings are observed for the Mediterranean Conservative countries of Italy and Spain. This stands in contrast to the moderately strong job-status gradients of marriage observed for men in most Conservative welfare countries. Moreover, the only negative relationship observed between job type and marriage for this study is for Mediterranean Conservative Greek women: Greek women who work part-time (PP=.11) or who are unemployed (PP=.08) have significantly greater predicted probabilities of marrying than women who work in full-time manual labor jobs (PP=.05, p<.01 and p<.001, respectively). These findings demonstrate that Greek women working full-time jobs associated with low prestige and low financial rewards (manual labor jobs) are at a disadvantage in marrying younger than women who are not in the labor force or who have loose attachment to the labor force (part-time workers). These findings are among the first to demonstrate a negative job-type gradient of marriage timing for pre-1960 birth cohorts of

Greek women[12] and a general pattern that women's labor market standing was not important for marriage in Conservative welfare countries for these birth cohorts. Given the degree to which Conservative regimes reinforce sex-role specialization, and that this is more pronounced in Mediterranean Conservative countries, these findings are consistent with theoretical expectations and with prior research which finds similar relationships between women's education and marriage timing in Conservative welfare countries (Blossfeld et al. 1995).

Change in the Relationship between Job Type and Marriage

To answer my third research question as to whether women's work newly became important for marriage timing over the 1960s to the early 1980s, I test the relationship between marriage timing and the interaction term of birth cohort with job type/status. No significant change over time is observed in any study countries for women. However, stratified analyses by country and birth cohort (not shown here) demonstrate that the significant relationships observed in the additive models with pooled birth cohorts are similarly observed for both the older and younger cohorts of Greek, Danish, Swiss, and Czech women in the stratified models; the negative relationship observed for Greek women in the pooled analysis and the positive relationships observed for Danish, Swiss, and Czech women in the pooled analyses are not accounted for only by the younger cohorts—these relationships are observed for the oldest cohorts as well. As such, in an unexpected fashion, I do not find support for my second hypothesis that women's work came to matter for marriage over this historical period. Instead, I find evidence that women's work *already* mattered for marriage as early as the 1960s in

[12] Stratified analyses by birth cohort demonstrate that these relationships are observed for both cohorts of Greek women and the effect is not accounted for only by the younger cohort.

European countries with more generous welfare regimes and with high female labor force participation rates.

Together, these findings are among the first to demonstrate modest, positive job type gradients of marriage timing for pre-1960 birth cohorts of women, as well. A negative gradient is observed as well, while no countries demonstrate significant change over time. These findings are consistent with hypotheses that women's work positively matters for marriage in contexts where women's work is facilitated or normative, whereas no relationship or a negative relationship is observed in contexts where women's work is less normative. Moreover, given the evidence of positive relationships for the oldest cohorts of Danish, Swiss, and Czech women in stratified analyses, paired with null findings for significant change over time, these results provide empirical evidence that value was placed on women's work for marriage *before* the dramatic political and economic changes of the late 1970s. Moreover, there is evidence in Switzerland that even among working women, women with the strongest labor market positions were the most advantaged in marrying sooner.

For my fourth research question I ask if marriage prospects improved over historical time (in an absolute way) for women with the best labor market standing. I hypothesized that this would be the case. My results (discussed above) indicate that women with better labor market standing already had a marital advantage for those born as early as 1938-1949 in certain European countries. With these data I am not able to capture when this positive relationship emerged in historical time for Europe, nor if the predicted probabilities of marriage for these women increased over time in an absolute (non-relative) manner. As such, given null findings for my models which test significant change over time, I cannot conclude that women with the best labor market standing experienced *improved* marital prospects over the 1960s to 1980s.

My final research question asks if women's work became important for marriage timing in countries which experienced major labor market weakening/restructuring, or in countries where the importance of men's economic standing for marriage strengthened. I hypothesized that this would be so. Given null findings for my full models, I cannot conclude that women's economic standing newly came to matter for marriage in countries with these contexts over the 1960s to 1980s.

Discussion

In this comparative investigation I test Oppenheimer's foundational theory of change in the relationship between labor market standing and marriage timing across the end of the 20th Century. I use a measure of labor market standing which captures employment status (employed vs unemployed), degree of labor market attachment or stability (part-time versus full-time), and a measure of job category that is associated with level of financial reward and prestige (occupational category). With this measure I am also able to capture the importance of part-time work, a job status that particularly grew for younger labor market entrants towards the end of the 20th Century (Kalleberg 2000). In utilizing such a comprehensive measure I am able to capture exactly which components of labor market standing are most salient for delayed marriage across this portion of the 20th Century. I am also able to see what variation may exist across countries in using the same measure.

With only some exceptions, this investigation broadly finds support for Oppenheimer's foundational theory of the importance of men's and women's economic standing for marriage timing. Oppenheimer theorized that women's work became important for marriage during a time

of major economic challenge from the late 1970s to early 1980s. I find empirical evidence in Denmark, Switzerland, and the Czech Republic that women's work was already important for marriage by the 1960s; women with better labor market standing were more likely to marry sooner than those with weaker standing. Moreover, no significant change in this relationship is observed over this time for women. In line with Oppenheimer's theory and the adjoining welfare regime theory, I find support for the theory that women's work matters for marriage in contexts where women's work is normative. I observe a positive relationship between job type and marriage timing in almost all countries that are Social Democratic, Liberal, or Former Communist—countries with high levels of female labor force participation and/or welfare regimes which do not facilitate sex-role specialization. In contrast, I observe no significant relationship between economic standing and marriage timing across Conservative regime countries which facilitate sex-role specialization. Moreover, I observe a negative relationship in a Mediterranean Conservative country, a regime type which facilitates sex-role specialization even more than in Conservative countries.

Consistent with prior research on the historical importance of economic standing for men's marriage, I find that men with the best economic standing had a marriage timing advantage in the majority of study countries. In line with Oppenheimer's theory and welfare regime theory, this positive relationship was indeed more defined or stronger in Conservative and Mediterranean Conservative countries. Conversely, the job type gradients of marriage timing were mild and less defined in Social Democratic, Liberal, and Former Communist regimes—contexts which socialize risk to a higher degree and which facilitate higher levels of female labor force participation. I also find some of the first empirical evidence of a modest, negative gradient in Former Communist Czech Republic, where full-time clerical men have a

marriage timing advantage over full-time professional men. This finding is not surprising given the lower social and economic value placed on men's professional work in Communist countries (Heyns 2005). It also speaks to the important influence that country-specific labor policies may have on the relationship between individual labor market standing and marriage timing.

Oppenheimer theorized that, due to a weakening economy, men's economic standing became more important for marriage over the 1970s to 1980s, or marriage timing inequality increased. Moreover, men with the weakest labor market positions were likely the most negatively affected (i.e. disproportionately experienced delays in marriage timing) and that the decline in marital prospects for these men drove the observed increase in marriage timing inequality for men across all labor market positions. I find mixed support for the first part of this theory: Significant change over time in the relationship between job type/status and marriage timing is observed for men in Belgium, France, and the Czech Republic. It is indeed the case that marriage timing inequality emerged or grew in the Czech Republic. Marital inequality also modestly strengthened in Belgium as part-time work came to resemble full-time work in its marital advantage over the unemployed. However, to a large degree, marriage timing inequality lessened over time and reconfigured in France: The strong marital advantage/disadvantage between professional, clerical, and manual laborers is not observed for the younger cohort as it was for the older cohort. Instead, part-time men are newly disadvantaged compared to full-time professional men, while manual laboring men are newly advantaged in marriage timing compared to the unemployed.

Next, I do find empirical support for the part of Oppenheimer's theory which states that men with the weakest labor market positions were disproportionately, negatively affected in their martial prospects over the 1960s to 1980s. In Belgium and France, men with weaker labor

market positions experienced significant declines in their predicted probabilities of marrying sooner. However, mixed support is provided for the portion of the theory which stipulates that growth or change in marriage timing inequality is driven by the declined status of these men: Unemployed French men experienced a significant decrease over time in their predicted probabilities of marrying sooner and this is directly connected to the new marriage timing advantage of manual laborers over the unemployed in the younger cohort. In contrast, no particular job type/status experienced reduced predicted probabilities of marrying sooner in the Czech Republic, and the reduced prospects for Belgian clerical workers is not obviously linked to the new marital advantage of part-time workers over the unemployed.

Lastly, Oppenheimer theorized that change in the relationship between labor market standing and marriage timing for men was influenced by weakening economies over the 1960s to early 1980s. With the exception of Former Communist countries, almost all European countries in this analysis experienced dramatic increases in their unemployment rates over this time. Yet, only two out of eleven non-Former Communist countries in the analysis demonstrate significant change over time for men. Moreover, the findings for Belgium and France indicate country-specific, relative change in the importance of part-time work for men's marriage, among other observed changes in relative advantage/disadvantage. For men and women, I do not find much evidence to support Oppenheimer's theory that dramatic economic change over this time influenced individual level change in the relationship between labor market standing and marriage timing. My results suggest that country-specific labor market policies may have a greater influence on this relationship than shared country characteristics which capture overall economic or labor market health. These findings have important implications for policy development related to labor market restructuring and its social consequences.

The possibility remains that change in the relationship between labor market standing and marriage timing for men and women occurred slightly later in historical time, i.e. in the late 1980s and early 1990s. Moreover, there is reason to believe that change will continue to occur as economies transform. Future research should aim to do comparative work and optimally use identical, comprehensive measures of labor market standing across countries. Using data on later cohorts, scholars should investigate if, when, and how women's work became important, or positively associated with marriage timing in Conservative countries. Future research should continue to look at how the relationship between labor market standing and marriage timing may have continued to develop over the late 20th Century and into the early 21st Century for numerous countries. If data are available, future research should aim to explore when in earlier historical time women's labor market standing first became important for marriage timing in Denmark, Switzerland, and the Czech Republic. Future work should also aim to directly test the role of country-level characteristics on the individual-level relationship between labor market standing and marriage timing for pre-1960 birth cohorts, directly testing change over time in macro- and micro-level characteristics if possible.

This investigation has limitations. East Germany is excluded from the analysis due to its small number of observations after sample restrictions were applied and its unstable estimates in regression analyses. This is particularly unfortunate because its inclusion would have enabled further comparison between Former Communist countries, of which there were only two in the final analysis. Country-level context is a central theoretical component to this analysis. Yet, due to limited variation in the categorical variable of welfare regime type, coupled with only thirteen countries in the analysis, I could not directly test the conditioning role of welfare regime type on the individual level relationship between labor market position and marriage timing.

Marriage is associated with numerous health and social benefits, yet foundational social science theories stipulate that marital inequality has likely grown towards the end of the 20th Century. This investigation is among the first to directly explore if this is the case. As opposed to finding that women's work came to matter for marriage timing over the 1960s to 1980s, I provide empirical evidence that women's labor market position was already important for marriage timing in certain countries before the major economic transformations of the 1970s. Moreover, this was only the case in countries where women's work was normative and enabled by the state. I similarly observe that men's economic standing is more important for marriage timing in contexts where women's work is not normative and where risk is socialized by the state to a lesser degree. I observe that men with weaker labor market positions did disproportionately experience weakened marital prospects over the 1960s to 1980s. I observe strengthening and reconfiguration of the relationship between labor market standing and marriage in three countries, one of which did not experience major economic weakening. These results indicate that, as opposed to national economic weakening, country-specific labor policies may have more importantly influenced the relationship between individual labor market standing and marriage timing over the 1960s to 1980s.

Tables and Figures

Table 1: Country-Level Economic and Social Characteristics by Welfare Regime Type, 1960 - 1985, Comparative Family Policy Database Version 3 (2010) and Quality of Government Dataset (2010)

Regime	Country	Real GDP per Capita in 2000 US Dollars			Globalization Level		Unemployment Rate			Female Labor Force Participation Rate			Mean Number of Years of Female Education		
		1960	1960-1975 % Growth	1975-1985 % Growth	1970	1970-1975 % Growth	1975-1985 % Growth	1960	1960-1975 % Growth	1975-1985 % Growth	1960	1960-1975 % Growth	1975-1985 % Growth	1960	1960-1975 Growth	1975-1985 Growth
Conservative	Austria	~$5,500.00	~100%	~30%	~ 50	~0%	~20%	~2%	~0%	100%	~50%	~0%	~6%	6 yrs	~0%	.5 yrs
	Belgium	~$5,500.00	~100%	~30%	~ 90	~0%	~10%	~3%	~0%	300%	~35%	~20%	~15%	7 yrs	1 yr	.5 yrs
	France	~$5,500.00	~100%	~30%	~50	~0%	~20%	~2%	50%	200%	~45%	~10%	~10%	5 yrs	1 yr	.5 yrs
	Netherlands	~$5,500.00	~100%	~30%	~75	~4.3%	~10%	~1%	200%	330%	~25%	~20%	~30%	5 yrs	2.5 yrs	1 yr
	W. Germany	~$5,500.00	~100%	~30%	~50	~0%	~20%	~1%	~0%	700%	~50%	~0%	0%	7.5 yrs	~0%	2 yrs
Mediterranean	Greece	~$5,000.00	~100%	~0%	~50	~0%	~0%	~6%	~-65%	~300%	~30%	~0%	~30%	3.5 yrs	1.5 yrs	1.5 yrs
	Italy	~$5,000.00	~100%	~30%	~ 40	~0%	20%	~6%	~0%	~65%	~40%	~-10%	~20%	4 yrs	1 yr	.5 yrs
Conservative	Spain	~$5,000.00	~100%	~0%	~ 40	~0%	20%	~1%	300%	~425%	~20%	~75%	0%	3.5 yrs	1 yr	1 yr
Social Democratic	Denmark	~$10,000.00	~70%	~20%	~60	~-5%	20%	~2%	~0%	~500%	~45%	~50%	~20%	8.5 yrs	~0%	0 yrs
	Sweden	~$10,000.00	~70%	~20%	~ 40	~12.5%	45%	~2%	~0%	~50%	~55%	~25%	~10%	8 yrs	.5 yrs	1 yr
Liberal	Switzerland	~$14,000.00	~55%	~25%	~65	~0%	20%	0%	~0%	100%	~50%	~0%	~10%	7 yrs	1 yr	2 yrs
Former Communist	Czech Republic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Poland	~$4,000.00	~60%	~0%	~30	~0%	~25%	N/A	N/A	N/A	N/A	N/A	N/A	6.5 yrs	1 yr	1 yr

Table 2: Percentages and Means Weighted for the Entire Analytic Sample of Men, by Cohort '38-'49 v '50-'59 and Welfare Regime, N=6,670, Survey of Health, Aging, and Retirement in Europe (SHARE) Waves 1-3 2009

			Conservative										Mediterranean Conservative					
	TOTAL (6,670)		Austria (n=202)		Belgium (n=715)		France (n=532)		Netherlands (n=600)		W. Germany (n=335)		Greece (n=802)		Italy (n=679)		Spain (n=475)	
	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2
Mean Age in 2008	64	55	65	56	64	56	64	56	64	55	64.5	55.5	64.2	56	65	54	64	55
MARRIAGE:																		
Ever Married btwn the Ages of 17 to 40	90	85	90	94	92	90	92	87	90	85	88	82	90	92	90	89	89	69
Mean Age of First Marriage (Ever Married N=6,134)	25.7	26.0	25.1	25.3	24.1	24.6	24.5	24.5	25.1	25.2	25.9	26.3	28.8	27.3	26.9	27.9	26.4	25.3
EDUCATIONAL CHARACTERISTICS:																		
Highest Educational Level Attained																		
Completed less than Secondary School	38	27	12	12	39	37	29	19	42	35	4.5	7.5	47	38	66	46	76	67
Completed Secondary School	39	47	57	60	25	30	44	50	28	31	62	47	30	38	25	44	12	9.7
Completed College or Graduate School	23	26	31	29	37	33	26	31	31	34	34	45	23	24	9.3	10	12	24
Mean Age Complete Full Time, Formal Ed. (N= 6,724)	17.5	18.7	16.6	17.3	18.6	18.8	18.4	18.9	17.8	19.3	19.4	20.7	17.1	18.0	15.0	18.0	14.9	15.5
EMPLOYMENT CHARACTERISTICS:																		
Mean Nmbr. Yrs. btwn Ed. Completion & 1st Job (N=6,271)	1.4	0.9	0.3	0.4	0.7	0.5	1.2	0.6	0.4	0.3	0.3	0.5	3.3	3.3	2.8	1.9	1.9	1.0
Worked bf Married or Worked & Never Married N=6,430:																		
Mean Age Start First Job	18.1	19.0	16.8	17.1	18.9	19.0	18.5	19.0	17.6	19.0	18.9	20.2	19.8	20.4	17.3	18.9	15.9	16.2
Working Status & Type of First Job:																		
Part Time all Job Types	2.5	2.6	0	0	1.9	2.6	2.7	4.2	1.4	6.2	0	0	5.7	7.8	4.7	4	2.1	1.3
Full Time Manual Labor / Elementary Job	29	24	12	4	44	41	34	32	18	18	7.8	3.5	20	21	49	31	52	46
Full Time Clerical / Technician / Sales Job	61	65	80	84	42	40	53	57	70	64	85	82	65	62	43	58	39	47
Full Time Professional / Legislative Job	7.4	8.4	8.2	12	12	15	11	6.9	10	12	6.9	14	8.4	9.1	4.1	6.5	6.7	5.4
Mean Nmbr Yrs btwn 1st Job Start & 1st Marr. (N=5,781)	7.8	7.3	8.6	8.2	5.3	5.8	6.0	5.9	7.7	6.5	6.8	6.9	9.4	7.4	9.7	9.4	10.8	9.2
CHILDHOOD CHARACTERISTICS:																		
Two Biological Parent Home at Age 10	88	91	87	83	92	94	89	89	93	95	80	85	97	99	93	97	91	93
Residential Area Type - Childhood Home																		
Rural/ Countryside/Village	46	43	54	59	51	47	43	45	30	33	40	43	46	47	64	55	15	10
Big City	15	15	20	7.7	10	14	12	15	19	15	25	15	24	23	7.3	7	17	15
Small or Large Town / Suburbs	39	43	26	33	38	38	45	40	51	51	35	41	29	30	29	38	68	75
Occupation of Main Breadwinner at Age 10																		
Manual Laborer	21	25	21	25	41	38	19	28	19	18	11	17	18	18	33	39	38	34
Clerical / Crafts Maker / Sales	71	68	69	67	50	52	69	62	70	59	78	77	77	78	63	59	60	64
Manager / Professional	7.4	7.5	9.8	7.8	9	10	12	10	12	23	10	5.7	4.8	4.7	3.5	2	2.1	1.8

Table 2 (Cont'd): Percentages and Means Weighted for the Entire Analytic Sample of Men, by Cohort '38-'49 v '50-'59 and Welfare Regime, N=6,670, Survey of Health, Aging, and Retirement in Europe (SHARE) Waves 1-3 2009

			Social Democratic				Liberal		Former Communist			
	TOTAL (6,670)		Denmark (n=640)		Sweden (n=437)		Switzerland (n=291)		Czech R. (n=473)		Poland (n=489)	
	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2
Mean Age in 2008	64	55	64	55	64.2	56	64.1	54.6	64	55.3	64	55
MARRIAGE:												
Ever Married btwn the Ages of 17 to 40	90	85	89	81	79	85	93	85	96	93	93	87
Mean Age of First Marriage (Ever Married N=6,134)	25.7	26.0	24.6	28.1	25.9	27.9	26.1	27.8	24.6	24.4	24.9	24.9
EDUCATIONAL CHARACTERISTICS:												
Highest Educational Level Attained												
Completed less than Secondary School	38	27	12	9.8	47	31	21	14	45	43	37	17
Completed Secondary School	39	47	52	45	30	44	67	73	39	33	49	73
Completed College or Graduate School	23	26	37	45	23	25	12	13	16	24	14	9.4
Mean Age Complete Full Time, Formal Ed. (N= 6,724)	17.5	18.7	19.6	20.8	20.0	20.1	20.1	20.6	18.4	19.3	16.6	17.8
EMPLOYMENT CHARACTERISTICS:												
Mean Nmbr. Yrs. btwn Ed. Completion & 1st Job (N=6,271)	1.4	0.9	0.6	0.3	0.5	0.6	0.7	0.5	0.3	0.4	2.3	1.0
Worked bf Married or Worked & Never Married N=6,430:												
Mean Age Start First Job	18.1	19.0	18.9	20.2	18.4	19.2	20.3	20.7	18.5	19.3	18.4	18.6
Working Status & Type of First Job:												
Part Time all Job Types	2.5	2.6	2.6	7.3	5.0	2.9	2.4	5.3	0	0	4	1.3
Full Time Manual Labor / Elementary Job	29	24	18	23	30	34	6.9	3.8	9.3	12	21	24
Full Time Clerical / Technician / Sales Job	61	65	75	65	51	51	81	85	82	79	69	70
Full Time Professional / Legislative Job	7.4	8.4	5	5.3	14	12	9.5	6.2	8.3	9.5	5.8	3.1
Mean Nmbr Yrs btwn 1st Job Start & 1st Marr. (N=5,781)	7.8	7.3	5.8	8.7	8.1	8.7	5.8	7.2	6.3	5.2	6.9	6.4
CHILDHOOD CHARACTERISTICS:												
Two Biological Parent Home at Age 10	88	91	90	92	86	79	92	94	91	92	88	91
Residential Area Type - Childhood Home												
Rural/ Countryside/Village	46	43	41	36	29	21	56	43	36	28	74	53
Big City	15	15	22	21	19	16	9.6	17	20	22	8	15
Small or Large Town / Suburbs	39	43	37	43	52	63	34	40	43	50	18	32
Occupation of Main Breadwinner at Age 10												
Manual Laborer	21	25	21	24	20	24	12	11	17	15	6.4	14
Clerical / Crafts Maker / Sales	71	68	68	63	66	58	78	74	80	69	89	82
Manager / Professional	7.4	7.5	11	13	15	17	10	15	3.2	15	4.7	4.7

Table 3: Percentages and Means Weighted for the Entire Analytic Sample of Women, by Cohort '38-'49 v '50-'59 and Welfare Regime, N=8,363, Survey of Health, Aging, and Retirement in Europe (SHARE) Waves 1-3 2009

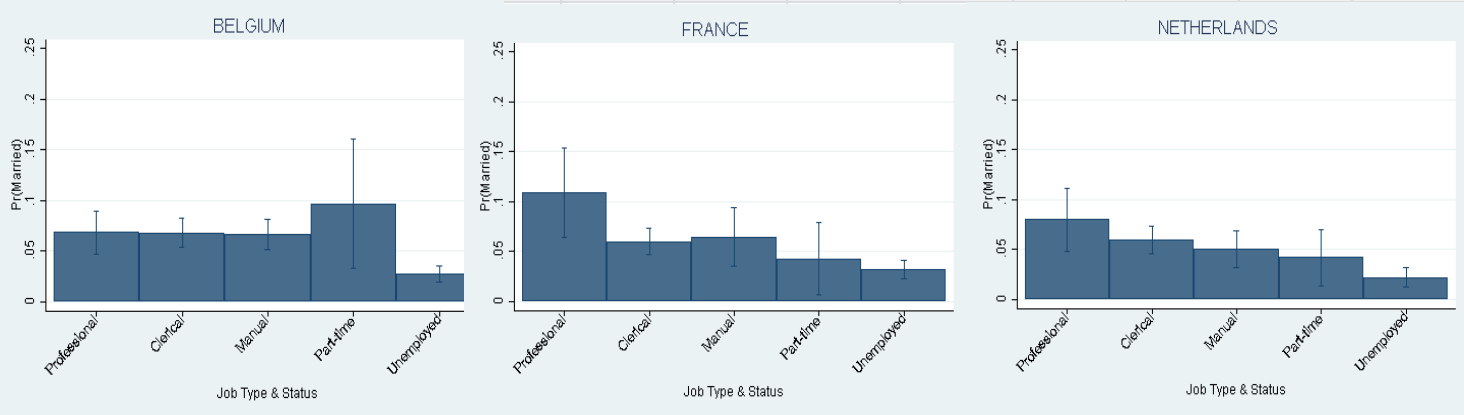
			Conservative										Mediterranean Conservative					
	TOTAL (8,363)		Austria (n=282)		Belgium (n=852)		France (n=672)		Netherlands (n=751)		W. Germany (n=411)		Greece (n=981)		Italy (n=859)		Spain (n=582)	
	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2
Mean Age in 2008	64	55	65	55	64	55	64	55	64.2	55	64.6	54.9	64.7	55	64.4	54	64	55
MARRIAGE:																		
Ever Married btwn the Ages of 17 to 40	94	91	93	90	95	96	92	88	93	89	97	90	91	94	92	92	94	90
Mean Age of First Marriage (Ever Married N=7,916)	22.9	22.9	22.5	22.3	22.4	21.9	22.5	22.7	23.0	23.1	23.0	23.2	24.0	23.6	23.6	23.0	23.6	22.8
EDUCATIONAL CHARACTERISTICS:																		
Highest Educational Level Attained																		
Completed less than Secondary School	50	33	39	31	47	33	44	28	59	37	19	12	72	38	73	55	85	61
Completed Secondary School	34	45	48	53	27	35	33	42	20	33	57	57	23	42	20	38	8.3	18
Completed College or Graduate School	16	22	13	17	26	32	23	30	21	30	24	31	5.9	20	6.0	6.9	6.9	21
Mean Age Complete Full Time, Formal Ed. (N=8,383)	16.5	17.7	15.5	16.5	17.5	18.5	17.7	18.5	16.6	17.7	18.2	18.8	14.7	16.9	13.8	16.0	14.3	15.4
EMPLOYMENT CHARACTERISTICS:																		
Mean Nmbr. Yrs. btwn Ed. Completion & 1st Job (N=7,101)	2.7	1.8	1.3	0.7	1.1	0.8	1.8	1.3	0.9	0.5	0.8	0.7	9.8	7.2	5.6	4.0	5.0	4.0
Worked bf Marr. or Worked & Never Marr. N=6,757:																		
Mean Age Start First Job	17.8	18.3	16.4	16.7	18.1	18.5	18.2	18.8	16.7	17.7	17.8	18.3	20.2	20.0	17.8	17.8	16.5	17.1
Working Status & Type of First Job:																		
Part Time all Job Types	5.3	6.8	1.2	2.6	4.7	6.2	7.6	6.7	8.1	7.7	2.6	6.9	6.8	6.3	8.3	9.2	6.0	6.1
Full Time Manual Labor / Elementary Job	22	22	25	26	41	39	20	29	15	12	5.3	3.4	18	13	41	39	43	37
Full Time Clerical / Technician / Sales Job	65	63	69	67	42	44	61	50	62	61	86	84	65	66	43	42	47	53
Full Time Professional / Legislative Job	8.1	8.9	5.0	4.2	11	8.5	11	14	14	19	5.0	5.3	9.0	14	8.4	10	4.5	3.8
Mean Nmbr Yrs btwn 1st Job Start & 1st Marr. (N=6,202)	5.6	5.0	6.2	5.8	4.6	3.8	4.7	4.3	6.4	5.8	5.4	5.4	6.5	5.8	7.1	5.5	7.9	6.6
CHILDHOOD CHARACTERISTICS:																		
Two Biological Parent Home at Age 10	88	91	79	85	93	94	89	94	95	93	84	94	97	99	93	92	90	88
Residential Area Type - Childhood Home																		
Rural/ Countryside/Village	46	43	53	65	52	47	42	43	31	33	44	43	51	41	60	54	18	14
Big City	14	16	17	9.1	11	15	12	10	21	14	16	23	22	28	6.4	5.3	17	26
Small or Large Town / Suburbs	40	41	30	26	37	38	46	47	48	52	39	34	27	30	33	40	66	60
Occupation of Main Breadwinner at Age 10																		
Manual Laborer	22	26	17	24	36	45	24	30	20	24	10	12	14	15	31	44	35	33
Clerical / Crafts Maker / Sales	71	66	74	71	54	43	62	56	67	63	83	80	79	80	65	53	61	65
Manager / Professional	7.4	7.8	8.3	4.6	9.6	12	14	14	12	14	6.5	7.4	6.8	4.1	3.5	3.2	4.0	2.3

Table 3 (Cont'd): Percentages and Means Weighted for the Entire Analytic Sample of Women, by Cohort '38-'49 v '50-'59 and Welfare Regime, N=8,363, Survey of Health, Aging, and Retirement in Europe (SHARE) Waves 1-3 2009

			Social Democratic				Liberal		Former Communist			
	TOTAL (8,363)		Denmark (n=706)		Sweden (n=566)		Switzerland (n=382)		Czech R. (n=649)		Poland (n=670)	
	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2	C. 1	C. 2
Mean Age in 2008	64	55	64	54	64	56	64	55	64	55.1	63.9	54.6
MARRIAGE:												
Ever Married btwn the Ages of 17 to 40	94	91	93	82	91	76	89	87	97	98	96	97
Mean Age of First Marriage (Ever Married N=7,916)	22.9	22.9	22.6	24.6	24.1	26.7	24.0	23.9	22.2	22.5	21.7	21.8
EDUCATIONAL CHARACTERISTICS:												
Highest Educational Level Attained												
Completed less than Secondary School	50	33	21	15	37	26	34	26	41	40	53	25
Completed Secondary School	34	45	39	33	30	37	60	65	47	54	42	67
Completed College or Graduate School	16	22	40	52	33	37	5.5	9.3	12	6.7	4.8	7.8
Mean Age Complete Full Time, Formal Ed. (N=8,383)	16.5	17.7	18.9	20.0	20.9	22.6	18.9	18.8	17.9	18.0	16.0	17.7
EMPLOYMENT CHARACTERISTICS:												
Mean Nmbr. Yrs. btwn Ed. Completion & 1st Job (N=7,101)	2.7	1.8	0.4	0.7	0.7	0.6	0.6	1.2	0.4	0.3	4.4	1.9
Worked bf Marr. or Worked & Never Marr. N=6,757:												
Mean Age Start First Job	17.8	18.3	18.1	19.2	18.2	19.2	18.7	19.0	18.0	18.1	17.9	18.9
Working Status & Type of First Job:												
Part Time all Job Types	5.3	6.8	4.8	7.5	6.0	7.3	1.5	5.6	2.1	2.8	4.5	1.1
Full Time Manual Labor / Elementary Job	22	22	33	33	19	16	9.9	6.9	15	12	12	16
Full Time Clerical / Technician / Sales Job	65	63	59	56	64	63	79	81	72	77	76	78
Full Time Professional / Legislative Job	8.1	8.9	2.6	2.9	11	13	10	6.4	12	8.6	7.0	5.4
Mean Nmbr Yrs btwn 1st Job Start & 1st Marr. (N=6,202)	5.6	5.0	4.9	6.2	6.2	8.1	5.3	5.4	4.3	4.5	4.3	3.4
CHILDHOOD CHARACTERISTICS:												
Two Biological Parent Home at Age 10	88	91	89	88	89	86	94	94	90	93	83	90
Residential Area Type - Childhood Home												
Rural/ Countryside/Village	46	43	44	32	25	30	63	60	37	34	72	55
Big City	14	16	20	25	14	12	11	14	24	24	10	15
Small or Large Town / Suburbs	40	41	36	43	60	58	26	25	40	42	18	30
Occupation of Main Breadwinner at Age 10												
Manual Laborer	22	26	21	30	19	18	12	9.1	16	9.2	9.7	13
Clerical / Crafts Maker / Sales	71	66	66	57	64	66	79	83	77	81	87	83
Manager / Professional	7.4	7.8	14	13	17	16	9.1	7.7	7.2	9.8	3.4	4.2

Figure 1: MEM Predicted Probabilities of Marriage by Job Status for Men, Additive Model

Conservative Welfare Regimes



Mediterranean Conservative Welfare Regimes

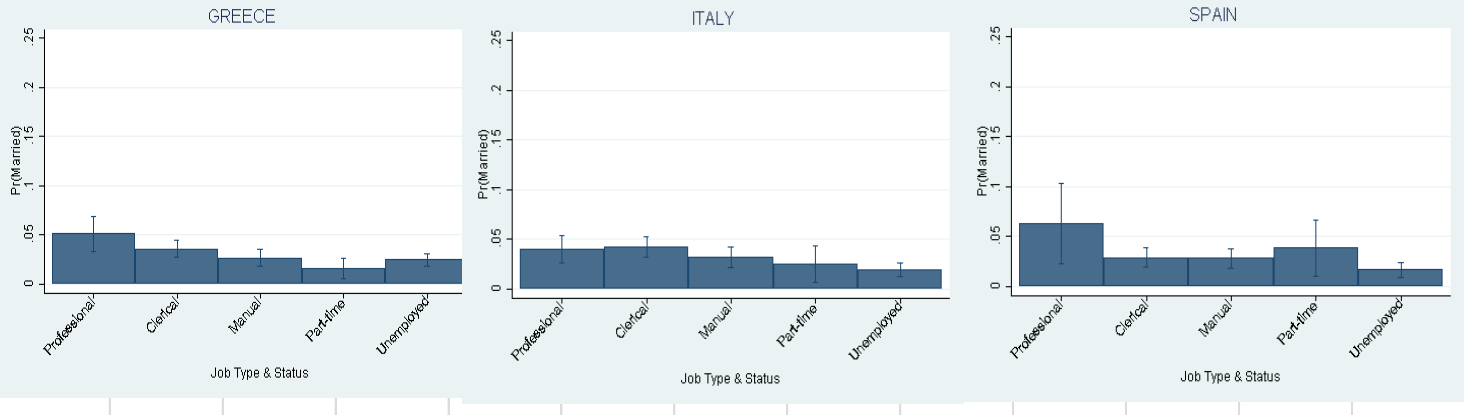
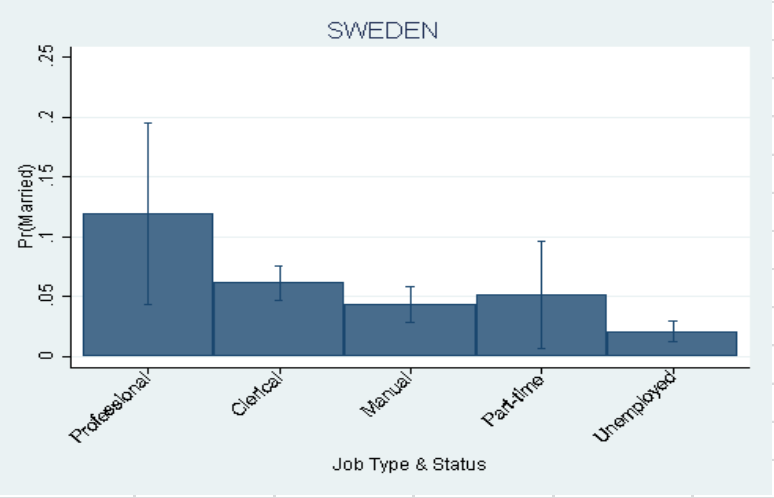
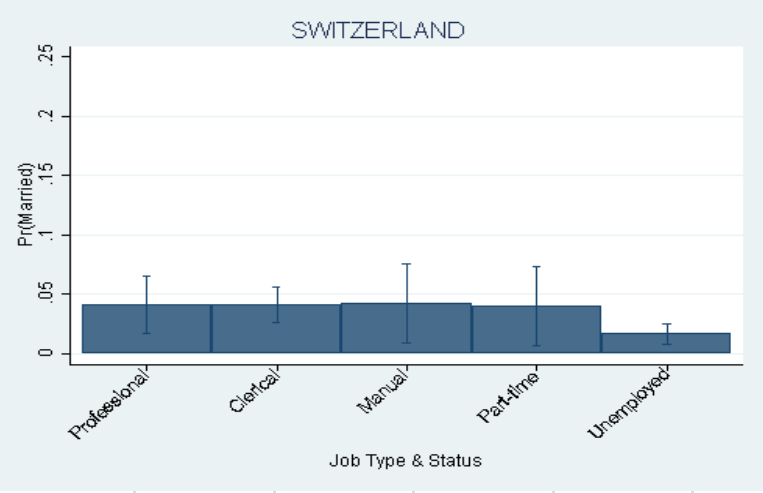


Figure 1 Cont'd: MEM Predicted Probabilities of Marriage by Job Status for Men

Social Democratic Welfare Regimes



Liberal Welfare Regime



Former Communist Welfare Regime

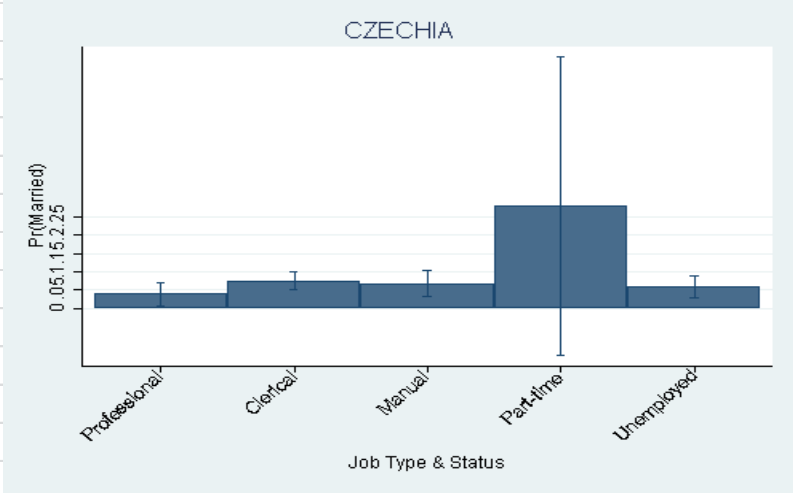
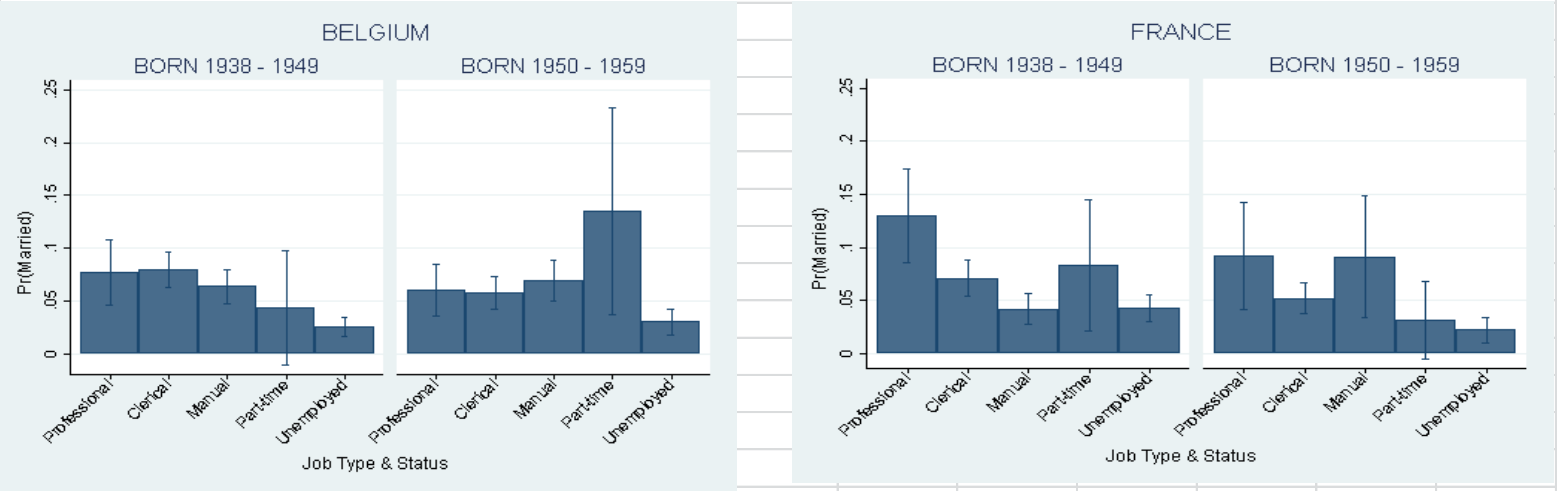


Figure 2: MEM Predicted Probabilities of Marriage by Job Status and Cohort for Men, Full Model

Conservative Welfare Regimes



Former Communist Welfare Regime

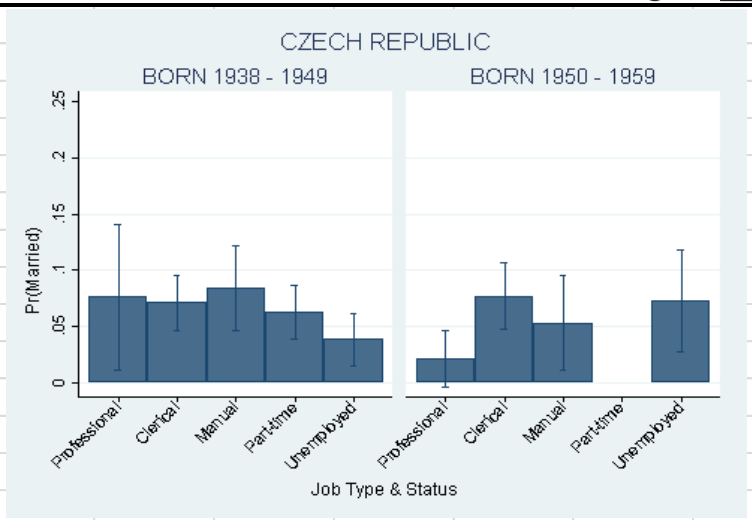
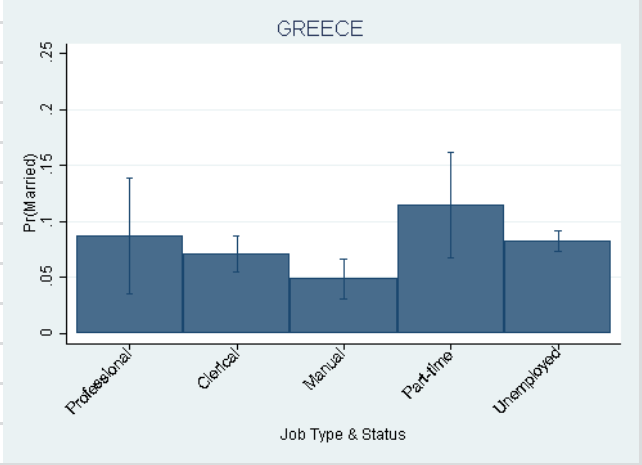
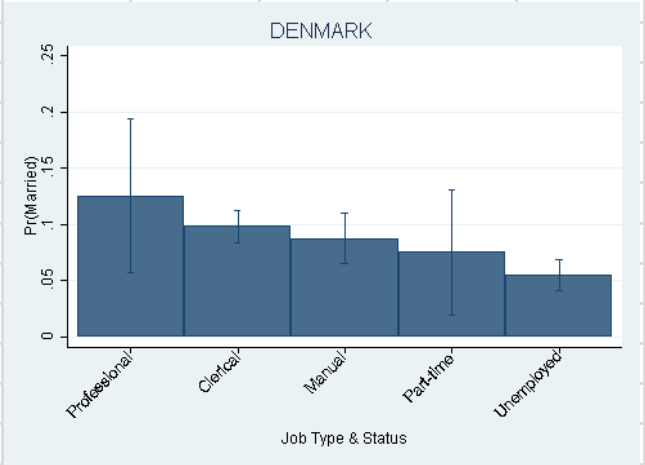


Figure 3: MEM Predicted Probabilities of Marriage by Job Status for Women

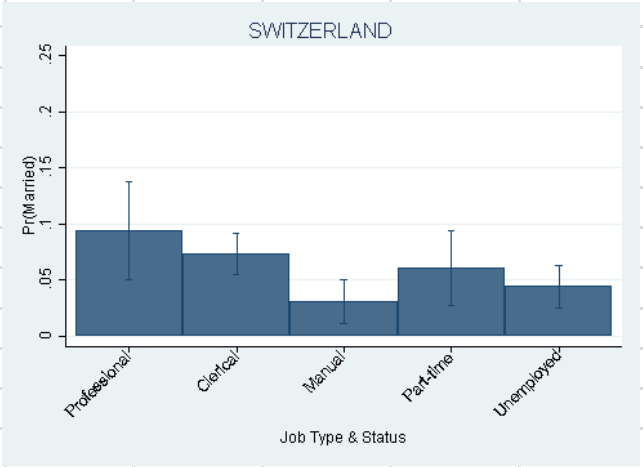
Mediterranean Conservative Welfare Regime



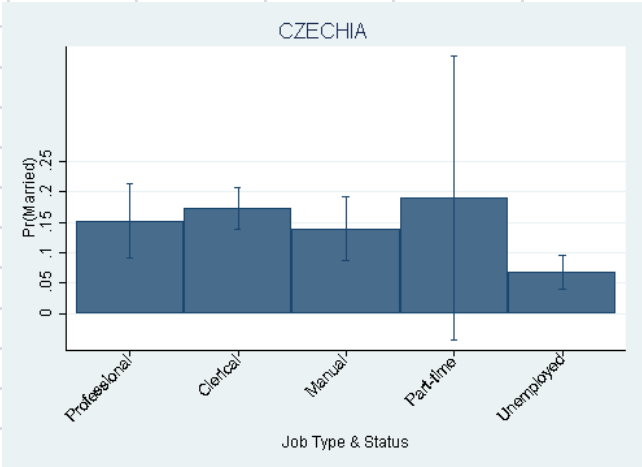
Social Democratic Welfare Regime



Liberal Welfare Regime



Former Communist Welfare Regime



Appendix Table 1: Odds Ratios for Men from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Additive Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Conservative					Mediterranean Conservative		
	Austria	**Belgium**	**France**	**Netherlands**	**W. Germany**	**Greece**	**Italy**	**Spain**
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)								
Unemployed / Not Working Last Yr.	0.344^	0.380***	0.268***	0.260***	0.540	0.468***	0.487**	0.248**
Full-time Clerical Job Last Yr.	0.880	0.990	0.518*	0.730	0.974	0.685*	1.072	0.443*
Full-time Manual Labor / Elementary Job Last Yr.	0.958	0.972	0.565	0.609^	0.524	0.509**	0.788	0.427*
Part-time All Jobs Last Yr.		1.450	0.365*	0.501^	0.736	0.297***	0.622	0.592
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	1.232	0.905	0.903	0.933	0.866	1.530***	0.965	0.740^
ISCED Ed. Level (REF: Level 0 (Middle School or Less))								
ISCED Ed. Level 2 (Vocational or High School)	1.045	1.252*	1.600**	0.779^	1.424	0.734*	0.728*	0.852
ISCED Ed. Level 3 (College or Graduate School)	1.472	1.310*	1.201	1.304^	1.548	0.663*	0.749	0.427*
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.753	0.514**	0.531*	1.305	0.574	0.247***	0.322**	0.529
Age Group (REF: 17-20 Yrs. Old This Yr.)								
Age Group 21-25 Yrs. Old This Yr.	8.709***	9.464***	9.223***	14.708***	8.566***	7.551***	13.186***	17.118***
Age Group 26-30 Yrs. Old This Yr.	8.232***	6.249***	6.523***	15.539***	9.739***	21.994***	34.021***	44.383***
Age Group 31-35 Yrs. Old This Yr.	6.000***	1.949*	2.400**	5.354***	7.224***	22.590***	15.992***	9.253***
Age Group 36-40 Yrs. Old This Yr.	3.920*	1.395	0.932	3.266**	2.274	10.379***	18.220***	2.605*
Childhood Primary Breadwinner Job (REF: Professsional)								
Childhood Primary Breadwinner = Clerical Work	0.905	0.790*	0.927	0.985	1.096	0.986	0.947	1.037
Childhood Primary Breadwinner = Manual Laborer	1.425	0.582**	0.749	0.961	1.655	0.581^	1.891*	1.106
Two Biological Parent Home in Childhood	0.573^	0.904	0.886	0.634	1.328	1.348	1.031	1.216
Residential Area (REF: Living in a Rural Area / Village This Yr.)								
Living in a Big City This Yr.	0.487*	0.990	0.826	0.983	0.646*	2.274***	0.805	1.453
Living in a Town or Suburb This Yr.	0.744	1.233^	1.437	1.212	0.905	2.613***	0.919	1.315
Constant	0.027***	0.031***	0.039***	0.017***	0.014***	0.007***	0.009***	0.011***
Observations	202	715	532	600	335	802	679	475

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 1 (Cont'd): Odds Ratios for Men from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Additive Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Social Democratic		Liberal	Former Communist	
	Denmark	Sweden	Switzerland	Czech Rep.	Poland
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)					
Unemployed / Not Working Last Yr.	0.500*	0.156***	0.394**	1.564	0.700
Full-time Clerical Job Last Yr.	0.855	0.485*	0.992	2.052^	0.982
Full-time Manual Labor / Elementary Job Last Yr.	0.986	0.334**	1.035	1.823	0.881
Part-time All Jobs Last Yr.	0.562	0.405	0.959	9.776*	0.629
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	0.534***	0.978	0.680*	1.044	0.828
ISCED Ed. Level (REF: Level 0 (Middle School or Less))					
ISCED Ed. Level 2 (Vocational or High School)	1.126	0.744	0.950	1.400*	1.087
ISCED Ed. Level 3 (College or Graduate School)	1.254	0.737	0.990	1.693*	1.665*
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.785	1.252	0.844	0.339^	0.446*
Age Group (REF: 17-20 Yrs. Old This Yr.)					
Age Group 21-25 Yrs. Old This Yr.	7.131***	4.423**	22.160***	5.395***	14.708***
Age Group 26-30 Yrs. Old This Yr.	6.664***	3.476*	32.591***	5.368***	18.930***
Age Group 31-35 Yrs. Old This Yr.	2.741***	3.552*	28.190***	2.659*	5.835***
Age Group 36-40 Yrs. Old This Yr.	3.525***	3.104^	14.904***	2.254	1.571
Childhood Primary Breadwinner Job (REF: Professsional)					
Childhood Primary Breadwinner = Clerical Work	0.922	0.981	1.018	0.941	0.875
Childhood Primary Breadwinner = Manual Laborer	1.113	1.117	0.903	1.024	0.603
Two Biological Parent Home in Childhood	0.857	2.043*	1.055	0.916	1.114
Residential Area (REF: Living in a Rural Area / Village This Yr.)					
Living in a Big City This Yr.	1.229	1.037	0.499*	0.614*	0.988
Living in a Town or Suburb This Yr.	1.345*	1.419	0.982	0.816	1.393*
Constant	0.025***	0.043***	0.008***	0.023***	0.014***
Observations	640	437	291	473	489

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 2: Odds Ratios for Men from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Full Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Conservative					Mediterranean Conservative		
	Austria	**Belgium**	**France**	**Netherlands**	**W. Germamy**	**Greece**	**Italy**	**Spain**
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)								
Unemployed / Not Working Last Yr.	0.202^	0.312***	0.302***	0.231***	0.577	0.475**	0.761	0.448^
Full-time Clerical Job Last Yr.	0.896	1.038	0.515**	0.888	1.051	0.749	1.116	0.584
Full-time Manual Labor / Elementary Job Last Yr.	1.189	0.822	0.296***	0.859	0.568	0.504*	0.831	0.568
Part-time All Jobs Last Yr.		0.550	0.611	0.687	0.700	0.564	0.457	1.056
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	1.324	0.774	0.679	1.234	0.961	1.726*	1.075	1.589
Interaction: Job Type & Status Last Yr. X BC '50-'59								
Unemployed Last Yr. X BC '50-'59	2.207	1.557	0.749	1.152	0.912	0.973	0.369*	0.169*
Full-time Clerical Last Yr. X BC '50-'59	0.946	0.914	1.050	0.695	0.889	0.852	0.938	0.477
Full-time Manual. / Elem. Last Yr. X BC '50-'59	0.625	1.405	3.355**	0.492	0.876	1.033	0.935	0.474
Part-time All Jobs X BC '50-'59		4.418^	0.525	0.612		0.351^	1.489	0.326
ISCED Ed. Level (REF: Level 0 (Middle School or Less))								
ISCED Ed. Level 2 (Vocational or High School)	1.046	1.216^	1.591**	0.792	1.426	0.732*	0.733*	0.867
ISCED Ed. Level 3 (College or Graduate School)	1.458	1.306*	1.250	1.310^	1.551	0.672*	0.764	0.429^
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.764	0.498**	0.525**	1.289	0.571^	0.244***	0.329**	0.528
Age Group (REF: 17-20 Yrs. Old This Yr.)								
Age Group 21-25 Yrs. Old This Yr.	8.828***	9.534***	9.114***	14.830***	8.573***	7.544***	13.233***	17.192***
Age Group 26-30 Yrs. Old This Yr.	8.410***	6.366***	6.825***	15.640***	9.736***	22.046***	34.195***	44.824***
Age Group 31-35 Yrs. Old This Yr.	6.206***	2.018*	2.477**	5.360***	7.264***	22.685***	16.040***	9.415***
Age Group 36-40 Yrs. Old This Yr.	4.082*	1.492	0.962	3.262**	2.285	10.539***	18.237***	2.681*
Childhood Primary Breadwinner Job (REF: Professsional)								
Childhood Primary Breadwinner = Clerical Work	0.899	0.780*	0.889	1.006	1.087	0.978	0.948	1.034
Childhood Primary Breadwinner = Manual Laborer	1.477	0.583**	0.738	0.983	1.668	0.574^	1.804*	0.988
Two Biological Parent Home in Childhood	0.578^	0.889	0.882	0.623	1.326	1.378	1.038	1.192
Residential Area (REF: Living in a Rural Area / Village This Yr.)								
Living in a Big City This Yr.	0.476*	0.994	0.794	0.970	0.641^	2.292***	0.807	1.484
Living in a Town or Suburb This Yr.	0.718	1.253^	1.383	1.216	0.906	2.623***	0.925	1.313
Constant	0.026***	0.034***	0.047***	0.014***	0.013***	0.006***	0.008***	0.008***
Observations	202	715	532	600	335	802	679	475

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 2 (Cont'd): Odds Ratios for Men from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Full Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Social Democratic		Liberal	Former Communist	
	Denmark	Sweden	Switzerland	Czech Rep.	Poland
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)					
Unemployed / Not Working Last Yr.	0.809	0.211***	0.515	0.487	0.666
Full-time Clerical Job Last Yr.	1.335	0.566*	0.944	0.927	1.216
Full-time Manual Labor / Elementary Job Last Yr.	1.685	0.305***	1.092	1.114	0.934
Part-time All Jobs Last Yr.	0.962	0.735	0.369	0.809	1.020
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	1.123	1.180	0.645	0.264*	1.145
Interaction: Job Type & Status Last Yr. X BC '50-'59					
Unemployed Last Yr. X BC '50-'59	0.422*	0.535	0.530	7.423**	0.992
Full-time Clerical Last Yr. X BC '50-'59	0.462^	0.744	1.101	4.142*	0.641
Full-time Manual. / Elem. Last Yr. X BC '50-'59	0.394*	1.256	0.666	2.326	0.827
Part-time All Jobs X BC '50-'59	0.404	0.342	3.945		0.381
ISCED Ed. Level (REF: Level 0 (Middle School or Less))					
ISCED Ed. Level 2 (Vocational or High School)	1.119	0.720	0.958	1.370*	1.095
ISCED Ed. Level 3 (College or Graduate School)	1.243	0.716	1.017	1.591^	1.715*
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.789	1.252	0.842	0.327^	0.426*
Age Group (REF: 17-20 Yrs. Old This Yr.)					
Age Group 21-25 Yrs. Old This Yr.	7.204***	4.447***	23.067***	5.341***	14.731***
Age Group 26-30 Yrs. Old This Yr.	6.765***	3.506**	33.337***	5.419***	18.956***
Age Group 31-35 Yrs. Old This Yr.	2.761***	3.592*	29.773***	2.804*	5.867***
Age Group 36-40 Yrs. Old This Yr.	3.544***	3.169*	15.425***	2.355^	1.557
Childhood Primary Breadwinner Job (REF: Professsional)					
Childhood Primary Breadwinner = Clerical Work	0.928	0.971	1.014	0.932	0.872
Childhood Primary Breadwinner = Manual Laborer	1.100	1.124	0.850	1.072	0.618
Two Biological Parent Home in Childhood	0.831	2.046*	1.084	0.904	1.106
Residential Area (REF: Living in a Rural Area / Village This Yr.)					
Living in a Big City This Yr.	1.254	1.045	0.502*	0.635*	0.998
Living in a Town or Suburb This Yr.	1.360*	1.453	1.007	0.794	1.400*
Constant	0.016***	0.039***	0.008***	0.051***	0.012***
Observations	640	437	291	473	489
*** p<0.001, ** p<0.01, * p<0.05					

Appendix Table 3: Odds Ratios for Women from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Additive Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Conservative					Mediterranean Conservative		
	Austria	Belgium	France	Netherlands	W. Germany	Greece	Italy	Spain
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)								
Unemployed / Not Working Last Yr.	1.080	1.000	0.777	0.595*	0.694	0.944	1.007	1.343
Full-time Clerical Job Last Yr.	0.965	0.988	0.806	1.015	1.015	0.803	1.056	1.270
Full-time Manual Labor / Elementary Job Last Yr.	1.094	1.160	1.133	0.873	1.599	0.540	1.159	1.518
Part-time All Jobs Last Yr.	0.136	1.150	0.867	0.898	0.603	1.360	1.408	1.824
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	0.927	1.401***	0.885	0.966	0.841	1.390**	1.288*	1.108
ISCED Ed. Level (REF: Level 0 (Middle School or Less))								
ISCED Ed. Level 2 (Vocational or High School)	1.078	0.992	0.867	0.866	1.282	0.604***	0.785^	0.817
ISCED Ed. Level 3 (College or Graduate School)	1.059	0.628***	0.797	0.751^	1.014	0.582**	0.652	1.520
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.204**	0.241***	0.261***	0.543^	0.523*	0.224***	0.263***	0.119***
Age Group (REF: 17-20 Yrs. Old This Yr.)								
Age Group 21-25 Yrs. Old This Yr.	1.980***	2.705***	2.505***	4.105***	2.603***	2.101***	3.624***	3.756***
Age Group 26-30 Yrs. Old This Yr.	0.846	1.443*	1.104	2.242***	1.849**	2.427***	3.139***	2.943***
Age Group 31-35 Yrs. Old This Yr.	0.677	0.402**	0.256***	0.866	1.460	1.076	1.216	1.013
Age Group 36-40 Yrs. Old This Yr.	0.369^	0.107***	0.189***	0.548	0.279*	0.453*	0.389*	0.383
Childhood Primary Breadwinner Job (REF: Professsional)								
Childhood Primary Breadwinner = Clerical Work	0.999	0.874	0.888	0.902	0.857	1.048	0.959	0.972
Childhood Primary Breadwinner = Manual Laborer	1.124	0.938	1.082	0.847	1.241	0.856	0.450	1.237
Two Biological Parent Home in Childhood	1.185	1.366^	0.934	0.949	1.413	0.745	0.691	1.388
Residential Area (REF: Living in a Rural Area / Village This Yr.)								
Living in a Big City This Yr.	0.600*	1.685**	0.873	0.703^	0.844	2.455***	1.056	1.475
Living in a Town or Suburb This Yr.	0.902	1.347**	0.986	1.219	0.916	2.740***	0.994	1.236
Constant	0.136***	0.120***	0.186***	0.083***	0.111***	0.050***	0.066***	0.034***
Observations	282	852	672	751	411	981	859	582

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 3 (Cont'd): Odds Ratios for Women from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Additive Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Social Democratic		Liberal	Former Communist	
	Denmark	Sweden	Switzerland	Czech Rep.	Poland
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)					
Unemployed / Not Working Last Yr.	0.407*	0.874	0.443*	0.407*	1.325
Full-time Clerical Job Last Yr.	0.759	1.008	0.757	1.166	1.309
Full-time Manual Labor / Elementary Job Last Yr.	0.668	0.854	0.310**	0.904	1.166
Part-time All Jobs Last Yr.	0.567	1.291	0.623	1.307	0.995
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	0.556***	0.476***	1.008	0.993	1.174
ISCED Ed. Level (REF: Level 0 (Middle School or Less))					
ISCED Ed. Level 2 (Vocational or High School)	0.881	1.114	0.796	0.711*	0.915
ISCED Ed. Level 3 (College or Graduate School)	0.884	1.167	0.777	1.177	0.945
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.752	0.536**	0.274***	0.621	0.185***
Age Group (REF: 17-20 Yrs. Old This Yr.)					
Age Group 21-25 Yrs. Old This Yr.	2.653***	3.156***	2.471***	1.245	2.007***
Age Group 26-30 Yrs. Old This Yr.	1.207	2.522***	1.941**	1.385	1.134
Age Group 31-35 Yrs. Old This Yr.	0.869	1.890*	0.771	0.624	0.433**
Age Group 36-40 Yrs. Old This Yr.	0.541*	0.898	0.264**	0.532	0.125***
Childhood Primary Breadwinner Job (REF: Professsional)					
Childhood Primary Breadwinner = Clerical Work	0.861	1.045	0.943	0.963	0.987
Childhood Primary Breadwinner = Manual Laborer	0.650*	1.025	1.114	1.089	0.668
Two Biological Parent Home in Childhood	1.052	0.951	1.615	0.912	1.105
Residential Area (REF: Living in a Rural Area / Village This Yr.)					
Living in a Big City This Yr.	0.634**	0.546*	0.581*	0.962	1.263
Living in a Town or Suburb This Yr.	0.692**	0.714^	1.044	1.471*	1.290^
Constant	0.314**	0.089***	0.150***	0.209***	0.125***
Observations	706	566	382	649	670

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 4: Odds Ratios for Women from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Full Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Conservative					Mediterranean Conservative		
	Austria	Belgium	France	Netherland	W. German	Greece	Italy	Spain
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)								
Unemployed / Not Working Last Yr.	0.719	0.836	0.853	0.519**	0.325**	0.691	0.967	1.358
Full-time Clerical Job Last Yr.	0.987	0.971	0.709	0.878	0.443**	0.612	0.883	1.160
Full-time Manual Labor / Elementary Job Last Yr.	0.841	1.037	1.010	0.687	0.892	0.307*	0.891	1.120
Part-time All Jobs Last Yr.	0.275	1.119	0.943	0.821	0.261*	0.956	1.783	3.283
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	0.741	1.129	0.802	0.749	0.196**	0.870	1.000	0.904
Interaction: Job Type & Status Last Yr. X BC '50-'59								
Unemployed Last Yr. X BC '50-'59	2.688	1.598	0.782	1.290	4.279*	1.611	1.065	0.940
Full-time Clerical Last Yr. X BC '50-'59	0.958	1.072	1.283	1.336	4.770*	1.482	1.456	1.237
Full-time Manual. / Elem. Last Yr. X BC '50-'59	1.738	1.289	1.226	1.630	2.939	2.695	1.899	1.922
Part-time All Jobs X BC '50-'59		1.113	0.850	1.175	4.739^	1.784	0.729	0.400
ISCED Ed. Level (REF: Level 0 (Middle School or Less)								
ISCED Ed. Level 2 (Vocational or High School)	1.039	0.982	0.872	0.845	1.254	0.608***	0.788	0.835
ISCED Ed. Level 3 (College or Graduate School)	1.021	0.628***	0.803	0.758	0.979	0.581**	0.648	1.474
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.165***	0.223***	0.267***	0.539*	0.511*	0.224***	0.276***	0.129***
Age Group (REF: 17-20 Yrs. Old This Yr.)								
Age Group 21-25 Yrs. Old This Yr.	2.008***	2.709***	2.491***	4.072***	2.629***	2.113***	3.705***	3.823***
Age Group 26-30 Yrs. Old This Yr.	0.851	1.458*	1.094	2.252***	1.891**	2.443***	3.248***	3.054***
Age Group 31-35 Yrs. Old This Yr.	0.652	0.404**	0.255***	0.873	1.540	1.086	1.268	1.036
Age Group 36-40 Yrs. Old This Yr.	0.375^	0.106***	0.188***	0.555	0.292*	0.463*	0.404*	0.385
Childhood Primary Breadwinner Job (REF: Professsional)								
Childhood Primary Breadwinner = Clerical Work	1.106	0.875	0.883	0.895	0.804	1.043	0.943	0.970
Childhood Primary Breadwinner = Manual Laborer	1.208	0.938	1.086	0.846	1.306	0.838	0.461^	1.196
Two Biological Parent Home in Childhood	1.149	1.357^	0.919	0.969	1.468	0.747	0.715	1.396
Residential Area (REF: Living in a Rural Area / Village This Yr.)								
Living in a Big City This Yr.	0.600*	1.679**	0.878	0.708^	0.824	2.482***	1.083	1.506
Living in a Town or Suburb This Yr.	0.929	1.344**	0.994	1.225	0.908	2.763***	1.008	1.256
Constant	0.142***	0.132***	0.196***	0.096***	0.258***	0.068***	0.072***	0.036***
Observations	282	852	672	751	411	981	859	582

*** p<0.001, ** p<0.01, * p<0.05

Appendix Table 4 (Cont'd): Odds Ratios for Women from the Event-History Logistic Regression of Transition to First Marriage on Selected Independent Variables, Full Model, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-3, 2009

	Social Democratic		Liberal	Former Communist	
	Denmark	Sweden	Switzerland	Czech Rep.	Poland
Job Type & Status Last Yr. (REF: FT Professional Last Yr.)					
Unemployed / Not Working Last Yr.	0.707	1.356	0.534	0.370*	1.132
Full-time Clerical Job Last Yr.	1.416	1.268	0.929	1.065	1.113
Full-time Manual Labor / Elementary Job Last Yr.	1.071	1.243	0.413^	0.955	0.854
Part-time All Jobs Last Yr.	1.790	1.828*	1.145	1.410	1.107
Birth Cohort 1950-1959 (REF: Birth Cohort 1938 - 1949)	1.541	0.833	1.709	0.862	0.792
Interaction: Job Type & Status Last Yr. X BC '50-'59					
Unemployed Last Yr. X BC '50-'59	0.380^	0.358*	0.595	1.239	1.474
Full-time Clerical Last Yr. X BC '50-'59	0.323*	0.637	0.575	1.213	1.492
Full-time Manual. / Elem. Last Yr. X BC '50-'59	0.450	0.437	0.460	0.925	1.891
Part-time All Jobs X BC '50-'59	0.157*	0.508	0.360	0.266	0.885
ISCED Ed. Level (REF: Level 0 (Middle School or Less)					
ISCED Ed. Level 2 (Vocational or High School)	0.862	1.114	0.799	0.721*	0.906
ISCED Ed. Level 3 (College or Graduate School)	0.852	1.144	0.773	1.163	0.935
Enrolled in School This Yr.(REF: Not Enrolled in School This Yr.)	0.758	0.527**	0.275***	0.621	0.186***
Age Group (REF: 17-20 Yrs. Old This Yr.)					
Age Group 21-25 Yrs. Old This Yr.	2.674***	3.171***	2.472***	1.249	2.014***
Age Group 26-30 Yrs. Old This Yr.	1.235	2.521***	1.957**	1.401	1.145
Age Group 31-35 Yrs. Old This Yr.	0.864	1.913*	0.783	0.633	0.437**
Age Group 36-40 Yrs. Old This Yr.	0.538*	0.917	0.267**	0.533	0.128***
Childhood Primary Breadwinner Job (REF: Professsional)					
Childhood Primary Breadwinner = Clerical Work	0.840	1.025	0.921	0.951	1.000
Childhood Primary Breadwinner = Manual Laborer	0.651*	1.008	1.098	1.084	0.673
Two Biological Parent Home in Childhood	1.029	0.954	1.624	0.901	1.119
Residential Area (REF: Living in a Rural Area / Village This Yr.)					
Living in a Big City This Yr.	0.610***	0.532**	0.582*	0.963	1.269
Living in a Town or Suburb This Yr.	0.682**	0.704^	1.053	1.483*	1.296^
Constant	0.187***	0.070***	0.125***	0.222***	0.144***
Observations	706	566	382	649	670

*** p<0.001, ** p<0.01, * p<0.05

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Chapter 2:

Exploring Change and Variation in the Economic Underpinnings of Non-Marriage for Mid- to Late-20th Century Europe

Abstract

Late 20th Century Europe was characterized by major economic and political transformation paired with growth in women's empowerment. These macro-level changes were matched by declines in the percentages of persons married at younger ages. Hypothesizing that delays in marriage portended higher percentages of people never-marrying, social scientists theorized that the individual-level relationship between economic standing and marriage had been redefined over this time as a result of macro-level change. Due to data limitations, this theory remains largely untested. This investigation explores change in the economic underpinnings of marital inequality towards the end of the 20th Century. For persons born from 1938 to 1970, I estimate logistic regression models stratified by country and sex for the Czech Republic, France, Germany, Poland, and Sweden—countries which vary in gender equality and economic/ political histories. I use the Generations and Gender Survey (GGS) Waves 1- 2 (2008/2013), N=19,934. For each country and sex, I investigate potential change in the relationship between education and the likelihood of ever-marrying by midlife. I find that men with higher education have a marital advantage (i.e., are more likely to ever marry) over less educated men in the majority of countries, regardless of gender equality levels. In contrast, gender equality appears to matter for women and a negative relationship between education and marriage is only observed in countries with low gender equality. Change in the economic underpinnings of ever-marrying is only observed in Germany and Poland—countries that experienced dramatic macro-level change with the end of communism. Change in Poland is characterized by the decline of marital prospects for the least educated men and women. Increased marital inequality for German women is driven by decline in the marital prospects for the best educated—an unexpected finding.

Introduction

Across most of Europe, the 1950s to the 1960s was a period of near universal marriage in which approximately 90% of men and women ever married (Sardon 1993). This period coincided with widespread post-war economic prosperity (Judt 2005). However, starting in the late 1970s, the percentage of individuals who were married at younger ages started to decline (for post-1955 birth cohorts) in Western Europe and the United States, while the age of first marriage increased steadily throughout the remainder of the 20th Century (Van de Kaa 1987; Sardon 1993; Lesthaeghe 1995). Scholars hypothesized that delayed marriage over the 1970s to 1990s might transform into higher percentages of never married persons when compared to prior birth cohorts. In lockstep with these marital changes were increasing rates of unemployment, reductions in real earnings, and recessions, coupled with the decline of communism. Simultaneously, women achieved unprecedented levels of educational attainment and entered the labor force in high numbers. These co-occurring phenomena inspired scholars to theorize that newly emergent economic and normative contexts over the 1970s to 1990s had transformed the individual-level relationship between men's and women's economic standing and their likelihoods of ever marrying. According to these theories, individuals' economic standing became an important factor which distinguished who would ever marry towards the end of the 20th Century and into the 21st Century (Becker 1981; Oppenheimer 1988; 1994)—a concept that hearkens back to deep marital inequality across much of Europe for the 19th and Early 20th Century **(**Hajnal 1965; Dixon 1978; Coontz 2006).

For women, there is wide variation in theories that link macro-level change in gender equality with change in the economic underpinnings of ever-marrying. According to Becker's "specialization and trading" theory (1981), as gender equality increases and sex-role

specialization declines, economically empowered women will be less likely to ever marry in comparison to their less empowered counterparts. This is because there are fewer 'gains to marriage' for economically independent women who no longer need the financial contributions of a bread-winning-specialized husband. Although not explicitly stated, Becker's theory indicates that economically empowered women are also the least likely to marry in a context of gender inequality or sex-role specialization. This is by virtue of their engagement in non-normative behavior (e.g. labor force attachment) in a social context where such behavior is considered incompatible with the marital contract which emphasizes sex-role specialization in work and family. In contrast, Oppenheimer (1988; 1994) theorized that women with the best economic prospects may become the most likely to ever marry as it became more normative for women to work and as men came to value a contributing breadwinner in the home. For men in contexts of gender inequality or where women's work is less normative, theories state that more import should be placed on men's economic standing for marriage due to their sole breadwinner responsibilities (Oppenheimer 1988; Kalmijn 2013). Thus, men with the worst economic prospects should be least likely to ever marry. In contexts of gender equality, extensions of Oppenheimer's theory state that men's economic prospects may be less important for marriage because women are sharing the breadwinning burden (Sweeney 2002; Kalmijn 2013).

Theories which link macro-level economic change with transformations in the economic underpinnings of ever marrying principally focus on men: Dixon's theory of marriage feasibility (1978) stipulates that in contexts of economic depression, men with the poorest economic standing are disproportionately, negatively affected, being the least likely to ever marry. Although principally referring to delayed marriage, Oppenheimer (1994) similarly theorized that marital prospects for men with the poorest economic standing were disproportionately,

negatively affected because their economic prospects declined from the 1970s to 1990s. For women, Oppenheimer (1988; 1994) theorized that as economies become weakened or more competitive, and it is normative for women to work, women with the best economic prospects would also have the best marital prospects because their breadwinning capacities would become prized by potential partners. For men, theory thus dictates that the importance of education for marriage may have strengthened over this time because of the reduced economic prospects of the least educated. For women, the importance of education for marriage may have emerged over this time because the economic prospects of women became important for marriage.

Theories which link welfare regime type to the impact that poor economic environments have on the populace are similar to Dixon's and Oppenheimer's theories (Blossfeld et. al 2005): For men and women, welfare regimes which socialize risk to a greater degree, such as Social Democratic regimes, provide generous unemployment benefits and health benefits (Esping-Andersen 1990, 1999). This provides state-backed social safety nets which are hypothesized to reduce marital inequality or dampen the importance of economic standing for entering marriage. The lack of such a social safety net in less generous regimes, such as Conservative regimes, is hypothesized to exacerbate marital inequality (Mills & Blossfeld 2005).

Despite numerous theories about the changing importance of men's and women's economic standing for ever-marrying, and concerns about the emergence or deepening of marital inequality in the Late 20th Century (for post-1955 birth cohorts), almost no research directly assesses if the relationship between individual economic standing and ever-marrying has in actuality been re-defined over this historical period. Little research directly tests change over time in this relationship. Moreover, the relationship between individual economic standing and

ever marrying for mid-20th Century birth cohorts (born ~1940-1950) is largely unknown. Due to constraints on data availability (e.g. full marital and educational histories for persons ages 40+ and born between 1940 and1970), the bulk of research which contains cohorts in both periods (born ~1940-1955 vs. 1955-1970) focuses on the outcome of marriage timing (Blossfeld et. al. 1995; Huinik and Mayer 1995; Sweeney 2002; Perelli-Harris & Lyons Amos 2016) or never-partnering (Dykstra & Poortman 2010) and only a subset of this research directly tests for change over time. Other research almost exclusively focuses on post-1955 birth cohorts (Oppenheimer et. al. 1997; Blossfeld et. al. 2005; Kalmijn 2011; Kalmijn 2013) with little research conducted on pre-1955 birth cohorts for men. Slightly more research exists for women.

Thus, to a large extent, foundational social-science theories which stipulate that the relationship between men's and women's economic standing and ever-marrying was redefined over the Late 20th Century have not fully been tested. It is unclear if women's economic prospects mattered for marriage before the 1970s and whether it became more important over time. It is similarly unclear whether men with the worst economic prospects were already disadvantaged in marriage earlier in time, and whether this relationship was exacerbated or weakened. Without this information, it is far from clear if dramatic, macro-level change over this time actually had an impact on changing micro-level relationships between economic standing and marriage.

In this investigation, I directly test Oppenheimer's and Becker's theories of marriage to see if the importance of men's and women's economic standing for ever-marrying changed over the 1960s to the 1990s. By comparing countries across Europe which vary in terms of gender equality, the degree to which economic change was experienced, and welfare regime type, I gain

insight into whether observed individual level relationships match macro-level environments hypothesized to produce particular micro-level relationships. I ask the following questions: What are the relationships between economic standing and the likelihood of ever-marrying for European men and women born between 1938 and 1970, and do these relationships align with macro-level characteristics hypothesized to condition them? Did the relationship between economic prospects and ever-marrying change for men and women born in the years 1938-1955 vs. 1956-1970? Were men with the poorest economic standing the least likely to marry in the oldest cohort, and is there evidence that this marriage disadvantage associated with poor economic prospects increased over time? Did the highest educated women pay a marriage penalty before the social and economic changes of the 1970s, and did this marital disadvantage persist, disappear, or reverse over historical time? Lastly, does change in observed relationship between education and marriage align theoretically with country-level change in economic and normative environments over this time?

Why Study the Likelihood of Ever Marrying

Much research on ever-marrying in Europe explores the outcome of marriage in a grouped fashion with cohabitation—i.e. ever partnering (Bygren et. al. 2005; Kieffer et. al. 2005; Liefbroer 2005; Dykstra & Poortman 2010; Bellani et. al 2017). However, differential selection into marriage itself is an important research focus for Europe because extensive and well-documented empirical evidence demonstrates advantages associated with marriage over cohabitation and remaining single (Brown 2000; Brown et al. 2005; Lee & Ono 2012; Marcussen 2005; Soons & Kalmijn 2009). This investigation focuses on marriage as opposed to entering any union because of the advantages enjoyed by individuals who are married vs. those that are not, including cohabiters. Research in Europe and North America concludes that marriage (for

individuals ages 18-80) is not only associated with being significantly happier, less depressed, and less likely to abuse alcohol than being never married, but it is also associated with better mental health than cohabiting. These relationships persist (some only for men) even when controlling for numerous selection and social-context factors (Brown 2000; Brown et al. 2005; Lee & Ono 2012; Marcussen 2005; Soons & Kalmijn 2009; Stavrova et. al. 2011). Controlling for socio-economic status, elderly married Europeans are less likely to be institutionalized or die when compared to the cohabiting elderly (Moustgaard & Martikainen 2009). Moreover, qualitative research finds that cohabiting individuals in some European countries (Bernhardt 2002; Wiik et. al. 2009; Perelli-Harris et. al. 2014) and the United States (Cherlin 2004; Edin & Reed 2005) do tend to value marriage and hope to marry at some point in their lives. At the same time, it is important to acknowledge heterogeneity in the benefits of marriage. Poorer quality relationships are associated with poorer physical and mental health (Wheaton 1990; Bookwala 2005; Umberson et al. 2006). However, in contexts of better relationship quality, the benefits of marriage do remain.

Education as an Indicator of Economic Standing

In the analysis of ever-marrying, there are a number of reasons to focus on educational attainment as an indicator of economic standing. Almost all survival analyses which look at marriage timing and economic standing utilize a combination of indicators: employment status (unemployed, part-time, full-time), earnings, educational enrollment, and educational attainment (often with histories over time). However, for research that explicitly focuses on the occurrence of ever-marrying, i.e. with no concern for its timing, concerns of endogeneity arise and it is best to utilize an indicator that captures economic standing before, or very close to the time at which individuals first become of marital age. By utilizing educational attainment as opposed to

earnings or job type/status, there are far fewer concerns of causation in two directions. This precaution is important: Individuals with early career success and higher earnings may choose to forego marriage (Youm & Paik 2004; Dykstra & Poortman 2010), many years of remaining single for men and women may increase their commitment to careers thus increasing their earnings or job prestige, or, the expectation of getting married may reduce earnings for some women as they prepare for a family and invest less in their careers after school completion, etc. Utilizing educational attainment as a proxy for economic standing minimizes concerns of endogeneity because this characteristic is fixed before an individual enters the marriage market. Reverse causation is rare.

Empirical Research on the Economic Underpinnings of Ever-Marrying

European Macro-Level Contexts from the 1960s to 1990s

Research documents post-World War II economic prosperity in non-Communist countries from 1950 to the early 1970s, followed by economic recessions and soaring unemployment rates from the 1970s to the 1990s (Judt 2005). Despite very limited data, research concludes that from roughly 1950 to 1989, unemployment was generally negligible and economic performance was mostly stable and modest in former-communist countries. However, with the end of Communism in 1989, income suddenly declined and prices increased in a context of hyperinflation for former-communist countries, putting a large share of national populations at risk for poverty (Heyns 2005). By the mid-1990s, unemployment rates had multiplied tenfold compare to pre-1989 in former-communist countries, approaching 10%.

In both former-communist and non-communist countries, women's educational attainment climbed across Europe during the 1970s and 1980s. Female labor force participation rates also rose throughout non-communist European countries, rising from ~50% to ~70% of the female population over this time. In former-communist countries, female labor force participation rates had generally exceeded those observed in the non-communist European world. Moreover, in comparison to men living in former-communist countries, and in comparison to women in non-communist countries, women in former-communist countries were particularly well-positioned economically at the end of communism in 1989: Due to industrial policies under communism which promoted technical and vocational education and industrial jobs for men (Heyns & Bialecki 1993), women in communist countries were disproportionately over-represented in professions that were highly paid in the West and which cultivated work skills which were highly valued in post-communist market economies (Bialecki & Heyns 1993). There is reason to believe that the strength of women's economic standing varied across former-communist countries, but the data are sparse. In contrast, men in former-communist countries were at an economic disadvantage after 1989, largely due to an education and a skill set that was unprepared for market economies which were driven by information and technology. For both men and women in former-communist countries, inequality in employment and health outcomes multiplied after communism (Heyns 2005).

Welfare regimes across Europe were established shortly after World War II. Although national policies have expanded and retracted welfare benefits throughout the 20th Century, these regimes have largely not changed in the degree to which they socialize risk (Baldwin 1990; Esping-Andersen 1990; Mann 2013). Social Democratic regimes, like those found in Scandinavian countries, socialize risk to the highest degree and are considered the most generous

while Conservative regimes, such as those in France and Germany, socialize risk to the lowest extent and are considered far less generous. Liberal regimes, such as those found in the United States and Switzerland, are placed somewhere in the middle of these two extremes (Esping Andersen 1990). Welfare support under communism was universal and in this sense generous, although greater benefits were granted to individuals with higher incomes, actually increasing inequality (Heyns 2005).

Individual Economic Standing and Marriage

The Outcome of Ever-Marrying

Only a small fraction of empirical research explores the relationship between individual economic standing and ever-marrying over the 20th Century. These few studies, and the remaining bulk of research (which focuses on marital trajectories, marriage timing, or never-partnering), broadly divide into investigations which utilize both pre- and post-1955 birth cohorts versus just one of these cohorts. Of studies that utilize both birth cohorts, only one investigates ever-marrying and directly tests change over time: Goldstein and Kenney's (2001) single-country analysis of United States women utilizes population projection methods (e.g. *almost* complete marital histories of persons ages 30-35 for post-1955 birth cohorts) and finds general support for Oppenheimer's theory: highly educated American women gained an advantage in ever marrying over less educated women between pre-1955 and post-1955 birth cohorts. Due to a lack of comparable research exploring change over time for the outcome of ever-marrying in Europe, Oppenheimer's theory of increased marital advantage for economically empowered women is largely un-tested in Europe. No research in Europe or the United States directly tests change over time in the relationship between economic standing and ever-marrying for men.

The remainder of empirical research on the economic underpinnings of ever-marrying in Europe (and the United States) focuses either on pre-1955 birth cohorts for men or post-1955 birth cohorts for men and women. Research on never-marrying for pre-1955 European birth cohorts of men largely focuses on late 19th Century birth cohorts (Dixon 1978). Focusing on Ireland's severe economic environment at the turn of the 20th Century and utilizing comparative historical research methods, Dixon (1978) analyzes the percentage of never-married men by job occupation and concludes that Irish men with the least economically prosperous jobs were more likely to never marry than Irish men with more prosperous jobs; Irish men with the worse economic standing were disproportionately, negatively affected in marriage due to Ireland's severe economy at the turn of the 20th century. Despite unavailability of similar numbers for women, and the fact that only poorer women worked, Dixon (1978) concludes from historical records that women from poor families were similarly, disproportionately affected in never-marrying compared to women from wealthier families. Together, this provides evidence of a positive relationship between economic standing and ever-marrying in Europe for men and women, at a time of severe economic pressure, and well before the dramatic economic and social changes of the late 20th Century—well before Becker's and Oppenheimer's hypotheses.

Limited research on post-1955 birth cohorts of European men and women explores an outcome similar to ever-marrying— "being married" at mid-life (Kalmijn 2013); This outcome excludes persons who may have married but divorced, reflecting a biased estimate of the relationship between economic standing and ever-marrying if individuals with the lowest likelihood of marrying similarly have the highest likelihood of divorcing (e.g. people with the lowest education). Further concerns of selectivity are also introduced by differential rates of remarriage. Withstanding this, in looking at numerous countries in Europe including Czech

Republic, France, Germany, Poland, and Sweden, this research utilizes multi-level modeling to assess gender-equality at the macro level and finds strong empirical support for the hypothesis that educational gradients of marriage for men are positive, but are less strong as gender equality increases across countries. For women, empirical support is found for the hypothesis that gradients are generally negative, but become less negative or non-significant as gender equality increases across countries. Together, these findings provide support across Europe for Oppenheimer's theory that men's economic standing may matter less in contexts of high gender equality. For women, this research provides support for Oppenheimer's theory that women with the best economic standing will have a marital advantage in contexts of high gender-equality and a marital disadvantage in contexts of low gender equality.

Other Marital Outcomes

Other research in Europe and the United States does directly explore change over time in the economic underpinnings of partnership-formation, but utilizes outcomes such as never-partnering,[13] marriage timing, and latent classes of family formation timing trajectories—none of which fully capture the phenomenon of ever-marrying. Using incomplete marital histories and stratifying by cohort within each country (not testing for significant change across cohorts), research looking at timing to family formation trajectories for women in Europe finds for the latent class of 'married and stable': 1) the persistence of negative (Mediterranean countries), positive (United States) and non-significant (Belgium) educational gradients for pre-1955 to post-1955 birth cohorts, 2) negative or non-significant educational gradients for earlier cohorts switch to positive or non-significant gradients for later cohorts in Norway, France, the

[13] The reference category for never-partnering is the combination of non-marital cohabitation and marriage. Given that marriage and cohabitation are distinct phenomena and are defined differently by their participants across Europe (Perelli-Harris et. al. 2014), the outcome of never-partnering is a distinct outcome from never-marrying whose reference group is individuals who historically may have cohabited or may be never partnered.

Netherlands and the United Kingdom, 3) change either began with the post-1955 birth cohorts (Norway) or slightly later with the post-1965 cohorts (France, Netherlands, and United Kingdom), and 4) ANOVAs for each cohort within each country demonstrate that over time, country explains more of the variance across partnership classes than does education level. It is impossible to parse ever-marrying from timing to the trajectory of 'stable marriage' and no direct test of change in the educational underpinnings of marriage is conducted in this research. However, these findings provide empirical evidence of variation in educational gradients of marriage across Europe for women, further evidence of change in some countries, variation in the historical timing of change, and the importance of country-context for dictating change (Perelli-Harris & Lyons Amos 2016). It is unknown, however, if variation in gradients and change over time exists for ever-marrying and what the gradients may look like for men across Europe as well.

Little research explores change over time in the economic underpinnings of marital outcomes for men, and that which does is non-comparative in nature. Research on marriage-timing in the United States does include men and provides some of the only empirical support for Oppenheimer's theory for men: men's educational attainment becomes significant and positive for marrying (sooner) from pre-1955 to post-1955 birth cohorts, while men with higher earnings retain a marital advantage in both cohorts (Sweeney 2002). (Findings for American women (Sweeney 2002) are analogous to those found in other research (e.g. Perelli-Harris & Lyons Amos 2016)).

In contrast, and using different indicators, research in Germany finds that older cohort men (born 1929-1931) with higher job status were less likely to marry (younger) than those with

lower status jobs, yet this sharply reversed for men born between 1939-1941 and 1949-1951; Moreover, no significant relationship is observed for the younger cohort of 1954-1956 / 1959-1961, suggesting variable change in these relationships earlier in the 20th Century for men. Findings for German women are complex and indicate that social class is important: women with a high-status job held a marital timing advantage compared to women with low-status jobs for all cohorts, yet only working women born post-1954 had greater odds of marrying (sooner) than those not working (Huinink and Mayer 1995). However, studies of marriage timing cannot disentangle timing from ever-marrying, and this may be problematic if the characteristics driving delayed marriage also drive ever-marrying (e.g. having high levels of education or strong economic standing) (Kalmijn 2013).

Similarly unclear in its implications for ever-marrying is European research in the Netherlands which includes men and tests for change in the economic underpinnings of never-partnering –e.g. never-cohabiting (within and external to marriage) (Dykstra and Poortman 2010). Results indicate negative educational gradients of ever-partnering for both men and women and no significant change over time for either. Given that never-partnering is a distinct phenomenon from never-marrying, it is unclear what these findings reveal about significant change over time in the economic underpinnings of marriage for men (and women). Thus, empirical research on historical change in the relationship between economic standing and ever-marrying for men largely does not exist, although there is reason to hypothesize that historical change in this relationship may have occurred in some countries.

Much more research incorporates men when exploring the relationship between economic standing and marriage timing for pre-1955 and post-1955 birth cohorts separately.

Although it is unclear if results for marriage timing inform expected findings for ever-marrying, much of this research is done in a comparative fashion and does indicate, broadly speaking, that economic standing is important for marriage for men (and women) in countries across Europe and over time. This research often highlights the congruence of findings with hypotheses regarding welfare regime types and their ability to mitigate or exacerbate the effects of globalization, or economic strain, on the lives of citizens: Similar to findings for the Liberal welfare regime of the United States (Sweeney 2002) and the Conservative regime of Germany (Huinink and Mayer 1995) other research on pre-1960 birth cohorts finds that men with stronger labor-market standing are more likely to marry sooner than men with weaker labor market standing in the Mediterranean Conservative welfare country of Spain (Noguera et.al. 2005). This same, positive relationship is observed for men born post-1960 in the Conservative countries of Italy (Bernardi & Nazio 2005), Spain (Noguera et.al. 2005), and West Germany (Kurz et. al. 2005)—perhaps suggesting little change over the 1970s to 1990s for men in Conservative welfare countries. Unfortunately, research on post-1960 birth cohorts of men and women in Social Democratic countries, such as Sweden, and other Conservative welfare countries focuses on the outcome of timing to first union (marriage or cohabitation) or first cohabitation (Bygren et. al. 2005; Kieffer et. al. 2005; Liefbroer 2005)—a distinct outcome from timing to marriage.

Research on marriage timing for women born pre-1960 finds a negative association between education level and marriage timing in the Conservative countries of France (Leridon & Toulemon 1995) and Italy (Blossfeld 1995). Research on post-1960 birth cohorts of women often utilizes different indicators of economic standing, such as employment status in Conservative Italy (Bernardi & Nazio 2005) or earnings in Social Democratic Sweden and the Liberal regime of the United States (Ono 2003); positive associations with marriage timing are

observed in these select countries which span welfare regime types, yet no significant relationship is observed for women born post-1960 in West Germany (Kurz et. al. 2005). There is thus more empirical evidence that women with the strongest economic standing may have gained an advantage in ever-marrying in some countries across the 20th Century and that this change may be observed across various country contexts.

Observing gradients without directly testing change over time in the relationship between education and marriage means that it is impossible to know the mechanisms of social change—e.g. whether the probability of marrying decreased for the least educated women (perhaps a commentary on the effects of a difficult economy) or whether the probability of marrying increased for the best educated women (perhaps a commentary on the effect of increased gender equality over time). Change in the gradients for men should also be expected in some countries.

Until recently, data limitations did not enable analysis of complete marital and educational histories for persons across Europe born as early as 1938 and as late as 1970. Paired with the tendency for research to only focus on men or women, or pre-1955 versus post-1955 birth cohorts, research thus far has not been able to test if the importance of men's and women's economic standing for ever-marrying has been re-defined towards the end of the 20th Century.

In this analysis, I expand on prior work by using complete marital and educational histories for men and women across Europe to investigate potential change in the relationship between individual economic standing and ever-marrying. I use a classic demographic approach to document social change, comparing the experiences of successive birth cohorts (Ryder 1965). Here I compare the experiences of men and women born from 1938-1955 to those born 1956-1970. I address if men's economic standing became more important for ever-marrying towards

the end of the 20th Century and in particular, if men with the weakest economic standing experienced worsened marital prospects over time. I similarly explore if women's economic standing newly came to matter for ever-marrying towards the end of the 20th Century and in particular, if the best-educated women gained a marital advantage over this time. I additionally address if observed patterns support theories which stipulate that gender equality, economic change, and / or welfare regime type conditioned micro-level relationships over the historical period of major macro-level change from the late 1970s to the mid-1990s. I formulate the following hypotheses:

For men:

1. For both cohorts of men together, the large majority of countries will demonstrate a positive relationship between educational attainment and ever-marrying, with the best educated men being more likely than the least educated men to ever marry. Countries with no significant relationship will be those that are more gender-equal or which have welfare regimes that socialize risk to a higher degree.
2. Men living in countries which experienced dramatic economic, political, or social change will demonstrate significant change over time in the relationship between educational attainment and marriage. Specifically, men with middle and lower levels of education will experience a significant decline in their marital prospects.

For women:

3. For both cohorts of women together, women with the highest educational attainment will have the lowest likelihood of ever-marrying in countries with low gender equality or in welfare regimes in which risk is not socialized. In countries with higher

gender equality or more socialized risk, the relationship may be non-significant or positive.

4. Women living in countries which experienced dramatic economic, political, or social change will demonstrate significant change over time in their economic prospects for marriage. In particular, women with the best education will experience significant improvement in their marital prospects.

Methods

Sample Design

The data for this study come from the Generations and Gender Survey (GGS)— a cross-national, three wave, longitudinal panel study on the relationships between parents and children (generations) and between partners (gender) of over 171,000 individuals. The sample is broadly representative of all non-institutionalized individuals aged 18-79[14] who speak the official country language[15] and live in 19 countries across Europe, and Australia, Japan, and Russia. Wave 1 data was collected at different times in different countries (ranging from 2002 to 2013) and Wave 2 data was also collected at different times for different countries (ranging from 2007 to 2009). Wave 3 is in the field. Data were collected in face-to-face interviews using computer assisted personal interviewing (CAPI). In order to observe change over time in the relationship between educational attainment and ever-marrying for specific European countries, only GGS countries which contain the focal birth cohorts (1938-1970) and which contain detailed marital

[14] Austria's sample is only representative of individuals ages 18-45.
[15] Belgian data are representative of individuals regardless of their spoken language

histories, are analyzed:[16] Belgium, Czech Republic, France, Germany, Poland, Spain, and Sweden. Belgium, Czech Republic, France, Germany, and Poland used stratified random sampling—stage one stratified municipalities by region and stage two involved the selection of households within the municipalities. Once a household was selected by these sampling frames, one respondent within each household was randomly selected using alphabetical ordering of names or ordering of birthdays or a systematic selection key (e.g. a Kish selection grid). Sweden utilized its Register of the Total Population (RTB) to draw a single-stage simple random sample that is proportional to the national population.

Data for this analysis come from Wave 1 and, for countries which conducted Wave 2 (Czech Republic, France, and Germany), the data come from both Wave 1 and Wave 2. Inclusion of Wave 2 is done to increase the sample size as it allows individuals in the younger focal cohort (born 1956-1970) to age into the risk set (i.e. age 43 by Wave 2.) This investigation utilizes Version 4.3 of Wave 1 and Version 1.3 of Wave 2. The initial sample of merged GGS Wave 1-Wave 2 data for this investigation contains 49,746 individuals from Belgium, Czech Republic, France, Germany, Poland, and Sweden. Individual response rates for the baseline samples at Wave 1 range from 70.3% (France) to 42% (Czech Republic).[17] The attrition rates between Wave 1 and Wave 2 are 68.5% for Czech Republic, 35.2% for France, and 67.8% for Germany. Using the Harmonized Histories data, respondents from Spain, totaling 9,737, are appended to the merged Wave 1-Wave 2 GGS data. This results in a total initial sample of 59,483.

[16] Austria's sample does not contain individuals in the focal, older cohort (born before 1955) and complete marital histories are not available for the Netherlands or for Italian men. As per private email communication with GGS, marital histories are available for Italian women but require specialized assistance for their construction. I will include Italian women post-dissertation.

[17] Individual country response rates can be found at http://www.ggp-i.org/data/methodology/data-documentation

Further analytic sample restrictions are made and derivation of the final analytic sample is visually displayed in Figure 1.

Insert Figure 1 about Here

Due to concerns regarding selective mortality by education level, individuals over the age of 70 at the time of data collection, totaling 7,473 persons, are excluded from the analysis. Additionally, in an effort to capture nearly complete first marriage histories, individuals younger than age 43 at the time of interview, totaling 23,127 persons, are also excluded. Taking into account varying years of interview for each country, the analytic sample thus contains individuals born between 1938 and 1970, who are ages 43-70 at the time of interview. Table 1 displays this in greater detail. The analytic sample is further limited to native-born individuals, excluding 1,959 respondents. This is done because employment experience and attitudes and behaviors regarding marriage may be considerably different among foreign born persons compared to native- born Europeans. Excluding respondents with missing data (1,272 individuals), the analytic sample originally consisted of 10,130 men and 15,522 women. Similarly, approximately 23% of Belgian respondents who note a prior partnership are missing on component variables which construct the focal independent variable of having ever-married.[18] As such, Belgium is excluded from the analysis. The final analytic sample includes Czech Republic, France, Germany, Poland, and Sweden and consists of 8,788 men and 11,146 women.

[18] This is confirmed by GGS in private email correspondence; It is not an artifact of differences in country-specific routing for marital history questions.

Insert Table 1 about Here

Individual calibrated cross-sectional weights for Wave 1 (or Wave 2 for participating countries) are utilized to account for problems of unit non-response (and sample attrition). This makes the analytic sample for this investigation representative of the native-born national population of individuals ages 43 to 70 in the year of interview (between 2008 and 2013) (who were born between 1938-1970) and who survive up until the year of interview. In order to adjust for complex sampling design, data for this study are analyzed using SVY commands in STATA with probability weights.

Measures

Ever married by age 43 is a binary variable with categories: 1= "R has ever married before he / she turned age 43" vs. 0 = "R has never married before he/she turned age 43." The year of first marriage, if ever-married, is extracted from respondents' entire partnership histories and is matched to the year in which respondents turned age 43. Persons who married after age 43 are coded as not ever marrying by age 43.

Educational Attainment is a standardized measure across countries based on the International Standard Classification of Education (ISCED). Based on this constructed variable, a three category variable of low, medium, and high educational attainment is constructed following Perelli-Harris et. al. (2010): The first category is 0 = "A low level of education" and includes people from ISCED categories 0-2 (completing less than secondary school or less than approximately 11th grade), 1 = ISCED categories 3-4 which is "mid-level education"

(individuals who completed secondary school or had non-tertiary education beyond secondary school, such as vocational or technical training). The last category is 2 = "the highest education level" and it includes ISCED categories 5-6, (some university or a bachelor's degree or pursued / completed an advanced degree).

Two Biological Parent Home in Childhood is a binary variable in which individuals either lived with two biological parents for most of their childhood, or they did not. It is constructed based on the original variable which asks "Did you live most of your childhood up to the age of 15 with both of your own biological parents?," with response categories 1= "yes" or 0 ="no."

Current Residential Area Type is a binary variable with categories 1 = "urban" vs. 0 = "rural." Urban areas are those in which 50,000 persons or more reside, while rural areas contain less than 50,000 persons.[19]

Methodology

I first look at macro-level descriptive statistics to identify countries with high vs. low gender equality and different degrees of economic weakening over the 1960s to 1990s. For each country, logistic regression models are estimated separately for men and women born between 1938 and 1970. In an effort to capture complete marital histories and due to concerns of selective mortality at older ages, respondents are ages 43-70 at the time of interview. They came of marital age in the 1960s through the 1990s. Data for this study are analyzed using SVY commands in STATA to adjust for complex sampling design. Pooling respondents from the 1938-1955 and 1956-1970 birth cohorts, identical models for men and women in each country test the relationship between educational attainment and marriage by age 43. To test for an

[19] https://www.census.gov/geo/reference/ua/urban-rural-2010.html

overall significant relationship between education and marriage, I conduct an adjusted Wald test of the null hypothesis that all coefficients (for the different categories of education level) are jointly equal to zero. I then estimate full models with an interaction term between educational attainment and birth cohort to test if the relationship between educational attainment and marriage significantly changed over this time period. Separate country and sex analyses highlight whether variation exists in the significance and direction of the changing relationship between education and ever marrying. I again conduct an adjusted Wald test of the null hypothesis that all coefficients for the interaction term are jointly equal to zero.

Next, graphs of predicted probabilities are presented for countries in which the relationship between education and marriage is significant, either in the additive or the full models. The predicted probabilities reflect the probability of ever marrying by age 43. All calculations of predicted probabilities utilize the 'margins' command in STATA, along with survey commands, allowing for generalization to national populations. Results are shown for predicted probabilities calculated using the method of marginal estimation at the means (MEM), which uses mean values on all predictors to estimate predicted probabilities. Results were assessed for sensitivity to estimation procedure by utilizing the less conservative average marginal estimation (AME) technique, which uses observed values on all predictors except for the focal independent variable.[20] I directly test for differences in predicted probability of marriage across educational categories—e.g. I do not rely on overlapping confidence intervals to demonstrate significant differences. With minor exceptions, the results are the same regarding significant differences found in MEM vs. AME estimation. Ninety-five percent confidence

[20] This technique may bias predicted probabilities by giving more weight to more dense portions of distributions for other predictors in the model. This is particularly concerning if these other characteristics / independent variables are unbalanced, or correlated, with the focal independent variable, e.g. education (Williams 2012).

intervals note the upper and lower limits of the predicted probability. Significant differences in predicted probabilities may exist despite the appearance of overlapping confidence intervals. Country-level economic and social characteristics are utilized to formulate hypotheses and help contextualize the results.

Results

Descriptive Statistics

Change in the Macro-Level Normative and Economic Context

The most represented welfare regime type in the sample is that of the Former Communist regime in the Czech Republic, former East Germany, and Poland, followed by the Conservative regime in France and unified Germany, and then the Social Democratic regime of Sweden (Table 2).

Insert Table 2 about Here

France, West Germany, and Sweden demonstrate characteristics of the post-war boom: Sizable growth in GDP (~70%-100%) from 1960 to 1975, coupled with very low unemployment rates during this time (~2%). However, from the late 1970s through the 1990s, the economic challenges of the late 20th Century in non-communist Europe are evident: unemployment grew and then multiplied in these countries after 1990, approaching 10% in France, West Germany,

and Sweden. This was matched by sizable reductions in GDP growth (~30-40%) compared to the earlier period. In contrast, based on available data for the Former Communist countries of Czech Republic, East Germany, and Poland, unemployment rates were negligible before the end of Communism in 1989 (Heyns 2005) and GDP growth was moderate (~50%) and remained so in Germany while plateauing in Poland from 1975-1989. However, post-1989, unemployment rates dramatically rose and approximated 5%-10% in these countries. This was matched by very low amounts of real GDP for this period, save for the newly re-unified Germany. Although female labor force participation rates were very high in Former Communist countries (Heyns 2005) and moderately high in France, West Germany, and Sweden (rising from ~50% to ~70%), it is interesting and important to note the wide variation observed in the Standardized Egalitarian Gender Role Index: In 2004, Poland was the least gender-equal country in the sample (-.98), next followed by France. Czech Republic, West Germany, and Sweden had moderately high levels of gender equality, with Sweden demonstrating the greatest gender equality in the sample (1.55).

Individual-Level Economic and Social Characteristics

Men

Across study countries, the mean age of men at the time of interview is approximately 61 for those born 1938 to 1955 and approximately 48 for men born 1956 to 1970 (Table 3). Sweden contains the lowest percentage of men ever married by age 43 for both cohorts (~77% and 60%, respectively) while Poland contains the highest percentage of men ever married in both cohorts (~91% and 84%, respectively). A decline in the percentage of men ever married by age 43 is noted for all countries: This percentage declined by approximately 10-15 points, or ~15-20%, in the Conservative / Western European countries of Germany and France and the Social

Democratic / Scandinavian country of Sweden. A more modest decline in the percentage ever married by age 43 (~6 percentage points) is noted in both of the Former Communist countries of Czech Republic and Poland.

Insert Table 3 about Here

Across both cohorts, the largest percentages of highly educated men in the sample are observed in the Conservative / Western European country of Germany (~30%), followed by France and the Social Democratic / Scandinavian country of Sweden (~20%); The smallest percentages of men with the highest level of education are found in the Former Communist countries (~13%). No change across cohorts is observed in the percentage of men completing the highest level of educational attainment. However, across the two cohorts, increases in educational attainment for men completing secondary school are noted in all countries except the Czech Republic: The largest increases in mid-level educational attainment (~10 percentage points, or an increase of ~20%) are noted across European regions and welfare regimes for France, Poland, and Sweden. Across both cohorts and across all study countries, ~90% of men were living in a home with both biological parents when they were 15 years old. Across all countries and both cohorts, the majority of men lived in an urban area (as opposed to a rural area) at the time of interview. In both cohorts, Scandinavian / Social Democratic men in Sweden are the most urbanized (~90%), Former Communist men are the least urbanized (~50% in Czech Republic and ~60% in Poland), and Conservative / Western European men in France and

Germany rank in the middle (~70%). No change across cohorts in the percentage of men living in urban areas is observed except for modest declines (~8%) in Germany and Poland.

Women

The mean age of women at the time of interview is approximately 62 for those born 1938 to 1955 and approximately 48 for women born 1956 to 1970 (Table 4). Just as for men, Sweden contains the lowest percentage of women ever married by age 43 for both cohorts (~82% and 67%, respectively) while Poland contains the highest percentage of women ever married in both cohorts (~93% and 91%, respectively). Dissimilar to men, a decline in the percentage of women ever married by age 43 is only observed in two study countries: The Conservative / Western European country of France and the Social Democratic / Scandinavian country of Sweden demonstrate a sizable decline of ~10-15 percentage points, or ~15%.

Insert Table 4 about Here

Across both cohorts, the largest percentages of highly educated women in the sample are observed in the Social Democratic / Scandinavian country of Sweden (~30%) followed by the Conservative / Western European countries of France and Germany (~18-30% across the two cohorts); The smallest percentages of women with the highest level of education are found for both cohorts in the Former Communist countries (~15%). Unlike for men, the percentages of women completing the highest level of educational attainment increased across birth cohorts in all study countries. The most sizable increases are observed for women in the Conservative / Western European countries of France and Germany (~10 percentage points, or ~40-75%). The

percentages of women attaining mid-level education, or completion of secondary school, also sizably increased across the two birth cohorts (~10 percentage points, or ~15%) in both of the Former Communist / Central European countries of Czech Republic and Poland and in the Social Democratic / Scandinavian country of Sweden. Approximately 90% of women across both cohorts and across all study countries were living in a home with both biological parents when they were 15 years old; One exception is oldest cohort German women (~80%). Across all countries and both cohorts, the majority of women live in an urban area (as opposed to a rural area) at the time of interview. Similar to men, in both cohorts, Scandinavian / Social Democratic women in Sweden are the most urbanized (~90%), Former Communist women are the least urbanized (~55-65%), and Conservative / Western European women in France and Germany rank in the middle (~70%). The percentage of women living in urban areas modestly declined across cohorts in Germany and Poland (~5%) and modestly increased in the Czech Republic (~5%).

Regression Results

Men

Education Level and Never-Marrying: The 1960s to 1990s

To answer the question of what are the observed relationships between education and ever-marrying for European men born 1938-1955 and 1956-1970, I test the relationship between education and ever marrying for these pooled cohorts. I test for an overall significant relationship between education and marriage by conducting an adjusted Wald test of the null hypothesis that all coefficients (for the different categories of education level) are jointly equal to zero. If a significant relationship between education and ever-marrying is observed, I then graph predicted

probabilities of ever-marrying across educational groups based on these regression models and directly test for significant differences in predicted probabilities. I utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible education levels. In first looking at these additive regression results (Table 5), my first hypothesis is supported: a marital advantage for better-educated men is observed in over half of the study countries: Broadly speaking, men with higher levels of education have significantly greater odds of ever marrying compared to their less educated counterparts in the Former Communist countries of the Czech Republic and Poland and in Social Democratic / Scandinavian Sweden. No significant relationship between educational attainment and ever marrying is observed for Conservative / Western European men in France and Germany.

Given the positive findings for Sweden, which ranks the highest in gender equality for the sample and whose Social Democratic welfare regime socializes risk to the greatest degree in the sample, and given non-significant findings for France, which has among the lowest gender equality in the sample and whose Conservative regime socializes risk the least in the sample, these findings do not support the second part of my first hypothesis: It does not appear that men's economic standing matters less for ever-marrying in contexts of higher gender equality or in welfare regimes which socialize risk to a higher degree.

Insert Table 5 about Here

Figure 2 presents a closer examination of the predicted probabilities of ever marrying across educational categories for countries with significant additive findings. Findings in former

communist countries are similar to each other: Czech Republic men with a mid-level of education (PP=.83) and Czech men with the highest level of education (PP=.79) have significantly greater predicted probabilities of ever-marrying ($p<.01$ and $p<.05$, respectively) than their least educated counterparts (PP=.60). There is no significant difference in the predicted probabilities of ever-marrying between Czech men who are mid-level and highly educated, suggesting a moderately developed educational gradient of ever-marrying for Czech men. Similar to Czech Republic men, Polish men who are mid-level educated (PP=.90) and highly educated (PP=.91) have significantly greater predicted probabilities of ever-marrying ($p<.001$ for both) than their least educated counterparts (PP=.76). Polish men also present a moderately developed educational gradient of ever-marrying as there is no significant difference in the predicted probabilities of ever marrying between mid-level and highly educated men. Together, these findings suggest that in Former Communist countries it is only the least educated men (as opposed to including mid-level educated men) who are at a marital disadvantage.

Insert Figure 2 about Here

Unlike the observed marital advantage of mid-level educated men compared to the least educated men in Former Communist countries, mid-level educated men in Sweden (PP=.66) do not have a significantly greater predicted probability of ever marrying than their least educated counterparts (PP=.63). Also dissimilar to findings in Former Communist countries, highly educated Swedish men (PP=.77) do have a marital advantage over mid-level educated men ($p<.001$). (The predicted probability of marrying for highly educated Swedish men is also greater

than that of the least educated Swedish men ($p<.001$)). In contrast to findings for Former Communist countries, Swedish men with low and middle levels of education are at a marital disadvantage compared to the most highly educated men in Sweden. This suggests the presence of a slightly more severe educational gradient of ever marrying in this Social Democratic / Scandinavian country.

Change in the Relationship between Education and Ever-Marrying

To answer the question as to whether there has been change over time in the relationship between educational attainment and ever marrying for men across European countries, I tested the interaction between educational attainment and birth cohort (1938-1955 vs. 1956-1970). I again test for an overall significant relationship by conducting an adjusted Wald test of the null hypothesis that all coefficients (for the interaction categories of education level by cohort) are jointly equal to zero. Regression results (Table 4) for the full models show no observed, significant change over time. I conducted sensitivity analyses to assess if change in the relationship between educational attainment and ever marrying may have occurred slightly earlier in historical time or slightly later in historical time. To assess change in an earlier historical period, I tested the interaction between educational attainment and birth cohort with an earlier division between birth years—1938-1949 vs. 1950-1970 (as opposed to the original cohorts of 1938-1955 vs. 1956-1970). This coding of birth cohort groups individuals born as early as 1950 with those born as late as 1970. In the interaction term with education, this coding of birth cohort allows earlier change in educational-marital history patterns (e.g. the early 1970s for those born in the early 1950s) to be captured with what may be continued, later change in patterns up until the 1990s (based on those born in 1970). Results for these regression analyses (not shown) demonstrate no significant change over this earlier time for men.

I similarly tested for significant change in later historical time by dividing birth cohorts as 1938-1959 vs. 1960-1970. This coding of birth cohorts groups individuals born as late as 1960 with those born up until 1970. In the interaction term with education, this coding of birth cohorts allows later change in educational-marriage patterns (e.g. change starting around the 1980s for those born in the 1960s) to be contrasted with earlier educational-marriage patterns which group together the 1970s and 1960s. Regression results (not shown) for all countries except Poland are not significant. This is not surprising given the fact that the size of the later-cut younger cohort (1960-1970) is small (<300) in Czech Republic, France, and Germany. However, positive, significant change over later historical time is observed for Polish men (Table 6)—the younger cohort is sizable (1,013) and model estimation is stable. I again utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible education level pairs. The possible pairs to compare now include tests of significant differences between the same education level but in different cohorts.

Insert Table 6 about Here

Predicted probabilities of later historical change in Polish men's educational gradient of ever-marrying (Figure 2) demonstrate increased marital inequality over time. Given the decline and subsequent fall of Polish communism in the late 1980s, I cautiously conclude that this finding provides support for my second hypothesis: Change in the economic-underpinnings of ever-marrying is observed in countries which experienced dramatic economic and / or political change. It is unclear, however, why no change is observed for men in Germany and the Czech

Republic, both countries which also experienced a major regime change after the end of communism in the late 1980s. Directly testing differences in predicted probabilities within cohorts and across cohorts allows me to answer the questions of whether men with the least education were historically disadvantaged and whether their disadvantage increased over time. The predicted probabilities discussed in greater detail below demonstrate significant decline in marital prospects for the least educated Polish men. This provides support for the second part of my second hypothesis: In countries which experienced dramatic economic or political change, men with lower levels of education experienced a significant decline in their marital prospects over time.

Insert Figure 3 about Here

Comparing the predicted probabilities of ever marrying across educational groups for each cohort reveals that marital inequality has steepened over time in Poland: Mid- level educated (PP=.91) and highest level educated (PP=.93) Polish men in the oldest cohort (1938-1959) have significantly greater predicted probabilities of ever-marrying than their least educated (PP=.84) counterparts ($p<.001$ for both). Mid-level and highly educated men in the oldest cohort do not significantly differ from each other. Similar relationships are observed for the youngest cohort of Polish men: Younger cohort, mid-level educated (PP=.86) and highly educated (PP=.89) Polish men have a martial advantage ($p<.01$ and $p<.001$, respectively) over the least educated men (PP=.60) in the younger cohort. The predicted probability of ever marrying for younger cohort mid-level educated men does not significantly differ from that of the most

educated men in the youngest cohort. However, testing the size of the differences in predicted probabilities for each cohort reveals that marital advantage for both mid-level and highly educated men has increased in Poland over time. The difference in predicted probabilities for mid-level educated men versus least educated men for the older cohort is .06 ($p<.001$), yet the difference is four times greater, or .24 ($p<.001$) between mid-level and least educated men in the younger cohort. Similarly, the difference in predicted probability for the highest educated men versus the least educated men for the older cohort is .09 ($p<.001$), yet the difference is more than twice that, or .26 ($p<.001$), for the younger cohort. These findings indicate that education-based marital inequality has grown for men in Europe towards the end of the 20th Century, and in Poland in particular. These findings demonstrate that mid-level and highly educated men in Poland have gained a sizable advantage in marriage towards the end of the 20th Century.

Moreover, a closer look reveals that this increased advantage in marital prospects for mid-level and highly educated men is actually the result of a sizable decline in marital standing for the least educated Polish men: Compared to their older cohort (1938-1959) educational counterparts, younger cohort (1960-1970), least educated men experienced a sizable decline in their predicted probabilities of ever marrying (PP = .84 vs. .63, or a tested difference in probability of -.22, $p<.001$). To a lesser extent, mid-level educated Polish men also experienced a significant decline in their predicted probabilities of ever marrying (PP=.91 vs. .86, or a tested difference in probability of -.04, $p<.01$). This is some of the first empirical evidence of reduced marriage prospects over historical time for lower and mid-level educated men. It is accompanied by no significant decline in the marital prospects for men with the highest level of education. These findings provide empirical support for my hypothesis that less educated men experienced declines in their marital prospects over historical time. As opposed to men with higher levels of

education increasing their probability of ever-marrying, reductions in marital prospects for less educated men over time appear as a key explanation of growth in marital inequality in Poland.

Women

Education Level and Never-Marrying: The 1960s to 1990s

Regression results for additive and full models for women are presented in Table 6. To answer the question of what are the observed relationships between education and ever-marrying for European women born 1938-1955 and 1956-1970, I test the relationship between education and ever marrying for these pooled cohorts. I test for an overall significant relationship between education and marriage by conducting an adjusted Wald test of the null hypothesis that all coefficients (for the different categories of education level) are jointly equal to zero. If a significant relationship between education and ever-marrying is observed, I then graph predicted probabilities of ever-marrying across educational groups based on these regression models and directly test for significant differences between predicted probabilities. I utilize the 'margins' command to directly test for significant differences in the predicted probabilities between all possible education levels. Additive regression results for women demonstrate support for my third hypothesis: A negative relationship, or a marital disadvantage for the best educated women, is observed in France and in Poland—the countries with the lowest rankings of gender equality in the sample. The remainder of countries have moderate to high levels of gender equality and demonstrate no significant relationship between education and marriage, or no marital disadvantage for women with higher education. Given significant, negative gradients in countries which highly socialize(d) risk (Former-Communist Poland) and in countries which socialize risk to a far lesser degree (Conservative France), as well as non-significant findings in

countries with welfare regimes that widely span socialized risk levels, these findings do not support the hypothesis that welfare regime type influences the relationship between women's economic standing and ever-marrying.

Insert Table 7 about Here

Figure 3 presents the predicted probabilities of ever marrying across educational categories for countries with significant additive findings. Findings in the Conservative / Western European country of France and in the Former Communist country of Poland are similar to each other: French women with a mid-level of education (PP=.85) and French women with the lowest level of education (PP=.86) have significantly greater predicted probabilities of ever-marrying ($p<.01$ and $p<.001$, respectively) than their highest educated counterparts (PP=.78). There is no significant difference in the predicted probabilities of ever-marrying between French women who are mid-level and least educated, suggesting a moderately developed, negative educational gradient of ever-marrying for French women. Similar to French women, Polish women who are mid-level educated (PP=92) and least educated (PP=.93) have significantly greater predicted probabilities of ever-marrying ($p<.001$ for both) than their highest educated counterparts (PP=.87). Polish women also demonstrate a moderately developed, negative educational gradient of ever-marrying as there is no significant difference in the predicted probabilities of ever marrying between mid-level and least educated women. Together, these findings provide some of the first evidence that, spanning European regions and welfare regime types, highly educated European women born in the Mid- to Late-20th Century experienced a

marital disadvantage in countries with low gender equality. Paired with non-significant findings in countries with higher levels of gender-equality, these results provide support for Oppenheimer's theory and contradict Becker's theory. However, the story is more complicated in looking at change over time…

Insert Figure 4 about Here

Change in the Relationship between Education and Ever-Marrying

To answer the question as to whether there has been change over time in the relationship between educational attainment and ever marrying for European women, I tested the interaction between educational attainment and birth cohort (1938-1955 vs. 1956-1970). I again test for an overall significant relationship by conducting an adjusted Wald test of the null hypothesis that all coefficients (for the interaction categories of education level by cohort) are jointly equal to zero. Regression results (Table 6) for the full models show significant change over time, in different ways, for Germany and Poland. No significant change over time is observed in other study countries. Similar to my findings for men, given the decline and end of Communism in both East Germany and Poland over the late 1980s, I cautiously conclude that these results for women provide support for my fourth hypothesis: Change in the economic-underpinnings of ever-marrying for women is observed in countries which experienced dramatic economic and / or political change towards the end of the 20th Century.

Predicted probabilities of historical change in the educational underpinnings of ever-marrying for German and Polish women are presented in Figure 4. I again utilize the 'margins'

command to directly test for significant differences in the predicted probabilities between all possible education level pairs. The possible pairs to compare now include tests of significant differences between the same education level but in different cohorts. Directly testing differences in predicted probabilities within cohorts and across cohorts allows me to answer the questions of whether women with the best education were historically disadvantaged and whether their disadvantage was reduced or erased over time.

Insert Figure 5 about Here

Comparing the predicted probabilities of ever marrying across educational groups for the older and younger birth cohorts reveals that marital inequality for women has steepened over time in Germany and flattened in Poland: There are no significant differences in the predicted probabilities of marrying across educational levels for oldest cohort German women. However, highly educated German women in the younger cohort (PP=.76) have significantly lower predicted probabilities of ever marrying than younger cohort German women with mid-level education (PP=.87) and the least education (PP=.92) ($p<.05$ for both). Together, these results demonstrate that over time, marital inequality across educational attainment levels increased for German women. Over time, highly educated German women newly came to be disadvantaged in comparison to their less educated counterparts. Moreover, in looking for the source of this adjustment to the educational gradient for German women, the difference in predicted probabilities for the most educated German women in the oldest cohort (PP=.89) versus the most educated German women in the younger cohort (PP=.76) is -.13 ($p<.05$). This demonstrates that

the most educated German women experienced a moderately sized, absolute decrease in their marital prospects over this historical time. This finding does not support the second part of my fourth hypothesis: In countries which experienced dramatic economic or political change, it does not appear to be the case that women with the best education experienced improved marital prospects over time. In fact, my findings for German women indicate the opposite. Given the large economic advantage that highly educated East German women experienced compared to their male counterparts after reunification, this finding provides support for Becker's independence hypothesis.

In contrast to findings of strengthened marital inequality over time for German women, results for Polish women demonstrate the persistence yet dampening of marital inequality. A fully-defined, negative educational gradient of ever-marrying is observed for older cohort Polish women: The most highly educated Polish women (PP=.86) have significantly lower ($p<.05$) predicted probabilities of marrying than Polish women with mid-level education (PP=.92), and mid-level educated Polish women have significantly lower ($p<.01$) predicted probabilities of ever-marrying than least educated Polish women (PP=.95). (Highly educated Polish women also have a lower predicted probability of ever marrying than Polish women with the least education, $p<.001$.) In looking at the youngest cohort of Polish women, two features are distinct from the oldest cohort: Women with the least education (PP=.90) no longer have significantly different (or higher) predicted probabilities of ever-marrying than women with mid-level education (PP=92), and women with the least education also no longer have significantly different (higher) predicted probability of ever-marrying than women with the highest education (PP=86). It remains the case that Polish women with the most education (PP=.86) have a significantly lower ($p<.01$) predicted probability of ever-marrying than Polish women with mid-level education (PP=.92).

Thus, a negative educational gradient of ever-marrying persists for Polish women. Together, these results demonstrate that the least educated Polish women lost their marital advantage over historical time, resulting is lesser, although persistent, martial inequality in Poland. These are amongst the first findings to empirically demonstrate change in the educational underpinnings of ever-marrying for women in Europe.

Moreover, in looking for the source of this adjustment to the educational gradient for Polish women, the difference in predicted probabilities for least educated Polish women in the oldest cohort (PP=.95) versus least educated Polish women in the younger cohort (PP=.90) is -.05 ($p<.05$). This demonstrates that, similar to findings for least educated Polish men, least educated Polish women experienced an absolute decrease in their marital prospects over historical time. Unlike my conclusion for German women, these results for Polish women provide support for the second part of my fourth hypothesis, but in an unexpected way: In an absolute sense, Polish women with the best education did not experience improved marital prospects over time—their predicted probabilities of marrying are the same across cohorts. However, in a relative sense, their marital disadvantage compared to the least educated women disappeared. This is because Polish women with the least education experienced a significant decline in their marital prospects towards the end of the 20th Century.

Overall, findings for men and women in Poland indicate that change in marital inequality across educational attainment levels was initially driven by declining marital prospects for the least educated towards the end of the 20th Century. This is some of the first empirical evidence to not only show this for men, but to also demonstrate that this was the case for women as well. This reduced standing for the least educated resulted in a strengthened gradient, or increased

marital inequality for Polish men and a flattened gradient, or decreased marital inequality for Polish women, providing support for Oppenheimer's theory for men and complicating Oppenheimer's theory for women.

I conducted sensitivity analyses to assess if change in the relationship between educational attainment and ever marrying for women may have occurred earlier in historical time or later. To assess change in an earlier historical period, I tested the interaction between educational attainment and birth cohort with an earlier division between birth years—1938-1949 vs. 1950-1970 (as opposed to the original cohorts of 1938-1955 vs. 1956-1970). Results (not shown) indicate no significant change over time for any country with this earlier distinction in birth cohorts.

I similarly tested for significant change in later historical time by dividing birth cohorts as 1938-1959 vs. 1960-1970 (as opposed to the original cohorts of 1938-1955 vs. 1956-1970). The large majority of countries again demonstrate no significant change over time. Similar to men, even if significant change did occur later in historical time, there is little power to detect it due to the small size (<400) of the later-cut younger cohort (1960-1970) in Czech Republic, France, and Germany. The lack of significant findings for Swedish women in all tested historical periods, paired with its sizable sample size for all cohort codings (~800 to 1000 observations in each cohort) and null findings in its additive model, strongly suggests that Swedish women born 1938-1970 lack an educational gradient of marriage, despite its highest ranking of gender equality in the sample. Regression results and predicted probabilities using the later-cut birth cohorts of 1938-1959 vs. 1960-1970 for Poland (not shown) are nearly identical to results observed for the birth cohorts of 1938-1955 vs. 1956-1970. Given the null findings for Polish

women for the earlier-cut birth cohorts of 1938-1949 vs. 1950-1970, these findings together suggest that change over time in the educational underpinnings of marriage for Polish women did occur as early as the late 1970s (when women born 1956-1959 came of marital age) and that this change was sustained into the late 1980s (when women born 1960 and onward came of marital age).

Regression results and predicted probabilities of the later-cut birth cohorts are not significant for German women. This may suggest that change over time in Germany is tightly located in the late 1970s (based on cohort division of 1938-1955 vs. 1956-1970). However, it is much more likely that these non-significant results are due to small sample size for the later-cut younger cohort of 1960-1970 (<300, versus 450 for the original younger cohort).

Table 8 provides a summary of all findings for men and women.

Insert Table 8 about Here

Discussion

In this investigation I present educational gradients of ever-marrying for men and women born between 1938 and 1970 in a variety of European countries. In the majority of countries, representing a variety of levels of gender equality and welfare regime types, I observe a positive relationship between education and marriage for men. These findings provide little support for Oppenheimer's theory and my hypothesis that men's economic standing will matter less for marriage (or will not matter at all) in contexts of high gender equality. In contrast, I find support

for Oppenheimer's theory and my hypothesis that highly educated women will be less likely to ever marry than less educated women in contexts of low gender equality, or that highly educated women will not experience a marital disadvantage in contexts of higher gender equality. My results do not indicate that welfare regime type is an important, conditioning factor for the economic underpinnings of ever-marrying for men or women.

In response to a direct call for research to investigate historical trends in the relationship between economic standing and ever-marrying in Europe (Kalmijn 2013), I directly test if the economic underpinnings of ever-marrying have changed for European men and women over the late 20th Century. Change is observed for men and women and only in countries which experienced dramatic political and economic change—namely the Former Communist countries of Poland and (East) Germany. Although no change is observed in the majority of study countries, these findings provide support for Oppenheimer's theory that change in the relationship between economic standing and ever-marrying is driven by dramatic, macro-level economic and social change. Moreover, these results are consistent with research which finds large increases in inequality for a number of outcomes in former communist countries from the 1990s to 2000s (Heyns 2005). Results for Poland demonstrate that changes in the educational gradients of ever-marrying for men and women were driven by the significant decline of marital prospects for the least educated. This finding provides support for Oppenheimer's theory that marital prospects for men with the least education are disproportionately, negatively affected in periods of major economic change. No matching theory or hypothesis is posited for how the marital prospects of least-educated women are affected during periods of dramatic economic change, yet this investigation finds evidence that least educated women are similarly, disproportionately and negatively affected.

Due to the reduced marital prospects for the least educated Polish men, marital inequality increased over time for Polish men. However, marital inequality decreased for Polish women because least-educated Polish women lost their relative, marital advantage over higher educated Polish women. In this unexpected sense, this finding provides support for Oppenheimer's theory and my hypothesis that women with the best education will experience improved marital prospects as economic instability ensues. In such circumstances, men may desire a companion breadwinner, or at a minimum, may avoid marrying women who will be financially dependent. In contrast to improved marital prospects for the best educated Polish women, or reduced prospects for least educated Polish women, I find that highly educated German women experienced reduced marital prospects over time—driving increased marital inequality for German women. This finding is unanticipated by this investigation.

Examination of the mechanisms that drove this behavior for highly educated German women is beyond the purview of this investigation. Although it is unclear why findings for Former-Communist German women differ from those of Former-Communist Polish women, the distinction may lie in large, observed differences in gender equality in the two countries (Kalmijn 2013). Given Germany's relatively high ranking in gender equality, the particularly strong economic position of former-communist women (Heyns 2005), and given the many economic and political complications anticipated by young Germans preparing for or experiencing re-unification, findings for German women may provide support for Becker's independence hypothesis: Highly educated German women, who could financially support themselves, may have chosen to forego marriage in a time of enormous uncertainty. However, this conclusion merits explanation: Given the inability to distinguish between East and West Germany in the GGS data, it is plausible that this observed relationship was driven by East

German women in a context with limited partners of equal economic standing amongst East German men post-1989 (Heyns 2005). So, instead of electing to remain single due to strong economic positions alone, these women may have remained single because of a dearth of equally contributing, attractive financial partners (from East Germany).

The large majority of countries in this investigation do not demonstrate significant change over time in the economic underpinnings of ever-marrying, despite major economic and social change that they experienced from the 1970s to 1990s. Research which directly tests change over time in the economic underpinnings of European marriage *timing,* and which uses incomplete marital histories for women as young as age 15, *does* find change in the direction and significance of gradients for cohorts spanning 1945-1974 in many European countries (Perelli-Harris & Lyons Amos 2016). For example, the emergence of a positive educational gradient of marriage timing for French women in this prior research is not matched by my null findings for significant change over time in the relationship between education and ever-marrying for French women. This may suggest that while marriage timing is more sensitive to changing economic and social environments, the lifetime decision to ever (never) marry may only be sensitive to highly intense economic and social change—such as regime decline and transformation characteristic of the end of Communism in Europe. However, using incomplete marital histories, projections of ever-marrying by educational group for women in the United States demonstrate significant change from pre-1955 to post-1955 birth cohorts (Goldstein & Kenney 2001). Social and economic change over this time in the United States was not as severe as that observed in Former Communist countries. This may suggest that macro-level characteristics of the United States, not observed in these data for Europe, importantly condition the relationship between

economic standing and ever-marrying. It is also possible that change in Europe occurred later in historical time and that it could not be captured in these data.

Therefore, to improve the comparability of research, to more completely assess the role of changing macro-level contexts, and to capture if change may have happened later in historical time for Europe, future research on change in the economic underpinnings of ever-marrying should have the following goals: 1) To utilize data which contains complete marital histories, 2) To include as many countries as possible, especially the United States and Switzerland, another Liberal welfare regime, 3) To include later birth cohorts as they turn approximately age 45, 4) To investigate possibilities of creating a time-varying gender equality index which dates back to the 1960s, and 5) To directly test the conditioning role of select country-level characteristics as they changed over time. Moreover, individuals who do not marry may still elect to partner through non-marital cohabitation. Future research should also consider if the relationships observed between education and ever-marrying pertain to the outcome of ever-partnering. This will help clarify if there is truly something distinct about marriage and if the inequality observed is unique to this institution. Lastly, it is important to acknowledge that the relationship between education and economic returns to education may have changed over time. Therefore, future research should consider other measures of economic standing when assessing change in the economic underpinnings of ever-marrying.

Limitations

This study has limitations. Due to large percentages of missing data in Belgium and Spain, as well as no observations for the oldest cohort in Austria and incomplete marital histories for those in the Netherlands, these countries needed to be excluded from the analysis. Neither

Mediterranean Conservative countries, which tend to have low levels of gender equality, nor Liberal welfare regime countries (such as the United States and Switzerland), which have moderate to high levels of gender equality, are included in the analysis. Prior research suggests that educational gradients of ever-marrying should be strong and negative for women in Mediterranean countries whereas they should be positive in the United States. The smaller amount of country-level variation contained by the smaller number of countries herein analyzed reduces the comparative breadth of the analysis and the capacity to contextualize findings with macro-level hypotheses. Moreover, the limited number of countries herein analyzed does not permit multi-level modeling—a useful tool which can directly test if the degree of gender equality predicts "greater" or lesser" marital inequality. Utilizing single-level, single-country models in this analysis, the direction and significance of gradients can only indicate if gender equality appears important in absolute, less fine terms.

Prior research also suggests that childhood / parental socioeconomic status may have a significant and important relationship with ever-marrying (Dixon 1978). Inclusion of parents' socioeconomic status would have served as an ideal control in the regression analysis. Unfortunately, GGS variables which capture childhood socioeconomic status have errors and are not advised to be used in analyses.[21] Gender equality is a central component to hypotheses about change in the economic underpinnings of marriage across the 20th Century. Unfortunately, the Gender Equality Index used in this study, and similar indices used in other studies, are based on gender attitudinal data collected in the 2000s—not capturing historical gender equality. Although it is not clear if relative country rankings of gender equality have historically changed

[21] This is confirmed in private email correspondence with GGS. When selecting father's (and in some cases mother's) educational attainment or occupation when respondents were age 15, the routing confused interviewers and respondents; it was unclear how respondents should answer if they lived with only one parent, more than just parents, or no parents.

over time in Europe, the measure is a contemporary measure and it is used herein to contextualize contemporary and historical findings. Thus, it may truly only speak to contemporary gender equality rankings.

Perhaps the greatest limitation of this investigation is that GGS does not provide information on whether respondents were born in East or West Germany (prior to 1989). Given the various social and economic differences between former-communist East Germany and democratic West Germany, findings for Germany likely reflect two distinct patterns or relationships between economic standing and ever-marrying. It is unclear how the relationships between economic standing and ever-marrying for East and West Germany may have both changed upon the re-unification of Germany. Lastly, in an effort to analyze complete marital histories, information on younger cohorts (born later than 1970) could not be included. Given prior findings for marriage timing, there is reason to believe that positive gradients for women emerged later in time, yet they could not be captured within this analysis.

Given the numerous health and social benefits associated with marriage, even compared to cohabitation in Europe, and evidence that negative outcomes associated with non-marriage may be more critical as persons age (Moustgaard & Martikainen 2009), historical and contemporary marital inequality is an important research topic. In this investigation I provide some of the first empirical support for foundational social science theories which hypothesize change in the economic underpinnings of ever-marrying towards the end of the 20th Century. I only observe change in Germany and Poland, Former Communist countries which experienced the most dramatic forms of economic and political transformation during this time. In Poland, my findings empirically support and add to Oppenheimer's theory that persons with the weakest

economic standing are disproportionately, negatively affected in their marital prospects in a context of major economic change. Findings for Poland similarly support Oppenheimer's theory that economic inequality increases for men during periods of negative economic change, while findings for women suggest only relative improvement in the marital prospects of the best educated. In contrast, my findings for women in gender-equal Germany indicate support for Becker's independence hypothesis. In looking at pooled results for both cohorts, I find support for the theory that better educated women experience a marital penalty in contexts of low gender equality, while no penalty is observed for highly educated women in more gender-equal contexts. In contrast, higher educated men have a marital advantage in the majority of countries, not providing support for the theory that men's economic standing matters less (or does not matter) in contexts of high gender equality. No support is provided for theories that welfare regime type importantly conditions these relationships.

Figure 1: Sample Attrition, Subpopulation Selection, and Missing for Final Sample Size, Generations and Gender Waves 1-2, 2007-2013 and Harmonized Histories (Spanish Fertility Survey) Wave 1, 2006

	Total	Belgium	Czech R.	France	Germany	Poland	Spain	Sweden
Wave 1 N	66,940	7,163	10,006	10,079	10,017	19,987	0	9,688
Attrition from W1 to W2	-17,194	N/A	-6,857	-3,546	-6,791	N/A	0	N/A
W1 Respondents Appended from Harmonized Histories	+9,737	0	0	0	0	0	+9,737	0
⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇
Initial Sample (W1 Only or W1 & W2)	59,483	7,163	3,149	6,533	3,226	19,987	9,737	9,688
Sample Restrictions	⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇
Excluding Persons >70 Yrs Old at Time of Interview	-7,473	-696	-349	-832	-430	-2,412	-1,823	-931
Excluding Persons <43 Yrs Old at Time of Interview	-23,127	-2,851	-1,199	-2,389	-854	-7,554	-4,391	-3,889
⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇
Excluding Non-Natives (ages 43-70)	-1,959	-459	-63	-373	-146	-233	-150	-535
⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇
Initial Analytic Sample	26,924	3,157	1,538	2,939	1,796	9,788	3,373	4,333
Excluding R w Missing Data	-1,272	-398	-38	-72	-61	-129	-414	-160
Excluding Countries w/ Too Many Missing	-5,718	-2,759	0	0	0	0	-2,959	0
⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇	⬇
Final Analytic Sample	**19,934**	**0**	**1,500**	**2,867**	**1,735**	**9,659**	**0**	**4,173**

Table 1: Interview Year, Birth Cohorts, and Age at Time of Interview for Analytic Sample, Generations and Gender Survey, 2008-2013									
	Czech Republic (W2)		France (W2)	Germany (W2)		Poland (W1)		Sweden (W1)	
Year of Interview	2008	2009	2008	2008	2009	2010	2011	2012	2013
Birth Cohorts in Analytic Sample	1938-1965	1939-1966	1938-1965	1938-1965	1939-1966	1940-1967	1941-1968	1942-1969	1943-1970
Age at Time of Interview in Analytic Sample	43-70	43-70	43-70	43-70	43-70	43-70	43-70	43-70	43-70

Table 2: Country-Level Economic and Social Characteristics by Welfare Regime Type, 1960 - 1995, Comparative Family Policy Database Version 3 (2010) and Quality of Government Dataset (2010)

Welfare Regime	Country	Real GDP per Capita in 2000 US Dollars[1]				Unemployment Rate				Female Labor Force Participation Rate[2]				Gender Equality[3]
		1960	1960-1975 % Growth	1975-1989 % Growth	1995	1960	1960-1975 % Growth	1975-1989 % Growth	1995	1960	1960-1975 % Growth	1975-1989 % Growth	1995	2004
Conservative	France	~$5.5	~100%	~40%	~$20.0	~2%	50%	100%	~10%	~45%	~10%	~10%	~60%	-0.01
	W. Germany[4]	~$5.5	~100%	~40%	~$20.0	~1%	~0%	150%	~10%	~50%	~0%	~0%	~60%	0.24
Social Democratic	Sweden	~$10.0	~70%	~30%	~$20.0	~2%	~0%	~0%	~10%	~55%	~25%	~20%	~75%	1.55
Former Communist	Czech R.	N/A	N/A	N/A	~$12.5	~0%	~0%	~0%	~5%[5]	N/A	N/A	N/A	~60%[6]	0.18
	E. Germany[4]	~$6.5	~40%	~75%	~$20.0	~0%	~0%	~0%	~10%	N/A	N/A	N/A	~60%	0.24
	Poland	~$4.0	~50%	~0%	~$7.0	~0%	~0%	~0%	~10%[5]	N/A	N/A	N/A	~60%[6]	-0.98

1. In thousands of dollars.

2. Percentage of working women out of the female population ages 15-64

3. Egalitarian Gender Role Index Standardized, 3 items: Female Labor Force Participation, Division of Household Labor, Attitudes towards Gender Equality; Kalmijn (2013), European Social Survey (2004), European Values Study, World Values Study (2005-2009).

4. Measures for Germany in 1995 and 2004 reflect measures for re-unified Germany

5. International Monetary Fund, World Economic Outlook Database, April 2015, via Index Mundi: https://www.indexmundi.com/

6. OECD: https://stats.oecd.org/Index.aspx?DataSetCode=LFS_D#

Table 3: Percentages and Means Weighted for the Entire Analytic Sample of Men, by Birth Cohort '38-'55 v '56-'70 and Welfare Regime, N=8,788, Generations and Gender Survey Waves 1-2, 2008-2013

			Former Communist				Former Communist / Conservative		Conservative		Social Democratic	
	TOTAL (8,788)		Czech Republic (n=667)		Poland (n=4,063)		Germany (n=779)		France (n=1,238)		Sweden (n=2,041)	
	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70
Mean Age at Time of Interview [1]	61.63	47.66	61.34	47.82	61.27	47.88	61.38	47.09	60.94	46.84	63.66	48.81
MARRIAGE:												
Ever Married by Age 43	85.92	75.73	80.60	73.92	90.99	84.23	86.06	76.49	88.51	71.10	76.84	60.29
EDUCATIONAL CHARACTERISTICS:												
Highest Educational Level Attained												
Completed Less than Secondary School (ISCED 0-2)	22.47	12.58	15.87	13.29	19.37	10.06	8.02	4.96	35.46	24.12	28.14	14.5
Completed Secondary School (ISCED 3-4)	59.91	69.67	73.70	74.2	66.09	76.39	61.88	66.34	45.19	53.39	51.10	63.78
Completed Some College or More (ISCED 5-6)	17.62	17.75	10.43	12.5	14.54	13.54	30.10	28.7	19.36	22.48	20.75	21.72
CHILDHOOD & CURRENT CHARACTERISTICS:												
Two Biological Parent Home at Age 15	90.24	91.43	90.01	89.88	91.13	93.14	87.25	88.78	88.72	90.49	91.15	89.57
Current Residential Area Type Is Urban (v Rural)	70.16	67.88	48.48	51.66	64.97	57.91	74.45	67.44	69.31	70.9	91.03	91.34

1. Czech Republic, Wave 2, 2008; Poland, Wave 1, 2010-2011; Germany, Wave 2, 2008-2009; France, Wave 2, 2008; Sweden, Wave 1, 2012-2013

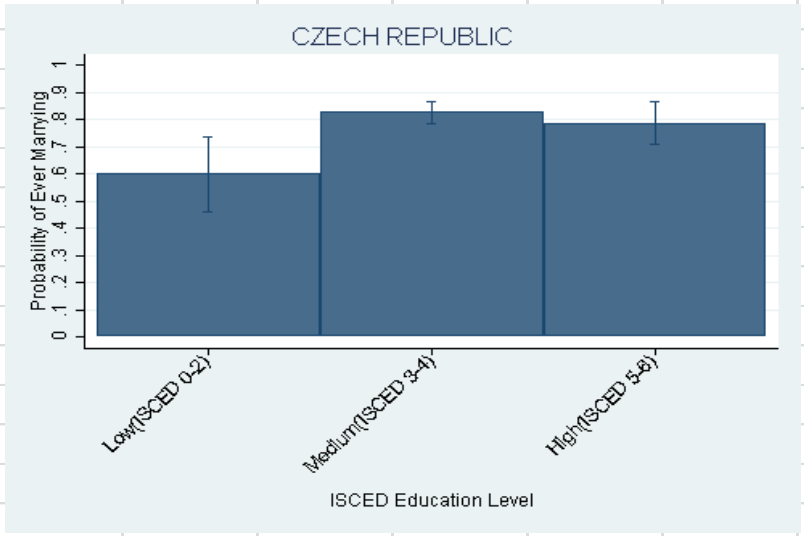
Table 4: Percentages and Means Weighted for the Entire Analytic Sample of Women, by Birth Cohort '38-'55 v '56-'70 and Welfare Regime, N=11,146, Generations and Gender Survey Waves 1-2, 2008-2013

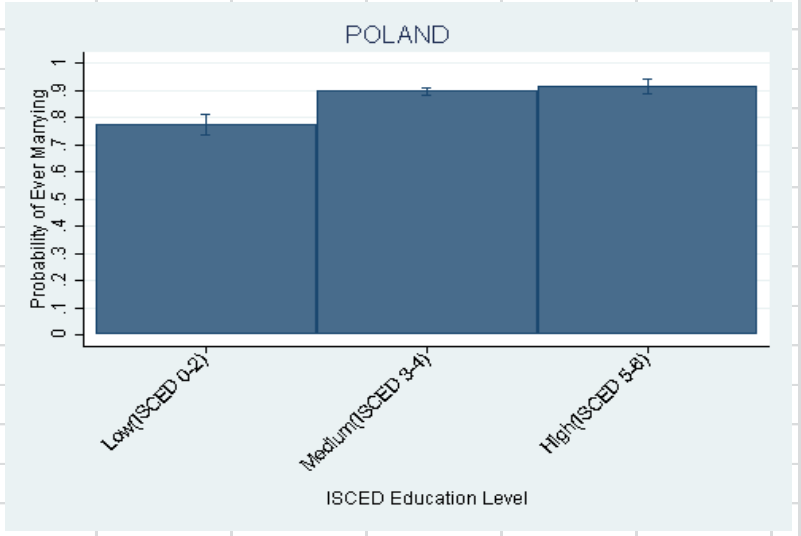
			Former Communist				Former Communist / Conservative		Conservative		Social Democratic	
	TOTAL (11,146)		Czech Republic (n=833)		Poland (n=5,596)		Germany (n=956)		France (n=1,629)		Sweden (n=2,132)	
	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70	'38-'55	'56-'70
Mean Age at Time of Interview[1]	61.72	47.84	61.46	47.49	61.64	48.20	61.28	47.03	60.93	47.36	63.81	48.72
MARRIAGE:												
Ever Married by Age 43	88.62	82.87	87.13	88.11	92.53	90.85	85.29	85.28	87.57	77.19	82.38	66.66
EDUCATIONAL CHARACTERISTICS:												
Highest Educational Level Attained												
Completed Less than Secondary School (ISCED 0-2)	28.78	13.43	32.03	21.56	27.14	11.13	18.33	9.61	42.51	27.89	23.05	7.88
Completed Secondary School (ISCED 3-4)	55.52	63.57	60.63	68.15	60.69	70.9	63.72	65.73	40.03	42.57	48.88	58.74
Completed Some College or More (ISCED 5-6)	15.7	23.00	7.34	10.3	12.17	17.96	17.95	24.65	17.45	29.54	28.07	33.37
CHILDHOOD & CURRENT CHARACTERISTICS:												
Two Biological Parent Home at Age 15	88.74	90.55	86.75	90.06	90.56	91.95	80.06	92.92	87.38	91.69	91.39	86.22
Current Residential Area Type Is Urban (v Rural)	70.03	70.44	53.62	62.6	66.83	62.25	74.56	70.99	70.03	69.61	89.27	91.12

1. Czech Republic, Wave 2, 2008; Poland, Wave 1, 2010-2011; Germany, Wave 2, 2008-2009; France, Wave 2, 2008; Sweden, Wave 1, 2012-2013

Table 5: Logistic Regression of Marrying by Age 43 for Men Born 1938-1955 & 1956-1970, Odds Ratios, Additive and Full Models, Generations and Gender Survey, 2008-2013										
	Former Communist				Former Communist / Conservative		Conservative		Social Democratic	
	Czech R.	Czech R.	Poland	Poland	Germany	Germany	France	France	Sweden	Sweden
Completed Secondary School (Ref: < Secondary)	**3.192*** **	2.878**	**2.544*** **	2.070***	1.137	1.023	1.078	0.817	1.254	1.188
	(1.042)	(1.135)	(0.336)	(0.326)	(0.484)	(0.543)	(0.242)	(0.223)	(0.177)	(0.229)
Completed > Secondary School (Ref: < Secondary)	**2.475***	2.717*	**3.225*** **	3.481***	1.782	3.234*	1.384	0.913	**1.904*** **	1.618*
	(0.953)	(1.341)	(0.713)	(1.021)	(0.843)	(1.816)	(0.355)	(0.297)	(0.315)	(0.374)
Born 1956-1970 (Ref: Born 1938-1955)	0.650	0.524	0.479***	0.379***	0.526**	0.574	0.309***	0.204***	0.439***	0.382***
	(0.150)	(0.328)	(0.052)	(0.083)	(0.120)	(0.479)	(0.058)	(0.075)	(0.047)	(0.096)
Completed Secondary School X Born 1956-1970		1.414		1.454		1.199		1.720		1.149
		(0.961)		(0.368)		(1.054)		(0.746)		(0.329)
Completed > Secondary School X Born 1956-1970		0.865		0.960		0.374		2.179		1.373
		(0.687)		(0.397)		(0.348)		(1.086)		(0.457)
Lived with Two Biological Parents at Age 15	1.604	1.610	0.809	0.811	0.746	0.748	1.366	1.356	1.255	1.255
	(0.569)	(0.570)	(0.170)	(0.169)	(0.247)	(0.246)	(0.346)	(0.345)	(0.210)	(0.211)
Currently Lives in an Urban Area (Ref: Rural Area)	0.932	0.921	1.624***	1.629***	0.956	0.942	1.293	1.289	0.979	0.981
	(0.218)	(0.215)	(0.184)	(0.186)	(0.263)	(0.253)	(0.259)	(0.252)	(0.178)	(0.179)
Constant	1.156	1.229	4.581***	5.099***	6.523***	6.330**	4.504***	5.561***	2.175**	2.296**
	(0.501)	(0.578)	(1.061)	(1.183)	(3.467)	(3.784)	(1.343)	(1.703)	(0.548)	(0.622)
Observations	667	667	4,063	4,063	779	779	1,238	1,238	2,041	2,041
Standard Errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05										

Figure 2: Predicted Probabilities of Ever Marrying by Educational Attainment for Men, Additive Models, Cohorts Born 1938-1955 & 1956-1970





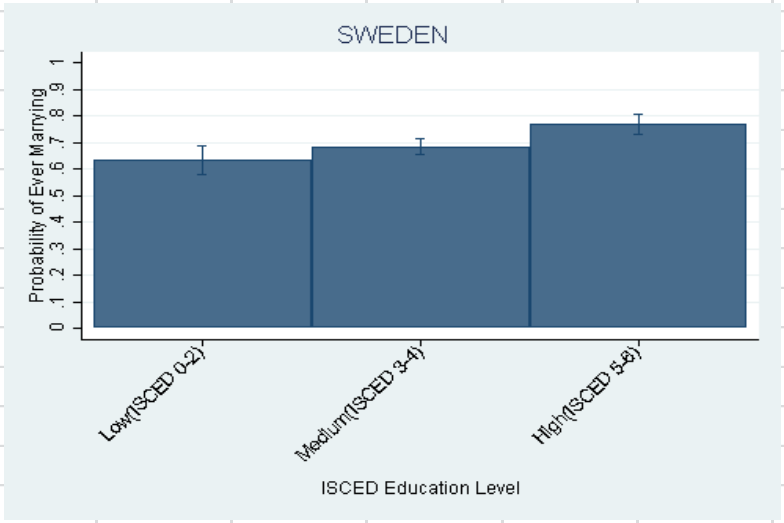


Table 6: Logistic Regression of Marrying by Age 43 for Polish Men Born 1938-1959 & 1960-1970, Odds Ratios, Additive and Full Models, Generations and Gender Survey, 2007-2013

	Poland	Poland
Completed Secondary School (Ref: < Secondary)	**2.408*** **	1.815***
	(0.314)	(0.253)
Completed > Secondary School (Ref: < Secondary)	**3.132*** **	2.495***
	(0.696)	(0.605)
Born 1960-1970 (Ref: Born 1938-1959)	0.546***	0.312***
	(0.062)	(0.078)
Completed Secondary School X Born 1960-1970		**2.079** **
		(0.585)
Completed > Secondary School X Born 1960-1970		1.875
		(0.828)
Lived with Two Biological Parents at Age 15	0.793	0.798
	(0.167)	(0.164)
Currently Lives in an Urban Area (Ref: Rural Area)	1.626***	1.617***
	(0.185)	(0.186)
Constant	4.122***	4.991***
	(0.952)	(1.122)
Observations	4,063	4,063

Standard Errors in Parentheses. *** p<0.001, ** p<0.01, * p<0.05

Figure 3: Change over Time in Predicted Probabilities of Ever Marrying by Educational Attainment for Men, Full Models, Cohorts Born 1938-1959 vs. 1960-1970

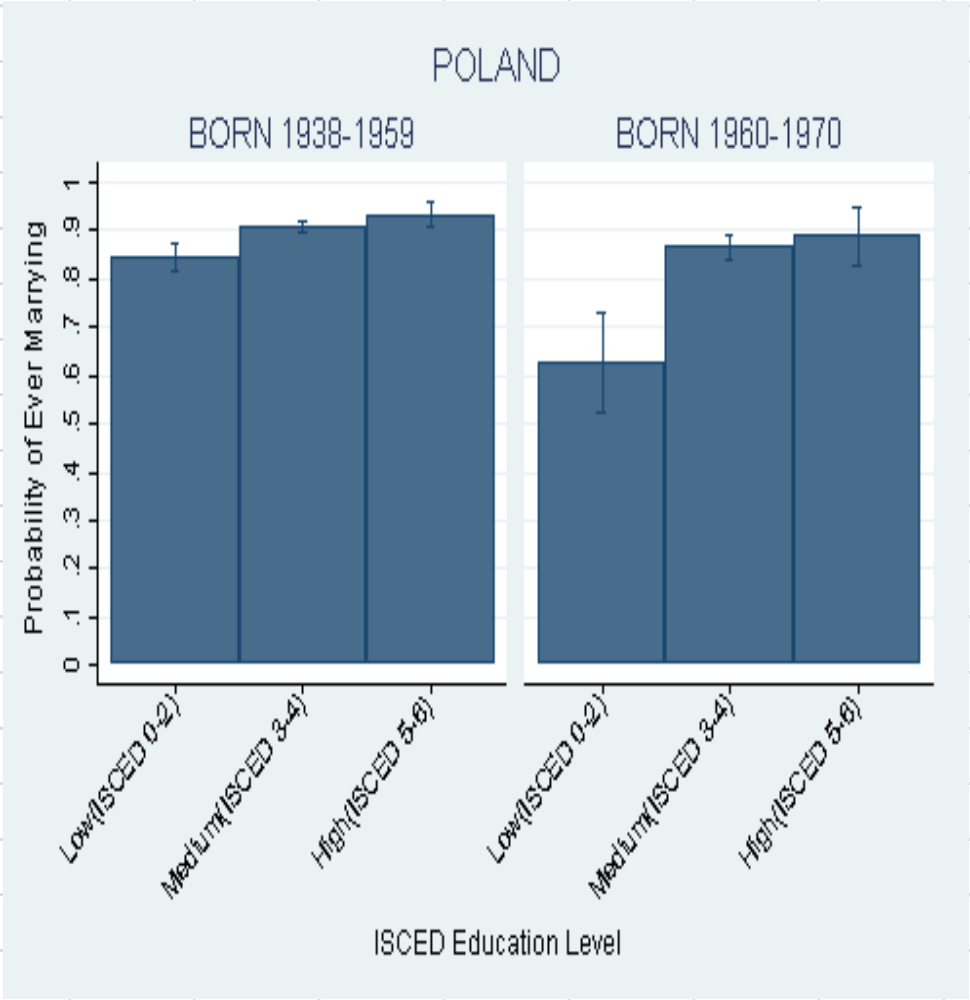


Table 7: Logistic Regression of Marrying by Age 43 for Women Born 1938-1955 & 1956-1970, Odds Ratios, Additive and Full Models, Generations and Gender Survey, 2008-2013										
	Former Communist				Former Communist /		Conservative		Social Democratic	
	Czech R.	Czech R.	Poland	Poland	Germany	Germany	France	France	Sweden	Sweden
Completed Secondary School (Ref: < Secondary)	1.217	0.951	0.854	0.633**	1.050	1.146	0.886	0.997	1.321	1.317
	(0.397)	(0.353)	(0.130)	(0.110)	(0.358)	(0.456)	(0.159)	(0.239)	(0.234)	(0.315)
Completed > Secondary School (Ref: < Secondary)	0.944	0.908	**0.484*** **	0.401***	0.832	1.655	**0.544****	0.477**	1.369	1.132
	(0.401)	(0.469)	(0.088)	(0.085)	(0.300)	(0.741)	(0.103)	(0.122)	(0.253)	(0.280)
Born 1956-1970 (Ref: Born 1938-1955)	1.119	0.658	0.841	0.462**	0.976	2.431	0.508***	0.522*	0.409***	0.351**
	(0.314)	(0.402)	(0.090)	(0.126)	(0.205)	(1.815)	(0.074)	(0.147)	(0.047)	(0.117)
Completed Secondary School X Born 1956-1970		2.296		**2.121***		0.501		0.805		1.082
		(1.603)		(0.641)		(0.402)		(0.296)		(0.398)
Completed > Secondary School X Born 1956-1970		1.263		1.724		**0.157***		1.222		1.436
		(1.079)		(0.594)		(0.133)		(0.459)		(0.544)
Lived with Two Biological Parents at Age 15	0.660	0.652	1.036	1.042	1.234	1.238	1.473	1.489	1.055	1.047
	(0.278)	(0.277)	(0.190)	(0.191)	(0.382)	(0.388)	(0.323)	(0.328)	(0.180)	(0.180)
Currently Lives in an Urban Area (Ref: Rural Area)	0.795	0.843	0.771*	0.783*	0.774	0.819	0.985	0.982	0.900	0.905
	(0.220)	(0.232)	(0.092)	(0.093)	(0.208)	(0.221)	(0.161)	(0.161)	(0.163)	(0.164)
Constant	9.920***	11.286***	17.722***	21.706***	5.998***	4.822**	6.063***	5.954***	3.932***	4.158***
	(4.881)	(6.021)	(3.883)	(5.135)	(3.032)	(2.623)	(1.544)	(1.553)	(1.079)	(1.270)
Observations	833	833	5,596	5,596	956	956	1,629	1,629	2,132	2,132

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05

Figure 4: Predicted Probabilities of Ever Marrying by Educational Attainment for Women, Additive Models, Cohorts Born 1938-1955 & 1956-1970

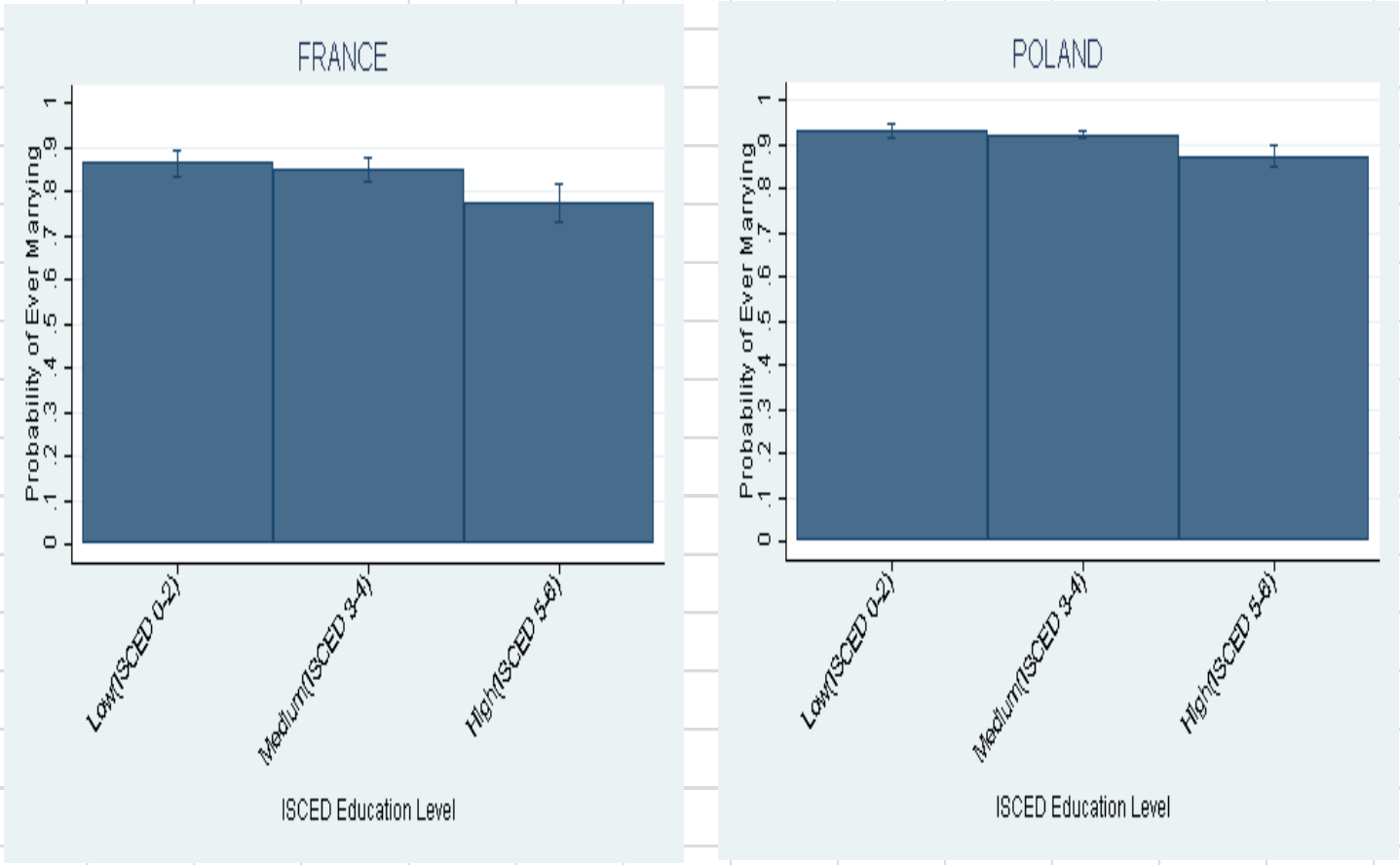


Figure 5: Change over Time in Predicted Probabilities of Ever Marrying by Educational Attainment for Women, Full Models, Cohorts Born 1938-1955 vs. 1956-1970

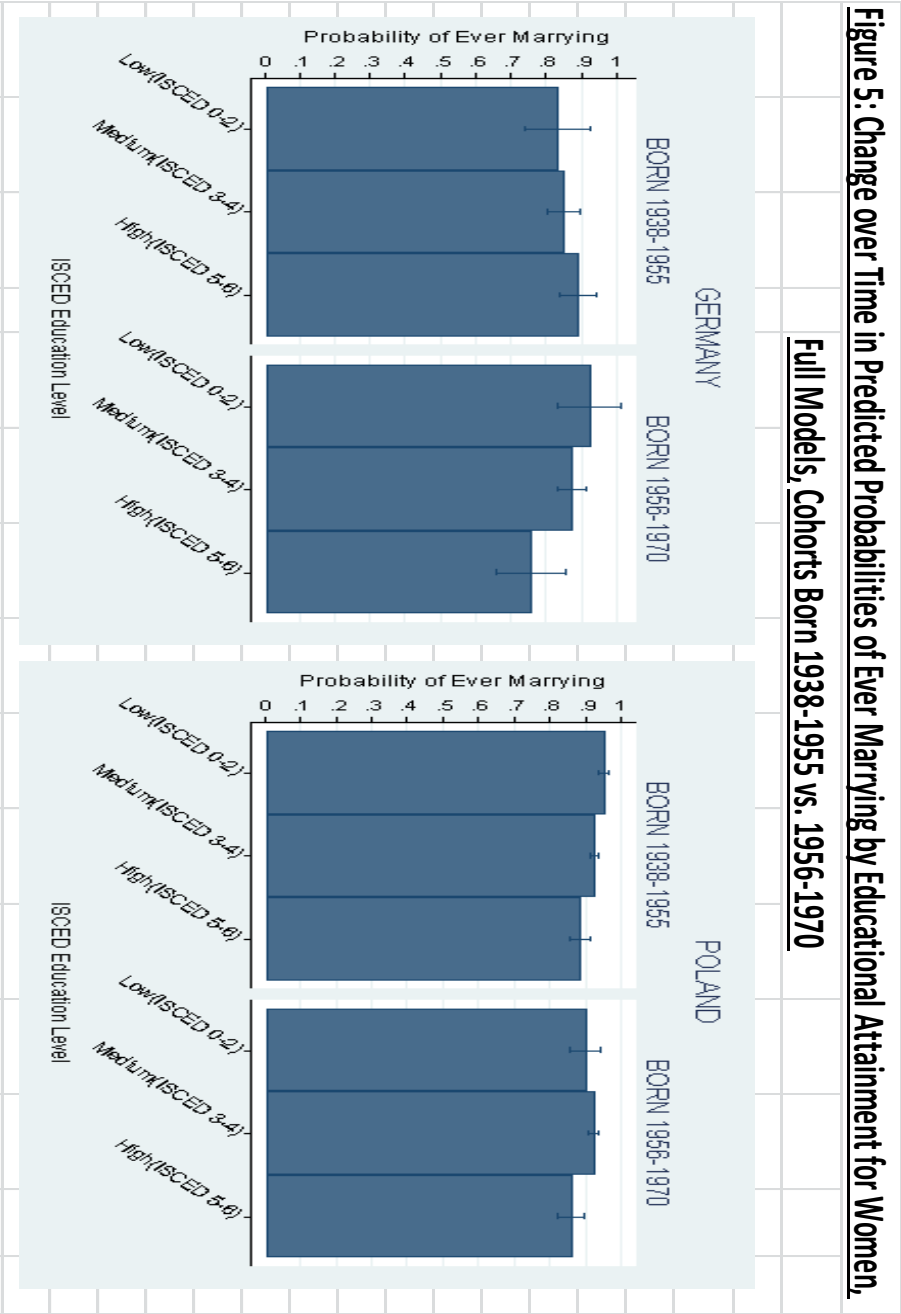


Table 8: Summary of Additive and Full Model Results of Logistic Regression of Ever Marrying by Age 43 for Persons Born 1938-1955 & 1956-1970, Generations and Gender Survey, 2008-2013

	Former Communist				Former Communist / Conservative		Conservative		Social Democratic	
	Czech Republic		Poland		Germany		France		Sweden	
	Men	Women	Men[1]	Women	Men	Women	Men	Women	Men	Women
Additive Model	+ Gradient, Moderate		+ Gradient, Moderate	- Gradient, Moderate				- Gradient, Moderate	+ Gradient, Strong	
Full Model (Change over Time)			↑ Inequliaty ↑ Advantage to Mid- & Highly Educated ↓ Probability of Marrying for Least Educated	↓ Inequliaty ↔ Advantage Remains Only to Mid-Educated; Relative Advantage Improved for the Highest Educated ↓ Probability of Marrying for Least Educated		↑ Inequliaty ↑ Advantage to Least & Mid-Educated ↓ Probability of Marrying for Highest Educated				

1. For Polish men, full model results reflect cohorts born 1938-1959 vs. 1960-1970

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Chapter 3:

The Long Arm of 'Delayed Adulthood':

Adult Offspring Role Attainment and Older Parental

Depression in Europe

ABSTRACT

The phenomenon of "delayed adulthood" meaningfully impacts the lives of young adults who experience delays or instability in establishing themselves in adulthood roles. It may also have a "long arm" and be a source of stress for older parents who instrumentally and emotionally support transitioning young-adult offspring. Exposure to these stressors likely varies across country contexts due to variation in economic and normative environments. This investigation is among the first for Europe to examine the association between parental depressive symptoms (EURO-D) and five major indicators of offspring delayed or unstable adulthood: prolonged co-residence with parents, delayed marriage, delayed child-bearing, divorce, and unemployment. I estimate linear regression models stratified by country and parental sex using data from Belgium, Czech Republic, France, Germany, Greece, Italy, Netherlands, Poland, Spain, and Sweden from the Survey of Health, Ageing and Retirement in Europe (SHARE) Waves 1- 2 (2006/2007), N=14,502. For each country, I directly test for significant differences between mothers and fathers. I find that the 'long arm' of offspring's unstable or delayed adulthood is indeed associated with depressive symptoms among parents: 1) Offspring unemployment has the most widespread association with parental depression and it is large, 2) Parents' depression appears more sensitive to negative-event stressors which capture offspring loss of a formerly-held adulthood role, rather than "non-event" stressors which capture anticipation of offspring occupying an adult role in the future, and 3) Country context may inform the relationship between adult offspring role statuses and parental depression, highlighting the importance of doing comparative work of this kind.

INTRODUCTION

Parents in contemporary, developed countries play an indispensable role in their offspring's lives—socializing them in a number of ways to become economically and socially successful adults who will compose the next generation of society (Malinowski 1964; Reiss 1965; Goode 1970). The concept of "linked lives" in life-course theory suggests that parents and offspring (as individuals who share highly salient relationships) have intimately connected developmental trajectories, which not only influence each other but will endure throughout each party's lifetime (Elder et al. 2003; Knoester 2003). Although research has established that parental life-course events influence the mental health of offspring, relatively little research, and hardly any on Europe, has explored the influence of offspring's life-course statuses on their parents' mental health. Even less research has looked at the influence of these offspring statuses net of each other, in a much needed "holistic fashion," (Buchmann & Kriesi 2011), nor has research assessed if and why variation may exist across countries.

The relationship between European adult offspring role statuses and their parents' mental health is a highly salient research topic, in part because of the emotional pain and suffering associated with poor mental health, in part because of the serious physical health consequences of poor mental health, and in part because the successful transition to adulthood in Europe has been delayed compared to birth cohorts of the 1950s and earlier (Furstenberg 2010). Compared to their parents, young Europeans born after 1960 are marrying at later ages, having a first offspring at later ages, prolonging co-residence with parents, and are experiencing high rates of youth (14-28) and overall unemployment, which may be tied to delays in finding a first job (Blossfeld et al. 2005). In light of the fact that parents provide emotional and pragmatic support to adult offspring during this transition to adulthood, the Stress Process Model (Pearlin et al

1981) and its further elaboration (Wheaton et al. 2013) help to explain that young adults' failures to occupy certain statuses, such as ever-marrying, may present as chronic or "non-event" stressors (Gerston et al. 1974) which threaten, challenge, or constrain their parents' financial and emotional well-being or their self-defined status as a successful parent. Similarly, instability or lack of success in maintaining certain adulthood roles, such as unemployment, may present as a "negative-event" stressor which signals the loss of a previously held and preferred status (e.g. employment) and may also signal a life-changing event (Wheaton et al. 2013). Stress may result from the presence of these stressors and have a deleterious mental health effect on parents while offspring's successful occupation of a highly valued role may improve their parents' mental health. Theory suggests that "non-event" stressors reflect an "insidious threat or slowly increasing burden" of a continuous nature, yet negative event stressors are discreet and may be life-changing, perhaps suggesting that offspring negative event stressors may have a greater mental health impact on parents than offspring "non-event" stressors (Wheaton 1990; Wheaton et al. 2013)

Young adulthood is a "demographically dense" period of time in which young people have traditionally experienced obtaining a first job, leaving the parental home, entering marriage, and becoming parents all within a relatively short span of time with each other (Rindfuss 1991). Empirical evidence demonstrates that these processes have become de-coupled for post-1960 birth cohorts (Perelli-Harries et al. 2010), yet as a whole these roles still represent successful or completed young-adulthood (Setterstein 2007). Given that entrance into all adulthood roles may be expected by parents, that delay in each role may have a unique contribution to parental mental health, and given that offspring may be delayed in obtaining numerous roles, the additive mental health impact may be quite large for parents whose offspring are delayed in obtaining numerous

roles. It is thus important to empirically know which delayed or unstable adulthood roles may have an impact on parental mental health, net of other roles.

Sociological theory of the life course (Shanahan 2000) and empirical research on Europe (Schulenberg & Schoon 2012) suggest that normative expectations of life course trajectories for younger Europeans vary by country and are tied to country-level institutional and normative factors. Some research indicates that the relationship between younger Europeans' life course statuses / transitions and their parent's mental health also varies by country, yet it is unclear if these differences are systematic and whether they can be explained by linking country context to adult offspring statuses and their parents' mental health. Elaboration of the role of stressors in the Stress Process Model (Aneshensel 2015) explains that the social structures which organize society, such as class, gender, nationality, race, and a variety of social institutions, dictate the "origins of exposure" to stressors, or which groups of individuals at different levels of the social structure are more likely to be exposed to certain stressors, such as adult offspring unemployment, etc. These organizing social structures include entire countries which differ by the institutions and organizations they contain, e.g. the types of economies and labor markets that they have, the generosity of government welfare spending, etc. These institutions and organizations inform the types, severity, and levels at which citizens are exposed to stressors such as adult offspring unemployment.

This analysis explores the parental mental health impact of multiple major adult offspring life course statuses (net of each other) to clarify which of possibly many co-occurring statuses (e.g. losing a job and returning home to co-reside with parents) has an influence on parental mental health. The analysis focuses on the comparison of European countries to help elucidate

the extent to which country-level social structures may play an important role in conditioning individual-level relationships.

Research Questions

I address the following questions in this research:

1. What are the associations between European middle-aged parents' mental health and their young-adult offspring's 'delayed adulthood' or failure to occupy adult role statuses of independent residence, marriage, and parenthood by the normative ages of making these transitions? Is instability in maintaining adulthood roles, as evidenced by unemployment and divorce, associated with elevated parental depression?
2. Is parental depression more sensitive to some types of adult offspring role stressors than others?
3. Within each country, do results differ for fathers versus mothers?
4. Do results vary across countries?

"LINKED LIVES," THE STRESS PROCESS MODEL, AND DEPRESSION

Linked Lives

Consistent with life course theory, empirical research in the United States shows that middle-aged parents are highly involved in the lives of their adult offspring, emotionally and instrumentally, specifically during the time that these adult offspring endeavor to attain numerous adult roles (ages 18-24) (Fingerman et al 2012). In most Western countries, these include "the big 5" (Setterstein 2007; Schulenberg & Schoon 2012)—completion of education, independent residence, employment, marriage, and parenthood. However, despite the strong connections that exist between parents and their adult offspring, very little research explores how

adult offspring's life course role attainments are associated with their parents' mental health. There are a number of reasons to expect a meaningful relationship. For one, once an individual becomes a parent, there is no clearly defined time when or if he/she stops being a parent and thus stops being emotionally and instrumently linked with a child (Rossi 1968). Parents typically are invested in and concerned about how their adult offspring fare and worry about them (Sechrist et al. 2011). Parents may view themselves as failures in properly socializing and preparing their offspring for independence if their offspring fail to meet normative expectations of adulthood (Ryff et al. 1994). On the other hand, as adult offspring obtain certain roles, such as parenthood, middle aged parents' roles also change (e.g. becoming a grandparent) and this new life role may bring new significance, meaning, and positive feelings to the lives of middle-aged parents (Kivnick 1982; Adelmann 1994; Somary & Stricker 1998).

According to the Theory of Social Stress and the Stress Process Model (Pearlin et al. 1981; Aneshensel 1992), parents may feel that their identity as a successful parent, or their role as a post-child-rearing parent with reduced obligations, has been challenged due to the stressor of having adult offspring not attain adult roles and potentially need more parental assistance. Parents may feel that their identity, self-conception, or well-being is threatened and unsuccessful adult offspring role attainments (stressors) can translate into stress experienced by parents. If parents do not have sufficient coping resources, this stress can translate into distress, or a maladaptive response patterns to stress, such as depression (Wheaton et. al. 2013).

Countries and the Social Distribution of Exposure to Stressors

"Contextual stressors" present themselves to individuals because of their membership in a social unit (Wheaton et. al. 2013). Entire countries can be construed as social units which condition if and how citizens will be exposed to particular types of stressors that are related to

the transition to adulthood (Shanahan 2000; Cook & Furstenberg 2002; Jensen 2011). For example, citizens living in a country with a thriving, healthy economy are far less likely to be exposed to the stressor of unemployment than citizens living in an economically challenged country with high unemployment rates. This reasoning can be applied to each of the stressors presented by an unsuccessful adult offspring status.

In addition to institutions and organizations which socially and economically structure citizens' lives and thus their exposure to some types of stressors, macro- and messo- level normative environments which reflect attitudes towards family formation and expectations of economic success can condition the mental health consequences of citizens' exposure to stressors (Kalmijn 2009; Soons & Kalmijn 2009). This occurs because social environment can condition citizens' response to stressors as a function of a prevailing norm. For example, a divorcee living in a country with negative or non-sympathetic attitudes towards divorce will be more negatively affected by the stressor of divorce, (due to increased social stigma) than a divorcee living in a country with ambivalent attitudes towards divorce. The same may be true of an unemployed individual living in a country with a low unemployment rate or of a never-married individual in a country with negative or non-sympathetic attitudes towards singlehood or non-marital unions.

Lastly, macro-level institutions within countries, such as welfare regimes, may buffer or moderate the effects of stressors for all or certain groups of citizens (Cooke & Baxter 2010). For example, during a global recession, individuals living in generous welfare regimes with worker protections may be equipped with resources from the state to dampen the effects of unemployment (Blossfeld et. al. 2005). In short, heterogeneity across Europe in economic environments and normative attitudes towards family formation and dissolution may lead to variation in the relationship between parental depression and adult offspring role attainment.

A Focus on Depression

This investigation focuses on the outcome of depression as a maladaptive response to stress. Depression is a serious medical condition in its own right, has a strong relationship with physical health, and is particularly salient when studying older individuals. Depression interacts with aging to increase risks for morbidity and mortality through directly weakening immune system responses in fighting infection. Depression in middle-aged persons also indirectly influences conditions associated with cardiovascular disease, certain cancers, and other ailments (See Kiecolt-Glaser & Glaser (2002) for a review). Although disentangling the bi-directional effects of mental health and physical health are almost impossible (Prince et al. 2007), research finds that depression alone is associated with a greater decrement in physical health than angina, asthma, or diabetes alone (Moussavi et al. 2007).

Moreover, it is important to consider fathers and mothers separately when investigating the outcome of depression. Gender differences in the impact of stress are disorder-specific—e.g. women are more prone to depression and anxiety as a result of loss, and men are more prone to substance abuse and may present few depressive or anxious symptoms (Aneshensel et al. 1991; Horwitz et al. 1996).

EMPIRICAL FINDINGS FROM PRIOR RESEARCH

Adult Offspring's Employment and Career Status

Findings of the relationship between adult offspring employment, career success, financial stability and parental mental health are almost exclusively from the United States and Canada and are mixed. Studies using nationally representative data from the United States (Hammersmith 2014) and data representative of major metropolitan areas in the United States

(Birditt et. al. 2010) have found no significant relationship between offspring employment status and parental ambivalence net of other adult offspring transitions/statuses; nor is a significant relationship observed between Canadian parents' depression and offspring's dependence on parents for financial support (Pillemer and Suitor 1991). However, black parents in Maryland have increased depression levels as the number of their unemployed offspring increases (Milkie et al 2008). These findings suggest regional variation in the relationship between parental depression and offspring unemployment and the importance of conducting a comparative investigation that may help clarify systematic explanations for variation.

Adult Offspring Romantic Relationship Status

A number of studies find a significant relationship between offspring romantic relationship status or perceived relationship success and parental mental health. Dutch mothers and fathers have significantly reduced depression levels after an offspring transitions from singlehood to being married (versus being continuously married). Moreover, Dutch mothers and fathers also have significantly higher levels of depression after an offspring transitions from marriage to separation/divorce—but this relationship is significantly attenuated by the level of liberal norms held by mothers and fathers (Kalmijn & De Graaf 2012). Very little other research uses nationally representative samples to explore the influence of offspring romantic relationship status on parental depression. However, research does exist on parental ambivalence, or the simultaneous co-existence of positive and negative feelings that parents have for particular offspring. American mothers and fathers have significantly reduced ambivalence levels after offspring transition from singlehood to being in a union, and significantly increased ambivalence levels after offspring transition from being in a union to union dissolution (Hammersmith 2014).

Adult Offspring Transition to Parenthood

Fewer studies have researched the relationship between adult offspring parental status and older parent mental health. Qualitative and some quantitative research suggests that older parents are positively affected by the idea of having a new role in their lives—that of grandparent (Kivnick 1982; Adelmann 1994; Somary & Stricker 1998). In looking at rigorous empirical investigations, Dutch fathers, and not mothers, have significantly reduced depression levels as their adult offspring transition into parenthood (Kalmijn & de Graaf 2012). No significant relationship is observed for older American parents whose offspring transition into parenthood (Hammersmith 2014). These findings suggest important variation across countries in parental responses to offspring relationship statuses.

Adult Offspring Independent Residence

One of the most important adult statuses that a Western individual can obtain is that of establishing an independent residence. However, empirical research demonstrates that on average, 44% of young Europeans ages 18 to 29 lived in their parent's home in 2007. This percentage ranged from 50% to 70% in Former Communist Countries and in Southern European countries (Sándor et al. 2014). Although it is not clear whether parents or offspring are the head of the household, empirical research conversely demonstrates that the percentage of Europeans aged 65 and older who live with their adult offspring ranges from <10% in Scandinavia and Western Europe to approximately 30% in Southern Europe (Tomassini et al.2004). Combined with research in the United States (Aquilino 1990) and Europe (Sándor et al. 2014) which finds that it is often economic need of offspring (versus parental needs) which increases the likelihood of parent-offspring co-residence, it is predominantly the case across Europe that co-residence between parents and adult offspring reflects offspring living in the parental home.

Connecting parent-offspring co-residence with parental mental health, research on Europe using SHARE data has found that Greek women who reside with at least one adult offspring are significantly more depressed than Greek women who have contact with their non-residential offspring several times a week; no significant relationship was observed for the remaining nine study countries (Buber & Engelhardt 2008). Descriptive statistics reveal that the majority of American parents who have an offspring co-residing with them are satisfied with the arrangement and have mostly positive relationships with their adult offspring (Aquilino & Supple 1991). Differences by parental gender exist: In controlling for all major offspring statuses / transitions, Hammersmith (2014) finds that ambivalence significantly increases for American mothers but decreases for fathers as adult offspring move back into the parental home. This provides additional support for investigating fathers and mothers separately.

Further research on the United States finds that the nature of offspring co-residence with older parents is important to consider. American parents suffer significant declines in the quality of their life if their co-residing offspring is unemployed (versus not in labor force), financially dependent on the parent (Aquilino 1990), divorced/separated (versus never married), or if grandchildren are living in the home (Aquilino 1990; Aquilino & Supple 1991).

The Conditioning Role of Country-Context and Mental Health

Empirical research finds that country context does significantly condition the relationship between role statuses and mental health. In considering the role that country normative environment may play in conditioning the relationship between mental health and family-role status, empirical research finds that cohabiting individuals who live in countries that are more accepting of cohabitation have lower deficits to their mental health than cohabiting individuals who live in countries which are not as supportive of cohabitation (Soons & Kalmijn 2009). It is

also the case that the negative mental health effect of divorce is weaker in countries where divorce is more common (Kalmijn 2009). Similarly, empirical research finds that childless individuals who live in countries that are more accepting of childlessness have better mental health than childless individuals living in countries that are less accepting of childlessness (Huijts et. al. 2013). Moreover, in a context of widespread unemployment, unemployed people internalize blame and social stigma related to unemployment to a lesser degree (Brand et al. 2008), indicating that individual unemployment is perceived as more normative or acceptable in a context of greater unemployment (Clark 2010). Conversely, the negative mental health effects of unemployment are greatest in contexts where unemployment is not normative (Turner 1995). All of these results suggest that the normative context regarding role statuses is important in influencing mental health.

Having an unemployed offspring in a country with a low unemployment rate is far less normative than having an unemployed offspring in a country with a high unemployment rate. This may make the depressive effects of offspring unemployment greater in these low-unemployment contexts. The same is true regarding having a divorced offspring in a context with a low divorce rate. However, comparative research which focuses on *parental* mental health as a function of offspring role statuses, and which considers systematic reasons for variation across countries, such as normative climate and social stigma, has not been conducted.

Research on the mental health effects of adult offspring role attainments across Europe and the United States almost exclusively considers a subset of the five main status attainments that are critical to adult offspring's life course experiences between the ages of 18 and 40 (see Hammersmith 2014 for the US exception to this statement), or group offspring's role characteristics together in ways that make it impossible to disentangle the relationship between

each role and parental mental health. Inconsistent findings from this limited research beg the question as to whether variation in findings is due to the outcome of choice (ambivalence vs. depression), the full set (or lack thereof) of adult offspring roles considered, or country-level differences, such as different normative environments. Moreover, prior research has not explored the parental mental health impact of offspring's "delayed adulthood" or non-normative timing in (not) holding adulthood roles. Although some research finds parental mental health benefits from having offspring who successfully make certain transitions to adulthood, no prior research has investigated the role of "non-event" stressors in which offspring have not obtained certain adult roles by normative ages.

Contributions of this Study

This investigation explores the mental health impact of four major adult roles that are either tied to non-normative or delayed timing (i.e. "non-event" stressors) or roles which indicate instability in adulthood statuses (i.e. negative-event stressors)—all net of each other. This approach is particularly important in light of the fact that many unsuccessful role attainments co-occur, such as unemployment and moving back home to live with parents. Understanding which stressors of adult offspring role attainments may negatively impact parental mental health may in turn be informative for parents and may have public policy implications. Moreover, this topic is unexplored in a comparative fashion in the current literature. Findings from prior research suggest heterogeneity exists and related research finds that normative context may play an important conditioning role. This investigation addresses this by describing country normative environments, or contextual stressors, for certain adulthood roles and interpreting whether systematic explanations may exist for the observed heterogeneity.

Hypotheses

Theory and empirical research demonstrate disorder-specific gender differences in the response to stress. In response to stress, women are more prone to internalizing symptoms, such as depression, while men are more prone to externalizing symptoms, such as heavy drinking (Aneshensel et al. 1991; Horwitz et al. 1996). Therefore, I expect that mothers will be more sensitive to the depressive effects of offspring role statuses than fathers. I further hypothesize that:

1) European middle-aged parents with offspring who do not occupy adult roles by a normative age (i.e. presenting as "non-event" stressors) will have more depressive symptoms than parents whose offspring either do occupy adult roles by a normative age or whose offspring are not yet of age for the given transition.
2) European parents of offspring who are experiencing instability in maintaining an adulthood role (i.e. presenting as "negative event" stressor of unemployment or divorce) will have more depressive symptoms than parents whose offspring are not experiencing such instability in adulthood.
3) Results will vary across European countries. Patterns may indicate the conditioning role of shared country-level economic or normative contexts: Parents living in countries with younger normative transition ages into adulthood (for independent residence, marriage, and/or parenthood) or living in countries with low percentages of the population occupying an unstable adulthood status (unemployment and/or divorce), will have more depressive symptoms if their offspring experience delayed or unsuccessful adulthood than parents with no offspring occupying these statuses in their respective countries. I hypothesize that no significant relationship between

parental depressive symptomatology and offspring statuses will be observed for parents living in countries where offspring occupancy of delayed/unsuccessful statuses is more normative.

4) Parental depressive symptomatology will be more sensitive to negative-event stressors, such as offspring unemployment and divorce, than to "non-event" stressors of delayed transitions to adulthood roles, such as not transitioning to independent residence, marriage, or parenthood by a normative age.

Other Variables

Research on middle-aged and older persons indicates that a number of socioeconomic and physical health characteristics are important indicators of mental health and thus important to include as controls in the analysis. While research on Europe has found no significant relationship between depression and retirement (Coe & Zamarro 2011), research based on a metro-area sample in the United States finds that depression decreases upon middle aged individuals entering retirement (Reitzes et al. 1996). Research in Australia finds that retirement has no effect on depression at ages 65+, but is associated with increased depressive symptoms below age 65 (Butterworth et al. 2006), suggesting that parental employment status is an important control when researching depression. Research demonstrates that those who experience economic hardship are more prone to depression than those who are economically stable (Everson et al. 2002), demonstrating the importance of controlling for parental socio-economic status. Research on the relationship between marital status and mental health shows that married men are the least depressed of all groups (Gove et al 1990; Mirowsky & Ross 1995). Moreover, as the number of adult offspring problems increases, single American parents have a much steeper decline in positive affect than do married parents (Greenfield & Marks 2006),

suggesting the importance of including parental marital status in the model. Physical health is strongly correlated with depression (Berkman et al. 1986), and often in a bi-directional fashion (Prince et. al. 2007), making it an important control to include. Early-onset depression (before age 21) is strongly correlated with the likelihood of depression later in life (Klein et al. 1999). Moreover, research finds that major life stressors are most likely to influence a first major depressive episode, but dysfunctional thinking or dysphoric mood are the most likely to influence subsequent and recurrent episodes of major depression (Lewinsohn et al. 1999). Therefore, controlling for a parental prior depressive episode helps assure that the observed relationships are net of the influence of a prior depressive episode and / or depression that is perhaps tied to recurrent / historical dysfunctional thinking or dysphoric mood. Parental age is an important control to include in the analysis because ages 50 to 70 is a wide range and research on Europe and the United States finds that as persons age, they are happier and more satisfied with their lives (Blanchflower & Oswald 2008) while depression and anxiety levels may decline as age increases (Jorm 2000).

Controlling for offspring gender in the analysis is an important consideration. Research into the relationship between parental mental health and offspring gender finds that, net of certain offspring statuses and characteristics, sons are associated with less ambivalence than daughters for parents in certain areas of Pennsylvania and New Jersey (Birditt et al. 2010). Research shows that as the number of offspring increases, mental health can suffer due to increased strain and responsibilities, making the number of children a critical control to include. Adult offspring are more likely to co-reside with a parent if the offspring are younger than 25 while offspring that are closer to 40 are more likely to have transitioned into a number of adult roles. Controlling for the oldest offspring's age helps account for offspring selection into adult

roles purely as a function of age. Controlling for whether parents have any minor aged offspring is also important because the stressors and parental mental health toll associated with the life course experiences of minors are distinct from the stressors and mental health impact of having adult offspring.

METHODS

Sample Design

The data for this study come from The Survey of Health, Ageing and Retirement in Europe (SHARE)— a cross-national, six wave, longitudinal panel study on the current and past social, health, and economic statuses of more than 55,000 individuals from 20 European countries. The sample is broadly representative of all non-institutionalized individuals aged 50 or over living in study countries, and for entrants in Wave 1 also includes their spouses or cohabiting partners regardless of age. Wave 1 data was collected in 2004-05 and Wave 2 in 2006-07.[22] Data were collected in face-to-face interviews using computer assisted personal interviewing (CAPI). Austria used simple random sampling and all of the other countries in this investigation utilized a three-stage probability sampling design. Stage one stratified municipalities by region and stage two involved the selection of households within the municipalities. Households were selected based on individual telephone numbers which were adjusted to only list telephone numbers tied to home addresses. Stage three involved screening the selected addresses in order to ensure that at least one resident was over the age of 50 in the given year of sample participation selection.[23]

[22] Wave 3 was collected in 2008-09, Wave 4 in 2010-2012, Wave 5 in 2013, and Wave 6 in 2015.
[23] For more specific details on the sampling design of participating countries, see http://www.share-project.org/fileadmin/pdf_documentation/SHARE_release_guide.pdf

This investigation utilizes Release 5.0 of SHARE and includes countries that participated in Wave 1 and/or Wave 2 because additional countries joined SHARE in Wave 2 and increased the breadth and sample size of the investigation. The countries herein analyzed are Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Netherlands, Poland, Spain, Sweden, and Switzerland. Respondents in Wave 2 include individuals who also participated in Wave 1 and individuals newly introduced to Wave 2 as part of the refresher sample. The individual response rate for the entire baseline sample at Wave 1 is 85.3%.[24] The attrition rate between Wave 1 and Wave 2 is 31.72% (9,530 / 30,042). A refresher sample of 14,314 individuals (47.65% of the baseline Wave 1 sample) newly entered in Wave 2,[25] and 1,430 Wave 1 spouses who did not receive a main interview in Wave 1 did receive a Wave 2 main interview. This results in a total Wave 2 sample of 36,256 people (20,512+ 1,430 + 14,314).

Further analytic sample restrictions are made. Individuals over the age of 70 at the time of Wave 2 data collection (2006-2007), totaling 11,268 persons, are excluded from the analysis because descriptive statistics reveal that their offspring range in age from 41 to 47, surpassing the ages of 'delayed adulthood' and thus falling outside of the theoretical framework of this analysis. (Thirty-three individuals who were shy of age 50 in 2007 are also excluded from the analysis.) Additionally, the analytic sample is limited to native-born individuals, excluding 2,753 respondents. The sample is further restricted to individuals who have at least one offspring age 18 or older, further excluding 2,662 respondents. Excluding respondents with missing data (1,285 individuals), the analytic sample consisted of 8,046 men and 10,209 women. Descriptive

[24] Individual country response rates can be found at *http://www.share-project.org/data-access-documentation/sample.html*. They range from 73.7% in Spain to 93.3% in France.
[25] Only Austria and Flemish-speaking Belgium do not have a refresher sample.

statistics and regression model estimation (discussed later) revealed cell sizes that were too small and models that were unstable in Austria, Denmark, Ireland, Israel, and Switzerland. As such, these countries are eliminated from the analysis and the final analytic sample includes Belgium, Czech Republic, France, Germany, Greece, Italy, Netherlands, Poland, Spain, and Sweden, and consists of 6,384 men and 8,118 women. Derivation of the final analytic sample is visually displayed in Figure 1.

Insert Figure 1 about Here

Individual calibrated cross-sectional weights for Wave 2 are utilized to account for problems of unit non-response and sample attrition, making the analytic sample broadly representative of the native-born national population between the ages of 50-70 (in 2007) who were not institutionalized or living abroad during the duration of the data collection process, and who have at least one offspring age 18 or older. In order to adjust for complex sampling design, data for this study are analyzed using SVY commands in STATA with probability weights, adjusting for multiple household respondents.

Measures

The dependent variable of depressive symptoms, EURO-D, is a continuous measure of the number of depressive symptoms experienced, ranging from 0 to 12. Zero is not depressed at all and 12 is very depressed. The scale combines five separate scales to assess depression[26] and it includes depression, pessimism, suicidality (wishing death), guilt, trouble sleeping, lack of

[26] Geriatric Mental State-AGECAT (GMS-AGECAT), SHORT-CARE, Center for Epidemiological Studies Depression Scale (CES-D), Zung Self-Rating Depression Scale (ZSDS), Comprehensive Psychopathological Rating Scale (CPRS).

interest, irritability, lack of appetite, fatigue, difficulty with concentration, lack of enjoyment, and tearfulness. In particular, the scale is constructed based on the following questions and response codes. 1) "In the last month, have you been sad or depressed?," with 0 = no and 1= yes, 2) "What are your hopes for the future?," with 0 = any hopes mentioned and 1= no hopes mentioned, 3) "In the last month, have you felt that you would rather be dead?," with 0 = no such feelings and 1 = any mention of suicidal feelings or wishing to be dead, 4) "Do you tend to blame yourself or feel guilty about anything?," with 0 = no such feelings and 1 = obvious excessive guilt or self-blame, 5) "Have you had trouble sleeping recently?," with 0 = no trouble sleeping and 1 = trouble with sleep or recent change in pattern, 6) "In the last month, what is your interest in things?," with 0 = no mention of loss of interest and 1 = less interest than usual mentioned / does not keep up interests, 7) "Have you been irritable recently?," with 0 = no and 1 = yes, 8) "What has your appetite been like?," with 0 = no diminution in desire for food and 1 = diminution in desire for food, 9) "In the last month, have you had too little energy to do the things you wanted to do?," with 0 = no and 1 = yes, 10) "Can you concentrate on a television programme, film or radio programme or on something you read?," with 0 = difficulty in concentrating on entertainment or reading and 1 = no such difficulty mentioned, 11) "What have you enjoyed doing recently?," with 0 = mentions any enjoyment from activity and 1 = fails to mention any enjoyable activity, and 12) "In the last month, have you cried at all?," with 0 = no and 1 = yes.

EURO-D was collaboratively developed across 11 European countries to compare symptoms of depression in 14 European centers. It demonstrates good internal consistency, reliability (Cronbach alpha = .72 for the initial pooled sample in SHARE (Dewey & Prince 2005)), and cross-cultural validity on at least three continents, enabling it to be used in

comparative epidemiological research (Guerra et al 2015). A score above 3 indicates clinically significant depression (Dewey & Prince 2005).

Empirical research suggests that analysis of the relationship between parental mental health and offspring statuses is perhaps best assessed when offspring are tied to a parent as a group, rather than a single offspring tied to a single parent in a dyadic relationship (Fingerman et. al. 2012). In dyadic models, the parental outcome appears multiple times in the regression (one parent, multiple offspring rows). This effectively averages the effect of multiple offspring on a single parent, thus attenuating the effect of sub-optimal (and optimal) offspring statuses. This is particularly concerning when investigating phenomena that are relatively rare within a single family—e.g. the low probability that a given parent has more than one adult offspring who is unemployed. In contrast, in exposure models, the parental outcome appears only once in the regression and the effect that all offspring have on a parent's mental health is not averaged across the offspring. This type of analysis can capture the effect of 'at least one' offspring who occupies a relatively rare status within the family—an important consideration given research which finds that parents are "only as happy as the least happy child" (Fingerman et. al. 2012). Therefore, in an effort to not attenuate the effects of relatively rare offspring role statuses on parents, this investigation constructs variables in the format of "at least one adult offspring" occupies a given status. In order to capture "delayed adulthood," or offspring who do not occupy statuses by the normative timing at which most adults occupy certain roles, dummy variables are coded with reference to country and sex-specific normative timing of transitions in 2007, the year of SHARE Wave 2 data collection.

Five focal independent variables of offspring role attainments are analyzed. Parents in SHARE report on the living, relationship, and employment statuses of up to four offspring, along with basic demographic information on each. Variables which capture offspring marital status, parental status, and co-residence with parents reflect the delayed or non-normative timing of these offspring transitions and utilize cross-sectional data for 2007 on country- and sex-specific mean ages of given transitions. These mean ages are not specific to the offspring birth cohorts in SHARE (born ~1970-1980) because completed cohort data (i.e. when people turn 40) are not available for these cohorts. Rather, the mean ages utilized reflect the mean ages of a given transition for a country's entire population in 2007 by utilizing age-specific transition rates as weights across each age group in the population. All offspring status variables are in the form of 'At Least One (Adult) Offspring' and are noted by the acronym 'ALOO'. For timing variables, the shortened name for the variable includes the fact that ALOO is above the normative role-specific transition age.

Three focal independent variables capture "non-event stressors." *ALOO Never-Married* is defined as R has at least one never married offspring past the normative age of marriage for R's country. It is binary and its categories are 'R has at least one never-married offspring at or above the mean age of first marriage for that offspring's sex (for R's country)' vs. 'otherwise'. The mean age of first marriage by sex for each country is determined for 2007[27] and utilizing each offspring's reported sex and age, categorization of offspring in each country occurs in reference to this mean age. The original question asks "What is the marital status of child N?," with options 'married and living together with spouse,' 'registered partnership,' 'married, living separated from spouse,' 'never married,' 'divorced,' and 'widowed.' If all offspring are in a

[27] Data are from UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/052_en_GEFHAge1stMarige_r.px/?rxid=d99823e1-b6a1-4449-91d0-d950c0a90d6d

category other than 'never married', or if all 'never-married' offspring are below the normative age of first marriage, then the respondent is coded into the reference category. *ALOO childless* is defined as R has at least one childless offspring past the normative age of first childbirth for R's country. It is binary and has the categories 'R has at least one childless offspring at or above the mean age of first childbirth for offspring sex (for R's country) in 2007' vs. 'otherwise'. The original question is: "How many children, if any, does child N have?," with a numeric answer range from 0-25. If all offspring have children, or if all childless offspring are below the normative age of first child-bearing, the respondent is coded into the reference category. Categorization of childless offspring references the sex-specific mean age of first childbirth for R's country.[28] Data on men's mean age of first childbearing is unavailable for Czech Republic, Greece, and Poland. So, given geographic and political similarities, the mean age of first childbearing for men in Spain is used for Greece and the mean age of first childbearing for men in Hungary[29] is used for Poland and the Czech Republic. *ALOO co-resides* is defined as R has at least one co-residing offspring past the normative age of first home-leaving for R's country. It is binary and utilizing each offspring's reported sex and age, the categories created are 'R has at least one co-residing offspring who is above the mean age of home-leaving for offspring sex (for

[28] For women, data are from UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/04_en_GEFHAge1stChild_r.px/table/tableViewLayout1/?rxid=19ddf31b-6ebe-43cc-9c07-97754bcda1e8. Dutch men: https://www.statista.com/statistics/521498/average-age-father-at-the-first-birth-in-the-netherlands/. Swedish men: http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Population/Population-composition/Population-statistics/Aktuell-Pong/25795/Behallare-for-Press/Swedens-population-2009/. Belgian, Italian and German men: Estimates from Generations & Gender Programme data. Remaining countries for men, including Hungary: Willfuhr & Klusener. "The Evolution of Mean Paternal Age from 1900 to the Present Day – Are today's father really older than back in the days?" Working Paper: Max-Planck Institute for Demographic Research, Rostock, Germany. https://cdn.uclouvain.be/public/Exports%20reddot/demo/documents/cq16_kai.pdf

[29] The mean age for Hungary is from the year 2000.

R's country)' vs. 'otherwise'.[30] The original question asks, "Where does child N live?" Response categories range from 'in the same household' to 'more than 500 kilometers away in another country.' If no offspring live in the house, or if all co-residing offspring are below the normative age of first home-leaving, then the respondent is coded in the reference category.

Two focal independent variables capture negative event stressors. *ALOO divorced* is defined as R has at least one divorced / separated / widowed offspring. It is binary and its categories are 'R has at least one offspring that is divorced / separated/ widowed' vs. 'otherwise'. The original question was: "What is the marital status of child N?," with options 'married and living together with spouse,' 'registered partnership,' 'married, living separated from spouse,' 'never married,' 'divorced,' and 'widowed.' If no offspring are 'divorced,' 'widowed,' or 'married, living separated from spouse,' then the respondent is coded into the reference category. *ALOO unemployed* is defined as R has at least one unemployed offspring. It is binary and has the categories 'R has at least one offspring that is unemployed' vs. 'otherwise'. The original question is "What is child N's employment status?," with original categories of 'full-time employed,' 'part-time employed,' 'self-employed or working for own family business,' 'unemployed,' 'in vocational training/retraining/education,' 'parental leave,' 'in retirement or early retirement,' 'permanently sick or disabled,' 'looking after home or family,' and 'other.' If no offspring are 'unemployed' then the respondent is coded into the reference category.

A number of offspring and parental controls are included in the analysis. *Total number of offspring* is a continuous variable with values 1 to 8+ and it includes offspring who are under 18 years of age. *Sex composition of offspring* is a 3 category nominal variable with the values 'all

[30] Iacovou & Skew. 2010. "Household structure in the EU," ISER Working Paper Series, No. 2010-10. Data are from the 2007 Community Statistics on Income and Living Conditions (EU-SILC) and non-parametric regression techniques calculate the age by which 50% of young people are observed living away from home.

offspring are female', 'all offspring are male', 'R has male and female offspring'. If respondents only have one child then they are categorized as either having all male or all female offspring. *Age group of oldest offspring* is a 3 category ordinal variable with values 'oldest offspring is younger than 30 years old', 'oldest offspring is between 30 and 39', 'oldest offspring is 40+ years old'. *ALOO minor* is a binary variable with values 'R has at least one offspring below age 18' v 'all of R's offspring are above age 18'. *R's age group* is a 4 category ordinal variable with values '50-55 years old', '56-60 years old', '61-65 years old', and '66-70 years old.' *R's Educational Level* has three categories which are 'completed less than high school education', 'completed high school', 'completed more than high school'. It is based on SHARE's mapping of country-specific responses to the International Standard Classification of Education (ISCED) measure which easily allows for cross-national comparison across Europe. *R's employment status* is a binary variable with categories 'employed' vs. 'retired, unemployed, and other'. *R's marital status* is a binary variable with categories 'married' vs. 'divorced, separated, widowed, and never-married'.

Controls for respondents' health include *R had depression before R's oldest offspring turned 18.* This is a binary variable with values 'R has suffered from at least one episode of depression before his / her oldest offspring turned 18' vs. 'otherwise'. This variable is constructed based on the question: "Has there been a time or times in your life when you suffered from symptoms of depression which lasted at least two weeks?" and is then tied to R's reported age at the time of this episode. This age / year in turn references if the age / year when R's oldest offspring turned 18. *Number of R's limitations with activities of daily life (ADL)* is a continuous variable that ranges from 0 to 6 and sums the number or limitations of ADL. Limitations include the inability to do the following activities for more than three months and

due to physical, mental, emotional, or memory problems: bathing / showering, doing work around the house / garden, dressing, eating, getting in or out of bed, and 9 other ADLs. *Number of R's diagnosed illnesses/medical conditions* is a continuous variable that ranges from 0 to 10 and sums the number of reported diagnosed illnesses/conditions, including Alzheimer's / dementia, arthritis, asthma, benign tumors, bone fractures, cancer, cataracts, cerebral vascular disease (stroke), chronic heart disease, and 8 other illnesses/conditions.

Data Analysis

Survey commands and the calibrated cross-sectional Wave 2 weights are used in Stata to account for complex sample design and generalization to national populations. Multiple linear regression is used for analysis of EURO-D. All analyses are stratified by parental sex because prior research demonstrates differences between men and women in their responses to stress, and gender differences in the relationship between certain offspring statuses and parental mental health. Separate country models are estimated because theory and empirical research suggest a high degree of heterogeneity in the association between different adult offspring statuses and parental mental health across Europe and the United States. For each country, significant differences between mothers and fathers in the depressive effects of offspring role statuses are directly tested in models with a single interaction term between parental sex and a given offspring status. I use country-level characteristics to contextualize potential systematic variation across countries for a given offspring role status and parental depression. For each study country, results generalize to the native-born national population between the ages of 50-70 (in 2007) who were not institutionalized or living abroad during the duration of the data collection process, and who have at least one offspring age 18 or older.

RESULTS

Due to the combination of small sample sizes in some countries, paired with offspring phenomena that were relatively rare for these countries in 2007 (e.g. the very low unemployment rates of Austria (4.4%), Denmark (2.8%) and Switzerland (2.8%), and the low divorce rate in Ireland (<13%)), very small cell sizes for key independent variables (<20) are observed for Austria, Denmark, Ireland, and Switzerland, matched with unstable model estimations. As such, these countries are excluded from the analysis. The remaining countries analyzed are Belgium, Czech Republic, France, Germany, Greece, Italy, the Netherlands, Poland, Spain, and Sweden.

Insert Table 1 about Here

Descriptive Statistics

Country-Level Descriptive Statistics

The mean ages of first home-leaving, first marriage, and first parenthood for countries provide a sense of the country-level normative environment regarding the timing of these transitions. They thus indicate the extent to which parental depression may vary across countries as a function of offspring not occupying certain roles by the normative age. Similarly, country-level divorce rates provide a sense of the acceptability of divorce and unemployment rates indicate how common this economic hardship is, indicating the extent to which parental depression may vary as a function of having divorced or unemployed offspring. Parents are expected to have poorer mental health if their offspring are divorced or unemployed and they live in a country with a low divorce rate or unemployment rate, respectively.

Across Europe, the 2007 mean age of home-leaving for females is younger than for males (Table 1). Young Swedes are the earliest to leave home (in their very early 20s), followed by Northern European countries which group closely together in the early 20s. The Central European countries of Czech Republic and Poland demonstrate the next highest mean ages of home-leaving which cluster around the mid to late 20s, while Mediterranean countries have the highest mean ages of home-leaving (late 20s to early 30s). This variation in the mean age of first home-leaving suggests that Scandinavian and Northern European parents would be the most sensitive to the depressive effects of delayed offspring home-leaving. Poland has the youngest mean ages of first marriage for the sample (mid to late 20s), followed by tight clustering of the Czech Republic, and Northern European and Mediterranean countries (late 20s to early 30s). The latest mean age of first marriage is observed in Sweden (early to mid-30s). Variation in the mean age of first marriage suggests that Polish parents would be the most sensitive to the depressive effects of delayed offspring marriage. The youngest mean ages of first childbirth are observed in Belgium (late 20s) and the Central European countries of Czech Republic and Poland (late 20s to 30). The remaining countries in Northern Europe, the Mediterranean, and Scandinavia cluster together (early 30s), with Spanish men having the highest mean age of first child bearing (34). This suggests that Polish and Czech parents would be the most sensitive to the depressive effects of delayed offspring childbearing. The lowest observed unemployment rates are in the Netherlands (4.6%) and Sweden (6.1%). Moderate unemployment rates (~7-8%) are observed to cluster in the remaining Northern European and Mediterranean countries, and the Czech Republic. Poland has the highest observed unemployment rate in the sample (12.8%). Given the lowest observed unemployment rates in the Netherlands and Sweden, these parents are expected to be the most sensitive to the depressive effects of offspring unemployment. The

lowest divorce rates in the sample (mid- to high 20%) are observed in the Mediterranean countries of Greece and Italy and in highly Catholic Poland. Slightly higher divorce rates (~45% - 55%) cluster amongst the Czech Republic, Sweden, and Northern countries, excepting Belgium which, paired with Spain, have the highest observed rates in the sample (~65%). Parents in Mediterranean countries and Poland may be the most sensitive to the depressive effects of offspring divorce.

Individual-Level Descriptive Statistics

Offspring Characteristics

Table 1 shows that in all countries, of those who have at least one offspring age 18+, parents have approximately 2 to 2.5 offspring on average. Approximately 50% of these parents have both female and male offspring. Around 5-10% of parents with at least one adult offspring also have at least one offspring under age 18. The mean reported age of respondent's oldest adult offspring was approximately 29 to 35 years old across all study countries. Descriptive statistics not shown here also demonstrate that the mean reported age of parents' youngest adult offspring is between 26 and 31. Keeping in mind that the sample contains mothers and fathers who are un-partnered, or not partnered with a spouse in the sample, the offspring of mothers are slightly older than the offspring of fathers in the sample. With the exception of mean age of first home-leaving, there is tight alignment between offspring mean ages and country- and sex- specific mean ages of transitions. Three notable exceptions are the cases of Belgium, the Czech Republic, and Poland in which the mean ages of first childbearing are well below the mean age

of sample offspring in these countries.[31] Additionally, in Poland the mean ages of first marriage are well below the mean ages of sample offspring.

Poland has the highest percentage of parents with ALOO co-residing (~25-30%). Parents in Mediterranean countries and Belgium demonstrate the next greatest percentage of ALOO co-residing (~17-23%), and the remaining Norther European countries cluster with Sweden and the Czech Republic as having the lowest percentage of ALOO co-residing (~7-15%).

Poland also has the highest percentage of parents with ALOO never married (~35-40%). This may well reflect the older mean age of the Polish sample offspring in relation to the younger ages of first marriage for Poland. The Western European countries of France and Germany contain the next highest percentages of parents with ALOO never-married (~25-30%), then followed by Mediterranean countries and the Czech Republic (~20-26%). Sweden and the Northern European countries of Belgium and the Netherlands contain the smallest percentage of parents with ALOO never-married (~15-20%). Descriptive statistics for Belgium, the Netherlands, and Sweden (not shown here) demonstrate that 15%, 20%, and 35% of parents, respectively, have an offspring who are in a registered partnership—a category in SHARE that is distinct from never-married and does not disclose if such a union is preceding or following a first marriage. This common partnership option in these Northern European and Scandinavian countries likely explains the small percentages of parents with at least one never-married offspring as coded with these data in these countries.

Sizable percentages of parents across sample countries have ALOO childless. The percentage of parents in this group is the largest in Italy and Spain (~35-45%). Belgium has the

[31] This is the case for Belgian mothers but not for Belgian fathers.

next highest percentage of parents with ALOO childless (~40%). Greece, the Central European countries of Czech Republic and Poland, the Northern European countries of France, Germany, and Netherlands, and Sweden cluster with the lowest observed percentage of parents with ALOO childless (~20-35%).

Poland has the largest percentage of parents with ALOO unemployed (~20-25%)—an unsurprising statistic given Poland's high unemployment rate in 2007 which is also the highest observed in the sample. Sweden, along with the bulk of Northern European countries—Belgium, France, and Germany—and the bulk of Mediterranean countries—Greece and Italy, cluster at approximately 10-15% of parents with ALOO unemployed. Czech Republic, Spain, and the Netherlands contain the smallest percentage of parents with ALOO unemployed (<8%).

The Czech Republic contains the highest percentage of parents with ALOO divorced (~14-20%). The Mediterranean countries of Greece and Italy contain the smallest percentage of parents with ALOO divorced (~3-8%). Parents in all of the remaining countries cluster between 6% and 12%.

Parental Characteristics

The majority of mothers and fathers in the sample (~30-40%) are ages 50-55. The majority of mothers and fathers in the Central European countries of Czech Republic and Poland, as well as in the Western European countries of France and Germany, completed secondary school. The majority of mothers and fathers in all remaining countries completed less than secondary school. Belgian and French mothers and fathers are the most educated in the sample. The majority of mothers and fathers in Sweden are still working, standing in contrast to the majority of mothers in all countries, and the majority of fathers in most countries who are retired

or engaged in non-work activities. The large majority of all parents are married, with the smallest observed percentages of married parents observed for mothers in Central European countries and Sweden (~60-65%). The mean number of Limitations in the Activities of Daily Life (ADL) is very small for the entire sample (<.25), perhaps reflecting the younger ages of this middle-aged sample. The mean number of illnesses for the sample is moderately sized, ranging from 1.2 to 2. In all countries, a higher percentage of mothers than fathers report having suffered from depression before their oldest offspring turned 18 years old.

Parental Depression

Table 2 shows that on average, mothers in the sample have more symptoms of depression than fathers by a factor of 1.5. The standard deviations across countries are small (~.1 for a 12 point scale) and mothers in half of the study countries have three symptoms or more. For each sex, Polish mothers and fathers have the greatest depressive symptomatology in the sample, with EURO-D scores of 3.83 and 2.81, respectively. Parents with the next greatest number of depressive symptoms in the sample are mothers and fathers in the Mediterranean countries of Italy and Spain and Western European mothers and fathers in Belgium and France (~3 and 1.5, respectively). This demonstrates the importance of doing research on parental depression in Europe and analyzing mothers and fathers separately. The remaining Northern European, Mediterranean, Central European, and Scandinavian countries in the sample cluster in their depression scores for mothers and fathers (2 and 1.5, respectively). Overall, this reflects a concentration of poorer mental health in Mediterranean countries, half of Northern European study countries, and in half of Central European study countries.

Insert Table 2 about Here

Offspring Roles & Parental Depressive Symptomatology

Overall, there are more significant findings for the depressive effects of delayed or unstable adulthood for fathers than for mothers, not supporting my hypothesis that mothers are more sensitive to the depressive effects of delayed adulthood than fathers. Given that the sample size for mothers in each country has approximately 150 more observations than for fathers, this does not appear to be the result of lack of power for the analysis of mothers.

Insert Table 3 about Here

Fathers

Looking at "non-event" stressors tied to delayed timing for offspring roles in Table 3, only for Polish fathers is there an observed significant relationship between a delayed offspring status and parental EURO-D depression score. On average, Polish fathers with ALOO never-married are .629 points ($p<.05$) more depressed on the EURO-D scale than Polish fathers who do not have ALOO never-married. However, given the fact that 20 regressions (10 for men and 10 for women) tested the relationship between offspring delayed marriage and parental depression, using a 95% confidence level, a chance finding which does not reflect true population-level relationships will be observed 5% of the time, or once in a study like this (.05 X 20 = 1). As such, I cautiously note that this finding for Poland supports two of my hypotheses: Parents of

offspring with delayed adulthood statuses have poorer mental health than parents with offspring not experiencing delayed adulthood.

Polish sensitivity analyses assessed if results for delayed timing were different from results which did not account for timing (e.g. 'having at least one never-married adult offspring of any age'). Results for the non-timing version of the variable are not significant, indicating that offspring timing for entering this adulthood role of marriage does matter for fathers' mental health in Poland. As discussed above in the descriptive statistics section, Poland's lone significant finding for an offspring status attainment tied to timing may reflect the fact that only the Polish sample contained a sizable percentage of offspring who were above the normative age of first marriage, primarily due to the fact that the mean ages of first marriage for Polish men and women are several years younger than the mean age of Polish offspring in the sample.

No other countries demonstrate a significant relationship between father's depressive score and offspring adulthood transitions tied to timing, or "non-event" stressors: Significant associations between depression and having ALOO never-married are observed for fathers in the Czech Republic. However, further investigation reveals high correlation between ALOO never-married and ALOO childless in the Czech Republic. A high correlation between ALOO co-resides, parental education, parental employment status, and parental illness in Belgium is also observed. These results require further investigation as significance changes when variables are added to the model.

As hypothesized, parental depressive symptomatology appears more sensitive to the "negative event" stressors of offspring unemployment and divorce than to the "non-event" stressors tied to offspring delays in establishing independent residence, marriage, and

parenthood. This interpretation is supported by the large number of significant findings for the negative event stressors in the model paired with the fact that the percentage of parents with any offspring occupying these roles is less than 10%. The most commonly observed, significant indicator of increased EURO-D depression scores for fathers is the negative event stressor of having ALOO unemployed. This significant relationship is only observed for fathers in Western European countries, namely France (β=.731, $p<.01$), Germany (β=.581, $p<.05$), and the Netherlands (β=.947, $p<.05$). On average, fathers with ALOO unemployed in these countries are approximately one point more depressed on the EURO-D scale than fathers who do not have ALOO unemployed—a sizable coefficient size on the EURO-D scale.

This is among the first research to document the association between offspring unemployment and parental mental health in Europe. The large size of the coefficient and the fact that it is observed across numerous countries suggests that this is an important component of fathers' mental health as offspring transition into adulthood. The clustering of significant findings in Western European countries with low to moderate unemployment rates (~5-8%) may provide support for my hypothesis that country normative context matters. Having an unemployed offspring in a country with a low unemployment rate is far less normative than having an unemployed offspring in a country with a high unemployment rate, and these findings provide some evidence that the former may take a toll on parental mental health. In contrast to other countries in the analysis with similar unemployment rates, all of these Western European countries are Conservative welfare regime countries which more heavily rely on family members to provide social support and which are generally less generous in providing unemployment benefits.

Regarding offspring difficulty in remaining in the adulthood role of marriage, a significant relationship between depressive score and the negative event stressor of offspring divorce is only observed for Italian fathers. On average, Italian fathers with ALOO divorced are 1.217 points ($p<.05$) more depressed on the EURO-D scale than Italian fathers who do not have ALOO divorced. Given that Italy has the lowest divorce rate in the sample, it may provide some support for the hypothesis that normative climate conditions the relationship between parental depression and offspring role status.

Insert Table 4 about Here

Unsurprisingly, fathers' physical ailments and history of poor mental health are associated with significantly higher EURO-D depression scores across countries while the depressive effects of fathers' current work and socioeconomic status are less commonly observed across countries (Table 3). In all study countries, an increase of one illness for fathers is significantly associated with a ~.3 unit increase on the EURO-D scale. Similarly, the effect size is large (~1 symptom) for each increase in the number of ADL limitations. On average, fathers who suffered from depression before their oldest offspring turned 18 have significantly greater depressive symptomatology than fathers who do not have this mental health history. Only in the Central European countries of Czech Republic and Poland and in the Western European country of Belgium do currently working fathers have significantly greater depressive scores than their non-working counterparts. Moreover, in Belgium and the Netherlands, more highly educated fathers have fewer depressive symptoms than their less educated counterparts. Only in Sweden

do fathers have significantly more depressive symptoms as their number of offspring increase and if their offspring are all female (versus a mixture of male and female).

Mothers

Broadly speaking, compared to European fathers, there is less evidence of significant relationships between the mental health of European mothers and their offspring's role attainments. Of the significant relationships that are observed, they are all for negative event stressors. The observed significant relationship between ALOO never-married and depressive symptoms for Polish mothers reflects high correlation between ALOO never-married and ALOO childless. Significance changes when variables are added to the model and this merits further investigation.

Only in Italy do mothers with ALOO unemployed have more depressive symptoms on the EURO-D scale than mothers who do not have ALOO unemployed. Similar to the results for European fathers, this approaches one point on the EURO-D scale (.685, $p<.05$) and Italy's unemployment rate for 2007 is low when compared to the rest of the countries in the analysis (6.2%). This finding again suggests the important role that offspring employment status has in influencing parental mental health. I directly test if the relationship between parental depressive symptomatology and ALOO unemployed differs between mothers and fathers in countries with significant findings for either (Table 5). Although the main effect of ALOO unemployed is significant in France, Germany, and Netherlands, there is no significant difference between mothers and fathers in the depressive effect of ALOO unemployed. (Further investigation reveals high correlations between ALOO co-resides, ALOO divorced, and mother's education level for mothers in Italy. Again, significance changes as variables are added to the models and this merits further investigation.)

Insert Table 5 about Here

Greek mothers with ALOO divorced have almost one more depressive symptom (.845, $p<.01$) on the EURO-D scale than Greek mothers who do not have ALOO unemployed (Table 4). This is unsurprising given that Greece's divorce rate is amongst the lowest in the sample. It is worthwhile to note that having ALOO divorced is only observed to negatively affect mental health in Mediterranean countries (for Greek mothers and for Italian fathers), clustering which supports the notion that depression scores will be greater for parents of divorced offspring who live in countries with low divorce rates. I directly test (Table 6) if the relationship between parental depressive score and ALOO divorce differs between mothers and fathers by testing the interaction between parental sex and ALOO divorced. There is no significant difference between Italian mothers and fathers in the depressive effect of ALOO divorce. On average, Greek mothers with at least one divorced offspring are .764 points ($p<.001$) more depressed on the EURO-D scale than Greek mothers with no divorced offspring ((-.383 + .437 + 1.147) - .437). In contrast, Greek fathers with at least on divorced offspring are .383 points *less* depressed on the EURO-D scale than Greek fathers with no divorced offspring. The largest difference is between Greek mothers and fathers with a divorced offspring: Greek mothers with a divorced offspring have 1.584 more depressive symptoms than Greek fathers with a divorced offspring ((-.383 + .437 + 1.147) - -.383)—a sizable difference. Although explanations for the observed gender differences in the depressive effects of offspring divorce across Mediterranean countries are not apparent, these findings together indicate that offspring divorce does have a meaningful impact

on parental depression in these Mediterranean countries with low divorce rates. (The observed significant relationship between depressive score and ALOO divorced in Czech Republic reflects high correlation between ALOO divorced and offspring age, parental age, and parental number of ADL limitations. Significance changes as variables are added to the model and this merits more investigation.)

Insert Table 6 about Here

Similar to fathers, mothers' physical ailments and history of poor mental health are associated with significantly higher EURO-D depression scores across countries. However, unlike fathers, mothers' age and marital status are also significantly associated with depressive score across most study countries (Table 4): In all study countries, an increase of one illness for mothers is significantly associated with a ~.3 unit increase on the EURO-D scale. Similar to fathers, the effect size is particularly large (~1) for each increase in the number of ADL limitations in most countries. On average, mothers who suffered from depression before their oldest offspring turned 18 are significantly more depressed (~1 unit on the EURO-D scale) than mothers who do not have this mental health history. On average, older mothers have lesser depressive symptomatology than their younger counterparts in most countries, while being married (as opposed to other statuses) is associated with lower depressive scores in Central Europe and the Netherlands and higher depressive scores in Italy. A significant relationship between mothers' current work and socioeconomic status are more commonly observed across countries than for fathers. Working women in Spain, Sweden, and the Czech Republic have more depressive symptoms than their non-working counterparts while more highly educated

women have fewer depressive symptoms than less educated women in France, Italy and the Czech Republic. Mothers in Germany and Sweden have significantly higher depressive scores as their offspring age and if they have all male offspring. The opposite is true in the Netherlands.

In considering how well the models in this investigation explain variation in parental depressive symptomatology in study countries, the models explain the most variation for fathers in Germany and Central Europe (R^2=~.30). A moderate amount of variation in parental depressive symptomatology (R^2~.20) is explained by the models for mothers in Scandinavia, Central Europe, and for mothers and fathers in most Mediterranean countries and Belgium. These models explain the least variation (R^2~.10) for fathers in the Scandinavian country of Sweden and for mothers and fathers in Greece and many Western European countries. Table 7 provides a summary of significant findings for fathers and mothers.

Insert Table 7 about Here

Sensitivity Analyses

A number of sensitivity analyses were performed for three primary reasons: 1) To test if delayed timing may be better captured by using more extreme cases of delay, 2) To test whether delayed transitions mattered as opposed to non-transitions not tied to timing, and, 3) To assess if other methodological approaches might be more appropriate given the correlation between numerous offspring statuses. Utilizing the sex and age of each reported offspring, variables were originally coded to capture offspring who did not occupy a given adult role (living outside the parental home, being ever married, being a parent) by the age at which 75% of the sex- and

country-specific population had made the given transition according to population-level, cross-sectional data for 2007. However, for a number of variables, descriptive statistics (not shown) revealed that too few offspring in the sample both failed to occupy given roles and to be above the age of the 75th percentile for such statuses, resulting in cell sizes that were too small for stable coefficient estimation (<20). As a result, normative timing with reference to the country and sex-specific mean ages of such transitions are instead used. By orienting offspring delayed transition in reference to the mean age of each transition type for each country, models assess if 'delayed adulthood' in particular has a negative effect on parental health—versus general failure to occupy certain roles. Sensitivity analyses assessed if the delayed timing of occupying adult statuses matters for parental mental health or if offspring not occupying certain statuses in general (e.g. without reference to timing) is similarly significant for parental mental health. These latter models utilized versions of the variables which capture if offspring do not occupy given statuses, but there is no reference to offspring being above the normative age for occupying a given status. Results for variables not tied to timing (being divorced or unemployed) were almost identical across the two models. Regarding variables tied to timing, there was only one difference between the two models: For Polish fathers, timing of offspring remaining unmarried is significant where the general status of offspring being unmarried is not. This suggests that delays in offspring transitions, as opposed to offspring not occupying certain roles in general, may be important for parental mental health.

Given the fact that the adult roles studied herein can be highly correlated with each other and may result in unstable or unreliable model estimation, Latent Class Analyses were conducted to assess if offspring role attainments (within a family / for a parent) grouped together to inform classes of parental /family situations. The results of the latent class analyses demonstrated that

although certain characteristics of offspring did group together, such as being married and having children, many of the individual statuses did not demonstrate good separation, or the high vs. low probability that individuals with the observed status would be a member of a given class. As class distinction was not high, a latent class analysis is an inappropriate method for this project.

Sensitivity analyses (not shown) were performed to test if results varied between the exposure models of "at least one child" and models which summed the number of children occupying a given status. For men and women in the large majority of countries, results were nearly identical across both types of models. However, the effects of some of the count variables in certain countries were not replicated in the ALOO models and further investigation reveals that these count variables have long, right tails in their distributions which may be influencing the estimation of coefficients in the count models. Similarly, in the ALOO models, two countries for men proved to have significant coefficients for certain offspring statuses which were not significant in the count models—perhaps suggesting a non-linear relationship and instead a dose response, or the importance of capturing the effect of "at least one" offspring's status.

Sensitivity analyses were also conducted with the adult offspring relationship status of "un-partnered and never married," e.g. never married and not cohabiting, to test whether results varied from models which utilized the variable of "never married," in which offspring could be cohabiting or not. Results were the same in many countries, yet in some countries the models for "un-partnered and never married" were unstable due to high correlation between being un-partnered and childless.

Given null results for approximately half of the countries for fathers and two-thirds of the countries for mothers, I assessed whether there was any association between parental mental

health and the sum of all 'at least one' suboptimal offspring statuses together (never married, co-residing with parent, childless, unemployed, divorced). No significant relationships are observed for mothers while the few significant relationships observed for fathers reflect the findings of the selected, final models which identify the effect of each status separately as opposed to as part of a sum of all statuses. In order to asses if successful offspring transitions (e.g. offspring who are living independently, married, have children, and are employed) have a significant relationship with parental depressive symptomatology, models were estimated including each of these statuses. No individual status demonstrated a significant relationship with parental depressive symptomatology in any country. A summed count of all successful offspring statuses for all offspring was then tested and again no significant relationships are observed. To test if the gender of adult offspring significantly contributes to differences in the effects of offspring statuses on parental mental health, variables could be constructed in the form of "at least one adult, female offspring is…" However, descriptive statistics (not shown) reveal that cell sizes are too small for this construction of the focal variables and that the sample size for each country is too small to support this deeper level of detail in the analysis. However, all timing variables in the final analyses ("at least one child is... past the mean age for this transition) still operationalize "delayed timing" by each individual child's sex and age in reference to country-specific mean ages of transition by sex. As such, normative timing is still captured in reference to each offspring's gender, but the effect of offspring gender itself is not evident in the final analysis.

Conclusion

The goal of this investigation was to assess the parental depressive effect of offspring's delayed or unstable adulthood by testing the effects of all major adulthood roles, net of each

other. In doing so, I assessed potential differences between mothers' and fathers' responses to these stressors, teased out distinctions in the depressive effects of "non-event" stressors (capturing delayed timing in occupying an adult role) vs. negative event stressors (capturing adulthood instability and the loss of a prior-held adulthood role). I structured the analysis to test all of these components in a comparative fashion in order to assess if country normative context may play an important role in conditioning parental depressive responses to offspring delays or instability in obtaining/maintaining adulthood roles.

Overall, I find more evidence that delayed or unstable adulthood affect fathers rather than mothers, primarily because of the widely observed depressive effect of offspring unemployment on fathers. This interpretation is further supported by the fact that the sample sizes for mothers in each country are larger than for fathers, indicating that models for mothers had more power, yet fewer significant findings are observed. However, analyses which directly test for significant differences between mothers and fathers for all offspring statuses demonstrate no significant differences except for the effect of offspring divorce in Greece. Potential gender differences in the observed depressive effects of offspring role attainments warrant further investigation in future research.

In looking specifically at delayed adulthood and "non-event" stressors, I cautiously conclude that findings from this investigation support my first hypothesis that European middle-aged parents with offspring who do not occupy adult roles by a normative age (e.g. independent residence, marriage, and parenthood) will be more depressed than parents whose offspring either do occupy adult roles by a normative age or whose offspring are not yet of age for the given transition. For Poland, offspring delay in occupying the adult status of being married, associated with "delayed adulthood," matters for older fathers' mental health. Given the tight alignment of

mean ages of offspring in the sample and the mean ages at which individuals made a number of adulthood transitions across these European study countries in 2007, it is not surprising that significant results for this "non-event" stressor are only observed for Poland whose mean ages of transition to first marriage are well below the mean age of Polish offspring in the sample. Polish sensitivity analyses assessed if results for delayed timing were different from results which did not account for timing (e.g. 'having at least one never-married adult offspring of any age'). Non-significant results for the non-timing version of the variable indicate that offspring timing for entering this adulthood role of marriage does indeed matter for fathers' mental health. However, the multiple tests of this association across sex and country increase the possibility that this is a chance occurrence and means that this result should be viewed with caution.

Given the alignment of mean ages of offspring in the sample and the older mean ages at which a number of adult role transitions occur across these European study countries, it is plausible that delayed adulthood is an important phenomenon for parental mental health in many other European countries, yet this phenomenon will be more completely captured when offspring are a few years older. Poland's single finding does not provide clear support for my hypothesis that country context matters for "non-event" stressors of delayed adulthood. Given the tight alignment between mean age of offspring in the sample and mean ages of numerous transitions, it is far from clear if the observed null findings provide support for the hypothesis that parental mental health will not suffer if offspring occupy delayed adulthood statuses in normative environments with benign attitudes towards the status.

In contrast, looking at instability in adulthood and "negative-event" stressors, findings from this investigation support hypotheses 2, 3, and 4: 1) Parents of offspring who are experiencing instability in maintaining an adulthood role (e.g. unemployment or divorce) will

have more depressive symptoms than parents whose offspring are not experiencing such instability in adulthood, 2) Country normative context may importantly influence individual-level relationships between parental depressive symptomatology and offspring role statuses, and 3) Parents are more sensitive to negative event stressors than to "non-event" stressors. Of the five countries with significant findings for fathers, the findings for France, Germany, Italy, and the Netherlands were exclusively for negative-event stressors. All of the findings for mothers, in Greece and Italy, were similarly for negative event stressors. The small percentages of offspring in negative event categories (<10%) strongly supports the conclusion that the mental health of parents is more sensitive to negative-event adult offspring stressors than to "non-event" offspring stressors.

The most commonly observed, significant indicator of increased parental depressive symptoms in the analysis was that of having at least one unemployed offspring. Moreover, the coefficient size is large in all observed countries—approximately one point (symptom) on the EURO-D scale. This investigation is among the first to estimate the effect of offspring unemployment on parental mental health in Europe. Given Europe's history of high unemployment rates and the fact that young Europeans are taking longer to find job stability, these commonly observed and strong effect sizes for offspring unemployment importantly confirm that the long-arm of delayed adulthood does indeed, negatively affect the mental health of older European parents. For fathers, these findings cluster in France, Germany, and the Netherlands and in Italy for mothers—countries with low to moderate unemployment rates for the sample (<=8%) and countries which are all Conservative/Mediterranean Conservative welfare regimes.

Although concerns of study-wide significance levels using 95% confidence levels predict 5 significant coefficients when 20 models assess 5 focal variables (.05 X (20 X 5) = 5), four countries with significant findings for the same variable—offspring unemployment—provide more confidence that these findings are not chance findings. Due to gender differences in the age at which parents had a first child, the average age of fathers' oldest offspring in France and Germany is ~3-4 years younger than those of mothers' oldest offspring. (Recall that approximately 30-40% of fathers and mothers in the analysis are not married, thus their offspring are not tied to another respondent in the analysis.) As such, fathers' sensitivity to offspring unemployment in these countries may be capturing offspring early-career unemployment or delays in entering a stable first job—a well-documented and concerning phenomenon for this birth cohort of offspring (born ~1975 to 1985) which may not be captured for mothers with older offspring. However, this cannot explain observed significant findings for the depressive effect of offspring unemployment for fathers in the Netherlands or for mothers in Italy. Moreover, the reference category for offspring unemployment includes offspring who are still in education, working full-time and part-time, disabled, etc. In consideration of this broad reference group, which would bias results against my hypotheses, the observed significant findings for offspring unemployment in a number of countries provides further support for its distinct association with parental depression. The sensitivity of parents to this negative event stressor is also consistent with observed findings for the negative event stressor of offspring divorce…

Offspring divorce demonstrates the second most commonly observed, significant relationship with parental depressive symptoms in the analysis, observed for Italian fathers and Greek mothers. These results are strong (approximately one point on the EURO-D scale) and clustered in the Mediterranean countries which have the lowest observed divorce rates in the

sample (<=27%). These results provide evidence that parental mental health suffers in contexts where adult offspring occupy statuses that are non-normative. It is possible that the lack of observed, significant relationships between parental depressive symptoms and offspring divorce are not observed in other study countries because divorce is quite normative in the majority of these countries, with a divorce rate of approximately 50% or higher. However, this cannot be stated conclusively.

A Note on Null Findings

Once the sample restrictions are imposed and the analysis is stratified to account for gender differences in psychological responses to stress, sample sizes in each county approximate N=600. When studying a relatively uncommon phenomenon, such as divorce in a Catholic country or unemployment in a country with a very low unemployment rates, the relationships between parental depression and relatively rare offspring statuses are more difficult to capture.

Further addressing possible explanations for null findings, for most countries in the analysis, the mean ages of offspring very tightly align with the mean ages of numerous status transitions in the year of data collection (2007). For most countries this results in offspring being very close to the mean ages of transitions, leading to two possible results: 1) low power with regards to the number of offspring who have not had a given transition *and* who are above the mean age of transition for their country in 2007, and 2) The very likely possibility that being slightly above the normative age for a transition still does not socially signal "non-normative" timing—thus the given status, measured so close to the mean, may not have a depressive effect on parents. Attempts to test offspring delays in status attainment past the 75th percentile age of given transitions was not possible due to resultant very small cell sizes. Additionally, due to data unavailability for the offspring birth cohorts in this analysis, country and sex-specific mean ages

of each transition are derived from nationally provided, cross-sectional data that are based on the transition rates of numerous birth cohorts (and not exclusively on the predominant offspring birth cohort of 1970-1980 in these data) . Thus, it is also possible that the most optimal cut-points for the mean ages of this specific cohort's transitions are not utilized because they are not currently documented or known. As such, cell sizes above the utilized mean ages of transitions may be smaller than they would otherwise be using a cohort-specific mean age and some offspring with delayed transitions for this cohort may not be included in the delayed groups, reducing the ability to accurately capture all offspring delays.

The lack of significant findings for offspring relationship/family statuses may also be due to the fact that there were four simultaneously tested relationship/family status variables. This means that there were 16 possible family status categories for offspring (2^4=16). Descriptive statistics of joint distributions with additional conditions reveal that 1 to 2 cells of these 16 categories contain sampling zeros in some countries. (This is not a problem for model estimation in linear regression although it may somewhat bias the results.) Sensitivity analyses assessed the depressive effect of the sum of offspring negative family statuses and results were identical to the findings herein presented (e.g. countries with a significant relationship between parental EURO-D depression score and the sum of offspring family statuses are the same countries with significant relationships between EURO-D depression score and specific offspring family statuses). A contributing factor to null findings may also be the fact that 17% of parents have only one offspring, thus limiting the number of potential negative family statuses of offspring for these parents.

Some non-significant relationships may also be the result of less than complete data. For example, if parents report that their offspring are in a registered partnership, there is no way to

determine if these are partnerships before or after a first marriage, thus making the "never married" variable less complete in Belgium and Sweden where sizable proportions of parents have an offspring in such a union and a sizable proportion of these offspring may indeed be 'never married'.

Limitations of the Analysis

The data available to answer the comparative research questions herein posed for Europe are limited. SHARE provides some of the best available data for an investigation which assesses numerous offspring statuses in relation to parental depression for a number of European countries, yet there are limitations to the data and thus to the analysis herein conducted. Unlike analogous investigations which have a sample size of approximately N=4,000 and focus on a single country in Europe (Kalmijn et. al. 2012) or the United States using the Health and Retirement Survey (Hammersmith 2014), the sample size for each individual country in SHARE is approximately N=600 once sample restrictions are imposed and the analysis is stratified to account for gender differences in psychological responses to stress. When studying a relatively uncommon phenomenon, a sample size of N=600 may be too small. This was certainly the case for Austria, Denmark, Ireland, Switzerland and Israel which all had to be excluded from this analysis due to very small cell sizes and unstable model estimation.

Given the cross-sectional nature of the data and parental reports of offspring statuses which do not retrospectively address offspring's prior statuses or the years in which they made different transitions (or not), these cross-sectional data may not fully capture specific offspring statuses. For example, it is not clear if offspring who currently live with parents may have left the parental home in the past and then returned—thus not technically being a delayed "home-leaver". Similarly, if parents report that their offspring are in a registered partnership, there is no

way to determine if these are partnerships before or after a first marriage, thus making the "never married" variable less complete in Belgium and Sweden. Additionally, it is not possible to determine if unemployed offspring in the sample are waiting to begin a first job (indicating a non-event stressor and delayed adulthood) or have had prior employment before their current unemployment (indicating unstable adulthood and a negative-event stressor). Lastly, a strong, positive relationship between parental mental health and adult offspring physical and mental health has been documented in the literature (Pillemer & Suitor 1991; Greenfield & Marks 2006; Milkie et al 2008; Fingerman et al 2011). It is important and ideal to control for such adult offspring characteristics, however, SHARE does not ask any questions about offspring mental or physical health, so it is not possible to control for these offspring characteristics.

Doing an analysis in which numerous focal variables may be highly correlated with each other increases the likelihood of results which are unreliable. Such unreliable findings are observed in Belgium, the Czech Republic, and to some degree in Italy. Doing a latent class analysis to see how the focal variables cluster was unfortunately not feasible in this analysis due to the observed poor separation of the data, or the fact that individual variables were not clearly loading into distinct classes (i.e. the probability of class membership was between .3 and .7).

Given the limited number of datasets which contain information on the mental health of Europeans born pre-1960 and which contain detailed information on their offspring who are experiencing the phenomenon of delayed adulthood, future researchers should consider the following options when investigating the relationship between parental depression and adult offspring role attainments: 1) Encourage SHARE and similar data sources to aim for larger sample sizes in order to investigate what may be small numbers of offspring delays due to the relatively young ages of these offspring cohorts in relation of the mean ages of first transitions,

2) Coordinate cross-national investigations which utilize country-specific datasets with large Ns, making sure that measurements and model estimations across countries are similar or identical, 3) Directly investigate gender differences in the observed depressive effects of offspring role attainments, and, if possible, 4) Directly test the conditioning role that country-context may play in influencing the relationship between parental depression and offspring delayed/unsuccessful adulthood roles.

The findings in this investigation are amongst the first to cross-nationally investigate the relationship between numerous offspring adulthood roles and parental depression. Offspring unemployment has the most commonly observed depressive effect on parents, followed by offspring divorce. Thus, parents' depression appears more sensitive to negative event stressors (e.g. unemployment and divorce) rather than "non-event" stressors (e.g. delayed family transitions) for their offspring. Moreover, country normative context appears to condition the relationship between parental depressive symptoms and offspring role status—in particular for offspring divorce. With caution, I conclude that delays in occupying adulthood roles, and marriage in particular, may have a depressive effect on parents (in countries where delayed transitions can be successfully measured). Although fathers appear to be more sensitive to offspring delayed/unsuccessful adulthood than mothers, significant differences between mothers and fathers are not observed.

Figure 1: Sample Attrition, Subpopulation Selection, and Missing for Final Sample Size, SHARE Waves 1-2, 2007

	Total	Austria	Belgium	Czech R.	Denmark	France	Germany	Greece	Ireland	Israel	Italy	Netherlands	Poland	Spain	Sweden	Switzerland
Wave 1 N	30,042	1,552	3,744	0	1,674	3,057	2,981	2,807	0	2,436	2,534	2,951	0	2,302	3,022	982
Attrition from W1 to W2	-9,530	-437	-942	0	-443	-1,090	-1,398	-447	0	-764	-782	-1,167	0	-834	-959	-267
W1 Spouses Enter W2 Sample	+1,430	+56	+79	0	+40	+43	+89	+19	0	+208	+211	+104	0	+391	+151	+39
W2 Refresher Sample / New Countries	+14,314	+11	+249	2,669	+1,277	+869	+913	+859	1,007	+542	+968	+750	2,425	+523	+547	+705
Wave 2 N	36,256	1,182	3,130	2,669	2,548	2,879	2,585	3,238	1,007	2,422	2,931	2,638	2,425	2,382	2,761	1,459
Sample Restrictions																
Excluding Persons >70 yrs	-11,268	-407	-1,006	-734	-740	-958	-740	-1,022	-279	-743	-921	-704	-694	-958	-913	-449
Excluding persons <50 yrs	-33	0	0	0	0	0	0	0	0	-33	0	0	0	0	0	0
Excluding Non-Natives (ages 50-70)	-2,753	-58	-158	-85	-74	-324	-323	-52	-59	-919	-32	-143	-39	-114	-213	-160
Excl. R w/o Adult Offspring (who are Natives & 50-70)	-2,662	-91	-230	-131	-167	-214	-205	-267	-137	-107	-245	-234	-140	-206	-132	-156
Initial Analytic Sample	19,540	626	1,736	1,719	1,567	1,393	1,307	1,897	532	620	1,733	1,557	1,552	1,104	1,503	694
Excluding R w Missing Data	-1,285	-38	-122	-107	-97	-145	-76	-74	-16	-92	-81	-110	-66	-102	-116	-43
Excluding Countries w/ Small Samples	-3,753	-588	0	0	-1,470	0	0	0	-516	-528	0	0	0	0	0	-651
Final Analytic Sample	**14,502**	**0**	**1,614**	**1,612**	**0**	**1,248**	**1,231**	**1,823**	**0**	**0**	**1,652**	**1,447**	**1,486**	**1,002**	**1,387**	**0**

Table 1: Percentages & Means Weighted for the Entire Analytic Sample of Fathers & Mothers, N=14,502, SHARE Waves 1-2, 2007 and Country-Level Means

			Western Europe							
	TOTAL		Belgium		France		Germany		Netherlands	
	Fathers (N=6,384)	Mothers (N=8,118)	Fathers (N=735)	Mothers (N=879)	Fathers (N=541)	Mothers (N=707)	Fathers (N=554)	Mothers (N=677)	Fathers (N=628)	Mothers (N=819)
COUNTRY-LEVEL CHARACTERISTICS:										
Mean Age of Home-Leaving for Men in 2007[1]	N/A		24		24		25		24	
Mean Age of Home-Leaving for Women in 2007[1]	N/A		23		22		22		24	
Mean Age of First Mariage for Men in 2007[2]	N/A		30		31		33		33	
Mean Age of First Mariage for Women in 2007[2]	N/A		28		29		30		30	
Mean Age of First Childbearing for Men in 2007[3]	N/A		29		33		33		33	
Mean Age of First Childbearing for Women in 2007[4]	N/A		28		29		30		29	
Unemployment Rate 2007 (%)[5]	7		7.5		7.9		7.1		4.6	
Divorce Rate 2007 (%, per 100 marriages)[6]	N/A		68		52		55		45	
REPORTED OFFSPRING CHARACTERISTICS:										
Number of Offspring (Mean)	2.27	2.26	2.22	2.17	2.38	2.33	2.14	2.15	2.4	2.39
Sex Composition of Offspring										
Mixed Male & Female	52.58	51.87	47.59	46.3	54.64	53.08	45.7	47.46	58.01	57.61
All Male	24.65	25.4	27.44	28.94	22.31	23.41	27.83	28.02	20.21	24.27
All Female	22.78	22.72	24.97	24.75	23.04	23.51	26.47	24.52	21.78	18.12
At Least One Offspring is a Minor (vs. All Offspring are 18+)	12.25	5.51	10	2.81	11.14	6.4	13.78	4.42	12.79	8.37
Mean Age of All Offspring in a Family	29.65	32.6	30.5	33.01	29.22	32.04	30.45	33.53	29.61	31.38
Focal Independent Variables										
At Least One Offspring Lives at Home Past Mean Age of Home Leaving in 2007 (%)	14.96	17.45	18.58	16.46	8.94	9.76	11.38	10.48	7.07	8.83
At Least One Offspring is Never Married Past Mean Age of First Marriage in 2007 (%)	24.01	28.07	18.05	20.74	24.74	29.84	24.53	30.4	16.55	18.79
At Least One Offspring is Childless Past Mean Age of First Childbearing in 2007 (%)	29.81	35.6	32.42	39.22	22.63	26.24	27.87	34.62	28.94	31.72
At Least One Offspring is Unemployed (%)	11.04	12.26	12.16	9.64	9.34	10.15	9.31	13.58	5.61	3.32
At Least One Offspring is Divorced (%)	7.59	10.29	7.79	12.65	8.17	8.78	9.3	13.55	6.31	6.38
RESPONDENT (PARENTAL) CHARACTERISTICS:										
Age Group in 2007										
50-55	35.47	35.26	34.89	35.05	38.13	33.39	33.8	34.21	36.81	37.81
56-60	25.05	25.83	29.78	28.2	29.43	30.7	21.52	19.88	25.5	28.42
61-65	21.36	20.92	20.95	20.29	17.62	19.69	22.74	22.9	23.52	19.98
66-70	18.11	17.99	14.38	16.46	14.83	16.23	21.94	23.01	14.17	13.79
Highest Educational Level Attained										
Completed Less than Secondary School	34.82	44.09	40.33	44.86	25.25	40.95	4.8	13.89	41.43	51.5
Completed Secondary School	42.62	39.95	26.86	29.28	47.86	37.59	57.39	61.22	27.73	27.5
Completed College or Graduate School	22.56	15.96	32.81	25.85	26.89	21.46	37.81	24.89	30.84	21
Employment Status										
Employed	48.5	32.54	46.2	31.57	47.97	41.84	49.02	39.33	56.1	40.86
Retired / Unemployed / Other	51.5	67.46	53.8	68.43	52.03	58.16	50.98	60.67	43.9	59.14
Married (vs. Divorced / Separated / Widowed / Cohabiting)	85.88	70.24	83.92	73.06	84.61	69.72	86.05	66.19	84.53	73.58
Depressed before Oldest Offspring Turned 18	10.63	18.12	16.77	26.62	16.11	31.51	10.45	15.71	12.8	20.09
Number of Limitations of Activities of Daily Life (Mean, Scale 0-6)	0.09	0.1	0.13	0.1	0.06	0.07	0.12	0.07	0.06	0.08
Number of Illnesses (Mean, Scale 0-10)	1.29	1.43	1.17	1.38	1.22	1.25	1.28	1.2	1	1.11

1. Iacovou & Skew. 2010. "Household structure in the EU," ISER Working Paper Series, No. 2010-10. 2007 Community Statistics on Income and Living Conditions (EU-SILC)

2. UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/052_en_GEFHAge1stMarige_r.px/?rxid=d99823e1-b6a1-4449-91d0-d950c0a90d6d

3. Numerous sources. See footnote #7 in the 'Measures' section of this paper.

4. UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/04_en_GEFHAge1stChild_r.px/table/tableViewLayout1/?rxid=19ddf31b-6ebe-43cc-9c07-97754bcda1e8.

5. Index Mundi: https://www.indexmundi.com/g/r.aspx?v=74

6. Spijker, Jeroen, and Montse Solsona. 2012. "Atlas of divorce and post-divorce indicators in Europe." Papers de Demografia 412: 1-110. Utilizes Eurostat data. The divorce rate reflects the number of divorces per 100 marriages during one calendar year.

Table 1 (Cont'd): Percentages & Means Weighted for the Entire Analytic Sample of Fathers & Mothers, N=14,502, SHARE Waves 1-2, 2007 and Country-Level Means														
			Mediterranean						Scandinavia		Central Europe			
	TOTAL		Greece		Italy		Spain		Sweden		Czech R.		Poland	
	Fathers (N=6,384)	Mothers (N=8,118)	Fathers (N=836)	Mothers (N=987)	Fathers (N=727)	Mothers (N=925)	Fathers (N=455)	Mothers (N=547)	Fathers (N=607)	Mothers (N=780)	Fathers (N=681)	Mothers (N=931)	Fathers (N=620)	Mothers (N=866)
COUNTRY-LEVEL CHARACTERISTICS:														
Mean Age of Home-Leaving for Men in 2007[1]	N/A		32		30		29		21		28		29	
Mean Age of Home-Leaving for Women in 2007[1]	N/A		27		28		27		20		25		26	
Mean Age of First Marriage for Men in 2007[2]	N/A		32		33		32		35		31		27	
Mean Age of First Marriage for Women in 2007[2]	N/A		28		29		30		32		28		25	
Mean Age of First Childbearing for Men in 2007[3]	N/A		34		30		34		31		30		30	
Mean Age of First Childbearing for Women in 2007[4]	N/A		31		30		29		29		27		26	
Unemployment Rate 2007 (%)[5]	7		8.3		6.2		8.3		6.1		6.6		12.8	
Divorce Rate 2007 (%, per 100 marriages)[6]	N/A		27		23		63		45		56		28	
REPORTED OFFSPRING CHARACTERISTICS:														
Number of Offspring (Mean)	2.27	2.26	2.13	2.06	2.08	2.12	2.38	2.34	2.49	2.39	2.09	2.01	2.47	2.46
Sex Composition of Offspring														
Mixed Male & Female	52.58	51.87	50.02	48.44	50.61	49.27	58.41	56	58.73	55.98	43.22	45.23	58.37	57.07
All Male	24.65	25.4	26.11	26.86	28.72	27.54	22.73	27.12	20.44	19.89	29.6	26.41	19.65	21.02
All Female	22.78	22.72	23.87	24.7	20.66	23.19	18.86	16.88	20.83	24.13	27.17	28.36	21.98	21.91
At Least One Offspring is a Minor (vs. All Offspring are 18+)	12.25	5.51	10.95	2.51	13.57	5.69	10.61	6.84	14.19	6.12	7.22	3.72	11.95	6.06
Mean Age of All Offspring in a Family	29.65	32.6	27.56	32.3	29.39	32.83	29.05	31.15	30.25	32.8	30.83	33.21	29.38	32.64
Focal Independent Variables														
At Least One Offspring Lives at Home Post Mean Age of Home Leaving in 2007 (%)	14.96	17.45	16.96	21.69	17.57	23.54	19.1	22.88	7.23	6.74	12.6	16.11	24.6	31.76
At Least One Offspring is Never Married Post Mean Age of First Marriage in 2007 (%)	24.01	28.07	18.05	27.8	20.07	23.94	21.53	24.42	12.08	16.04	22.32	25.31	38.11	36.14
At Least One Offspring is Childless Post Mean Age of First Childbearing in 2007 (%)	29.81	35.6	13.08	25.48	35.46	45.49	30.9	36.28	29.9	30.77	30.24	30.04	29.9	33.36
At Least One Offspring is Unemployed (%)	11.04	12.26	14.68	9.9	13.99	14.21	8.72	6.05	9.81	10.98	7.55	5.92	20.07	24.96
At Least One Offspring is Divorced (%)	7.59	10.29	3.18	7.88	3.17	5.13	6.88	7.2	6.19	11.3	13.69	18.9	9.28	13.2
RESPONDENT (PARENTAL) CHARACTERISTICS:														
Age Group in 2007														
50-55	35.47	35.26	33.87	35.42	35.15	34.22	33.8	39.84	30.43	31.08	36.16	34.29	42.07	39.36
56-60	25.05	25.83	28.39	24.66	21.1	24.4	19.47	22.02	25.16	26.73	29.58	31.06	28.81	30.98
61-65	21.36	20.92	20.78	22.14	22.22	20.86	24.57	22.72	26.06	24.63	22.48	23.02	16.45	15.82
66-70	18.11	17.99	16.96	17.79	21.53	20.52	22.16	15.42	18.35	17.56	11.77	11.64	12.67	13.85
Highest Educational Level Attained														
Completed Less than Secondary School	34.82	44.09	44.59	60.56	58.99	69.01	76.7	75.98	40.84	38.67	42.98	40.68	26.71	40.57
Completed Secondary School	42.62	39.95	34.64	28.77	33.55	26.32	10.54	11	33.97	34.61	40.73	49.65	60.59	53.55
Completed College or Graduate School	22.56	15.96	20.77	10.67	7.45	4.67	12.76	13.02	25.18	26.72	16.3	9.67	12.7	5.88
Employment Status														
Employed	48.5	32.54	61.39	23.69	45.29	21.12	47.97	28.7	65.11	60.24	56.23	32.84	34.05	19.79
Retired / Unemployed / Other	51.5	67.46	38.61	76.31	54.71	78.88	52.03	71.3	34.89	39.76	43.77	67.16	65.95	80.21
Married (vs. Divorced / Separated / Widowed / Cohabiting)	85.88	70.24	93.57	75.24	91.13	78.04	89.49	76.92	69.33	62.42	81.41	58.16	81.63	64.01
Depressed before Oldest Offspring Turned 18	10.63	18.12	2.81	6.94	11.33	19.13	6.05	18.14	12.33	22.61	10.91	17.33	6.49	7.75
Number of Limitations of Activities of Daily Life (Mean, Scale 0-6)	0.09	0.1	0.02	0.05	0.04	0.06	0.04	0.08	0.06	0.12	0.07	0.09	0.23	0.26
Number of Illnesses (Mean, Scale 0-10)	1.29	1.43	0.87	1.19	1.33	1.67	1.27	1.47	1.23	1.39	1.5	1.68	1.66	1.93

1. Iacovou & Skew. 2010. "Household structure in the EU," ISER Working Paper Series, No. 2010-10. 2007 Community Statistics on Income and Living Conditions (EU-SILC)

2. UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/052_en_GEFHAge1stMarrige_r.px/?rxid=d99823e1-b6a1-4449-91d0-d950c0a90d6d

3. Numerous sources. See footnote #7 in the 'Measures' section of this paper.

4. UNECE: http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/04_en_GEFHAge1stChild_r.px/table/tableViewLayout1/?rxid=19ddf31b-6ebe-43cc-9c07-97754bcda1e8.

5. Index Mundi: https://www.indexmundi.com/g/r.aspx?v=74

6. Spijker, Jeroen, and Montse Solsona. 2012. "Atlas of divorce and post-divorce indicators in Europe." Papers de Demografia 412: 1-110. Utilizes Eurostat data. The divorce rate reflects the number of divorces per 100 marriages during one calendar year.

Table 2: Weighted Means & Standard Errors of EURO-D Depression Score for the Entire Analytic Sample of Fathers & Mothers, N=14,502, SHARE Waves 1-2, 2007

			Western Europe								Mediterranean						Scandinavia		Central Europe			
	TOTAL		Belgium		France		Germany		Netherlands		Greece		Italy		Spain		Sweden		Czech R.		Poland	
	Fathers (N=6,384)	Mothers (N=8,118)	Fathers (N=735)	Mothers (N=879)	Fathers (N=541)	Mothers (N=707)	Fathers (N=554)	Mothers (N=677)	Fathers (N=628)	Mothers (N=819)	Fathers (N=836)	Mothers (N=987)	Fathers (N=727)	Mothers (N=925)	Fathers (N=455)	Mothers (N=547)	Fathers (N=607)	Mothers (N=780)	Fathers (N=681)	Mothers (N=931)	Fathers (N=620)	Mothers (N=866)
Dependent Variable																						
Euro-D Derpression Score (Scale 0-12)	1.7	2.62	1.82	2.69	1.82	2.97	1.42	2.03	1.26	2.05	0.93	1.66	1.88	2.82	1.45	2.8	1.32	2.01	1.5	2.27	2.81	3.83
	(0.03)	(.04)	(.09)	(.08)	(.08)	(.09)	(.09)	(.09)	(.08)	(.07)	(0.06)	(.07)	(.11)	(.11)	(0.10)	(.12)	(.06)	(.12)	(.10)	(.10)	(.10)	(.09)

Table 3: Linear Regression of Euro-D Depression Score on Selected Independent Variables for Fathers, N=6,384, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007				
	Western Europe			
	BELGIUM	FRANCE	GERMANY	NETHERLANDS
At Least One (ALO) Adult Offspring Is:				
Never Married Past Mean Age of First Marriage	-0.104	0.161	-0.258	0.181
	(0.177)	(0.208)	(0.213)	(0.190)
Co-Residing with R Past Mean Age of Home Leaving	0.541*	0.332	-0.055	0.274
	(0.265)	(0.274)	(0.215)	(0.228)
Childless Past Mean Age of First Childbirth	0.097	-0.220	0.076	-0.077
	(0.160)	(0.203)	(0.215)	(0.172)
Unemployed	-0.005	**0.731****	**0.581***	**0.947***
	(0.304)	(0.265)	(0.261)	(0.417)
Divorced	-0.139	0.535	-0.229	0.537
	(0.234)	(0.312)	(0.256)	(0.290)
Parental Controls:				
Employed (Ref: Unemployed / Retired / Other)	0.489*	0.396	0.304^	0.139
	(0.202)	(0.249)	(0.181)	(0.208)
ISCED Level 2 (Ref: ISCED Level 1)	-0.082	-0.009	-0.168	0.005
	(0.200)	(0.194)	(0.303)	(0.171)
ISCED Level 3 (Ref: ISCED Level 1)	-0.473**	0.015	-0.024	-0.381*
	(0.173)	(0.193)	(0.319)	(0.161)
Married (Ref: Other)	-0.185	-0.172	-0.168	0.057
	(0.217)	(0.252)	(0.210)	(0.202)
Number of ADL Limitations	0.606**	0.930**	0.996***	0.438^
	(0.191)	(0.350)	(0.155)	(0.226)
Number of Illnesses	0.282***	0.280***	0.363***	0.296***
	(0.073)	(0.080)	(0.055)	(0.073)
Depressed before Oldest Offspring Turned Age 18	0.893***	0.677**	0.654*	0.497*
	(0.251)	(0.249)	(0.269)	(0.247)
Age 55-59 (Ref: 50-54)	-0.195	-0.361	0.173	0.015
	(0.232)	(0.253)	(0.196)	(0.188)
Age 60-64 (Ref: 50-54)	-0.263	-0.556^	0.024	-0.162
	(0.270)	(0.335)	(0.228)	(0.223)
Age 65-70 (Ref: 50-54)	-0.322	-0.693*	-0.317	0.351
	(0.334)	(0.349)	(0.263)	(0.298)
Offspring Controls:				
All Female (Ref: Mix Male & Female)	-0.199	0.013	0.073	-0.054
	(0.185)	(0.203)	(0.173)	(0.171)
All Male (Ref: Mix Male & Female)	0.308	0.225	0.083	-0.251
	(0.233)	(0.200)	(0.200)	(0.163)
Number of Offspring	-0.110	-0.070	0.167^	0.127
	(0.095)	(0.101)	(0.097)	(0.085)
Oldest Offspring Is in His / Her 30s (Ref: <30)	-0.387^	0.160	0.182	0.057
	(0.223)	(0.239)	(0.179)	(0.199)
Oldest Offspring Is >39 (Ref: <30)	-0.236	0.107	0.425^	-0.503^
	(0.324)	(0.327)	(0.255)	(0.272)
At least One Offspring Is a Minor	0.915*	0.437	0.148	0.171
	(0.389)	(0.271)	(0.266)	(0.255)
Constant	1.746***	1.395***	0.314	0.554
	(0.373)	(0.418)	(0.455)	(0.360)
Observations	735	541	554	628
R-squared	0.221	0.123	0.340	0.166
Standard errors in parentheses				
*** p<0.001, ** p<0.01, * p<0.05				

Table 3 (Cont'd): Linear Regression of Euro-D Depression Score on Selected Independent Variables for Fathers, N=6,384, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007						
	Mediterranean			Scandinavia	Central Europe	
	GREECE	ITALY	SPAIN	SWEDEN	CZECH R.	POLAND
At Least One (ALO) Adult Offspring Is:						
Never Married Past Mean Age of First Marriage	0.039	-0.088	-0.128	-0.132	0.392*	**0.629***
	(0.177)	(0.254)	(0.221)	(0.210)	(0.188)	(0.255)
Co-Residing with R Past Mean Age of Home Leaving	-0.062	0.123	0.019	-0.304	0.302	-0.255
	(0.168)	(0.215)	(0.234)	(0.200)	(0.206)	(0.217)
Childless Past Mean Age of First Childbirth	0.256	-0.329	0.144	0.048	-0.276	-0.153
	(0.180)	(0.234)	(0.207)	(0.162)	(0.203)	(0.235)
Unemployed	-0.015	0.645^	-0.106	0.204	0.240	0.267
	(0.161)	(0.340)	(0.296)	(0.202)	(0.343)	(0.242)
Divorced	-0.418	**1.217***	0.284	-0.053	0.238	-0.087
	(0.222)	(0.568)	(0.325)	(0.217)	(0.284)	(0.267)
Parental Controls:						
Employed (Ref: Unemployed / Retired / Other)	-0.106	0.014	0.469	0.318	0.871**	0.605*
	(0.125)	(0.197)	(0.268)	(0.182)	(0.301)	(0.235)
ISCED Level 2 (Ref: ISCED Level 1)	-0.121	-0.256	-0.488	-0.072	-0.132	-0.308
	(0.128)	(0.195)	(0.257)	(0.146)	(0.178)	(0.219)
ISCED Level 3 (Ref: ISCED Level 1)	-0.156	-0.138	0.143	-0.075	0.068	-0.482
	(0.131)	(0.317)	(0.257)	(0.145)	(0.264)	(0.349)
Married (Ref: Other)	-0.314	0.352	-0.502	-0.146	-0.418	-0.555
	(0.205)	(0.316)	(0.430)	(0.144)	(0.262)	(0.319)
Number of ADL Limitations	0.957***	0.699*	0.836**	0.739***	0.608^	0.365**
	(0.265)	(0.280)	(0.306)	(0.150)	(0.316)	(0.113)
Number of Illnesses	0.331***	0.399***	0.407***	0.168**	0.423***	0.523***
	(0.063)	(0.066)	(0.066)	(0.055)	(0.055)	(0.064)
Depressed before Oldest Offspring Turned Age 18	0.914*	0.978*	0.360	0.462**	0.349	1.452***
	(0.373)	(0.447)	(0.570)	(0.178)	(0.382)	(0.420)
Age 55-59 (Ref: 50-54)	-0.171	-0.486^	-0.284	-0.048	0.048	-0.374
	(0.142)	(0.294)	(0.285)	(0.166)	(0.217)	(0.283)
Age 60-64 (Ref: 50-54)	-0.122	-0.272	-0.679*	-0.275	-0.740*	-0.651^
	(0.173)	(0.343)	(0.331)	(0.200)	(0.299)	(0.348)
Age 65-70 (Ref: 50-54)	-0.169	-0.007	-1.135**	-0.412	-0.854*	-0.651^
	(0.224)	(0.360)	(0.403)	(0.274)	(0.358)	(0.364)
Offspring Controls:						
All Female (Ref: Mix Male & Female)	-0.140	0.477	-0.107	0.448**	0.132	-0.200
	(0.120)	(0.259)	(0.237)	(0.162)	(0.198)	(0.224)
All Male (Ref: Mix Male & Female)	-0.045	-0.129	-0.173	0.161	0.404	0.058
	(0.156)	(0.211)	(0.247)	(0.156)	(0.233)	(0.246)
Number of Offspring	0.051	0.076	0.013	0.228**	0.071	-0.110
	(0.087)	(0.142)	(0.108)	(0.087)	(0.131)	(0.122)
Oldest Offspring Is in His / Her 30s (Ref: <30)	-0.037	0.440	0.119	0.062	-0.252	0.103
	(0.136)	(0.312)	(0.264)	(0.174)	(0.253)	(0.277)
Oldest Offspring Is >39 (Ref: <30)	0.003	0.492	0.720*	-0.191	-0.584^	0.216
	(0.227)	(0.370)	(0.364)	(0.228)	(0.306)	(0.369)
At least One Offspring Is a Minor	0.037	0.095	0.747^	0.210	-0.174	0.323
	(0.250)	(0.337)	(0.435)	(0.217)	(0.338)	(0.334)
Constant	1.043***	0.568	1.347**	0.502^	0.890*	2.363***
	(0.313)	(0.435)	(0.522)	(0.265)	(0.405)	(0.500)
Observations	836	727	455	607	681	620
R-squared	0.118	0.183	0.186	0.140	0.262	0.275
Standard errors in parentheses						
*** p<0.001, ** p<0.01, * p<0.05						

Table 4: Linear Regression of Euro-D Depression Score on Selected Independent Variables for Mothers, N=8,118, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007

	Western Europe			
	BELGIUM	**FRANCE**	**GERMANY**	**NETHERLANDS**
At Least One (ALO) Adult Offspring Is:				
Never Married Past Mean Age of First Marriage	0.262	0.293	0.001	-0.011
	(0.214)	(0.248)	(0.221)	(0.193)
Co-Residing with R Past Mean Age of Home Leaving	0.267	-0.039	-0.282	0.146
	(0.210)	(0.277)	(0.222)	(0.278)
Childless Past Mean Age of First Childbirth	-0.082	0.029	-0.177	0.167
	(0.176)	(0.258)	(0.228)	(0.163)
Unemployed	0.185	0.113	0.049	0.444
	(0.238)	(0.307)	(0.208)	(0.331)
Divorced	0.028	-0.171	-0.369	0.138
	(0.230)	(0.291)	(0.217)	(0.275)
Parental Controls:				
Employed (Ref: Unemployed / Retired / Other)	0.164	0.287	-0.143	0.131
	(0.202)	(0.229)	(0.186)	(0.162)
ISCED Level 2 (Ref: ISCED Level 1)	-0.172	-0.532**	-0.391	-0.035
	(0.174)	(0.202)	(0.239)	(0.166)
ISCED Level 3 (Ref: ISCED Level 1)	-0.317^	-0.238	-0.367	-0.204
	(0.179)	(0.248)	(0.266)	(0.162)
Married (Ref: Other)	-0.087	-0.262	-0.126	-0.502**
	(0.167)	(0.200)	(0.205)	(0.161)
Number of ADL Limitations	1.084***	0.483^	0.657**	0.454***
	(0.184)	(0.258)	(0.230)	(0.117)
Number of Illnesses	0.394***	0.408***	0.414***	0.391***
	(0.055)	(0.074)	(0.066)	(0.063)
Depressed before Oldest Offspring Turned Age 18	1.039***	0.899***	0.413^	0.398*
	(0.178)	(0.198)	(0.214)	(0.172)
Age 55-59 (Ref: 50-54)	-0.712**	-0.563*	-0.381^	-0.203
	(0.233)	(0.272)	(0.228)	(0.200)
Age 60-64 (Ref: 50-54)	-0.791**	-0.796*	-0.413	-0.343
	(0.278)	(0.342)	(0.290)	(0.231)
Age 65-70 (Ref: 50-54)	-0.899**	-1.113**	-0.648^	-0.571*
	(0.311)	(0.396)	(0.354)	(0.287)
Offspring Controls:				
All Female (Ref: Mix Male & Female)	-0.235	0.349	0.147	0.268
	(0.195)	(0.250)	(0.215)	(0.192)
All Male (Ref: Mix Male & Female)	-0.004	0.191	-0.097	-0.412*
	(0.231)	(0.226)	(0.216)	(0.161)
Number of Offspring	-0.019	0.034	-0.008	-0.027
	(0.098)	(0.119)	(0.115)	(0.083)
Oldest Offspring Is in His / Her 30s (Ref: <30)	0.065	0.398	0.566*	0.161
	(0.252)	(0.269)	(0.244)	(0.200)
Oldest Offspring Is >39 (Ref: <30)	-0.030	0.447	0.772*	0.008
	(0.318)	(0.367)	(0.327)	(0.265)
At Least One Offspring Is a Minor	-0.057	0.141	0.291	0.814**
	(0.424)	(0.495)	(0.414)	(0.275)
Constant	2.358***	2.304***	1.857***	1.891***
	(0.389)	(0.424)	(0.439)	(0.314)
Observations	879	707	677	819
R-squared	0.191	0.136	0.156	0.168

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05

Table 4 (Cont'd): Linear Regression of Euro-D Depression Score on Selected Independent Variables for Mothers, N=8,118, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007

	Mediterranean			Scandinavia	Central Europe	
	GREECE	**ITALY**	**SPAIN**	**SWEDEN**	**CZECH R.**	**POLAND**
At Least One (ALO) Adult Offspring Is:						
Never Married Past Mean Age of First Marriage	0.400^	0.42	-0.033	0.083	0.109	0.445*
	(0.217)	(0.252)	(0.290)	(0.186)	(0.303)	(0.220)
Co-Residing with R Past Mean Age of Home Leaving	0.012	-0.482*	-0.124	0.101	0.059	0.175
	(0.202)	(0.232)	(0.251)	(0.291)	(0.257)	(0.192)
Childless Past Mean Age of First Childbirth	-0.074	0.183	-0.058	-0.227	0.120	-0.263
	(0.178)	(0.217)	(0.248)	(0.162)	(0.286)	(0.220)
Unemployed	0.093	**0.685***	-0.766	0.426	0.252	0.159
	(0.200)	(0.289)	(0.408)	(0.339)	(0.395)	(0.206)
Divorced	**0.845****	0.773	0.61	0.339	0.618**	0.085
	(0.268)	(0.400)	(0.347)	(0.365)	(0.229)	(0.253)
Parental Controls:						
Employed (Ref: Unemployed / Retired / Other)	0.239	-0.468	0.611*	0.547**	0.900***	0.162
	(0.157)	(0.306)	(0.244)	(0.196)	(0.268)	(0.234)
ISCED Level 2 (Ref: ISCED Level 1)	0.095	-0.460*	-0.080	0.036	-0.225	-0.319^
	(0.157)	(0.225)	(0.336)	(0.205)	(0.185)	(0.190)
ISCED Level 3 (Ref: ISCED Level 1)	0.072	-0.731*	-0.488	-0.070	-0.835***	-0.331
	(0.199)	(0.355)	(0.310)	(0.166)	(0.252)	(0.340)
Married (Ref: Other)	-0.242	0.632*	-0.264	-0.271	-0.713***	-0.482*
	(0.179)	(0.269)	(0.256)	(0.166)	(0.188)	(0.193)
Number of ADL Limitations	0.625	0.763**	0.967**	0.359**	0.813***	0.577***
	(0.390)	(0.235)	(0.355)	(0.134)	(0.235)	(0.111)
Number of Illnesses	0.287***	0.440***	0.465***	0.234***	0.381***	0.408***
	(0.064)	(0.062)	(0.089)	(0.063)	(0.065)	(0.061)
Depressed before Oldest Offspring Turned Age 18	0.879**	1.083***	1.696***	0.914***	0.216	1.630***
	(0.320)	(0.259)	(0.268)	(0.216)	(0.223)	(0.337)
Age 55-59 (Ref: 50-54)	-0.453**	0.120	-0.238	-0.611*	-0.896**	-0.234
	(0.175)	(0.298)	(0.265)	(0.273)	(0.290)	(0.243)
Age 60-64 (Ref: 50-54)	-0.165	-0.014	-0.246	-1.205***	-1.229***	-0.626*
	(0.209)	(0.343)	(0.368)	(0.275)	(0.373)	(0.310)
Age 65-70 (Ref: 50-54)	-0.044	0.169	-0.365	-1.626***	-1.141**	-0.228
	(0.278)	(0.395)	(0.441)	(0.332)	(0.438)	(0.394)
Offspring Controls:						
All Female (Ref: Mix Male & Female)	0.044	-0.065	0.444	0.235	0.173	0.226
	(0.173)	(0.228)	(0.277)	(0.205)	(0.232)	(0.239)
All Male (Ref: Mix Male & Female)	-0.064	-0.027	0.007	0.432*	-0.189	0.146
	(0.177)	(0.265)	(0.281)	(0.216)	(0.227)	(0.234)
Number of Offspring	-0.068	0.057	0.130	-0.012	-0.082	-0.072
	(0.112)	(0.117)	(0.143)	(0.092)	(0.149)	(0.118)
Oldest Offspring Is in His / Her 30s (Ref: <30)	0.008	0.081	-0.241	0.694*	0.088	-0.144
	(0.183)	(0.312)	(0.303)	(0.298)	(0.245)	(0.259)
Oldest Offspring Is >39 (Ref: <30)	-0.094	0.140	-0.486	1.029**	-0.279	0.072
	(0.264)	(0.419)	(0.437)	(0.351)	(0.341)	(0.373)
At Least One Offspring Is a Minor	0.650	0.108	0.041	-0.065	0.442	0.609^
	(0.435)	(0.477)	(0.472)	(0.374)	(0.381)	(0.356)
Constant	1.324***	1.413**	1.597***	1.331***	2.193***	3.282***
	(0.358)	(0.490)	(0.446)	(0.350)	(0.406)	(0.435)
Observations	987	925	547	780	931	866
R-squared	0.102	0.188	0.241	0.237	0.233	0.199

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05

Table 5: Linear Regression of Euro-D Depression Score on the Interaction between Parental Sex and Offspring Unemployment in Countries with Significant Findings in Additive Models. Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007

	Western Europe			Mediterranean
	FRANCE	**GERMANY**	**NETHERLANDS**	**ITALY**
At Least One (ALO) Adult Offspring Is:				
Unemployed	0.686**	0.536*	0.984*	0.646^
	(0.257)	(0.250)	(0.428)	(0.377)
Female Parent (Ref: Male Parent)	0.950***	0.624***	0.670***	0.734***
	(0.122)	(0.108)	(0.097)	(0.125)
Unemployed Offspring * Female Parent	-0.544	-0.499	-0.588	0.078
	(0.351)	(0.318)	(0.531)	(0.462)
Never Married Past Mean Age of First Marriage	0.225	-0.122	0.083	0.211
	(0.175)	(0.157)	(0.147)	(0.192)
Co-Residing with R Past Mean Age of Home Leaving	0.146	-0.170	0.204	-0.210
	(0.207)	(0.173)	(0.205)	(0.174)
Childless Past Mean Age of First Childbirth	-0.069	-0.079	0.118	-0.024
	(0.176)	(0.161)	(0.127)	(0.176)
Divorced	0.121	-0.300^	0.320	0.897*
	(0.233)	(0.171)	(0.209)	(0.353)
Parental Controls:				
Employed (Ref: Unemployed / Retired / Other)	0.316^	0.032	0.139	-0.223
	(0.171)	(0.132)	(0.129)	(0.203)
ISCED Level 2 (Ref: ISCED Level 1)	-0.334*	-0.282	0.016	-0.356*
	(0.142)	(0.193)	(0.121)	(0.158)
ISCED Level 3 (Ref: ISCED Level 1)	-0.175	-0.216	-0.281*	-0.351
	(0.160)	(0.207)	(0.116)	(0.242)
Married (Ref: Other)	-0.254	-0.156	-0.288*	0.523*
	(0.163)	(0.158)	(0.133)	(0.224)
Number of ADL Limitations	0.694**	0.937***	0.446***	0.747***
	(0.255)	(0.134)	(0.114)	(0.183)
Number of Illnesses	0.358***	0.378***	0.343***	0.424***
	(0.054)	(0.042)	(0.049)	(0.046)
Depressed before Oldest Offspring Turned Age 18	0.821***	0.512**	0.428**	1.030***
	(0.153)	(0.168)	(0.143)	(0.239)
Age 55-59 (Ref: 50-54)	-0.478*	-0.128	-0.109	-0.093
	(0.199)	(0.156)	(0.142)	(0.220)
Age 60-64 (Ref: 50-54)	-0.708**	-0.204	-0.274	-0.077
	(0.259)	(0.187)	(0.167)	(0.255)
Age 65-70 (Ref: 50-54)	-0.969***	-0.452*	-0.095	0.129
	(0.279)	(0.226)	(0.212)	(0.288)
Offspring Controls:				
All Female (Ref: Mix Male & Female)	0.191	0.127	0.126	0.176
	(0.172)	(0.153)	(0.135)	(0.185)
All Male (Ref: Mix Male & Female)	0.186	-0.020	-0.338**	-0.080
	(0.157)	(0.155)	(0.116)	(0.189)
Number of Offspring	-0.022	0.068	0.030	0.059
	(0.086)	(0.082)	(0.063)	(0.098)
Oldest Offspring Is in His / Her 30s (Ref: <30)	0.300	0.395*	0.092	0.237
	(0.188)	(0.161)	(0.150)	(0.233)
Oldest Offspring Is >39 (Ref: <30)	0.373	0.564**	-0.271	0.282
	(0.259)	(0.214)	(0.205)	(0.307)
At least One Offspring Is a Minor	0.287	0.167	0.453*	0.093
	(0.264)	(0.247)	(0.198)	(0.273)
Constant	1.480***	0.866**	0.995***	0.535
	(0.320)	(0.333)	(0.257)	(0.351)
Observations	1,248	1,231	1,447	1,652
R-squared	0.184	0.242	0.193	0.210

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

Table 6: Linear Regression of Euro-D Depression Score on the Interaction between Parental Sex and Offspring Divorce in Select Countries. Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007		
	Mediterranean	
	GREECE	**ITALY**
At Least One (ALO) Adult Offspring Is:		
Divorced	-0.383^	1.265*
	(0.215)	(0.560)
Female Parent (Ref: Male Parent)	0.437***	0.769***
	(0.089)	(0.134)
Divorced Offspring * Female Parent	**1.147*** **	-0.575
	(0.311)	(0.644)
Never Married Past Mean Age of First Marriage	0.272^	0.209
	(0.155)	(0.191)
Co-Residing with R Past Mean Age of Home Leaving	-0.038	-0.209
	(0.145)	(0.174)
Childless Past Mean Age of First Childbirth	-0.013	-0.026
	(0.135)	(0.175)
Unemployed	0.046	0.693**
	(0.137)	(0.243)
Parental Controls:		
Employed (Ref: Unemployed / Retired / Other)	0.049	-0.230
	(0.097)	(0.203)
ISCED Level 2 (Ref: ISCED Level 1)	-0.008	-0.357*
	(0.103)	(0.159)
ISCED Level 3 (Ref: ISCED Level 1)	-0.077	-0.353
	(0.117)	(0.242)
Married (Ref: Other)	-0.234	0.518*
	(0.146)	(0.225)
Number of ADL Limitations	0.751*	0.752***
	(0.312)	(0.183)
Number of Illnesses	0.307***	0.422***
	(0.047)	(0.047)
Depressed before Oldest Offspring Turned Age 18	0.867***	1.032***
	(0.261)	(0.238)
Age 55-59 (Ref: 50-54)	-0.308**	-0.084
	(0.112)	(0.222)
Age 60-64 (Ref: 50-54)	-0.166	-0.070
	(0.140)	(0.254)
Age 65-70 (Ref: 50-54)	-0.116	0.142
	(0.185)	(0.289)
Offspring Controls:		
All Female (Ref: Mix Male & Female)	-0.045	0.177
	(0.114)	(0.187)
All Male (Ref: Mix Male & Female)	-0.054	-0.082
	(0.132)	(0.188)
Number of Offspring	-0.002	0.056
	(0.074)	(0.098)
Oldest Offspring Is in His / Her 30s (Ref: <30)	-0.020	0.235
	(0.124)	(0.234)
Oldest Offspring Is >39 (Ref: <30)	-0.097	0.288
	(0.192)	(0.308)
At least One Offspring Is a Minor	0.185	0.101
	(0.229)	(0.277)
Constant	0.973***	0.525
	(0.260)	(0.350)
Observations	1,823	1,652
R-squared	0.138	0.210
Standard errors in parentheses		
*** p<0.001, ** p<0.01, * p<0.05		

Table 7: Summary of Significant Findings for Linear Regression of Euro-D Depression Score on Selected 'At Least One Offspring' (ALOO) Variables for Fathers and Mothers, N=14,502, Survey of Health, Aging, and Retirement in Europe (SHARE), Waves 1-2, 2007

	Western Europe				Mediterranean			Scandinavia	Central Europe	
	BELGIUM	**FRANCE**	**GERMANY**	**NETHERLANDS**	**GREECE**	**ITALY**	**SPAIN**	**SWEDEN**	**CZECH R.**	**POLAND**
MEN		ALOO Unemployed	ALOO Unemployed	ALOO Unemployed		ALOO Divorced				ALOO Never Married Past Mean Age
WOMEN					ALOO Divorced***	ALOO Unemployed				

***Men and women significantly differ at p<.001

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Conclusion

Europe from the 1960s to 1990s was characterized by dramatic macro-level change in economic and normative contexts. This coincided with steep delays in marriage and difficulties for young people in transitioning to a variety of adulthood roles. Better understanding the linkages among dramatic demographic change, social inequality, and the well-being of individuals is an overarching theme of this dissertation. Specifically, I look at the changing relationship between economic prospects and marriage for Chapters 1 and 2, and at the far-reaching parental mental health consequences of offspring "delayed adulthood" in Chapter 3. Given variation across Europe in economic and political history, gender equality, and welfare regime types, I am able to examine if results for my individual level analyses reflect meaningful patterns and provide support for theories which link these country-level characteristics with individual demographic outcomes and health.

I explore concerns of growing social (marital) inequality across the 20th Century by considering both delayed marriage in Chapter 1 and non-marriage in Chapter 2—phenomena which are distinct (Dixon 1978; Oppenheimer 1997). In this dissertation, I find empirical support for this distinction. In Chapter 1, I examine cohorts born between 1938 and 1959 and ask if men's labor market standing became more important for marriage timing from the 1960s to 1980s and if women's labor market standing newly became important for marriage timing over this period. I additionally ask if observed relationships vary by contexts of gender equality and/or welfare regime type. For the pooled cohorts, I find support for Oppenheimer (1988; 1994) and welfare regime theories of family formation (Esping-Andersen 2009; Mills & Blossfeld 2005) which stipulate that in contexts where women's work is normative, men's labor market standing will be less important for marriage timing, while women's labor market standing matters for marriage timing. This is among the first empirical evidence that women's work

mattered for marriage timing as early as the 1960s. Regarding change over time, I provide some of the first empirical evidence that men with weaker labor market positions experienced reduced likelihoods of marrying younger over this historical time. However, I find mixed support for the hypothesis that marriage timing inequality strengthened for men. The small number of countries which demonstrate significant change in the relationship between labor market standing and marriage timing for men, paired with the particular nature of this change, allows me to conclude that country-specific labor market policies, rather than broad-sweeping economic instability, may better explain the changing relationship between economic prospects and marriage timing. This has important implications for understanding the long-term effects of labor force restructuring.

Little is known about the economic underpinnings of non-marriage for men and women in Mid- to Late-20th Century Europe. In Chapter 2, I investigate the relationship between economic standing and the likelihood of ever-marrying for Europeans born between 1938 and 1970. I also consider whether the nature of this relationship varies across countries characterized by differing degrees of macro-level gender inequality. I find that men with higher education have a marital advantage over less educated men, regardless of gender equality levels across Europe. In contrast, and in support of Oppenheimer's theory, gender equality appears to matter for women as a negative relationship between education and ever-marrying is observed in the least gender equal countries. Change in the economic underpinnings of ever-marrying is only observed in Germany and Poland—countries that experienced dramatic macro-level change with the end of communism.

In synthesis of my investigations into growing inequality tied to delayed marriage and never-marrying, many important differences are observed while some similarities are shared. In additive findings, the relationship between economic prospects and marriage timing for men is

positive across the majority of study countries. This positive relationship is also weaker in contexts with higher gender equality, meaning that in these contexts, men with the best economic prospects are only slightly more likely to marry sooner than men with poorer economic prospects. In contrast, my additive findings for *ever-marrying* demonstrate a moderate to strong, positive relationship between economic prospects and marriage in countries that are the least gender equal in the sample and in countries which are the most gender equal. This suggests that while gender equality may be important for men's marriage timing, its influence on the relationship between economic prospects and ever-marrying is less clear. Marital inequality (never marrying), for men born 1938-1970, is observed in approximately half of my study countries in Europe. Even though there is less marriage timing inequality in more gender equal contexts (i.e. men with poorer economic prospects will marry only slightly later than those with strong economic prospects), it is still the case that men with the best economic prospects are the most likely to ever marry. In more gender equal countries, men with the best economic prospects are still the most likely to ever marry and they are likely to marry much younger than men with poorer economic prospects.

For women, the importance of gender equality for marital inequality may be greater for marriage timing than for ever-marrying, yet similar results are observed for both. Positive relationships between economic prospects and marriage timing are observed in more gender equal countries while non-significant or negative relationships are observed in less gender-equal countries. Similarly, negative relationships between economic prospects and ever-marrying are observed in the least gender-equal countries. These findings suggest that while economically empowered women may marry sooner in more gender equal countries, they are not more likely

to ever marry in these countries. In contrast, economically empowered women in countries with low gender equality are less likely to marry younger and less likely to ever marry.

Two distinct patterns that share one characteristic are observed for change over time in the relationship between economic prospects and marriage. For both marriage timing and ever-marrying, in most countries with significant change, men with the poorest economic prospects experienced absolute reductions in their marital prospects (marriage timing and ever-marrying) over the 1960s to 1990s. Spanning welfare regimes types, the nature of the change observed in marital inequality strongly suggests that country-specific labor policies, as opposed to wide-sweeping economic destabilization, may better explain variable change in the relationship between men's economic prospects and marriage timing. In contrast, change in the relationship between economic prospects and ever-marrying is only observed in Former Communist regimes and marital inequality (generally) increased for men and women. This may suggest that while marriage delay may be related to individuals' labor market standing in a country's specific labor market context, historical change in individuals' decisions to forego marriage all together is generally born in the most dramatic of economic and political circumstances. This interpretation would be consistent with prior research on non-marriage in Ireland at the turn of the 20th Century (Dixon 1978) and this interpretation is logical: Men and women may delay marriage in hopes of their labor market position improving or in hopes of their labor market context improving, but the decision to entirely forgeo marriage is a (near) permanent one and may only be motivated by the most dramatic economic and political conditions. This interpretation may be further bolstered by the unexpected finding that in gender-equal Germany, highly educated women who might ordinarily be the most advantaged in ever marrying, experienced reduced likelihoods of ever marrying around the time of Germany's re-unification. Change over time in the relationship

between economic prospects and marriage timing appears to be strongly connected to country-specific histories or contexts, while change in the relationship between economic prospects and ever-marrying may be more consistently observed in contexts of deep economic and/or political destabilization.

In chapter 3, I utilize the Stress Process Model (Pearlin et al. 1981) to investigate whether delayed adulthood has had mental health consequences for older parents of young adult offspring. I consider the associations between mother's and father's depression and their adult offspring's delay, or lack of success, in occupying a comprehensive set of adulthood roles: independent residence, employment, (stable) marriage, and parenthood. I further ask if parents are more sensitive to some types of adult offspring role stressors than others, if differences are observed between mother and fathers, and if variation is observed across countries. I find that the phenomenon of delayed adulthood does have a significant association with mother's and father's depression across Europe. Offspring unemployment demonstrates the most widespread association with parental depression, and it is large. Further, parental depression appears more sensitive to negative event stressors which capture offspring loss of a formerly-held adulthood role, rather than "non-event" stressors which capture anticipation of offspring occupying an adult role in the future. These findings suggest that older Europeans may have acclimated to the reality that their offspring will/may occupy certain adulthood roles later in life, but that the depressive associations with offspring unemployment or marital instability are still powerful. My findings also indicate that country context, such as unemployment rates and divorce rates, may inform the relationship between adult offspring unemployment or marriage and parental depression.

Future research which aims to understand the relationships between macro-level economic and normative contexts, transitions to adulthood, and their associations with mental health, should prioritize comparative research. Ideally, the role of country-level characteristics should be directly analyzed in order to better test theories which stipulate that economic and normative contexts condition the relationship between economic prospects and marriage or the relationship between offspring delayed adulthood and parental mental health. Research which aims to directly test significant change over time in the relationship between economic prospects and marriage should focus on birth cohorts born post-1970; as they continue to turn age 43 they will provide complete marital histories and there is reason to believe that the relationship between economic prospects and marriage timing continues to change. If possible, research should also attempt to utilize pre-1940 birth cohorts to look earlier in history and capture when women's work first came to matter for marriage timing in the 20th Century.

A common theme across all three dissertation chapters is the determinants and consequences of young adult transitions into adulthood roles. In all three chapters, the importance of economic prospects in influencing people's lives, either for demographic outcomes such as marriage, or for mental health outcomes such as depression, is widely observed across Europe. Moreover, variation across countries in these relationships, whether systematic or idiosyncratic, signals the importance of doing comparative work because country context is important in influencing individual-level relationships among economic standing, social roles, and health.

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