Aisenbrey, Silke; Fasang, Anette Eva

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Social location matters: Inequality in work and family life courses at the intersection of gender and race

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Silke Aisenbrey
Anette Fasang

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WZB Berlin Social Science Center
Reichpietschufer 50
10785 Berlin
Germany
www.wzb.eu

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Silke Aisenbrey, Anette Fasang
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Affiliation of the authors other than WZB:

Silke Aisenbrey
Yeshiva University, New York

Anette Fasang
Humboldt University of Berlin

Abstract

Social location matters: Inequality in work and family life courses at the intersection of gender and race

by Silke Aisenbrey and Anette Fasang

Which constraints and privileges do members of empowered or disempowered groups face in combining work and family life courses? To address this timely and highly relevant question, we empirically analyze work and family life courses at the intersection of gender and race in the United States. We use longitudinal data from the National Longitudinal Study of Youth (NLSY) to study parallel work-family trajectories of white and African American men and women combining an intersectional comparison with a quantitative life course perspective. Results from recent innovations in sequence analysis including Mantel coefficients and multichannel sequence analysis show distinct work-family patterns for the four groups. Overall the association between work and family life courses for white men is weakest. They can combine any type of family trajectories with all possible work careers. In contrast, for black men high prestige careers are only accessible if they are in stable relationships with maximum one child. For black women we find the strongest association between family lives and careers characterized by high occupational prestige almost never occur for them. For white women the highest prestige work-family life course pattern goes along with late parenthood and / or childlessness. We contribute to the literature by identifying complex population level regularities in intersectional inequalities in longitudinal work and family life courses. Uncovering complex population level regularities that are not immediately visible are an important precondition for assessing the causes and consequences of social inequality in work-family life courses.

Key words: intersectionality, work–family, life course

Introduction

White men in the Unites States earn the highest wages compared to all other social groups. This is true historically, in all states and across all educational levels. White women, black men and women earn less (Pew Research 2015). At the same time these gender/race groups also experience very different timing and sequencing of family events across the life course. Black men for example on average marry at the age of 27, whereas white women marry at a much younger age of 22 (NLSY79, own calculations). At the same time, white men wait longest to have children (men age 26), whereas black women have their first child already at the age of 20. "Motherhood penalties" and "marriage and fatherhood premia" are well documented in the literature (Budig and England 2001; Killewald and Gough 2013; Cooke 2014). Research consistently shows that work and family processes are ubiquitously intertwined and that social location matters in how these processes are interrelated across the life course. Most research focuses on indicators at specific points or stages in the life-course, including marriage and family penalties (England et al 2016, Budig and England 2001; Killewald and Gough 2013), the change in occupational prestige after child birth (Author 2010) or the effects that different family events have on escaping poverty (Aisenbrey 2008). Orloff (1993: 319) summarized the gendered nature of the link between family and work as women being only a "husband away from poverty". Several recent studies approach the work and family interplay from a life course perspective analyzing life-courses as a whole to assess how labor market disadvantage associated with family events accumulates or attenuates over time (Aisenbrey and Fasang 2017; Kahn et al 2014; Simiö, Kauppinen and Martikainen 2017). Findings substantiate previous results that men's careers are less constrained by family formation processes than women's (Aisenbrey and Fasang 2017) and motherhood penalties do seem to attenuate over time for most women (Kahn et al 2014). A different line of research has examined the interaction of gender and race in work-family inequalities, pointing to both lower fatherhood premia for black men compared to white men (Glauber 2008) and lower motherhood penalties for black women compared to white women (Glauber 2007). Apart from a few exceptions, the (quantitative) literature on parenthood and marriage premia is strongly focused on gender differences with only a few studies acknowledging that race is important beyond including it as a "control variable". Looking at the effects of gender and race in a separate manner

misses out on the structural power intersectional categories have, and how they place individuals in different social locations, with different privileges and disadvantages attached (Choo & Feree 2010; Brown & Misra 2003).

In this article we apply a process oriented life course perspective integrating intersectionality into a comparative analysis of intertwined longitudinal work and family life courses. We offer an in-depth longitudinal thick description to jointly explore the gendered and racial privileges and disadvantages that black men, white men, black women and white women experience in the interaction of work and family life courses. In other words: Do white men have the possibility to combine any family formation processes with any type of work career? Do black women have the same possibilities? Which constraints do white women and black men experience in combining work and family lives? The analysis centers on black and white women and men during their most active family formation and career building phase between the age of 22 and 44.

Our analysis reveals a significant association between work-family life courses for all intersectional groups except for white men. White men are the only group who can combine all different types of family life courses with any type of more or less successful work careers. In contrast, black men only have access to careers of high occupational prestige, if they are in long-term stable coresidential relationships, enter fatherhood at later ages and have no more than one child. For black women we cannot identify any very high prestige career patterns in significant numbers, but even medium prestige careers are mostly accessible for black women who have few children later in life and/or who have no partner. For white women the highest prestige work careers are also accompanied by a typical pattern of late parenthood or childlessness.

This article seeks to contribute to the literature by bringing together an intersectional perspective and a quantitative longitudinal life course approach to social inequality in long-term work and family life courses. With the life course perspective, we move beyond point-in-time and trend outcomes and conceptualize the work-family interplay as a "process outcome" (Abbott 2005; Aisenbrey & Fasang 2017) from early adulthood to midlife. Conceptualizing work-family trajectories as interlocked multidimensional life course processes enables us to complement studies that focus on a unidirectional impact of family events on employment outcomes or vice versa. As individuals move through work

careers, they are simultaneously defining and redefining their family lives. Inspired by the agenda setting article of Choo and Ferree (2010) we further adopt an intersectional approach that pays equal attention to the four intersection groups defined here, black women, white women, black men and white men. No categories are left "unmarked" and the intersection of race and gender is understood just as much as a privilege of masculinity and whiteness as underprivileged categories. Taking this comparative idea seriously, we avoid implicitly treating white male life courses as a normative reference point and thereby naturalizing and homogenizing male whiteness. Or as Choo and Ferree (2010) put it: "Methodologically, merely including difference often substitutes an implicit norm of whiteness or heterosexuality..." (133).

Intersectionality: a comparative perspective

We examine the interplay between work and family life courses from an intersectionality and life-course perspective to treat gender and race as the intertwined and interrelated social powers they are. This intersectional perspective more adequately captures the complexity and density of privilege and disadvantage compared to research designs that focus on different categories of disadvantage separately, like race, gender, class, age, sexuality or ethnicity (Jones, Kim and Skendall 2012).

Crenshaw (1991) first introduced intersectionality as a concept in the context of black women's anti-discirmination lawsuits. It is considered one of the most important concepts originating from feminist theory to date. The original intersectionality literature has been criticized as being too strongly focused on intersectional identities and disregarding structural disadvantage associated with intersectional categories (McCall 2005). Also many of the early studies on intersectionality take an either anti-categorical or intracategorical approach that does not easily bridge into the quantitative stratification and gender welfare state literature. The **anti-categorical** approach assumes that categories are per se too simplistic and problematic, because they reify the inequalities that they criticize (McCall 2005). The **intracategorical** approach focuses on documenting the subjective experiences of one group defined by intersecting categories, for example Latino gay men. This has produced much interesting ethnographic research, but lacks a comparison group

to assess how and to what extent the specific groups' experiences differ from others (e.g. Patricia Hills Collins work).

The third approach to intersectionality that we adopt in the following is **intercategorical**. The intercategorical approach was coined by Leslie McCall, who first brought intersectional inequalities into main-stream quantitative stratification research. In the following we compare associations in the work and family domain between all comparison groups by gender and race focusing on structural inequalities. Intersectional inequality is treated as a hypothesis and we ask to what extent it exists in longitudinal work and family life courses by gender and race in the United States.

Intersectionality questions the assumption that variables such as gender and race "are explanatory constructs in and of themselves" (Bowleg (2008, 322), and assumes that they "are not reducible to individual attributes to be measured and assessed for their separate contributions in explaining given social outcomes." (Zinn and Dill 1996: 329; also Walby 2009, Choo and Ferree 2010). An intersectionality perspective assumes that "the experiences of Latinas in the labor market reflect social constructions of gender that are racialized and social constructions of race that are gendered to create a particular experience" (Brown and Misra 2003: 490). In addition these experiences are not disconnected from the experiences of other social groups, but stand in relation and are connected to e.g. the experiences of white men. Garry (2011) underlines the strength of the intersectionality approach as not abolishing identity categories, but allowing for categories to be more complex and messy.

We understand intersectionality not only as a commitment to treat different identity markers as 'messily intertwined", but also as a commitment to focus on all social groups equally (Choo and Ferree 2010, Brown and Misra 2003). Too often research focuses on the disadvantaged groups, thereby "normalizing" the privileged groups: "Gender seems to be about women, race seems to be about people of color, and economic inequality seems to be the property of the poor (Sprague 2005: 95)", thereby not focusing on the privileges of the dominant groups. As Sprague (2005: 96) summarizes: "conventional quantitative methodologies tend to embody the standpoint of privileged groups". Our analysis departs from the default normative/mainstream category and thereby "denaturalizes hegemonic

relations, particularly by drawing attention to the unmarked categories where power and privilege cluster" (Choo and Ferree 2010: 146f). We thereby "avoid placing an unmarked standard in the position of exercising normative power" (ibid).

Work–Family Life Courses and Intersectionality

Until recently most studies on parenthood penalties focused on wage gaps between parents and childless individuals within rather short time periods or at one time point. Few studies also examine changes in occupational prestige, not only wages, after childbirth (Aisenbrey et al. 2010; Kahn et al 2014). Overall past research shows smaller fatherhood penalties and motherhood penalties for black compared to white men and women (Hill 1979; Glauber 2007, 2008 2013; Waldfogel 1997; England et al. 2016) or no differences between black and white women (Budig and Hodges 2010). Pal and Waldfogel 2016 examine the motherhood penalty over several decades in the United States using CPS data. Findings show a remarkable decline in the motherhood penalty from 10 percent in 1970 to about 1 percent in 2013. By 2013 the motherhood penalty virtually disappeared in the average. This average conceals diverging trends and high fluctuations by race and ethnicity. In 1967 motherhood penalties were comparatively small for black women (around 2 percent), but much more sizeable for white women at 13 percent. For white women the motherhood penalty has almost monotonically declined since. Instead for black women the motherhood penalty peaked in the late 1990s at 10 percent. Despite the general trend towards a declining motherhood penalty, the motherhood penalty for non-Hispanic black women is on the rise again since 2008 and was estimated at about 5 percent in 2013 (Pal and Waldfogel 2016). Research has also shown that in recent periods, motherhood penalties were highest in the lowest quantiles of the earnings distribution (England et al 2016, Prince Cooke 2014). That is, high earning white women suffer no more motherhood penalties, but other women face greater challenges in combining work and family life (see also Aisenbrey and Fasang 2017).

Overall, research points to large heterogeneity of the motherhood wage penalty both for population subgroups as well as over time, which calls into question the standard fair of simply "controlling" for selection and group difference. Studies that take a life course perspective report a tighter link between work and family lives for women compared to

men (Aisenbrey and Fasang 2017; Aisenbrey 2008). Kahn et al 2014 show that motherhood wage penalties attenuate with age for women with less than three children. In contrast, mothers of more than two children remain at a significant labor market disadvantage. At the same time they face higher demands to provide for a larger number of children as they transition into adulthood.

To date life course research on the motherhood wage penalty (Kahn et al. 2014) and work-family interplay (Aisenbrey and Fasang 2017) in the United States has paid limited attention to race, whereas research focusing on racial differences has not taken a life course perspective. Kahn et al. (2014) use fixed effects models on a pooled sample of women of different racial background. Because race is not time-varying, it cannot enter as a control variable and race-specific analyses are not presented. Aisenbrey and Fasang (2017) consider interaction effects by gender and race on the probability to experience different types of combined longitudinal work-family life courses. Findings show that white men and women have equal chances of entering work careers of high occupational prestige combined with stable coresidential unions and parenthood. This privilege does not extend to black women. These findings thereby point to intersectional inequalities in work-family life courses by gender and race but are not further developed in a comparative intercategorical perspective in this study.

Hypotheses:

Theoretical explanations on the link between work and family life courses usually focus on either the unidirectional impact of education and employment on family outcomes, including fertility and union formation, or the unidirectional impact of family states like parenthood and partnering on employment, wages and occupational prestige (see Aisenbrey and Fasang 2017). Explanations for family penalties and premia are located at the employee and employer side (Correll, Beranrd and Paik 2007). On the employee side, self-selection of less career-oriented women into parenthood as well as lower productivity and flexibility due to childrearing responsibilities are important mechanisms that drive at least part of the motherhood penalty (Budig and Hodges 2010). On the employer side, employer discrimination in terms of hiring and promotions is well documented by race, gender and parenthood status (Bernard and Correll 2010; Pager 2003). However, before turning to explanations, this article seeks to identify longitudinal complex "population

level regularities" (Goldthorpe 2015) in intertwined longitudinal work and family life courses. We conceptualize intertwined work-family life courses as longitudinal process outcomes (Abbott 2016) and specify social inequality in this more complex outcome that warrants explanation in the next step. The concluding section elaborates on implications for theorizing the driving forces of intersectional inequalities in longitudinal work-family life courses. To first assess the existence of intersectional inequalities in work and family life courses by race and gender we investigate the following hypotheses.

1) "*Privilege of possibility":* There is no association between family life courses and work careers, i.e. any type of family life course can be combined with any type of work career. We assume this "the privilege of possibility" to be most prevalent for white men and least prevalent for black women, with black men and white women taking an intermediate position.

2) "*Constraint of determination":* Specific family life courses go along with specific work careers, i.e. constraining factors limit the extent to which specific types of family life course can be combined with different types of work careers. We assume this "constraint of determination" to be most prevalent for black women and least prevalent for white men. If we find systematic associations between family life courses and work careers, they can take different forms that signify different complex inequalities (McCall 2005). First, 2a) one type of family life course might go along with (only) one specific type of work career. This would be the case for example if single parenthood is deterministically linked to low prestige interrupted employment trajectories, or careers of high occupational prestige always go along with stable coresidential unions and parenthood (*linear/ deterministic association*). Second, 2b) one type of family life course might go along with multiple types of work careers, or 2c) one type of work career could coincide with multiple types of family life courses (*interactive associations*). Examples for 2b) include a pattern of two sizeable groups of long-term single parenthood that combine either with interrupted low prestige employment trajectories, or with stable medium prestige careers. 2c) can be illustrated by with two groups that are characterized by high occupational prestige careers coupled either with childlessness, or with stable coresidential unions and parenthood. Whereas linear/deterministic associations between work and family life courses (2a) signify strong, relatively straightforward inequality, interactive patterns between work and family life course types (2b/2c) reveal more

complex inequalities. They warrant careful interpretation of the content of different typical combinations of work and family life courses and raise questions, which factors are decisive for sorting into one or the other interactive group, for example either combining single parenthood with precarious careers, or single parenthood with stable middle class careers.

Data and Methods

We use the National Longitudinal Survey of Youth (NLSY) (for a detailed description of the NLSY and the NLS data, see Bureau of Labor Statistics 2004). The NLSY is a nationally representative sample of 12,686 young men and women born between 1957 and 1964. The sample is re-interviewed every two years. We construct complete monthly family and employment histories from ages 22 to 44. The analysis sample comprises 5.283 respondents after excluding individuals who did not participate in all waves, or report "other" race than black African American and white Caucasian (see Aisenbrey and Fasang 2017 for details on the construction of a similar analysis sample). The family sequences are specified based on six states 1) "Single, no child", 2) "Single, 1+ children", 3) "Partnered, no child", 4) "Partnered, 1 child", 5) "Partnered, 2 children", 6) "Partnered, 3 children". Separating marriage and cohabitation, or focusing only on marriage yielded qualitatively very similar results (available upon request). For our analysis cohorts cohabitation primarily occurred as a brief prelude to marriage and did not replace marriage (Smock 2000). We therefore present findings with the simplified family states only distinguishing whether individuals were in any either married or unmarried coresidential union or not. Children include only biological children.

The employment trajectories are constructed using occupational prestige, since prestige is not as strongly affected by short-term career fluctuations as e.g. hourly income and is remarkably consistent across time and countries (Hout and DiPrete 2006; Grunow and Aisenbrey 2016). Occupational prestige is a powerful concept for assessing mothers' future potential to realize a career and to provide for themselves and their children, if needed, without a breadwinning spouse. For mothers, occupational prestige also serves as a proxy for their ability to enact agency (Grunow and Aisenbrey 2016).

The employment sequences are specified using eleven states, seven of which summarize categories of the Treimann prestige scale for time spent in employment: 1) "10/19", 2) "20/29", 3) "30/39", 4) "40/49", 5) "50/59", 6) "60/69", 7) "70/79", 8) "parental leave", 9) "education", 10) "unemployed", 11 "gap/out of the labor force". The lowest Treiman prestige category of 10/19 includes construction and maintenance laborers and assembly workers. The highest Treiman prestige category of 70/79 comprises judges, architects and university professors. The Treiman prestige scale captures an additional dimension of social status and does not perfectly correspond with income. It is well known that some typically male low prestige occupations are higher payed than typically female medium prestige occupations (England 1979). These differences should be taken into account when comparing Treiman prestige across genders, but do not distort the within gender comparison between black and white Americans. We categorize our findings into groups with high, medium and low prestige. High prestige includes groups with an average prestige higher than 48 prestige points, (e.g. business and administration associate professionals = 48), medium prestige includes groups with an average prestige between 40 and 47. We consider occupations low prestige below 40 points (metal workers = 39). We use this classification of high medium and low prestige as a reference point for interpreting the findings for all four intersectional groups.

Methods

Our goal is to bridge the quantitative work-family and intersectionality with a longitudinal life course perspective on intersectional group comparisons. One reason why intersectional inequalities have been relatively understudied in quantitative stratification research – with notable exceptions (e.g. McCall, 2005) – are methodological challenges of defining and measuring intersectional categories and modeling their interaction effects on relevant outcomes of social status. "Although it is challenging to conceptualize and measure these intersecting systems of stratification, systematic and thoughtful attention to how labor market experiences are shaped by the intersection of race and gender is our best hope of truly understanding economic inequality." (Brown, Misra, 2003, 507). Two central challenges concern the complexity of 1) within and between group comparisons,

and 2) how to conceptualize outcome measures that capture relevant labor market experiences.

First, concerning the group comparisons, with few exceptions (e.g. Glauber 2007; 2008) it is still standard fare in research on family penalties to either focus on white women only (England et al 2016) or simply control for race (e.g. Killwald and Gough 2013). Both approaches neglect intersectional inequalities and could not identify them if they exist. The stratification literature on cumulative disadvantage (DiPrete and Eirich, 2006; DiPrete and McManus 2003) routinely uses interaction effects between gender and race in panel regression models but usually only focuses on the impact of selected family transitions on specific labor market outcomes. In addition the concept of "cumulative disadvantages" already implies a focus on "the deprived" and "disadvantaged" i.e. less salient in the more encompassing view on within and between group differences from an intersectional perspective. Following Sprague (2005) we examine each of the four intersectional categories of black men and black women, as well as white men and white women separately as a strategy i.e.more "sensitive to potential dynamics of power relations in an unequal society" (96). We do not include an "other" race category, since it would comprise too many heterogenous subgroups to generate meaningful results (Brown and Misra 2003).

Second, concerning the choice of outcome family wage penalties have been the most used indicator. They are aggregate trend outcomes (Abbott 2016), i.e. "period measures" that come with the known advantages and disadvantages of period measures. On the one hand, they can easily be calculated with little time lags and have a relatively intuitive interpretation. On the other hand, they are highly sensitive to short-term fluctuations, obscure sub-group heterogeneity and do not describe the actual experiences of specific birth cohorts. Short-term fluctuations in wage penalties can arise from many different processes that do not necessarily accurately reflect social advantages or disadvantages that accumulate over individual life courses. Sub-group heterogeneity may cancel each other out in average wage penalties, which is particularly problematic,given that recent research has demonstrated a large variation in motherhood wage penalties by education, location in the earnings distribution and race/ethnicity (England et al. 2016; Cooke 2014; Pal and Waldfogel 2016). In addition, studies show that family penalties are not time constant, but on average tend to attenuate across the life course by mid-life (Kahn et al

2014) and are lower for women who enter marriage and parenthood later in the life course (Loughran and Zissimopolous 2009). We argue for complementing period measures of inequality in work family life courses, such as family wage penalties with cohort measures of inequality, i.e. "process outcomes" (Abbott 2016). Process outcomes more accurately reflect the life course experience of given birth cohorts and can capture the timing, order and sequencing of family and labor market events as they unfold in parallel over time. Specifically, we adopt a unique and holistic approach to understanding the interplay of gender and race over the life course, conducting what Abbott (1992) refers to as longitudinal "thick description." We use sequence analysis to identify and compare typical life course profiles between intersectional groups.

The analysis proceeds in two steps. First we use a recent innovations in sequence analysis, Mantel coefficients (Picarretta & Elzinga 2013, Picarretta 2017), to study whether linear associations exist between the longitudinal sequences in the family and work domain (see hypothesis 1 and 2a). Linear associations would signify strong deterministic associations between work and family trajectories, such that specific family life courses are uniquely combined with specific employment trajectories. Mantel coefficients separately take into account the family and employment sequences as distinct life course dimensions. For each of the two dimensions Optimal Matching with substitution costs of 2 and indel costs of 1 is used to calculate a pairwise distance matrix that summarizes the similarity of work and family sequences, respectively. This cost specification proved efficient for identifying similarities both in terms of timing and the order of states (MacIndoe and Abbott 2004; Studer and Ritschard, 2016). Robustness checks with other cost specifications (Hamming Distance, Dynamic Hamming Matching) led to qualitatively similar results. Mantel coefficients calculate the matrix correlation between the two separate distance matrixes for the family and work domain. High Mantel coefficients indicate that individuals, who are similar in the family domain, are also similar in the work domain. This implies that specific family life courses, such as early single parenthood would be uniquely linked to specific work trajectories, such as interrupted low prestige careers ("constraint of determination"). Low Mantel coefficients indicate that individuals, who have similar family life courses, tend to have a wide range of different work careers without any systematic linear association. Mantel coefficients around zero indicate that any family trajectory occurs in combination with any employment trajectory ("privilege of possibility"). We calculate Mantel coefficients separately for the four intersectional comparison groups

including bootstrap confidence intervals to assess the statistical significance of between-group differences.

In a second step we turn to interactive inequalities between work and family and life courses (hypothesis 2b and 2c). Whereas Mantel coefficients are suitable to identify linear/deterministic associations between the two life course domains, they cannot uncover interactive relationships. For instance, specific family life courses, such as unpartnered childlessness might be strongly associated with a polarized grouping into either interrupted low prestige careers or steep upward mobility. This would lead to positive and negative associations in the Mantel correlations in different regions of the two distance matrices that would cancel each other out in the average. Therefore, once the existence of linear associations between the work and family domain has been established with Mantel coefficients, we assess whether interactive associations exist with multichannel sequence analysis (Pollock 2007, Gauthier et al 2010) and Partitioning around the Medoid (PAM) cluster analysis (Studer 2013). Multichannel sequence analysis classifies holistic longitudinal experiences in terms of interactions between the dimensions considered, in our case family and employment (Pollock 2007: 176). Two multidimensional life courses are considered similar when they are similar on both the family and the employment dimension. Optimal matching calculates the distance between two sequences as the minimum possible 'cost' of turning one sequence into another based on three transformation operations that are assigned specific costs. We again use Optimal Matching with substitution costs of 2 and indel costs of 1 in the multichannel sequence analysis. The alignment yields a pairwise distance matrix i.e.then entered into a PAM cluster analysis to identify groups of typical joint work and family life courses. Several cluster-cut off criteria determine whether any meaningful structure exists for each of the four intersectional groups and select the most appropriate number of clusters (described in detail below). Finally, we provide a detailed description of the typical work family clusters including social background variables (will be assessed in regression models with clusters as dependent variables in next step).

Since all analyses are calculated separately for the four intersectional groups, the final analyses do not apply the NLSY weights, which correct for the oversampling of non-Hispanic black Americans. In joint analyses including all groups these weights would be necessary, but they are not essential for sub-group specific analyses. Analyses with and

without weights provided qualitatively very similar results. All analyses were calculated using the TraMineR package Version (Gabadinho et al 2011) and Weighted Cluster Package Version (Studer 2013) in R (R Version 3.3.2). The Mantel coefficients were calculated using code kindly provided by Matthias Studer based on Piccarreta and Elzinga's 2013 proposition.

Results

Linear associations between work and family life courses (hyp1 and 2a)

To assess whether linear deterministic association between work and family life courses exist (Hyp 1 and 2a), Figure 1 shows the Mantel coefficients for the four intersectional groups with 90 percent bootstrap confidence intervals based on 100 repetitions. As expected for white men, there is no deterministic association between the two life course domains with a Mantel coefficient of 0.01, i.e.not significantly different from zero. White men have the privilege of possibility to combine different types of family life courses any type of work careers. For white women and black men, we find moderate associations of 0.05 that are significantly higher compared to white men as indicated by non-overlapping confidence intervals in Figure 1.

Figure 1: Mantel coefficient to measure (linear) association between work and family life courses (NLSY 1979).

As expected, for black women the linear association between work and family lives is highest at 0.09 with non-overlapping confidence intervals compared to white women and black men respectively. Given that this is a very new measure, to date we have little experience to assess whether the absolute values can be interpreted as rather high or low. We therefore only focus on the differences between the four intersectional groups that clearly show significant differences in line with expectations.

Interactive associations between work and family life courses (hyp 2b and 2c)

Figure 2 shows three cluster cut-off criteria to assess whether any meaningful clusters exist in the four intersectional groups and guide our selection of the most discriminant

number of clusters (Studer 2013). The "ASW" (Average Silouhette Width), "HGSD" (Hubert's Somer's D) and "PBC" (Point Biserial Correlation) all vary between -1 and 1 with higher values indicating more discriminant/better cluster solutions (Studer 2013: 13). Because the average values for each measure differ, it can be cumbersome to identify local maxima and minima that are supported by all measures. Therefore Studer (2013) recommends inspecting a standardized (Zscore) version of the measure presented in Figure 2. While one should be cautious in interpreting the exact values of these measures, a local maximum for a specific number of clusters for several indicators is a reliable indication for meaningful structure in the data. Some rules of thumbs on acceptable absolute values of cluster cut-off criteria that exist (e.g. at least .25 for the ASW to indicate any structure in the data, Studer 2013), have been developed in very different fields of applications and are therefore not necessarily transferrable to sequence analysis applications, especially multichannel sequence analysis. Sequence distance matrices are based on complex longitudinal trajectories that are very different from the usual cluster analysis application on a few simple random variables. Consequently groups identified with sequence analysis will often be quite heterogeneous, even if there is a meaningful underlying structure. We therefore do not interpret absolute values of the cut-off criteria, but instead focus on whether clear local maxima exist, that are supported by all three cluster-cut-off criteria.

Figure 2 shows local maxima for black men (6 and 8 clusters), black women (3 and 5 clusters) and white women (5 and 8 clusters), but not for white men. Consequently there is no discernible interactive grouping between work and family life courses for white men, which further substantiates findings based on the Mantel coefficients: We find no evidence for a systematic association between longitudinal work and family life courses for white men, indicating that for this group it is possible to combine any family life with any working life ("privilege of possibility"). For the remaining three intersectional groups, we balanced parsimony and additional substantive information with a higher number of groups in the final selection of groups and retain 6 clusters for black men and 5 clusters for black and white women as the best grouping. This resonates with the additional substantive criterion of construct validity in the selection of the best number of clusters that relates to their theoretical and substantive interpretability (Aisenbrey & Fasang 2010).

Figure 2: Cluster Cut-off criteria for PAM cluster analysis based on multichannel sequence distances for four intersectional groups (NLSY 1979)

Figures 3, 4 and 5 show proportional sequence distribution plots of multidimensional work and family clusters for black men, black women and white women. Family lives are presented on the right and parallel work trajectories on the left. The size of the groups corresponds to their size within the respective population. The clusters in figures 3, 4 and 5 are sorted descending according to average Treiman prestige in the employment trajectories, with the highest average prestige cluster at the top and the lowest average prestige cluster at the bottom of figure 2. The cluster names on the left include the average prestige value for each group in parentheses. Tables 1 and 2 present descriptive information for men and women, including average prestige, education and parental background information for the total samples and for work-family clusters. We jointly discuss the groups visualized in Figures 3, 4 and 5 with the respective descriptive information in Tables 1 and 2.

Typical work–family life courses of black men

For black men, figure 3 shows two extreme groups of very low occupational prestige (mean = 29) combined with unpartnered fatherhood (Cluster 1) and very high occupational prestige (mean = 49) combined with having mostly one child within a stable coresidential union relatively late (Cluster 6) (descriptive information in table 1). Cluster 5 combines low prestige, but stable work careers (low occurrence of unemployment) with stable coresidential unions and fatherhood. In between there are three interactive groups that show very similar unstable low prestige employment careers ranging between an average prestige of 34 in cluster 2 and 36 in cluster 4 with relatively high shares of unemployment. Their family lives, however, differ considerably thereby indicating an interactive association described in hypothesis 2c ("one type of work career goes along with multiple types of family life courses"): unpartnered childlessness (Cluster 2), single fatherhood (Cluster 3), and multiple children at a relatively early age outside of coresidential partnerships with later re-partnering into step family arrangements (Cluster 4).

Cluster 6 signifies the only stable high prestige employment career for black men. Together, clusters 5 and 6 support that for black men stable employment careers are only attainable in combination with either one or two children within a stable coresidential

partnership. Whereas previous research has shown a lower marriage premium for black men than for white men (Glauber 2008), our comparison within the group of black men points to the crucial role of stable coresidential partnerships for their career development. Moreover, our findings show that for black men childlessness does not pay off in terms of upward mobility, but on the contrary is associated with low prestige interrupted careers (Cluster 2). Finally, we also find an association of type 2b ("specific family life course goes along with different types of work careers") for unpartnered fathers. Whereas Cluster 1 signifies a life course of early unpartnered fatherhood combined with very low prestige (mean = 29) interrupted careers, Cluster 3 shows a pattern of later unpartnered fatherhood combined with somewhat higher prestige careers (mean = 34).

Table 1: Descriptive information for black and white men

Figure 3: State distribution plots of 6 multidimensional work and family clusters for black men (view in color)

Typical work–family life courses of black women

Figure 4 shows five clusters of typical work-family life courses for black women (descriptive information in Table 2). In addition to the strongest linear association between work and family lives indicated by the Mantel coefficients in figure 1, we also find clear interactive associations in the typology of work-family life courses. For black women both types of interactive associations occur, i.e.one family type being associated with different work lives (Hyp 2b) and one type of work career occurring in combination with multiple family life course profiles (Hyp 2c). In particular there is a polarization of single mothers into either interrupted low prestige careers and extended periods out of the labor force (Cluster 1) or relatively medium prestige upward mobility careers (Cluster 5) (association of type 2b). A distinguishing feature between these two groups is that the single mothers in Cluster 1 have many children (2.4) and enter single motherhood very early, almost all before age 22 and are mostly single mothers at birth. In contrast the single mothers in Cluster 5 have fewer children (1.7), enter single motherhood later in their twenties and often through separation. Our longitudinal process perspective thereby highlights that not the status of being a single mother as such, but its timing and life course context (from birth or through separation) are decisive for career development (see Zagel 2013, 2018).

The second lowest prestige group, cluster 2, signifies work-family experiences of multiple children at a young age with re-partnering into step family arrangements combined with higher prestige and less interrupted careers. While cluster 1 has the lowest average prestige (mean = 34.2) followed by cluster 2 with some distance (mean = 38.8), the remaining clusters 3, 4 and 5 have very similar medium average prestige scores ranging from 45 to 46. The employment careers of these three groups are very similar. Their family lives differ widely ranging from late single motherhood (cluster 5), single childlessness (cluster 4) to two children in a stable partnership (cluster 3) (association of type 2c).

Only 14 percent of black women combine a medium prestige career with two children and a stable partnership (cable 2). Late single parenthood and childlessness are the most common family life courses for black women with medium prestige careers (22 and 18 percent). In contrast, for black men, these family lives only occur in combination with low prestige employment careers (figure 3). Also unlike black men, following our categorization of low, medium and high prestige (see data section) there is no high prestige employment cluster for black women. High prestige careers are so rare among black women that they are not identified as a "typical" work-family profile.

Our findings thereby highlight highly gender-specific dynamics in combining work and family lives for black Americans. The five groups in figure 4 further demonstrate the heterogeneity of black women's work-family experiences. This heterogeneity has received little attention in previous research on black women that tends to focus on early single mothers with precarious employment and high welfare dependency, who are represented in cluster 1 in our analysis (Edin and Lein 1997; Edin and Kefalas 2011). Displaying the full variety of black women's work-family experiences over time highlights a "deficit orientation" of much previous research that explicitly focuses on "problematic" work-family lives of black women and neglects the remarkably resilient and successful careers of black women in clusters 3, 4 and 5 in figure 4.

Figure 4: State distribution plots of 5 multidimensional work and family clusters for black women (view in color)
Table 2: Descriptive information for black and white women

Typical work–family life courses of white women

Figure 5 shows state distribution plots for the combined work-family clusters for white women.

In line with the much more abundant research on this group compared to black men and women, high fertility and single motherhood appear as the prime obstacles to high prestige employment careers (e.g. Abendroth et al. 2014; Kahn et al 2014). Unalike black women we can identify two high prestige clusters for white women. The highest average prestige group for white women is 4 points higher than the highest prestige cluster for black men. In addition, in contrast to black women, for white women single motherhood only occurs in sizeable numbers in combination with low prestige interrupted careers and not with stable middle class careers.

Figure 5: State distribution plots of 5 multidimensional work and family clusters for white women (view in color)

Similar to black women, the lowest prestige cluster for white women also combines early single motherhood with interrupted low prestige employment and welfare dependence. However, this pattern only characterizes work-family experiences of 13 percent of white women compared to 34 percent of black women (Tables 3 and 4) and the average prestige even among this lowest prestige cluster is 4 points higher for white women than for black women.

Conclusions

In this paper we bring together a longitudinal life course and intersectional perspective to uncover complex longitudinal population level inequalities in work-family life courses at the intersection of gender and race. Our findings highlight the wide variety of systematic work-family profiles within each intersectional category – with the exception of white men - and debunk the deficit orientation of previous studies focusing on black men's and women's family and work life courses. For example the sampling strategy of the Fragile Families Survey focuses on obtaining a nationally representative sample of non-marital births in urban areas and thereby by design neglects typical work-family life course experiences of black Americans that are more resilient and "successful" in terms of labor market outcomes.

In line with expectations, white men's work-family life courses, at least for our study cohorts, are characterized by the "privilege of possibility". We neither find significant linear associations between work and family life courses (Mantel coefficients), nor a meaningful structure of typical multidimensional work family profiles (multichannel sequence analysis). In contrast, for black men, we find moderate linear associations between work and family life in a similar magnitude as for white women. The multichannel sequence analysis further showed that for black men and white women the privilege of high prestige employment is constrained to family life courses of late parenthood and having few children. The work-family patterns we uncover for black men polarize into high or low occupational prestige careers, underlining research on the erosion of the black middle class. There is no common career path for black men in "secure middle class" jobs. Black women's work-family life courses are most constrained by a strong association between the two life course dimensions. Importantly, a stable high prestige employment cluster that we found for black men and also white women does not exist for black women. For them the privilege of high prestige employment is not viable in significant numbers irrespective of their family lives. The cluster that shows the highest medium prestige is constrained by specific family life courses with either delayed or foregone fertility.

Our results provide a new perspective on past findings of lower motherhood penalties and fatherhood premia for black compared to white women and men (Glauber 2007; 2008). Previous findings on family penalties only compare within intersectional groups, if they

assess family wage gaps all else controlled. A lower motherhood penalty among black women compared to white women might suggest that black mothers are less disadvantaged compared to white mothers, but our findings suggest the opposite. Black mothers have a lower earnings gap compared to black childless women, because childless black women are disadvantaged compared to childless white women. This is indicated by the absence of a typical work-family profile of high prestige careers for black women, regardless of their family life course.

We innovatively apply recent developments of sequence analysis to bridge the work-family and intersectionality literatures and argue for complementing period measures of social inequality in work-family life courses with process outcomes. Using these new tools allowed us to establish complex longitudinal population level regularities in intersectional inequalities in work-family life courses that are not easily seen or immediately accessible (Goldthorpe 2015). Identifying complex population level regularities is an important precondition for assessing their causes and consequences. Possibly and likely different theoretical mechanisms have more predictive power in explaining the work-family patterns for black men, black women, white women and white men. For instance, for white women employee side characteristics, such as traditional gender norms, selection into motherhood of less career oriented women, and mothers' limited ability to comply with the ideal worker norm (productivity) might be most predictive for sorting into different work-family life course clusters. Moreover given frequently high earning husbands, employment is less of an economic necessity for many middle and upper class white women compared to black women. Among black men and women a lack of parental resources and employer side characteristics of discrimination might be more powerful explanatory factors for who sorts into which work-family life course type. In particular discrimination on combined intersectional categories (e.g. black single mother) is likely to be much larger than the additive effect of each of these categories separately (Pager 2003). In addition the availability of support with child care in kinship networks, including the availability of grandparent care might be a crucial factor especially for black men and women who try to balance parenthood with unstable, inflexible and irregular work hours (Carrillo et al 2017). These and other theoretical mechanisms that drive intersectional social inequalities in work and family life courses should be explored in future research.

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Figures

Figure 1: Mantel coefficient to measure (linear) association between work and family life courses (NLSY 1979).

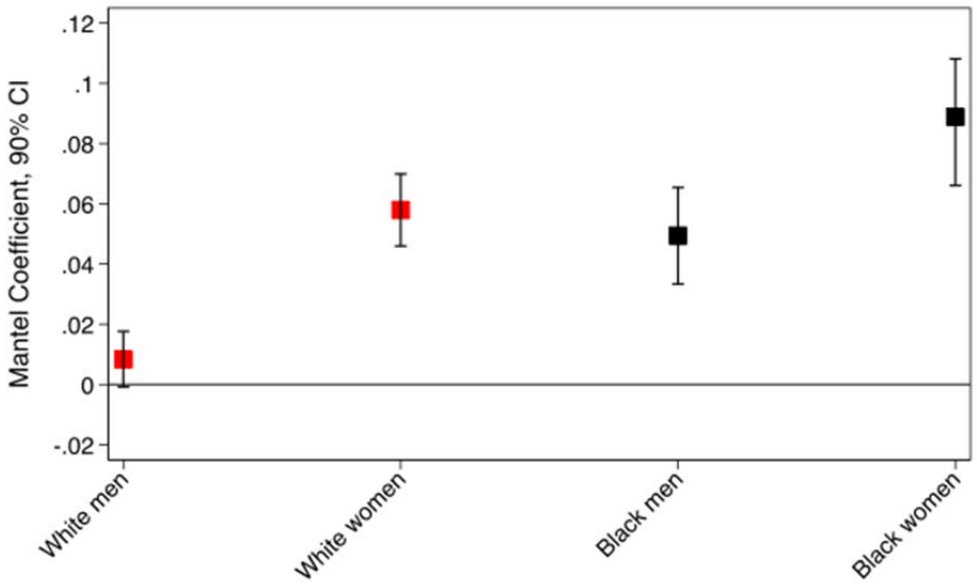


Figure 2: Cluster Cut–off criteria for PAM cluster analysis based on multichannel sequence distances for four intersectional groups (NLSY 1979)

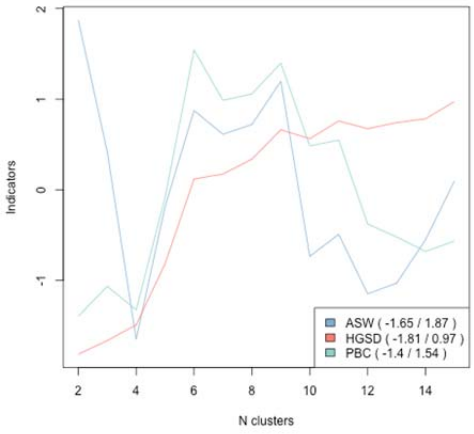
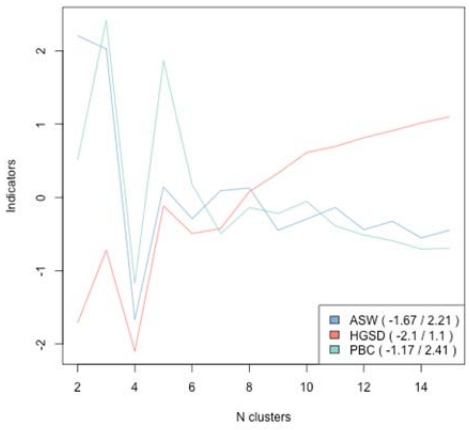
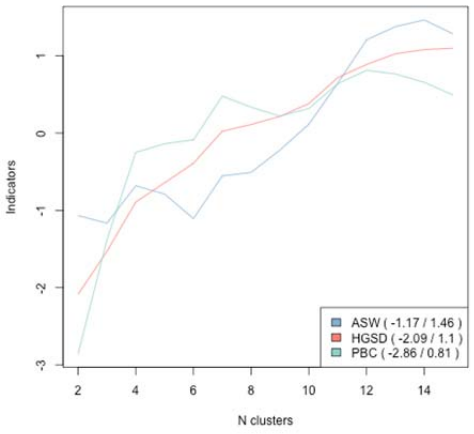
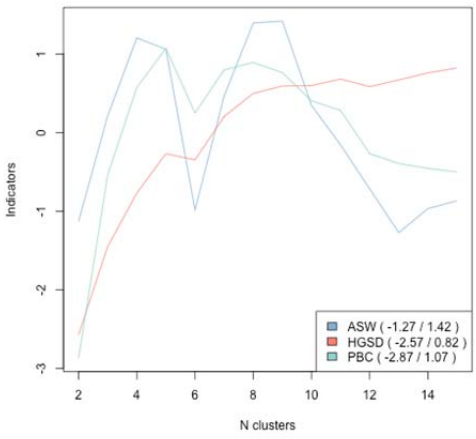
	Men	Women
Black	Local maximum at 6 and 9 clusters 	Local maximum at 3 and 5 clusters 
White	No local maxima 	Local maximum at 5 and 8 clusters 

Figure 3: State distribution plots of 6 multidimensional work and family clusters for black men (view in color)

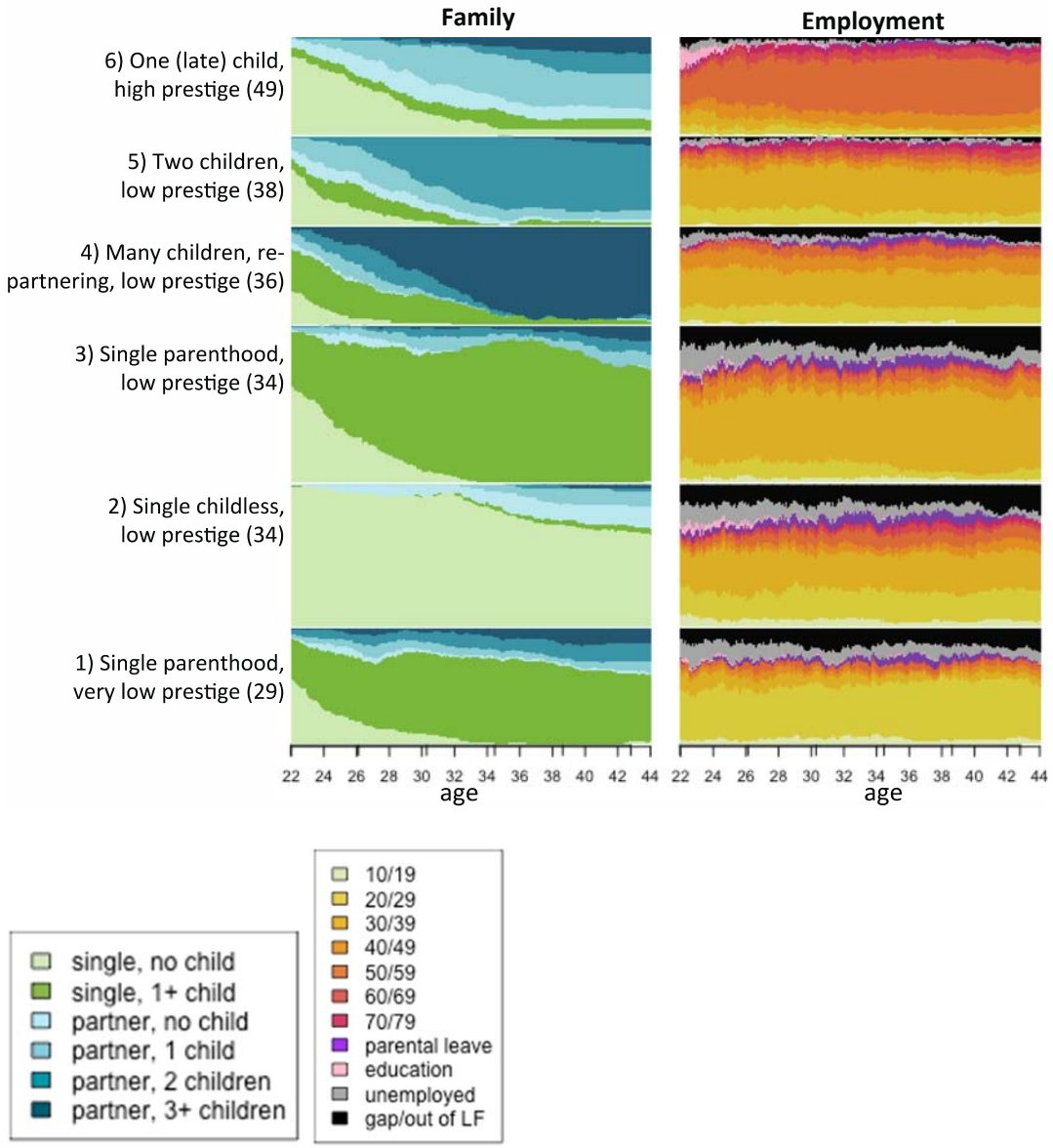


Figure 4: State distribution plots of 5 multidimensional work and family clusters for black women (view in color)

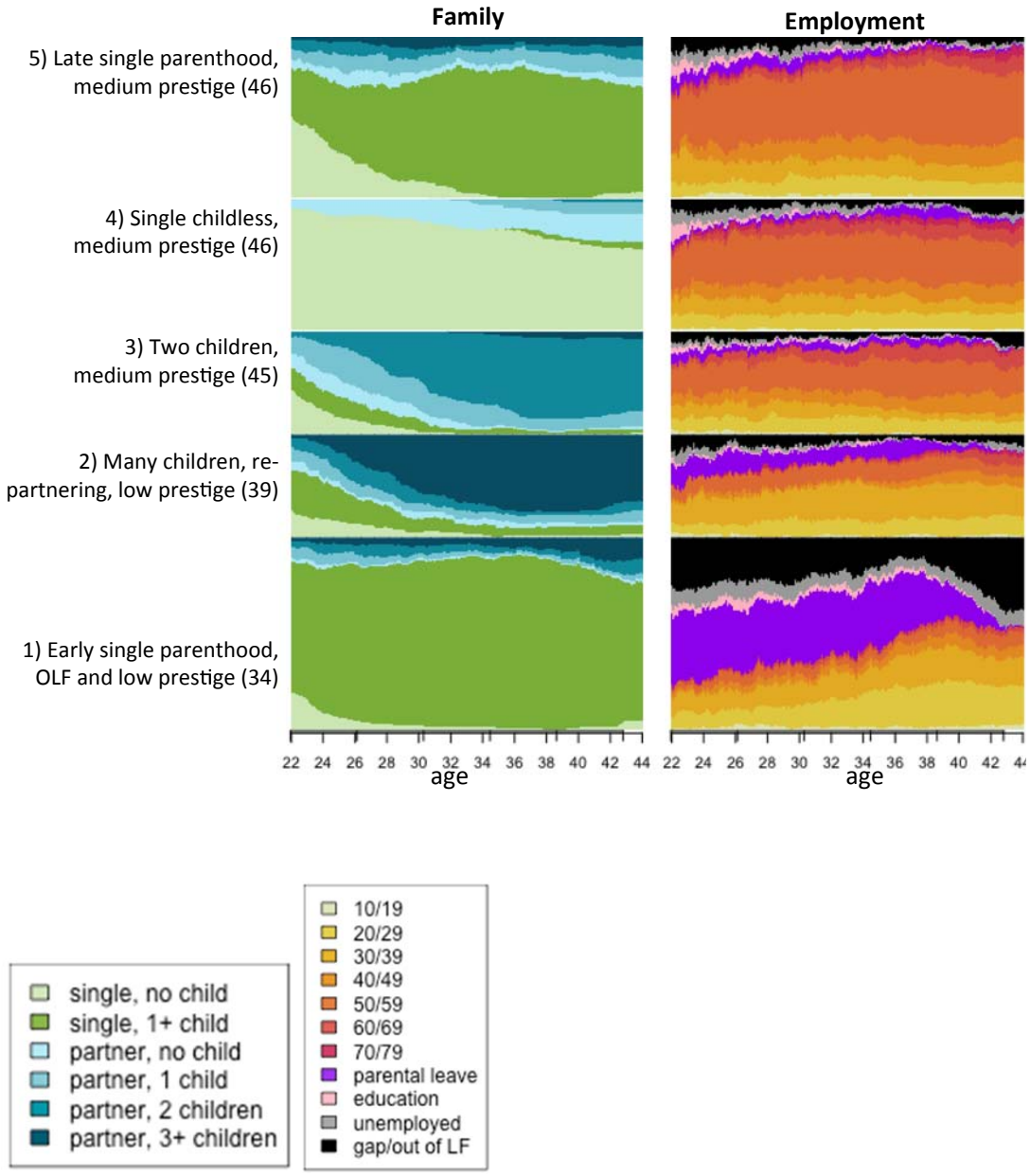
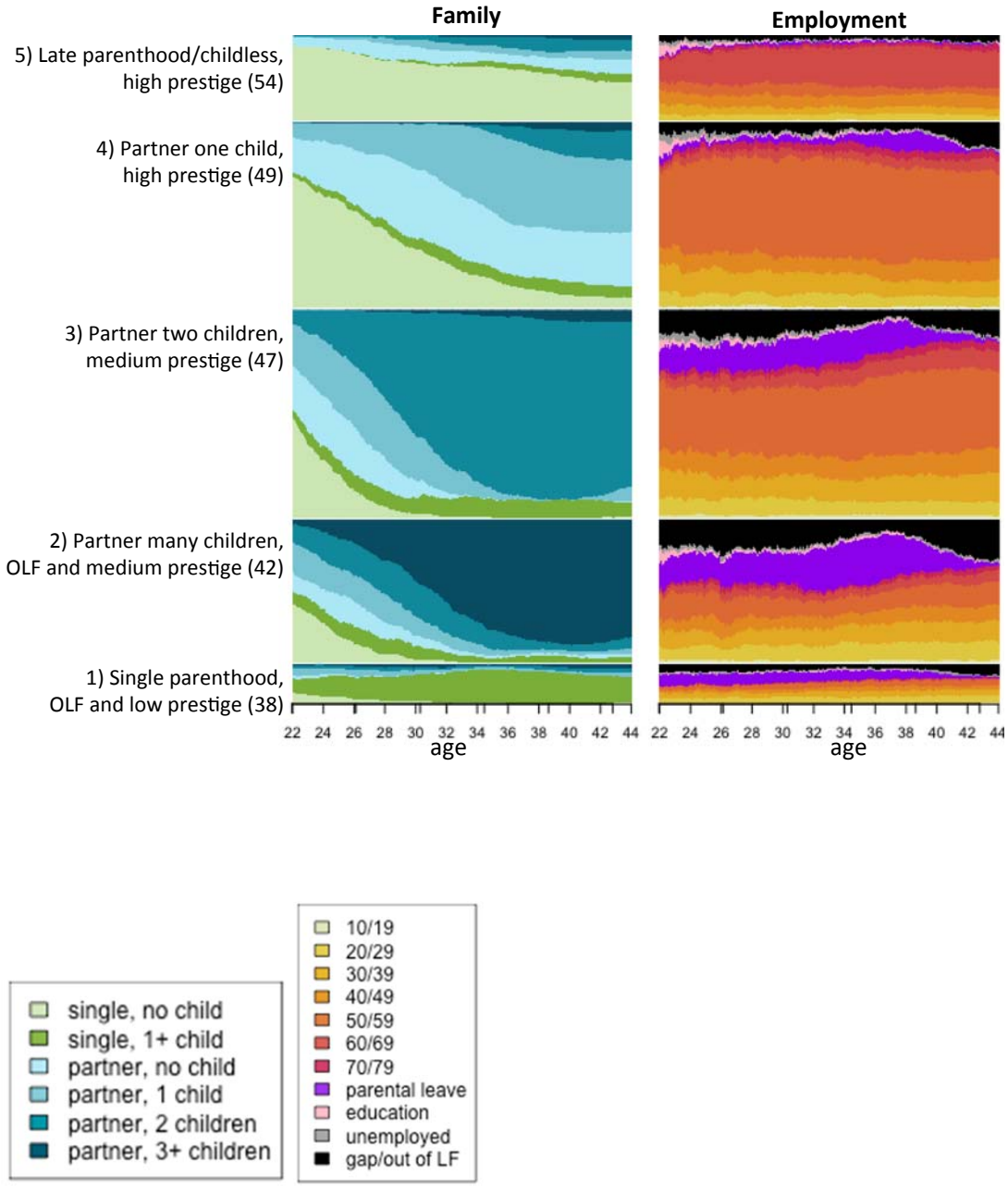


Figure 5: State distribution plots of 5 multidimensional work and family clusters for white women (view in color)



Tables

Table 1: Descriptive information for black and white men

				Black				White
Clusters	1)	2)	3)	4)	5)	6)	Total	Total
N	180	158	175	107	98	109	827	1757
%	22	19	21	13	12	13	100	100
Average Treimann	28.9	33.7	34.0	35.7	38.1	49.2	35.6	42.2
% No HS	34.3	29.7	25.7	29.0	18.4	10.1	25.9	17.7
% Just HS	49.4	32.3	49.1	41.1	39.8	19.3	40.3	35.5
Father Edu years	9.3	10.2	10.5	9.5	11.0	11.3	10.3	11.8
Mother Edu years	10.3	10.9	10.9	10.6	10.9	11.9	10.9	11.4
Child start	0.6	0.01	0.5	0.7	0.3	0.2	0.4	0.2
Child end	2.2	0.3	2.2	3.5	1.9	1.5	1.9	1.7

Table 2: Descriptive information for black and white women

	Black						White					
Clusters	1)	2)	3)	4)	5)	Total	1)	2)	3)	4)	5)	Total
N	299	115	118	153	188	873	236	372	535	473	210	1826
%	34	13	14	18	22	100	13	20	29	26	12	100
Average Treimann	34.2	38.8	45.2	45.7	46.3	41.1	38.0	42.3	46.7	48.6	53.7	
% No HS	38.5	17.4	1.7	7.2	7.4	18.7	36.0	18.8	14.2	5.7	4.3	14.6
% Just HS	35.8	34.8	38.1	22.2	28.7	32.1	41.9	32.2	35.7	38.3	18.1	34.3
Father Edu years	9.4	10.0	10.7	11.3	10.4	10.3	10.2	11.7	11.5	12.2	12.7	11.7
Mother Edu years	9.9	10.9	11.1	11.2	10.9	10.7	9.9	11.1	11.4	11.7	12.2	11.3
Child start	1.2	0.9	0.4	0.0	0.8	0.8	0.9	0.7	0.4	0.1	0.01	0.4
Child end	2.4	2.9	1.9	0.2	1.7	1.9	2.3	3.2	2.0	0.9	0.7	1.8