Research Article

Ethnic differences in family trajectories of young adult women in the Netherlands: Timing and sequencing of events

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Ethnic differences in family trajectories of young adult women in the Netherlands: Timing and sequencing of events

Tom Kleinepier
Helga A.G. de Valk

Abstract

BACKGROUND
Despite extensive research on the family behavior of young adults, family dynamics of children of migrants remain largely unexplored. This is unfortunate as family transitions are strongly interlinked with transitions in other domains (e.g., education, work) and predictive for outcomes later in life.

OBJECTIVE
We provide a comprehensive insight into ethnic differences in family behavior of young adults, focusing on Turkish, Moroccan, Surinamese, and Antillean second-generation women and native Dutch women. Moreover, we assess the importance of mixed parentage for family behavior.

METHODS
Using rich administrative micro data, we apply sequence analysis and follow an entire birth cohort of second-generation women and a native Dutch comparison group from age 16 to 30. Logistic regression analyses are carried out to examine ethnic differences in the prevalence of different family trajectories.

RESULTS
We found more between-person diversity in family behavior among second-generation women than among native Dutch women, particularly during the early twenties. Turkish and Moroccan women were found to start family formation relatively early in the life course, although many had left the parental home to live alone independently. Family trajectories of Surinamese and Antillean women were characterized by unmarried cohabitation and single motherhood. Native Dutch women generally opted for premarital cohabitation and postponed marriage and...
CONTRIBUTION

We cover multiple family events simultaneously by following women of diverse origin for 15 years through young adulthood. Additionally, we study differences between children of two foreign-born parents and children of mixed couples.

1. Introduction

Although extensively studied, research on the demographic family behavior of young adults in Europe has been largely confined to native populations. Therefore, relatively little is known about the family behavior of immigrants and in particular, that of their descendants (see for exceptions, de Valk 2006; Huschek, Liebbroer, and de Valk 2010; Zorlu and Mulder 2011; Zorlu and van Gaalen 2016). This is unfortunate as children of migrants constitute a large and growing share of the contemporary young adult population in Europe (Eurostat 2011). It is well established that family transitions in young adulthood are closely interlinked with transitions in other life domains, such as education, employment, and housing (Blossfeld and Huinink 1991; Bratti and Cavalli 2014; Mulder and Hooimeijer 2002). For instance, choices regarding leaving the parental home may hinder participation in higher education (Windzio 2011). Similarly, an early transition to parenthood may, particularly among women, lead to a higher risk of school dropout and postponement of entering the workforce in order to care for children (Hobcraft and Kiernan 2001). Decisions in the family domain can thus have a profound impact on future life chances of young people. Hence, getting more insight into family dynamics among children of immigrants is crucial for the development of policies aimed at tackling inequalities in ethnically diverse societies.

This study examines ethnic differences in family behavior among young adults in the Netherlands, focusing on the second generation of the four largest non-Western origin groups (Turks, Moroccans, Surinamese, and Antilleans) and a native Dutch comparison group (see next section for a detailed description). We contribute to previous studies on migrant children’s family dynamics in two important ways. First, whereas previous work has mainly focused on single markers in the transition to adulthood (e.g., Garssen and Nicolaas 2008; Huschek, Liebbroer, and de Valk 2010; Zorlu and van Gaalen 2016), we cover several life-course events simultaneously and acknowledge the cumulative nature of the life course (Giele and Elder 1998). We do so by applying sequence analysis, a technique in which the whole trajectory serves as the dependent variable, rather than a specific event in the
life course. Second, we add to the literature by assessing the importance of mixed parentage for family behavior. More specifically, we distinguish between children from two foreign-born parents (‘2.0 generation’) and children of couples consisting of an immigrant and a non-immigrant parent (‘2.5 generation’). Despite empirical evidence showing significant differences between the 2.5 generation and the 2.0 generation (Ramakrishnan 2004), the two groups have often been lumped together in previous research, mostly due to data limitations (e.g., Huschek, Liefbroer, and de Valk 2010). In sum, this study seeks to answer the following two research questions: (1) To what extent are there ethnic differences in family trajectories between the second generation of Turkish, Moroccan, Surinamese, and Antillean origin and native Dutch young adults? (2) How and to what extent do young adults with two foreign-born parents differ from young adults of mixed parentage in terms of family behavior?

Our study focuses on women for both practical and theoretical reasons. On the practical side, studying both men and women would be too broad for the scope of this paper. On the theoretical side, contemporary Dutch society is often depicted in the literature as being in favor of autonomy, emancipation, and gender equality (Oppenheimer 2004). In contrast, in more patriarchal societies such as Turkey and Morocco, cultural norms regarding the timing and sequencing of important family transitions are found to be stricter for women than for men (Bowen and Early 1993; Koc 2007). In the Caribbean region, mothers appear stricter and more demanding with daughters than sons, while the involvement of fathers is childrearing practices is rather marginal (Sharpe 1997). Existing research thus suggests that intergenerational transmission of cultural values is stronger towards daughters than towards sons in various non-Western cultures. Ethnic differences in family-life trajectories may therefore be particularly pronounced among women.

We use unique individual administrative panel data from the System of Social Statistical Datasets (SSD) that cover the total population of the Netherlands (Bakker, van Rooijen, and van Toor 2014). Billari (2001a: 452) notes that population registers are “the ideal source for sequence data,” since they contain the same information as retrospective surveys, but without important methodological problems such as recall error, non-response, and missing data. An entire birth cohort of Turkish, Moroccan, Surinamese, and Antillean second-generation women and a 10% native Dutch comparison group are followed from age 16 in 1999 up until age 30 in 2013, capturing the most dynamic period of young adulthood.
2. The Dutch context: Migrants in the Netherlands

Currently, 21.7% of the 16.9 million inhabitants of the Netherlands has at least one parent born abroad (Statistics Netherlands 2016). These people can be about equally divided between individuals who are born abroad (first generation) and those who are born in the Netherlands (second generation). We focus on the second generation of the four largest non-Western origin groups in the Netherlands: Turks, Moroccans, Surinamese, and Antilleans. All other non-Western origin groups are considerably smaller and cover a variety of mainly more recent immigrants to the Netherlands, such as asylum seekers and refugees (Statistics Netherlands 2016). The four main origin groups particularly predominate the young adult population of the Netherlands; together, they compose more than half of the second-generation population between ages 18–35 (Statistics Netherlands 2016).

Most Turkish and Moroccan immigrants living in the Netherlands were recruited as ‘guest workers’ in the 1960s and early 1970s to fill labor shortages, predominantly in unskilled or low-skilled labor sectors. The vast majority of these labor migrants were male, and their families initially stayed behind in their country of origin. They were mainly less educated and originated from rural parts of their countries of origin, where the large majority adheres to Islam (van Tubergen 2003). As the name already suggests, guest workers were regarded as temporary settlers. Therefore, the government did not have integration policies for Turkish and Moroccan migrants in Dutch society, resulting in difficulties in the labor market and a low Dutch proficiency (Vermeulen and Penninx 2000). However, despite the fact that many Turkish and Moroccan migrants lost their jobs during the 1970s and 1980s oil crises, a large share decided to prolong their stay in the Netherlands due to the poor economic and political situation in Turkey and Morocco. Many of them were joined by their families in the 1970s and 1980s and subsequently had children who were born and raised in the Netherlands. On 1 January 2015, the number of residents with a Turkish or Moroccan background in the Netherlands was 396,555 and 380,755 respectively, of which slightly more than half was of the second generation (Statistics Netherlands 2016). Because intermarriage with the Dutch is uncommon among first-generation immigrants, the vast majority of the Turkish (78%) and Moroccan (82%) second generation has two foreign-born parents (Statistics Netherlands 2016). Although the socioeconomic position of the Turkish and Moroccan second generation is generally better than that of their parents, they are still in a disadvantaged position (Hartgers and Besjes 2014; Heath, Rothon, and Kipli 2008).

The presence of Surinamese and Antillean immigrants in the Netherlands is closely related to Dutch colonial history. Before Surinam’s independence in 1975, the country formed part of the Kingdom of the Netherlands and migration was uncontrolled. In particular during the two years leading up to independence, many
Surinamese migrants came to the Netherlands as they feared that entry would become more difficult afterwards (Vermeulen and Penninx 2000). Migration from the (former) Netherlands Antilles is of a different nature. Because the Antillean islands are still part of the Netherlands Kingdom, all Antilleans hold Dutch nationality. Migration movements have long been dominated by short-term student migration, but with the decline of the Antillean economy in the 1980s and 1990s, people from all strata of the population began to take part in the migration process, and return migration occurred less frequently (Vermeulen and Penninx 2000). As of 1 January 2014, there were 348,662 individuals with a Surinamese background and 148,926 individuals with an Antillean background living in the Netherlands, of which respectively 48 and 44 percent is of the second generation (Statistics Netherlands 2016). Due to their colonial ties, Surinamese and Antillean migrants usually had some command of the Dutch language prior to migration (Vermeulen and Penninx 2000). Their socioeconomic position is very diverse, on average less favorable than that of the native Dutch, but better than that of Turks and Moroccans (Hartgers and Besjes 2014; Odé and Veenman 2003). The rates of ethnically mixed relationships are relatively high among Surinamese and Antillean migrants: 38% of the Surinamese and 56% of the Antillean second generation has one parent who was born in the Netherlands (Statistics Netherlands 2016).

3. Theory and hypotheses

3.1 Destandardization of the life course

The life courses of young adults in Western Europe and the United States have changed considerably in the 20th century (Brückner and Mayer 2005; McLanahan 2004; Widmer and Ritschard 2009). Pathways into and through adulthood among cohorts born in the first half of the past century were characterized by increasing uniformity. This was particularly the case in the period shortly after World War II, when there was little variation in the timing and sequencing of family transitions. The majority of young adults in the 1950s left the parental home to marry, followed by childbirth before age 30 (Bras and Kok 2003). This traditional family trajectory is referred to as the standard biography (Beck and Beck-Gernsheim 2002). From the 1960s onwards, there has been a substantial decline in the prevalence of this standard biography, as new demographic behaviors have emerged and become common in many Western societies. Nowadays, most young adults in the Netherlands cohabit with a partner before getting married, which goes hand in hand with postponement of marriage and of parenthood (Billari and Liefbroer 2010; Hiekel, Liefbroer, and Poortman 2014). Also other living arrangements, such as
living alone before first union formation, unmarried parenthood, and remaining childless have become (more) common (Billari and Liefbroer 2010; Corijn and Klijzing 2001).

The developments outlined above are often explained by changes in the economic structure which, in turn, have led to a significant weakening of institutions such as family and religion, along with an increase in the ideology of individualism and self-development (Inglehart 1977; Lesthaeghe and van de Kaa 1986). Accordingly, the standard biography has been replaced by a so-called choice biography, which assumes that individuals make autonomous decisions and construct “a life of one’s own” (Beck and Beck-Gernsheim 2002: 22). It has been argued that these processes have increased diversity in demographic family behavior between individuals, which has been referred to as destandardization of the life course. While some studies have found support for this idea (Elzinga and Liefbroer 2007; Widmer and Ritschard 2009), there is also empirical evidence showing a fairly strong consensus concerning the timing and sequencing of important life transitions among young adults from recent birth cohorts (Elchardus and Smits 2006; Nico 2014). In other words, while the transition to adulthood has without doubt become more lengthy and complex for youth in Western societies, the extent to which these developments have actually increased diversity in family behavior between individuals remains a topic of controversy in the literature.

Changes in patterns of family formation have not developed to the same extent globally: Western Europe and North America are believed to be the frontrunners of demographic change (Lesthaeghe 2010). Although family behavior in non-Western societies has also changed over the past decades (Kagitcibasi and Ataca 2005), previous work has indicated that there are still strict norms and values on the timing and sequencing of family transitions in these societies (Koc 2007; Nauck 2002). In the typical patrilineal Turkish and Moroccan societies, the behavior of women especially is bound by rules as they may put the family's reputation at risk through disapproved actions (Bowen and Early 1993). Marriage plays a key role in the transition to adulthood in these societies and girls are generally expected to remain virgin until they marry (Yerden 1995). Moreover, marriages are contracted at much younger ages in Turkey and Morocco than in Northern and Western Europe. For example, in 2012, the mean age at first marriage for women in Turkey was 23.5 compared to 30.4 in the Netherlands (UNECE 2015). Similarly, women in Turkey and Morocco are generally younger when they become mothers than women in the Netherlands, although differences are getting smaller (United Nations 2013). Overall, despite the fact that family patterns are prone to change in Turkey and Morocco, the standard biography is still the dominant family trajectory among women in these countries (Koc 2007).

In contrast to Mediterranean countries (Turkey/Morocco), not so much value is attached to marriage in Caribbean countries (Surinam/Antilles). This is for example
reflected in relatively high shares of men and women who have never married by age 50, which was about 40% in Surinam in 2004 and 35% on the Netherlands Antilles in 2001 (United Nations 2013). Having a child is considered to be a much more important transition in life than establishing a formal relationship. Unmarried cohabitation and extramarital births are therefore very common in Caribbean countries (Shaw 2003). Compared to Dutch society, the transition to parenthood also occurs at younger ages in Surinam and the Antilles (United Nations 2013). In addition, many Caribbean households are matrifocal, meaning that women are often the head of household and frequently live without a partner while the roles of fathers and husbands tend to be rather marginal (Sharpe 1997). Single motherhood is a typical characteristic of the so-called Caribbean family system (Shaw 2003).

3.2 Hypotheses

Socialization theory argues that young adults’ preferences and behavior are influenced by various socializing agents, but particularly by parents (Younnis and Smollar 1985). According to this theory, parents transmit their norms and values to their children by direct transmission of values, role modeling, and social-status inheritance (Bandura 1977; Glass, Bengtson, and Dunham 1986; Kalmijn et al. 2006). Drawing on this theoretical perspective and the patterns of family behavior described before, we formulate three sets of hypotheses.

The first set of hypotheses is related to levels of between-person diversity in family behavior. We argue that the relatively larger importance parents have for women in a particular group, the lower the diversity between women in that group will be. There are two competing lines of reasoning on the influence of migrant parents. On the one hand, it has been argued that migration is a stressful experience that may disrupt family relationships (Phalet and Schönpflug 2001). Children of immigrants are in a special position in which they have to balance between the culture of their parents and the culture of the society in which they live (Luna, Peracchio, and Ringberg 2008). Empirical research suggests that this bicultural position increases the frequency and intensity of parent-child conflicts (Giguère, Lalonde, and Lou 2010; Lou, Lalonde, and Giguère 2012). Under such circumstances, the influence of migrant parents is expected to be weaker. This leads to the following hypothesis:

_Hypothesis 1a: There is more within-group variation in family trajectories among the Turkish, Moroccan, Surinamese, and Antillean second generation than among native Dutch young adults._
On the other hand, it has been argued that international migration may actually strengthen family ties, as families provide an important source of orientation and support after the move (Bryceson and Vuorela 2002; Pyke 2003). Moreover, as outlined in the previous section, in Turkish and Moroccan cultures especially women face strong normative expectations from their parents (Bowen and Early 1993). In the Netherlands, by contrast, there is a trend towards less parental authority and more autonomy in life-course decision-making (Lesthaeghe 2010). Indeed, de Valk and Liefbroer (2007) found less variation in the preferred age for marriage and childbearing among second-generation women than among native Dutch women, indicating a higher consensus on the appropriate timing of family transitions among the second generation. This leads to the following alternative hypothesis:

Hypothesis 1b: There is less within-group variation in family trajectories among the Turkish, Moroccan, Surinamese, and Antillean second generation than among native Dutch young adults.

The second set of hypotheses is related to the type of family trajectories. The vast majority of Turkish, Moroccan, Surinamese, and Antillean first-generation immigrants moved to the Netherlands as adults and are thus primarily socialized in the country of birth. A large body of literature indicates that the norms and values of individuals are largely stable during adulthood (Inglehart 1977, Inglehart and Baker 2000). This implies that the parents of the second generation may have maintained the norms and values of their culture of origin (see de Valk and Liefbroer 2007; Garssen and Nicolaas 2008). If so, the expectations towards the behavior of their children are mainly drawn from their socialization-country context. In the previous section, it was reported that the standard biography is still the dominant family trajectory for women in Turkish and Moroccan society, while family life in the Caribbean region is characterized by a relatively high incidence of single motherhood. We expect that the family behavior of the second generation will at least partly reflect these patterns. This leads to the following hypotheses:

Hypothesis 2: (a) Among all origin groups, we expect that the ‘standard biography’ – defined as the group of young adults who leave the parental home directly for marriage, followed by childbirth before age 30 – is present. (b) The Turkish and Moroccan second generation are more likely to follow this ‘standard biography’ than the native Dutch.

Hypothesis 3: The Surinamese and Antillean second generation are more likely to experience single motherhood in young adulthood than the native Dutch.
The last hypothesis is aimed at differences within the ethnic groups of the second generation, namely between children with two foreign-born parents (2.0 generation) and children from mixed parentage, with one foreign-born parent (2.5 generation). The 2.5 generation has one Dutch parent who grew up and was socialized in the Netherlands, implying that this parent is most likely more oriented towards Dutch norms and values. Moreover, in the migration literature, ethnic intermarriage is considered to be an important indicator of cultural integration (Kalmijn and van Tubergen 2006). Immigrants with a Dutch partner are usually more oriented towards Dutch society than immigrants who found their partner within their own ethnic group (Kalmijn 1998). We therefore expect the following:

Hypothesis 4: There are larger differences in family behavior between the 2.0 generation and the native Dutch than between the 2.5 generation and the native Dutch.

4. Data and methods

4.1 Data

We use unique longitudinal data from the System of Social Statistical Datasets (SSD), compiled by Statistics Netherlands (see Bakker, van Rooijen, and van Toor 2014). The SSD was constructed by linking several registers to the Dutch municipal population registers (known as the BRP) at the individual level. The data contains a wealth of demographic information on every legal inhabitant of the Netherlands, including birth date, gender, ethnic origin, marital status, and position in the household. The measurement moment of the household position is the last Friday of September of each year. Data was available for the period 1999–2013. We select all women of the Turkish (N=1,677), Moroccan (N=1,414), Surinamese (N=1,853), and Antillean (N=411) second generation who were 16 years old on the last Friday of September in 1999. In addition, we take a 10% random sample of the native Dutch women (N=6,315) from the same birth cohort (1982/1983). We follow these women from age 16 in 1999 to age 30 in 2013. A small group (5%), for which the information on one or multiple years was not available in the registers due to death or emigration, is excluded from the analyses. Note that people who leave the Netherlands are only deregistered if the expected stay abroad is at least eight months, implying that shorter stays abroad remain undocumented. In total, our research population includes 11,670 young adult women.

The SSD allows us to determine with whom a person lived at each measurement moment and, thus, to classify each person according to their position in the household between the ages of 16 and 30. We distinguish between eight.
positions in total. Through the record linkage of parents and children, we check to see if a person was living in the parental home (PH), whether or not accompanied by other family members. When a person was not living in the parental home, we distinguish between three positions that pertain to a situation without children. First, when an individual was the only person registered at a particular address, the person is coded as living single (S). Second, when a person was living with a partner without being married, the living arrangement is classified as cohabiting (C). Third, a women who was registered as married and that was living at the same address as her spouse, is classified as married (M). When the person was living with at least one child as well, there are again three possibilities: living single, and child(ren) (SC), cohabiting, and child(ren) (CC), and married, and child(ren) (MC). We do not distinguish between the number of children since we are mainly interested in the transition to parenthood (first birth). Finally, those registered at the same address with people other than parents or partners are classified as shared residence (SR). The number of women living in this household type with a child was so low (N=103) that it was not included as a separate category.

It is important to note that, although population registers generally provide accurate information, register data also have limitations. Despite the legal obligation to report changes in address within five days’ time, some people do not immediately report their move to the municipality. The administrative delay may result in an incorrect household position in the data. Furthermore, some measurement error may occur in determining the less straightforward household types, such as unmarried couples without children versus two ‘unattached’ persons living at the same address. Statistics Netherlands identifies unmarried couples without children on the basis of several allocation rules (e.g., fiscal information) and by stochastic imputation, leading to a 95% match at the individual level with data from the Housing Demand Survey from 2002 (de Groot et al. 2011). Although the magnitude of these measurement issues is thus likely to be small, it cannot be ruled out that in some cases the household position is misclassified.

4.2 Methods

The analysis consists of three parts. In the first part, we investigate levels of diversity in life-course trajectories within each of the origin groups. To achieve this, we calculate the heterogeneity of the state distribution at each chronological age for the different origin groups. We use Shannon entropy (Shannon 1948) as a heterogeneity indicator, which has also been used in previous studies (Billari 2001b; Widmer and Ritschard 2009). The Shannon entropy-index is a number between [0, 1], where a higher value indicates more diversity of states among individuals. Entropy is zero when every person is in the same state at a given age. Maximal
entropy is achieved when all states are uniformly distributed, i.e., when exactly 12.5% of the population is in each of the eight states.

The second part of our analysis is aimed at comparing and classifying family trajectories. We first compute optimal matching (OM) distances between all individual sequences using R’s TraMineR package (Gabadinho et al. 2011). The OM algorithm generates pairwise distances between sequences based on three arithmetic operations: insertion, deletion, and substitution. A cost is assigned to each of the three operations by the researcher. The distance between two sequences is defined as the total cost of the smallest number of operations required to match the sequences. Although OM is by far the most frequently used metric for sequence analysis in the social sciences, the literature is still inconclusive about the best solution for specifying the costs of the three operations (Gauthier et al. 2009; Hollister 2009). In this study, we opt for unitary insertion/deletion costs and empirically define substitution costs as the inverse of the transition rates, following the approach of previous studies (e.g., Aassve, Billari, and Piccarreta 2007; Kleinepier, de Valk, and van Gaalen 2015; Widmer and Ritschard 2009). As a robustness check, we replicate our analyses by using another commonly applied solution for calculating OM distances: insertion/deletion costs of 1 and a constant substitution cost of 2. The different substitution cost settings yielded substantially similar results. In contrast to a constant substitution cost, however, the transition rate approach accounts to a certain extent for state distances by assigning higher costs to less frequent transitions, which we therefore prefer. Once OM distances have been calculated, we develop a typology of family trajectories using Partitioning Around Medoids (PAM) cluster analysis (Kaufman and Rousseeuw 1990). In partition-based clustering methods, the number of clusters needs to be specified a priori. We therefore test a range of cluster solutions (2-20 cuts) and determine the quality of the partitions with the Average Silhouette Width (ASW) criterion (see Rousseeuw 1987).

In the third and last part of our analysis, we investigate to what extent the obtained clusters are related to ethnic background and several control variables. Similarly to previous studies (e.g., Bras, Liefbroer, and Elzinga 2010; Widmer and Ritschard 2009), we perform a series of binary logistic regression models, using each of the clusters as the outcome variable. The independent and control variables are measured as follows (see also Table 1).

— **Origin.** A person is classified as second generation if he/she are born in the Netherlands and has at least one parent who was born abroad. If both parents were born abroad, but in different countries, the country of birth of the mother is dominant. Individuals with two native-born parents are classified as native Dutch, irrespective of their own birth country.
— *Mixed parentage* is also based on the birth country of the parents, but with an extra distinction between one foreign-born parent and two foreign-born parents. We thus include two dummy variables for each second-generation group in this variable.

— *Labor market trajectory.* Following the same approach we used with the dependent variable, we apply sequence analysis to develop a data-driven typology of the women’s educational and labor market careers. This results in four distinct types of trajectories: (1) full-time employees, (2) part-time employees, (3) students, and (4) the unemployed. Appendix A provides further details on the construction of this variable.

— *Educational level.* The Central Register for Enrolment in Higher Education (Dutch acronym: CRIHO) contains information on a yearly basis from 1986 onwards about students in higher vocational education and at the university level in the Netherlands that is publicly financed. Administrative registers on secondary and lower-tertiary education are only available for recent years and consequently do not provide a 100% coverage of our research population. Educational level is therefore measured by a dummy variable based on whether the person has obtained a higher vocational education or university degree (0=no, 1=yes). Note that registration started too late to properly identify the educational level of parents.

— *Parental occupational status.* Two dummy variables that control for the employment status of the father and mother when the person was 16 years old (0=not employed, 1=employed).

— *Parental union status* is a dummy variable that indicates whether the young adult’s parents were living together in 1999, i.e., when the individual was 16 years old (0=no, 1=yes).

— *Number of siblings* indicates the number of siblings that were living in the household when the person was 16 years old. We distinguish between five categories: (1) no siblings (reference category), (2) one sibling, (3) two siblings, (4) three siblings, and (5) four or more siblings. This variable is included as a large family size has been linked to younger ages of leaving home and union formation, as well as a preference for marriage over other family arrangements (Blaauboer and Mulder 2010; Manting 1996).
Table 1: Percentual distribution over categories of independent variables, by origin group

<table>
<thead>
<tr>
<th></th>
<th>Turkish (N=1,677)</th>
<th>Moroccan (N=1,414)</th>
<th>Surinamese (N=1,853)</th>
<th>Antillean (N=411)</th>
<th>Dutch (N=6,315)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed parentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 foreign-born parents</td>
<td>95.8</td>
<td>92.3</td>
<td>79.2</td>
<td>33.3</td>
<td>N/A</td>
</tr>
<tr>
<td>1 foreign-born parent</td>
<td>4.2</td>
<td>7.7</td>
<td>20.8</td>
<td>66.7</td>
<td>N/A</td>
</tr>
<tr>
<td>Labor market trajectory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>22.6</td>
<td>20.9</td>
<td>22.8</td>
<td>22.6</td>
<td>33.3</td>
</tr>
<tr>
<td>Part-time</td>
<td>24.7</td>
<td>21.8</td>
<td>21.3</td>
<td>20.4</td>
<td>22.2</td>
</tr>
<tr>
<td>Student</td>
<td>40.0</td>
<td>43.6</td>
<td>43.4</td>
<td>48.2</td>
<td>39.4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>12.7</td>
<td>13.6</td>
<td>12.4</td>
<td>8.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Graduated from higher education</td>
<td>25.0</td>
<td>26.5</td>
<td>31.4</td>
<td>41.4</td>
<td>42.0</td>
</tr>
<tr>
<td>Parents live together</td>
<td>87.6</td>
<td>86.8</td>
<td>54.1</td>
<td>67.9</td>
<td>86.7</td>
</tr>
<tr>
<td>Mother employed</td>
<td>24.7</td>
<td>13.3</td>
<td>58.7</td>
<td>61.3</td>
<td>55.0</td>
</tr>
<tr>
<td>Father employed</td>
<td>49.7</td>
<td>33.1</td>
<td>53.6</td>
<td>65.4</td>
<td>86.1</td>
</tr>
<tr>
<td>Number of siblings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>16.2</td>
<td>10.0</td>
<td>22.8</td>
<td>24.8</td>
<td>15.9</td>
</tr>
<tr>
<td>1</td>
<td>27.2</td>
<td>13.1</td>
<td>38.1</td>
<td>42.3</td>
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<td>25.8</td>
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<td>37.6</td>
<td>3.2</td>
<td>3.6</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Note: Percentages may not total 100 due to rounding
Source: System of Social Statistical Datasets (SSD)

5. Results

5.1 Diversity of family trajectories

We first present results concerning the distribution of entropy for each chronological age among the different origin groups (Figure 1). As can be seen in Figure 1, entropy at age 16 is low among all origin groups, which is due to the fact that the vast majority of the young adult women were living in the parental home at this age (see Appendix B). From that age on, there is a strong increase in entropy up until age 22 among the Turkish and Moroccan second generation, followed by a slight decrease in entropy starting in their mid-twenties. Among the native Dutch, entropy increases more slowly and regularly. At younger ages, native Dutch women therefore feature lower levels of entropy than women of the Turkish and Moroccan second generation, but at age 30 the three origin groups have nearly identical levels
of entropy. Indeed, during their late twenties, Turkish and Moroccan women with two foreign-born parents have somewhat lower levels of entropy than the native Dutch. Additional analyses (see Appendix B) indicate that this is due to an increasing share of married women with children among the Turkish and Moroccan second generation at these ages. As it does in the native Dutch population, entropy steadily increases among the Surinamese and Antillean second generation from age 16 onwards and stabilizes around the mid-twenties. Levels of entropy are, however, consistently higher among the Surinamese and Antillean second generation than among the native Dutch.

The transversal entropy shows diversity between individuals for each chronological age, but not for the trajectory as a whole. In Figure 2, we therefore present the average OM distance between individuals within each origin subgroup, along with error bars that represent the 95% confidence interval. The figure shows that all second-generation groups have a significantly higher average OM distance than the native Dutch. These results confirm the findings in Figure 1 that, in line with Hypothesis 1a and in contrast to the alternative to it (Hypothesis 1b), there is greater diversity in family trajectories between individuals of the second generation than among the native Dutch. Figures 1 and 2 also shed light on Hypothesis 4. Among the Surinamese and Antillean second generation, the 2.5 generation occupies an intermediate position between their 2.0-generation counterparts and the native Dutch. These results corroborate our hypothesis that the 2.5 generation is more similar to the majority population than the 2.0 generation. We find a similar pattern among the Moroccan second generation, but the difference is not statistically significant (Figure 2). The situation is reversed for the Turkish second generation, where those with one foreign-born parent feature the highest levels of entropy.
Figure 1: Transversal entropy along chronological age, by origin group and mixed parentage
5.2 Typology of family trajectories

We proceed by exploring and describing the various trajectories in our data. Since the number of possible sequences is extremely large, we have reduced the entire set of sequences into more-or-less homogeneous subgroups by means of optimal matching followed by cluster analysis. The ASW criterion (ASW=0.29) suggested a 10-cluster typology as the ‘appropriate’ number of groups to describe the variety of family trajectories (see method section). Figure 3 provides an aggregated view of the state distribution at each chronological age within each of the 10 clusters. In Table 2, we report the medoid sequence for each cluster, i.e., the sequence that is least distant from all of the other sequences in the cluster (see Aassve, Billari, and Piccarreta 2007; Gabadinho et al. 2011).
Table 2: Medoid sequence for each cluster

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Medoid</th>
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<tbody>
<tr>
<td>1. Postponers</td>
<td>PH/15</td>
</tr>
<tr>
<td>2. Late singles</td>
<td>PH/9 – S/6</td>
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<td>3. Early singles</td>
<td>PH/4 – S/10 – C/1</td>
</tr>
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<td>4. Single mothers</td>
<td>PH/5 – S/2 – SC/8</td>
</tr>
<tr>
<td>5. Unmarried cohabiters</td>
<td>PH/7 – S/1 – C/7</td>
</tr>
<tr>
<td>6. Cohabiting mothers</td>
<td>PH/6 – C/3 – CC/6</td>
</tr>
<tr>
<td>7. Premarital cohabiters</td>
<td>PH/7 – C/3 – M/2 – MC/3</td>
</tr>
<tr>
<td>9. Standard biography</td>
<td>PH/5 – M/2 – MC/8</td>
</tr>
<tr>
<td>10. Shared residence</td>
<td>PH/3 – S/2 – SR/8 – S/2</td>
</tr>
</tbody>
</table>

Note: PH = parental home; S = single, C = cohabiting; M = married; SC = single + child(ren); CC = cohabiting + child(ren); MC = married + child(ren); SR = shared residence
Source: System of Social Statistical Datasets (SSD)

Cluster 1 (postponers) is characterized by the sequence PH/15, which stands for a trajectory in which a person lives in the parental home for the complete observation period of 15 years (age 16–30). This cluster thus mainly includes women who did not experience a family transition before age 30 or left the parental home in their late twenties. In addition, the cluster contains young adults who have returned to the parental home. Cluster 2 (late singles) includes individuals who have remained in the parental home until their mid-twenties and subsequently lived alone during the remainder of the observation period. As the name already suggests, Cluster 3 (early singles) differs from the second in that these women leave the parental home earlier. The medoid sequence (PH/4–S/10–C/1) suggests that leaving home occurs around age 20. Cluster 4 (single mothers) is characterized by relatively early home-leaving followed by single motherhood. Women in Cluster 4 have the lowest mean age at first childbearing (M = 22.3).
Figure 3: Transversal age distribution of the family life states for the 10-cluster typology
Clusters 5–9 all include women who have lived with a partner for a substantial period during young adulthood. Women in Cluster 5 (unmarried cohabiters) did so with an unmarried partner. Most of the women in this cluster were not married and had not made the transition to motherhood by age 30. Cluster 6 (cohabiting mothers) differs from the previous in that these women have experienced a first birth well before age 30 \((M = 24.8)\). Cluster 7 (premarital cohabiters) is characterized by leaving the parental home to live with an unmarried partner, followed by marriage and a short period alone with a spouse, after which the first child is born. The most characteristic sequence in Cluster 8 (premarital singles) entails leaving the parental home at a relatively young age to live alone, followed by marriage and subsequently motherhood. The main difference with the previous cluster is that these women did not cohabit and married at younger ages. Childbearing started at almost identical ages in Clusters 7 \((M = 27.1)\) and 8 \((M = 26.8)\). In line with Hypothesis 2a, Cluster 9 (standard biography) is characterized marrying directly from the parental home, followed by the birth of the first child at relatively young ages \((M = 22.9)\). Finally, Cluster 10 (shared residence) contains trajectories that are characterized by living with people other than parents or partners for substantial period.

### 5.3 Ethnic differences in family trajectories

Now that we have described each of the clusters, we examine which origin groups are under- or over represented within each of the family life course clusters. Table 3 gives an overview of the percentual distribution over the clusters for the different origin groups. As can be seen in the table, the Turkish and Moroccan second generation are much more concentrated in the premarital singles trajectory (Cluster 8) and the standard biography (Cluster 9) than the other origin groups. This is in particular the case for the Turkish second generation, of which almost 50% has experienced one of these trajectory types. Conversely, trajectories with relatively long periods of unmarried cohabitation (Clusters 5 and 6), are very uncommon among Turkish and Moroccan women. The Surinamese and Antillean second generation stand out from the other origin groups with a relatively high incidence of single motherhood (Cluster 4). Antillean women mainly differ from Surinamese women in their higher proportion (22% vs. 10%) unmarried cohabiters (Cluster 5). The proportion unmarried cohabiters is practically identical among Antillean and native Dutch women. Another common trajectory type (19%) among native Dutch women is that of premarital cohabiters (Cluster 7). This cluster is clearly less prevalent among each of the second-generation groups.
In order to test whether the above differences are statistically significant, also while controlling for several background factors, we perform a series of logistic regression analyses (Table 4). Important is that we do not assume a one-sided causal effect of the ‘independent’ variables labor market trajectory and educational level on our dependent variable. Educational, work, and family careers are interdependent processes and, thus, the associations as reported in Table 4 are to some extent also explained by reversed causality (Blossfeld and Huinink 1991). Nevertheless, removing these covariates from the analysis only marginally altered differences between the ethnic origin groups (see Appendix C).

As can be seen in Table 4, all second-generation groups have a significantly higher likelihood than the native Dutch to follow the postponers trajectory (Cluster 1). Turkish and Moroccan women are less likely to opt for the late singles trajectory (Cluster 2) than the native Dutch, while there is no significant difference between the majority population and the Surinamese and Antillean second generation in this regard. For the early singles (Cluster 3), only Surinamese women are somewhat less likely to follow this trajectory type than the native Dutch (cf. Zorlu and Mulder 2011). In line with Hypothesis 3, we find that Surinamese and Antillean women are overrepresented in the single mothers cluster (Cluster 4) compared to the other origin groups. Strikingly, Moroccan women also have a significantly higher likelihood of single motherhood than native Dutch women, but the difference is substantially smaller. As can be seen in Appendix C, Turkish women also have a significantly higher likelihood to follow the single mother trajectory than native
Dutch women when the covariates educational level and labor market trajectory are excluded from the analysis.

We find large differences between the native Dutch and Turkish and Moroccan second generation in the occurrence of unmarried cohabitation (Clusters 5 and 6): Turkish and Moroccan women have a much smaller likelihood of following these trajectory types than the native Dutch. Surinamese women are also less likely to be grouped in these clusters, but the differences are much less pronounced. All second-generation groups are underrepresented in the premarital cohabiters trajectory (Cluster 7) compared to the native Dutch. With regard to premarital singles (Cluster 8), we see that the Turkish and Moroccan second generation, and the Surinamese to a lesser extent, are more likely than the native Dutch to experience this trajectory type. There was no difference between Antillean and native Dutch women in this respect. As expected (Hypothesis 2b), we see that Turkish and Moroccan women have a higher likelihood to follow the standard biography (Cluster 9) than native Dutch women. Women of the Surinamese and Antillean second generation have a lower likelihood to follow this type of trajectory than the native Dutch. Finally, the native Dutch are less likely to share their residence with people other than parents and partners (Cluster 10) than the second generation, except for the Antillean for whom the difference is not statistically significant. In particular women of the Moroccan second generation often opted for shared residence. In sum, we find strong support for Hypotheses 2 and 3.
## Table 4: Odds ratios of trajectory types on origin groups

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<tr>
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</thead>
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<td>1.00</td>
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<td>0.71***</td>
<td>0.62***</td>
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<td>0.71***</td>
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<td>1.35***</td>
<td>0.76**</td>
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<td>1.24*</td>
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<td>1</td>
<td>1.21</td>
<td>1.33**</td>
<td>0.70***</td>
<td>0.75*</td>
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<td>0.19</td>
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</table>

Note: *** p < .001; ** p < .01; * p < .05
Source: System of Social statistical Datasets (SSD).
Hypothesis 4 predicted that the family behavior of the 2.5 generation would be more similar to that of the native Dutch than that of the 2.0 generation. To test this hypothesis, we replicate the regression analyses of Table 4, but further distinguish the second generation according to the number of foreign-born parents. Again, we present the models without controlling for labor market trajectory and educational level in Appendix C. The results reported in Table 5 strongly support our last hypothesis. The Turkish and Moroccan 2.0 generation are much less likely to cohabit (Clusters 5 and 6) and much more likely to experience a trajectory with early marriage formation (Clusters 8 and 9) than the native Dutch, while these differences between the 2.5 generation and the native Dutch are substantially smaller or absent. Among the Surinamese and Antillean second generation, in particular the high likelihood of the 2.0 generation to be a single mother (Cluster 4) is striking. While the 2.5 generation also has a significantly higher chance to be a single mother than the native Dutch, the effect sizes are substantially smaller. Additional analyses (not shown) were performed to assess whether the mother or the father exerts the strongest influence on the family behavior of the children. The analyses revealed that women with an Antillean father and a native-born mother have a higher likelihood of being a single mother than women with an Antillean mother and a native-born father. Among the Turkish second generation, we found that those with a foreign-born mother deviate more strongly from the native Dutch than those with a foreign-born father. Among the Surinamese and Moroccan second generation, we did not find substantial differences between having an immigrant father and native-born mother vis-à-vis an immigrant mother and native-born father.
Table 5: Logistic regression analyses of trajectory types on mixed parentage: Odds Ratios (selection)

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<tr>
<th>Parentage Type</th>
<th>Cluster 1: Dutch (ref)</th>
<th>Cluster 2: Turkish</th>
<th>Cluster 3: Moroccan</th>
<th>Cluster 4: Surinamese</th>
<th>Cluster 5: Antillean</th>
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<td>Turkish</td>
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<td>2 foreign-born</td>
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<td></td>
<td>Antillean</td>
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</tr>
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<td>2.53***</td>
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<td>1.20</td>
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<tr>
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<td>0.55</td>
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<tr>
<td>parent</td>
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<td>0.45**</td>
<td>0.45**</td>
<td>0.45**</td>
<td>0.45**</td>
</tr>
</tbody>
</table>

Note: *** p < .001, ** p < .01, * p < .05. Included are controls for labor market trajectory, educational level, parental union status, parental employment status, and number of siblings (odds ratios not presented).

Source: System of Social statistical Datasets (SSD).
6. Conclusions and discussion

The aim of this paper was to provide a comprehensive picture of ethnic differences in family patterns by considering the ‘complete’ trajectory into adulthood of women of diverse origins. Rich administrative micro data from the Dutch population registers offered a unique opportunity to follow an entire birth cohort of women from the second generation of the four main immigrant groups in the Netherlands (Turks, Moroccans, Surinamese, and Antilleans) and a native Dutch comparison group over a span of 15 years, from age 16 to 30. Moreover, the relatively large research population enabled us to further distinguish between children from mixed parentage and children born of two foreign-born parents. Four hypotheses on ethnic differences in family trajectories were formulated and subsequently tested.

Regarding our first hypothesis, we found more diversity in family trajectories between individuals of the second generation than among those of native Dutch origin. This finding is at odds with the suggestion that in non-Western cultures, women especially have little choice with respect to the timing and sequencing of important life-course transitions due to strong family obligations, whereas in Western cultures life courses have destandardized and people may decide on their own unique life course with no family responsibilities or normative prescriptions (Lesthaeghe 2010). Rather, the finding seems to support the idea that diversity in family behavior is greater among the second generation due to their special position between two cultures, facing the normative prescriptions of the parents on the one hand and the contrasting opinions from various other socializing agents on the other (Giguère, Lalonde, and Lou 2010). It could therefore be that in particular second-generation women explore different roles and experiment with alternative behavior in the transition to adulthood.

Yet, the upper observation limit of age 30 may have blurred differences between the origin groups. Compared to the second generation, we found that native Dutch women generally make a slower transition into adulthood by postponing marriage and childbearing. Most native Dutch women were either living with their parents, on their own, or with an unmarried partner up until their mid-to-late twenties. Conversely, second-generation women had gone through more of the possible states by these ages, allowing for more diversity between family trajectories. Entropy computed transversally at each age indicated that diversity was particularly higher among the second generation at younger ages. Indeed, during the late twenties, entropy was even lower among Turkish and Moroccan women than among the native Dutch. The fact that diversity computed over the entire trajectory was higher among the second generation may thus also be ascribed to differences in the pace of the transition to adulthood, rather than to the process of bicultural socialization. Following individuals over a longer time span is necessary to shed
more light on the consensus of ‘appropriate’ family behavior at different stages in the life course across ethnic groups.

In order to test Hypotheses 2–4, we applied cluster analysis and identified 10 substantively different types of family trajectories in young adulthood. In line with our second hypothesis, the most dominant trajectory type among the Turkish and Moroccan second generation was the standard biography (direct marriage from the parental home, followed by the birth of the first child). This trajectory type was clearly less common among native Dutch women. When Dutch women marry, this tends to be at higher ages and it is usually preceded by a period of unmarried cohabitation. However, also the trajectories of native Dutch women can still be partially perceived as traditional, as the majority of the native Dutch women married before they had their first child. Apparently, many native Dutch women (and/or their partners) also consider marriage as a prerequisite for parenthood. Among the Surinamese and Antillean second generation, by contrast, most mothers were not married. In fact, many of them were not living with a partner at all, supporting Hypothesis 3. It can be argued that differences in family behavior between the second-generation groups and the native Dutch are driven by differences in parental socioeconomic background that could not be fully accounted for in our analyses. However, despite the more similar socioeconomic position of Turkish and Moroccan women on the one hand and Surinamese and Antillean women on the other, it seems that socio-economic characteristics alone may not explain all. Also previous research has shown that substantial differences between the ethnic groups remained unexplained even after taking parental occupational status and education into account (de Valk and Liefbroer 2007). This seems to indicate that young adults are also clearly influenced by the cultural norms and values of their parents. Our data does not allow for a direct test of this but future research should aim to better capture what cultural elements are decisive for decisions in the transition to adulthood across migrant origin groups.

The idea that cultural norms may be influential is also suggested by the finding that, in line with Hypothesis 4, young adults from mixed parentage were more similar to the majority population. Additional analyses on children from mixed ethnic backgrounds indicated that second-generation Antilleans with a native-born mother have a higher likelihood of experiencing single motherhood than those with a native-born father. Conversely, second-generation Turks with a native-born father appeared more traditional in their family behavior than those with a native-born mother. Although these analyses were limited by the number of cases to draw sharp conclusions, they highlight the fact that the role of the father and the mother in the setting of the family may strongly differ from culture to culture, which has strong implications for children of mixed heritage. More research is warranted to elucidate the mechanisms behind differences between children with an immigrant father and native-born mother and vice versa.
Although the Turkish and Moroccan second generation most frequently experienced the standard biography, an almost equally prevalent trajectory type among these groups included those who left the parental home to live alone, followed by marriage, and subsequently the birth of the first child. Previous research using event history analysis has associated leaving home to live alone independently among Turkish and Moroccan second-generation youth mainly with parent-child conflicts due to a discrepancy between heritage and mainstream cultures (Kleinepier and de Valk 2014; Zorlu and Mulder 2011; see also Lou, Lalonde, and Giguère 2012). While this may partially be the case, our results indicated that the larger share of Turkish and Moroccan women who left the parental home to live alone, still more or less conformed to the supposed cultural expectations of their parents by early family formation afterwards. In contrast to unmarried cohabitation (which is very uncommon among Turkish and Moroccan women), living alone does not necessarily increase the risk of breaking the taboo of staying a virgin until marriage and may therefore be acceptable, e.g., for educational purposes, as was suggested by the multivariate analyses. These observations indicate that the solo residence of Turkish and Moroccan young women may also be interpreted as a socially acceptable deviation from cultural norms. This example clearly highlights the benefits of the pathway approach taken in this study. It is only by taking into account multiple events simultaneously that we can truly understand how different events in the transition to adulthood are connected to one another and how actual lives are lived. Such insights are crucial to making plausible inferences on the mechanisms underlying behavior.

Our analyses are based on unique population register data that entail important advantages over survey data (e.g., complete coverage of the population and no recall bias). Yet there are also some drawbacks of the data that should be noted. First, our data lacks information on several important determinants of family behavior, such as parental educational level, religiosity and social networks. This might lead to an under- or overestimation of cultural differences between the origin groups. Second, the position in the household as recorded in the population registers does not provide a complete understanding of family behavior. For instance, living alone (with a child) during young adulthood does not necessarily imply being single, as currently almost four out of 10 people aged 18–30 in the Netherlands are in an LAT relationship (Statistics Netherlands 2015). Exploring differences between the origin groups in this respect might potentially be a fruitful line for future research. Third, this study focused on women only. Future research should extend the present study by paying attention to ethnic differences in family trajectories of men. It would also be interesting to study whether gender differences are larger for certain ethnic groups. Finally, the fact that we selected one specific birth cohort is another limitation of this study. Recent research on the home-leaving behavior of young adults in the Netherlands showed a convergence in the timing of this
transition between the Turkish and Moroccan second generation and the majority population over the past decade (Stoeldraijer 2014). It is possible, if not likely, that similar trends have occurred (or might occur) for other family transitions as well, such as marriage and parenthood. Future studies may therefore elaborate on our work by taking cohort differences into account.

In conclusion, this study enhances the current literature on ethnic differences in family behavior, as it leads to new insights into how various ethnic origin groups transit into adulthood and how we may interpret specific behavior. The trajectory-based approach proved in this regard to be complementary to the often applied techniques of hazard rate modeling, which have “no conception of the career as a whole” (Abbott 1990:140). In addition, the results with regard to mixed parentage reaffirmed that there are important differences between the 2.0 and 2.5 generation and that they should ideally not be grouped together in empirical research – or theoretical enquiry, for that matter. The insights obtained from this study can be considered to be important for society at large as well, especially since family choices made during young adulthood are predictive for many outcomes later in life, including, amongst others, subjective health and socio-economic status (Barban 2013; McLanahan and Booth 1989). In view of these considerations, targeting the specifically vulnerable period of young adulthood is crucial to reduce inequalities between ethnic minorities and the majority population, not only for the present, but also for future generations.

7. Acknowledgements

This work is part of and financed by the European Research Council, starting grant project (number 26.38.29) “Families of migrant origin: A life course perspective” (FaMiLife) awarded to Helga A.G. de Valk. The authors gratefully acknowledge the valuable comments and suggestions by the two anonymous reviewers. The authors thank Statistics Netherlands for data preparation and providing the opportunity to let the first author work on site at their premises.
References


1. Appendix A

The System of Social Statistical Datasets (SSD) contains detailed socio-economic information on every legal inhabitant of the Netherlands. The information is derived from different administrative sources, such as the Tax and Customs Administration (in Dutch: Belastingdienst), the Employee Insurance Agency (Dutch acronym: UWV), and several educational registers (see for details Bakker, van Rooijen, and van Toor 2014). Data were available for the period 1999–2011, allowing us to reconstruct the women’s education and work histories from age 16 in 1999 up until age 28 in 2011 on an annual time scale. For each year, we distinguish between the following five states: (1) ‘in education,’ (2) ‘employed full time,’ (3) ‘employed part time,’ (4) ‘unemployed – benefits,’ and (5) ‘unemployed – no benefits.’ It is important to note that the classification is based on the most dominant state. For example, a person with a small job who receives more money from complementary benefits than from earned income, is classified as unemployed with benefits. The distinction between full-time and part-time work is based on a so-called ‘part-time factor.’ This part-time factor is the ratio of the number of hours worked by the person in a year to the average number of hours worked by full-time employees in that year. We classify a person as full-time employed if the average number of hours worked by the person is 80% or more of a full-time job.

Following the same approach as we did with the dependent variable, we calculated optimal matching (OM) distances between all individual sequences with insertion/deletion costs of 1 and substitution costs derived from state-transition frequencies (see method section). Subsequently, we applied Partitioning Around Medoids (PAM) cluster analysis to identify groups of women that are similar to each other in terms of their educational and labor market careers. The Average Silhouette Width (ASW) criterion indicated that a 4-cluster typology was the most ‘appropriate’ one (ASW=0.32). Figure A1 provides an aggregated view of the state distribution at each chronological age within each of the four trajectory types.
Figure A-1: Transversal age distribution of the labor market states for the 4-cluster typology

Cluster 1: Full-time employees

Cluster 2: Part-time employees

Cluster 3: Students

Cluster 4: The Unemployed

Legend:
- Education
- Full-time
- Part-time
- Unemployed – benefits
- Unemployed – no benefits
2. Appendix B

Figure A-2: Transversal age distribution of the family life course states for origin groups

Turkish (N=1,677)

Moroccan (N=1,414)

Surinamese (1,853)

Antillean (N=411)

Dutch (N=6,315)

Legend:
- Parental home
- Single
- Cohabitating
- Married
- Single + child
- Cohabitating + child
- Married + child
- Shared residence
### Appendix C

Table A-1: Logistic regression analyses of trajectory types on origin groups: Odds ratios

<table>
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<td>Turkish</td>
<td>2.16***</td>
<td>0.39***</td>
<td>0.85</td>
<td>1.43*</td>
<td>0.05***</td>
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<td>7.23***</td>
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<td>3.82***</td>
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<td>Moroccan</td>
<td>2.54***</td>
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<td>4.41***</td>
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<td>Surinamese</td>
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<td>0.82*</td>
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<td>1.00</td>
<td>1.00</td>
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<td>5.22***</td>
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<tr>
<td>Father employed</td>
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<td>0.60***</td>
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<td>0.82*</td>
<td>1.38***</td>
<td>0.80**</td>
<td>0.91</td>
<td>0.64***</td>
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<td>1.27***</td>
<td>0.97</td>
<td>1.08</td>
<td>0.90</td>
<td>0.98</td>
<td>0.84*</td>
<td>0.75***</td>
<td>0.73**</td>
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<td>4+</td>
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<td>0.94</td>
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<td>1.09</td>
<td>0.37***</td>
<td>0.85</td>
<td>1.03</td>
<td>0.95</td>
<td>1.81***</td>
<td>0.98</td>
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<td>0.04</td>
<td>0.02</td>
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<td>0.05</td>
<td>0.09</td>
<td>0.18</td>
<td>0.15</td>
<td>0.13</td>
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</table>

Note: *** p < .001; ** p < .01; * p < .05
Source: System of Social statistical Datasets (SSD)
Cluster 1: Postponers
Cluster 2: Late singles
Cluster 3: Early singles
Cluster 4: Unmarried mothers
Cluster 5: Cohabiting mothers
Cluster 6: Premarital cohabiters
Cluster 7: Premarital singles
Cluster 8: Standard biography
Cluster 9: Shared residence

Dutch (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00
---|---|---|---|---|---|---|---|---|---
Turkish 2 foreign-born parents | 2.18*** | 0.36*** | 0.86 | 1.40* | 0.03*** | 0.22*** | 0.49*** | 7.55*** | 3.36*** | 4.02***
1 foreign-born parent | 2.30* | 0.94 | 0.58 | 2.33 | 0.45* | 1.00 | 0.36 | 3.12* | 2.80** | 2.25
Moroccan 2 foreign-born parents | 2.72*** | 0.57*** | 0.96 | 2.14*** | 0.09*** | 0.16*** | 0.40*** | 4.86*** | 1.92** | 6.87***
1 foreign-born parent | 1.62 | 1.72* | 0.89 | 3.17* | 0.53* | 0.60 | 0.60 | 0.95 | 1.53 | 2.28
Surinamese 2 foreign-born parents | 3.27*** | 1.03 | 0.73** | 6.35*** | 0.26*** | 0.62*** | 0.55*** | 2.04*** | 0.74* | 2.38***
1 foreign-born parent | 1.55* | 0.76 | 1.14 | 3.99*** | 0.83 | 1.20 | 0.63** | 0.44 | 0.54* | 1.44
Antillean 2 foreign-born parents | 2.59*** | 0.79 | 0.56* | 10.81*** | 0.42** | 0.62 | 0.42* | 0.60 | 0.95 | 1.67
1 foreign-born parent | 1.20 | 0.79 | 1.36* | 3.27*** | 1.35* | 0.59* | 0.60* | 0.89 | 0.54 | 0.96

Note: *** p < .001; ** p < .01; * p < .05
Included are controls for labor market trajectory, educational level, parental union status, parental employment status, and number of siblings (odds ratios not presented)
Source: System of Social statistical Datasets (SSD)