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Siblings' class destinations: A study of the Norwegian upper class

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Do individuals in the upper class have siblings with similar class positions to themselves? Using data based on the entire registered population in Norway, this article describes brothers' and sisters' class destinations with particular attention to the upper class and top wealth positions. The study first describes upper-class recruitment across families of different classes, finding similarities in siblings' social mobility. Concerning upper-class reproduction, first- and secondborn siblings from families with top wealth are particularly likely to both reach upper-class positions. Second, the paper describes how upper-class members tend to have siblings with similar class positions to themselves in terms of both vertical class and horizontal positions according to individuals' composition of cultural and economic capital. By adopting a class-theoretical framework for sibling outcomes, the work sheds light on the social connectedness between social class positions that emerge through intergenerational mobility. The wealthiest 0.2% are shown to have siblings who are disproportionally often not only situated in higher class positions, but also in the economic fraction of the upper and middle classes.

Keywords: Social mobility; social class; siblings; upper class.

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Introduction

At a time when sibling similarity studies are receiving increased attention (Breen and Ermisch 2021), this paper fills a gap in the literature by studying siblings' outcomes based on a class-theoretical foundation. According to a class-theoretical view, siblings' class destinations concern features of the social class structure, such as the extent to which wealth, power, and status become concentrated in families through the intergenerational mobility of multiple offspring. However, apart from a few notable exceptions (e.g., LeMasters 1954; Erikson 1987; Iannelli *et al.* 2024), there has been less consideration given to siblings' class destinations.

Previous sociological studies of siblings' outcomes have been rooted in the American status attainment tradition, where the interest in sibling models has focused on measuring the total impact of family background (e.g., Blau and Duncan 1967; Jencks 1979; Hauser and Mossel 1985; Sieben and de Graaf 2001). Whereas attention has recently been given to sibling models looking at siblings' class positions (Iannelli *et al.* 2024), another *descriptive approach* can be taken to siblings' outcomes. In a class-theoretical framework, intergenerational mobility patterns are interesting because they provide information on the intergenerational demographic continuity in class positions and similarities among specific class positions within families (Goldthorpe 1984). In such a framework, selective recruitment and restricted interactions are viewed as increasing social and cultural homogeneity among those with similar class positions (Giddens 1973; Goldthorpe 1982; Bottero and Crossley 2011). Rather than relying on universal measures of sibling similarities, class theory suggests turning attention to describing the social connectedness of specific class positions following intergenerational mobility.

Using data based on the entire registered population in Norway, the article asks: do individuals in the upper class have siblings with similar class positions to themselves? The study first explores similarities in siblings' social mobility by looking at recruitment to the upper class. This analysis examines whether, among those with similar class backgrounds, secondborn siblings more often attain upper-class positions in families where the firstborn sibling has a higher class destination. After establishing patterns in siblings' social mobility, the paper describes the class positions held by the secondborn siblings of upper-class firstborns to explore to what extent the latter have siblings with similar class positions to themselves.

In exploring social mobility structures and the social connectedness between class positions, this study applies a Bourdieusian-inspired class scheme which divides the upper and

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middle classes into different class fractions based on the composition of cultural and economic capital (Hansen *et al.* 2009), while also paying attention to top wealth. Whereas Norway is considered to have high social fluidity (Bukodi and Goldthorpe 2022), research also shows that it is a country with strong intergenerational persistence and selective recruitment into top wealth (Hansen 2014). Thereby, Norway is an illustrative case of a country where the social formation around top wealth must be considered to provide an accurate description of the country's social class structure.

Sibling similarities

Sibling similarity studies have become a well-established subfield in stratification research (Jencks 1979; Hauser and Mossel 1985; Solon *et al.* 1991; Sieben and De Graaf 2003; Wiborg and Hansen 2018; Karlson and Birkelund 2024), and the attention given to sibling models has increased in recent years (Breen and Ermisch 2021). Instead of approaching family background through social categories of relative advantages, such as class origin, most sibling similarity investigations examine the variations in outcomes within and between families to indicate the impact of family background. Sibling similarities are viewed as caused by all the aspects that siblings share, such as the family environment and neighborhood, in addition to schools and shared genes, as well as their influence on one another (Jencks 1972; Solon *et al.* 1991; Anderson *et al.* 2024). Similarities are thus caused both by siblings' (positive) influence and impact on one another in, for example, educational achievement and choice of field of study (e.g., van der Vleuten *et al.* 2020; Zang *et al.* 2023), but also by all other unmeasured factors concerning what siblings' socially and genetically share.

Sibling similarity models, lately in the form of sibling correlations, are considered to be a measure of the total impact – or more precisely, the lower bound of the total impact – of family background (Anderson *et al.* 2024). Differences between offspring within families are typically interpreted as that family background matters less (see, for example, Solon *et al.* 1991: 512). There are, however, multiple difficulties in interpreting sibling similarities as a measure of the impact of family background. First, as indicated above, it is uncertain to what extent these similarities are shaped by shared genes rather than shared environment (see Anderson *et al.* 2024 for a discussion). Second, it is not always the case that sibling differences mean that family background matters less. Siblings could differ because parents treat them unequally or because of variations in the family environment and resources over time (Conley 2004; Conley 2008a).

Variations in siblings' environments may, in agreement with a probabilistic approach to causality – where causes raise the probability of something occurring (see Goldthorpe 2001) –

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also be seen as causally linked to the siblings' family background. For example, changes in family resources can be linked to the prospects of parents' positions in the labor market. Furthermore, many sides of family background affect siblings' chances of having certain environments rather than giving them equal ones. For instance, place of residence and school choice may affect the probabilities of what children are likely to experience and whom they encounter rather than determining their exact experiences and encounters.

Another less discussed issue concerns sibling differences and within-family cultural heterogeneity. Intergenerational dynamics relating to the cultural and economic elements of class and family background differ, and the cultural sides of family background cannot simply be understood as cultural resources (see Crompton 2006). While households can pool financial resources, different attitudes, preferences, and cultural practices may co-exist within families and constitute complex repertoires. If the cultural sides of families affect social mobility, then disparities in siblings' outcomes may be rooted in within-family heterogeneity.

Due to the issues in interpreting sibling similarities as a measure of the total impact of family background, it may be argued that researchers should more modestly aim to map patterns in sibling outcomes through descriptive analysis. Sibling similarities are also an imprecise indicator of social mobility because sibling similarities will be high even in highly mobile societies if siblings' social mobility is alike (Conley 2008b), rendering sibling similarities inadequate for studying social mobility. Thus, as an alternative approach to studying sibling outcomes within a class-theoretical framework (Weber 1978; Giddens 1973; Goldthorpe 1984), this study describes patterns in siblings' class destinations straightforwardly. Specifically, it examines the class destination of secondborn siblings by firstborn siblings' class destination.

Siblings' class destinations

Class theorists typically recognize that classes are internally stratified (Goldthorpe 1984), meaning that one may expect substantial variation between families within a class. However, the focus in class analysis has primarily been on class differentials (Goldthorpe 2010), and expectations concerning patterns in siblings' class destinations have typically been left unclear in the class literature. The lack of attention to siblings' outcomes has also been a source of criticism of class research for not engaging with all parts of the stratification process (Conley 2008a). Nevertheless, some sibling studies provide expectations for patterns in siblings' class destinations. A small evaluation of families' mobility profiles in the mid-century US found that siblings typically had different social mobility (LeMasters 1954). However, despite this, siblings' outcomes are similar to a greater extent than can be explained by social background,

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and this so-called sibling group differentiation (Sweetser 1970) means similarities in siblings' social mobility. Correspondingly, associations in the direction and distance of siblings' educational mobility have been demonstrated (Uvaag 2023).

Following previous literature on siblings, siblings' class destinations are expected to be statistically associated. For example, among sibling pairs of working-class origin, the sibling of an individual who has entered the upper class should be more likely to be upwardly mobile than the sibling of a class-immobile individual. Regarding upper-class reproduction, most individuals from the upper class do not attain upper-class positions (see Flemmen *et al.* 2017: 1292). However, those who do may be from a more selective range of families, perhaps from which multiple siblings remain in the upper class.

Upper-class fractions

Instead of simply focusing on the upper class as such, Bourdieusian-inspired research (for example, Flemmen *et al.* 2017) has suggested paying attention to different upper-class fractions. In recent decades, class-cultural works have shown that lifestyle and cultural practices differ between the cultural and economic fractions of the upper and middle class, and between sociocultural specialists and those working in the business sector (Bourdieu 1984; 1986; Lamont 1992; Flemmen *et al.* 2018). It has been suggested that class-cultural differences are linked to interaction patterns and the structure of social relations (Bottero and Crossley 2011). One question related to the structure of social relations among upper-class fractions is to what extent they become distinct social groupings through social mobility (see Toft 2018).

In terms of how social mobility is structured, the cultural and economic fractions of the upper class may differ in recruitment due to different modes of closure (Flemmen *et al.* 2017). According to this view, access to privileged class positions is restricted and typically requires individual acquirement of either property or credentials. Individuals may, independent of their class background, compete for access to positions at the top, but family background will affect individuals' relative advantages (Weber 1978; Parkin 1979; Murphy 1988).

Familial economic and cultural capital can in this regard be seen as distinct sources of relative advantages, providing the cultural and economic fractions with different opportunities. In this context, cultural capital (Bourdieu 1984; Bourdieu 1986; Lamont and Lareau 1988) has been used as a concept encompassing everything from attitudes, preferences, behaviors, and knowledge (Lamont and Lareau 1988: 156), to cultural goods, 'long-lasting dispositions', and educational qualifications (Bourdieu 1986: 243), which, when held by families, amongst other things, increases the relative chances of offsprings' success in the school system and thereby

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access and opportunities to specific parts of the labor market. However, economic capital can be utilized to gain educational credentials, and cultural capital, for example, when invested in education, provides access to the acquisition of economic capital (Parkin 1979; Bourdieu 1996), thereby also providing families from the higher classes with general advantages independent of their capital composition. Apart from differentiated opportunities, class-cultural differences between class fractions are also likely to cause the children of families with different capital compositions to have differing aspirations (Hansen 1995).

If class destination is associated with families' composition of cultural and economic capital, siblings should tend to enter similar class fractions. Furthermore, opportunities and aspirations may also vary between families within classes due to factors other than capital composition, making siblings generally more likely to enter the same class fraction.

Top wealth

Whereas classical writings stress property as the fundamental class boundary (Weber 1978; Marx 2007), the propertied class gained little attention in empirical class research before it reoriented to study wealth (Savage 2015). Recent scholarship has focused on wealth concentration, as well as intergenerational associations in and recruitment into wealth, and the demographics of top wealth (Piketty 2014; Pfeffer and Killewald 2018; Hansen 2014; Keister 2014). In contrast to modest wealth, which is typically tied up in private housing and used for consumption, considerable wealth tends to function as capital and can thus be considered a proxy for capitalist positions and power (Gustavsson and Melldahl 2018; Scott 1991). Those in the topmost wealth bracket may also be considered a rentier class, as they often receive higher income from capital than earnings (Hansen 2014).

In Norway, research has found that high mobility in the population at large appears to coexist with wealth concentration and restricted recruitment into the top wealth brackets, with a recent strengthening of the association between individual wealth and social background (Hansen 2014; Hansen and Toft 2021)[1]. The sibling correlation in wealth has also increased over time (Wiborg and Hansen 2018). This selective recruitment into top wealth positions has

[1] During the last century, the Nordic countries were among the European capitalist market economies with the highest social fluidity. Among later cohorts, the fluidity in the Nordic countries has become similar to several other European nations (Bukodi *et al.* 2020). Given Norway's history of high social fluidity, the comparatively generous welfare state, and the compressed wage structure, it is typically classified as an egalitarian country. However, when measured with the Gini coefficient, wealth inequality is higher in Norway than in Germany, the UK, and many other European countries (Pfeffer and Waitkus 2021).

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also been viewed as fostering 'dynastic cores' of individuals who have parents, partners, and siblings with wealth and power (Toft and Hansen 2022).

Property can be directly transferred across generations and thus has a distinct role in transmitting social advantages (Crompton 2006), possibly to multiple descendants. Wealthy parents also transfer specific cultural practices to their children, for example, 'learning them to own' (see Kuusela 2018). In terms of intergenerational advantages, wealth may be divided among multiple offspring, whereas, for example, top management positions in family firms may only be allocated to one heir (Bessière and Gollac 2023). Since wealth can give rise to high capital incomes, it is important to consider not only occupations and formal positions but also whether someone is a rentier when mapping advantageous class positions among those with parental top wealth.

In summary, economic capital is linked to advantages in attaining higher class positions, which families with top wealth possess on a large scale. Such families may also directly transfer wealth to multiple offspring, which may provide access to high capital incomes. Previous literature also suggests the prevalence of top wealth holders with siblings holding advantaged class positions.

Gender and the upper class in Norway

Norway is characterized by a highly educated female workforce with high female labor participation. Thus, one may fruitfully examine men's and women's individual class positions in the Norwegian context. During the first two decades of the 21st century, the percentage holding upper-class positions in Norway increased, and the increase was most prominent among women[2]. However, women still remain underrepresented in the upper class, particularly in the economic fraction (Toft and Flemmen 2018). While women are generally less likely than men to inherit class positions (Bukodi and Paskov 2020), social origin matters more for upper-class recruitment among women than men (Flemmen *et al.* 2017), meaning that women in the upper class tend to have more privileged class backgrounds.

Data and methods

This study applies data covering all the registered inhabitants in Norway. These anonymized data link individuals to their parents and siblings and contain annual information on occupation, income, and wealth from the tax register.

[2] See Appendix Table 1.

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The analysis uses a sample of sibling pairs with the same registered parents. The sample consists of a mother's firstborn and secondborn children when these were born no more than six years apart. As birth order is associated with social outcomes (see, for example, Black *et al.* 2005), the analysis was restricted to first- and secondborn children to ensure that differences between families are not the result of comparing, for example, first- and secondborns in some families to first- and thirdborns in others. Furthermore, in the applied data, information on class background tends to be lacking among those with a higher birth order, as their parents are older. Annual occupational data exist from 2003 onwards, and the necessary data for coding class and class origin were available for the period 2003-19.

The limited availability of data on class positions restricted the birth cohorts that could be included and when siblings' and parents' class positions could be measured. Each sibling's class destination was measured at age 38 or, when data for that age were missing, at 37 or 39, in that order of priority. This may bias who is categorized as upper class, as individuals of modest origin are more likely to gain entry to the upper class at an older age (Toft 2019). Ideally, class destination would have been measured at a higher age, as individuals may reach upper-class positions after age 38. Firstborn siblings, born between 1967 and 1977, and secondborn siblings, born between 1968 and 1981, were included, with a distribution as shown in Figure 1.

[Figure 1 near here]

Class coding

Class was coded based on the Oslo Register Data Class (ORDC) scheme (Hansen *et al.* 2009). The ORDC scheme vertically and horizontally differentiates the upper and middle classes in terms of volume and forms of capital. The upper class includes those with the highest volume of capital and defines a more exclusive upper part of the class structure than alternative class schemes. In the analyses, the upper and middle classes are merged horizontally or vertically into the categories shown on the left and at the top in Figure 2. Individuals employed in farming, fishing, and forestry occupations (under 0.5% in both generations) have been combined with workers. More details on coding are included in the Appendix.

[Figure 2 near here]

Wealth coding

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A measure of top wealth was used to include upper-class positions based on considerable wealth. Wealth is measured as gross wealth from the authorities' tax register. The register includes records from banks, which must report all values individuals hold. Gross wealth includes real estate, land, and ownership of unincorporated businesses, as well as holdings of bank accounts, stocks, and bonds. The data provide reliable indications of who has top wealth. However, gross wealth is undervalued, as the real estate tax value and the book value of unlisted stocks are lower than their market values. Additionally, the registers are not exhaustive of all wealth owned in other countries. Despite a few caveats, the tax registers offer data of a quality that is not easily matched by alternative sources.

Owners of considerable property have been estimated to constitute between 0.1% and 2% of the population (Gustavsson and Melldahl 2018) and, in this study, top wealth was defined as the wealthiest 1% within each birth cohort. For each birth cohort, the average gross wealth at ages 37-39 was recoded into quantiles. The wealthiest 1% was split into two categories, encompassing the wealthiest 0.2% (p99.9-100) and the following 0.8% (p99.1-99.8), in order to capture the hierarchical differences among those with top wealth. In the analyses that include it, having top wealth overrides the previously allocated class position. As individuals typically continue to accumulate wealth beyond age 38, siblings aged 50 were analyzed. These are referred to in the results.

Class origin

The number of years in which class positions could be coded was limited, and consequently, class origin had to be coded at various later stages of the parents' careers[3]. For parents born in 1954 and later, class was measured at ages 50-52. For those born between 1936 and 1953, the class position was assessed between 2003 and 2005 at age 50-67, using the earliest class record over these three years. Class was not coded beyond the retirement age of 67. Families with older parents were systematically excluded. As Table 1 shows, a relatively large number of parents had retired, left the labor market, or did not have a codable class position. As Figure 1 demonstrates, this particularly affected the older birth cohorts of firstborns.

It is conventional to measure class origin when offspring were 16 or measure class at the same age for parents and siblings. However, assessing parental class later in the parents' career may not have a disadvantage other than missing the class origin in families where parents

[3] Regrettably, the data available for this study from the project 'Sosial mobilitet, ulikhet og livsløp i det norske samfunn [Social mobility, inequality, and life course in Norway]' do not include information on parents' occupations from censuses conducted in 1970 and 1980.

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have left the labor market. Families in which the parents changed class positions later in their careers may be different from those in which the parents did not, even when the children were younger. Expected future class positions are thought to shape actions and outlooks (Wright 1985), and parents who expect career progression may, for example, have higher aspirations for their children than parents who do not. An improved parental economy may also benefit children during higher education or sustain children's progress in uncertain careers.

Class origin was decided using a dominance approach, utilizing the highest recorded class position among mothers and fathers. For upper-class fraction origin, the father's class fraction was prioritized above the mother's because of the heavy male domination of the upper classes in the parental generation. Siblings with no parental class higher than welfare recipiency were excluded from the analyses due to the heterogeneity in terms of the type of welfare parents received and the time dependent on it.

Parents' wealth was measured individually as a three-year average gross wealth from 1994 to 2018. Top parental wealth was defined as either the mother or father being among the wealthiest 1% (p99.1-100) of those aged 50-67. In analyses where top parental wealth is included, top wealth substitutes previous upper-class origin if it was observed among parents during the timeframe.

[Table 1 near here]

Table 2 shows class destinations by class origin, revealing that upper-class positions are 8.4 and 5.8 times more common among women and men of upper-class origin, respectively, when compared to those of working-class origin. Birth order differences between first- and secondborns are present but are small compared to class differentials. Firstborns more often have upper-class positions than secondborns, 8.7 vs. 7.8 among men and 5.2 vs. 5.0 among women, despite an increase in upper-class positions at age 38 over time (see Appendix Table 1 and 4).

[Table 2 near here]

Analytical strategy

The study takes a descriptive approach to first- and secondborn siblings' class destinations to explore whether individuals in the upper class have siblings with similar class positions to

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themselves. Henceforth, the analyses do not control for sides of family background but focus on the distribution of class destinations among secondborn siblings by class background and firstborn siblings' class destination. The analysis applies logistic and multinomial logistic regression models. Predicted probabilities are reported rather than coefficients that are not intuitive or comparable across models. The results are presented in figures. The models and tables listing predicted probabilities are included in the Appendix.

The models for Figures 3a, 3b, 4a, and 4b are logistic regression models where *the dependent variable* indicates *whether the secondborn sibling has an upper-class destination* (Yes=1, No=0). Welfare recipiency is coded as 0, not having an upper-class destination. The *independent variables* in these models are *class origin* and the *firstborn sibling's class destination*. An interaction term is included between class origin and the firstborn's class destination. These are full interaction models in which the predicted probabilities equal cross-tabulated probabilities in the data. Separate models are run for men and women.

Robustness checks were conducted to ascertain whether the results in Figures 3a and 3b were affected by birth cohort changes. The probability of secondborn siblings having upper-class destinations changes with the firstborn siblings' birth year, but these changes do not substantially alter the relationship between first- and secondborns' class destinations. On the other hand, controlling for birth year results in few observations in each specific category, with more erratic changes year on year. Thus, the models do not include controls for birth year.

Figures 5a, 5b, 6a, and 6b are based on multinominal logistic regressions where the *dependent variable* is the *secondborn's class destination*, and the only *independent variable* is *the specific upper-class destination of the firstborn sibling*.

Results

The analyses explore the extent to which individuals in the upper class have siblings with similar class positions. The analyses will first examine differences in upper-class recruitment between families within classes. When the class destination of secondborns varies with that of firstborns, considering those with the same class background, it indicates similarities in the social mobility of siblings and differentiation in the social mobility of families within that class. Figures 3a and 3b show how often secondborn siblings attain an upper-class destination by class origin and the class destination of the same-sex, firstborn sibling. The results confirm an association between siblings' class destinations. Secondborns more often attain upper-class destinations in families in which the class destination of the firstborn sibling is higher.

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Figures 3a and 3b show that the biggest jump in the share of secondborns with upper-class destinations is seen when comparing families in which the firstborn has an upper-class versus an upper-middle-class destination. In absolute change, the difference is largest amongst those of upper-class origin, where 35% of secondborn brothers and 29% of secondborn sisters attained upper-class reproduction when the firstborn had an upper-class destination, compared to 20% and 17%, respectively, when the firstborn had an upper-middle-class destination. Secondborns more often remain in the upper class in families where the firstborn reproduces parents' upper-class position. In other words, the chance of upper-class reproduction is quite stratified among families within the upper class, raising the question of which families maintain upper-class positions across generations.

[Figures 3a and 3b near here]

Among those of upper-class origin, over three times more secondborn brothers remain in the upper class in families where the eldest brother was intergenerationally stable compared to when the eldest entered a working-class position (35% versus 10%)[4]. A secondborn brother is as likely to have an upper-class destination if he is of upper-class origin with a firstborn brother in the working class as a secondborn brother of working-class origin with a firstborn brother in the upper class. However, missing data on fathers' class could result in class background being underestimated, thereby categorizing individuals as upwardly mobile when they are not. On the other hand, downwardly mobile individuals from the upper class may include families whose parents held an upper-class position for a short time, such as newcomers being in the upper class on 'borrowed time' (see Toft 2019; Toft and Hansen 2022).

Whereas the overall patterns for brothers and sisters are similar, Figures 3a and 3b indicate some gender differences. Among sisters, there is a bigger difference in the ratio of secondborns with upper-class destinations in families where the firstborn has an upper-class destination compared to families where the firstborn has a lower-middle- or working-class destination. Previous research shows that social origin matters more for upper-class recruitment among women (Flemmen *et al.* 2017), and the results can indicate that the stronger importance

[4] Sibling pairs where the firstborn was a welfare recipient were excluded from the final analyses to ease the readability of the graphs. A somewhat higher percentage of secondborns hold upper-class positions in families where the firstborn is a welfare recipient compared to having a working-class position.

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of social origin for women's attainment of upper-class positions extends beyond class origin to more specific aspects of family background[5].

Upper-class reproduction by upper-class fractions

As the first results indicated stratification in upper-class reproduction, analyses were conducted to ascertain whether the associations between siblings differ between the cultural, balanced, and economic upper-class fractions (see Appendix). Statistical associations between first- and secondborns' class destinations exist in all three upper-class fractions. However, first- and secondborn siblings in economic upper-class families are more likely to both reproduce upper-class positions when the firstborn has attained this, compared to the two other fractions. Furthermore, compared to the other upper-class fractions, secondborns from the economic upper-class fraction do not more often attain upper-class positions if the firstborn entered the upper-middle class. In other words, there is a more pronounced tendency for upper-class reproduction among multiple offspring in certain families of the economic upper class.

The analyses were rerun with two categories of top parental wealth as separate upper-class origins to check whether the success rate of upper-class reproduction among multiple siblings in the economic fraction is linked to upper-class reproduction in families with top wealth. As shown in Figures 4a and 4b, the results confirm this. Among families with parents within the top 0.2% wealth bracket, secondborn siblings often attain upper-class reproduction when the firstborn same-sex sibling did so. Of those with parents in the top 0.2% wealth bracket and a firstborn sibling with an upper-class position, 38% of secondborn women and 43% of secondborn men have upper-class positions themselves. This tendency, together with high chances for upper-class reproduction among firstborns, makes upper-class reproduction among both siblings more common in families with top wealth (see Appendix Model Ia). In wealthy families where the firstborn has not obtained an upper-class position by age 38, there is no apparent advantage for secondborns to do so compared to families from other upper-class fractions where the firstborn has a non-upper-class outcome.

[Figures 4a and 4b near here]

[5] Dividing the sample into an older and a younger cohort suggests that these gender differences change over time but with different trends across classes (see Appendix).

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Figure 4a shows that after moving families with top parental wealth into separate categories, secondborn brothers from the economic fraction are not more likely than those from cultural and balanced fractions to obtain upper-class positions in families where the firstborn accomplished upper-class reproduction. On the other hand, Figure 4b demonstrates that the frequency at which secondborn women attain an upper-class destination still varies more with the firstborn's class destination in the economic fraction. Compared to the other upper-class fractions, secondborn women originating in the economic upper-class fraction less often reach upper-class positions when their firstborn sister was downwardly mobile. Among men, the difference in the share of secondborn men who gain an upper-class position in families where the firstborn had an upper-class destination versus an upper-middle-class destination is bigger in the balanced fraction, compared to the cultural and economic fraction. This may indicate that the professional upper class is more stratified in terms of male offspring's mobility prospects. However, the number of sibling pairs from each upper-class fraction origin is relatively small and these patterns may not be stable over time.

The class positions of upper-class members' siblings

To assess to what extent individuals in the upper class have siblings with similar class positions, the final analyses compare the vertical and horizontal class positions of secondborn brothers in different upper-class fractions, irrespective of class origin. In these analyses, firstborns with top wealth have been recoded into the wealthiest 0.2% (p99.9-100) and the following 0.8% (p99.1-99.8). The assessments are restricted to younger brothers for a more parsimonious comparison between men and women. The analyses of secondborn sisters – which differ from those of secondborn brothers due to the different distribution of women across class positions – are found in the Appendix.

Figures 5a and 5b show the vertical class positions of secondborn brothers according to firstborn men's and women's class fractions. Because of few observations in some categories, the lower-middle-, working class, and welfare recipients were merged into one category for firstborn women's brothers. The only significant difference between the three fractions is that the secondborn brothers of cultural upper-class men hold working-class positions slightly less often. 18-22% of firstborn men and women in the economic, balanced, and cultural upper-class fractions have a secondborn brother in the upper class. Among men, a similar number of secondborn brothers to firstborn men with p99.1-99.8 wealth hold upper-class positions. In comparison, 34% of firstborn women with a similar level of wealth have secondborn brothers who hold upper-class positions.

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[Figures 5a and 5b near here]

Significantly fewer secondborn brothers of firstborn men with top 0.2% wealth positions hold working-class positions, compared to brothers of firstborns with other upper-class positions; 7% of their secondborn brothers are in the working class, 15% are in the lower-middle class, and 2% are welfare recipients. Among women with top 0.2% wealth positions, secondborn brothers in the lower-middle class, the working class, and welfare recipients total 10% combined. In comparison, 42% of firstborn men and 57% of firstborn women in the top 0.2% wealth category have a secondborn brother holding an upper-class position. In summary, 90% of firstborn women and 76% of firstborn men in the top 0.2% wealth bracket have a secondborn brother in the upper-middle class or above. Women with top wealth are selectively recruited, and correspondingly, they have more class-homogenous families.

Figures 6a and 6b show the horizontal class fraction of secondborn brothers. The figures confirm that secondborn brothers are overrepresented in their firstborn siblings' class fraction, while the secondborn brothers of firstborn men with top wealth are overrepresented in the economic fraction. The secondborn brothers with the most horizontally homogenous class positions are those with firstborns holding top wealth positions, especially within the top 0.2% bracket; 69% of the younger brothers of firstborn men with top wealth are situated in the economic fraction. Among the few women with top wealth, a separate logit model had to be run to demonstrate that 83% have a brother in the economic fraction.

Figures 6a and 6b show the tendencies for offspring of the same family to attain similar positions across a horizontal dimension of stratification. Additional analyses (see Appendix Figure 1) show that, in families where the firstborn man has an upper-class destination, secondborn men tend to enter the same class fraction as their elder sibling, irrespective of class origin. Siblings may thus, in general, tend to enter similar class fractions. The result of all siblings' social mobility is that secondborn brothers appear approximately as often in the economic fraction if the firstborn is located in the cultural or balanced upper class. On the other hand, secondborn brothers are less frequently situated in the cultural fraction if the firstborn is in the economic upper class, and least often if the firstborn has top wealth. Within the upper class, individuals who possess top wealth seldom have a secondborn brother in the cultural fraction, resulting in individuals with top wealth being relatively socially disconnected from men in the cultural fraction.

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Because individuals build their wealth career beyond age 38, the models for Figures 5a, 5b, 6a, and 6b were run on an older cohort of siblings at age 50 to determine whether the results differed. In this older cohort, more secondborn brothers are in the economic fraction. A greater number of secondborn brothers of the older cohort have upper-class positions, with the exception of the brothers of women with p99.1-99.8 wealth. The increase in secondborn brothers with upper-class positions is most prominent among the wealthiest men as well as among women in the economic upper class. It is unclear whether these differences result from cohort or age effects.

[Figures 6a and 6b near here]

Concluding discussion

While class research has previously paid less attention to sibling outcomes, recent studies have extended the examination of sibling correlations to siblings' class positions (Breen and Ermisch 2021; Iannelli *et al.* 2024). However, sibling correlations do not straightforwardly measure social mobility (Conley 2008b) and do not reveal the specific social connections of class positions created through intergenerational mobility, in which class theory has been interested (cf. Weber 1978; Giddens 1973; Goldthorpe 1984). This paper has filled a gap in the literature by applying a descriptive approach to sibling outcomes on a class-theoretical basis.

In determining whether individuals in the upper class have siblings with similar class positions to themselves, the work first explored similarities in siblings' social mobility into the upper class. Using high-quality data, the paper documented that secondborn siblings more often have upper-class destinations when their firstborn sibling has a higher class destination. This may be thought of as either showing (i) within-class differentiation in the social mobility of families or (ii) similarities in the direction and distance of siblings' social mobility – as anticipated from previous sibling studies (cf. Sweetser 1970; Uvaag 2023). The similarities in siblings' social mobility could be linked to a range of factors, encompassing all aspects related to being from one family rather than another: place of residence, in addition to family resources and shared social settings and networks, but also similarities in individual (genetic) traits and within-family dynamics such as sibling influences (see Jencks 1972; Solon *et al.* 1991; Anderson *et al.* 2024). The results are likely also affected by the use of a dominance approach

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to measure class background, as both parents' class positions matter for their offspring's social mobility (see Beller 2009).

The within-class differentiation of social mobility implies that the mobility propensities of families within broadly conceived classes may vary considerably. This also concerns the prospects of upper-class reproduction among upper-class families. While most individuals with upper-class backgrounds do not reproduce their class background (Flemmen *et al.* 2017), among upper-class families, secondborns are more likely to attain upper-class positions in families where the firstborn obtained an upper-class position. Upper-class reproduction among multiple offspring is more typical among families with parental top wealth, revealing particularly good mobility prospects in families with top wealth and reminding us of how top wealth is associated with the concentration of power, status, and privileged positions within families.

In exploring whether individuals in the upper class have siblings with similar class positions to themselves, the study finds not only similarities in siblings' vertical class destination, but also that members of different upper-class fractions are, in relative terms, more likely to have siblings in their own class fraction. One explanation for why siblings end up in similar class fractions may be that social mobility and upper-class recruitment is structured according to families' composition of cultural and economic capital (Flemmen *et al.* 2017), as this corresponds to different opportunities and aspirations for attaining advantaged positions due to different resources and sociocultural differences in socialization (Parkin 1979; Bourdieu 1984; 1986; 1996; Hansen 1995). However, other factors concerning siblings' shared family background may also affect their aspirations or opportunities and raise the chances of siblings ending up in the same fraction. In other words, siblings/families may generally tend to have greater aspirations or prospects for gaining positions in either the cultural or economic fraction.

In focusing on upper-class fractions, the study highlights how siblings' intergenerational mobility results in a relational structure of the upper class that is structured according to the composition of cultural and economic capital. Within this structure, the study shows how individuals with top wealth through sibling ties tend to be socially connected to higher class positions and the economic fraction. This also lends support to the notion that the upper class is socially fragmented into multiple upper-class cores (Toft 2018), where individuals with top wealth are part of an economic upper-class core connected to economic power.

Based on current knowledge, it is difficult to determine how the results would differ in other countries. Despite being a country with higher social mobility, Norway has socially exclusive recruitment into the top wealth bracket and a recent increase in the association

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between family background and wealth (Hansen 2014; Wiborg and Hansen 2018; Hansen and Toft 2021). It is conceivable that the class positions of top wealth owners' siblings could differ between countries and over time depending on the share of inheritors amongst individuals in the top wealth bracket. Otherwise, research has yet to establish patterns in siblings' social mobility across societies and over time or to discuss how variations in siblings' class destinations relate to the societies' social class structures. In other words, there is much uncharted terrain regarding siblings' class destinations.

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Figure 1. Birth year of sample.

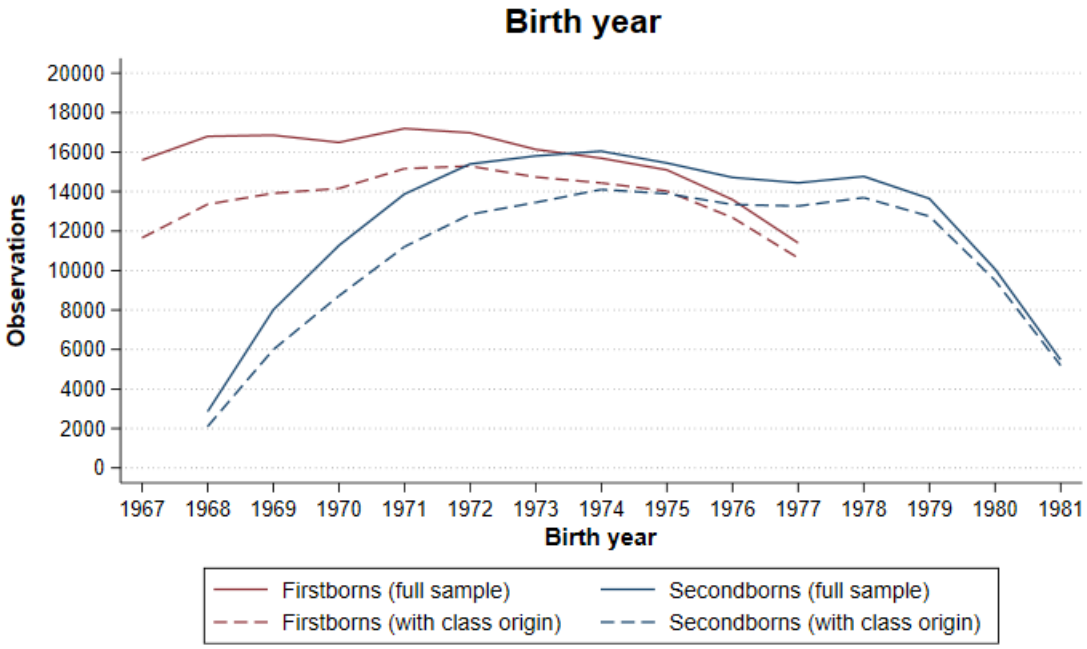

Figure 2. The ORDC scheme, with examples of common occupations.

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	Cultural fraction	Balanced fraction	Economic fraction
Upper class	**Cultural upper class** Professors, artists, architects, museum directors	**Balanced upper class** Doctors, judges, dentists, civil engineers	**Economic upper class** Top 10% chief executives, managing directors, financial brokers, rentiers, self-employed
Upper-middle class	**Cultural upper-middle class** Upper and lower secondary school teachers, librarians, journalists, entertainment musicians	**Balanced upper-middle class** Consultants, engineers and technicians, computer programmers	**Economic upper-middle class** P50-P90 chief executives, managing directors, financial brokers, rentiers, self-employed
Lower-middle class	**Cultural lower-middle class** Pre-school and primary school teachers, technical illustrators	**Balanced lower-middle class** Office clerks, nurses, police officers	**Economic lower-middle class** Bottom 50% chief executives, managing directors, financial brokers, rentiers, self-employed
Working class	**Skilled workers** Auxiliary nurses, electricians, carpenters **Farmers, fishers, foresters** **Unskilled workers** Assistants, cleaners, shop assistants, drivers		
Welfare recipients	**Welfare recipients** More than 50% income from welfare transfers		

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Table 1. Descriptive statistics**.**

Number of sibling pairs	**N**		
Sibling pairs meeting age criteria	188 510		
Sample (both siblings' class non-missing)	171 832		
Class origin	**N**	**%**	
Upper class	13 741	8.0	
Upper-middle class	51 698	30.1	
Lower-middle class	39 013	22.7	
Workers	45 620	26.6	
Welfare/retired/missing	21 760	12.7	
Birth year of fathers	**N**	**Mean**	**SD**
Sample	171 832	1946.0	5.24
Father's class ≠ welfare/retired/missing	120 356	1947.2	4.01
Father's class = welfare/retired/missing	51 476	1943.1	6.47
Siblings with class origin ≠ welfare/retired/missing	150 072	1946.6	4.65
Birth year of mothers	**N**	**Mean**	**SD**
Sample	171 832	1948.6	4.60
Mother's class ≠ welfare/retired/missing	121 236	1949.1	4.15
Mother's class = welfare/retired/missing	50 596	1947.5	5.36
Siblings with class origin ≠ welfare/retired/missing	150 072	1949.0	4.21

Table 2. Class destination by class origin.

		Class destination					
Gender	**Class origin**	**Upper class**	**Upper-middle class**	**Lower-middle class**	**Working class**	**Welfare recipients**	**Total**
Men	Upper class	22	43.1	14.2	14.3	6.5	100
	Upper-middle class	11.2	40.6	16.6	24	7.6	100
	Lower-middle class	6.4	31.6	18	34.8	9.1	100
	Working class	3.8	23.4	14.9	46	12	100
Women	Upper class	16	39.5	25.8	8.8	9.9	100
	Upper-middle class	7.7	36	30.1	14.4	11.9	100
	Lower-middle class	4	27.2	32.3	22.1	14.4	100
	Working class	1.9	18.5	29.2	32.3	18.3	100

Note: Table 2 includes all individuals born 1967-81 with a registered class origin.

N= Men: 327 332, Women: 315 039

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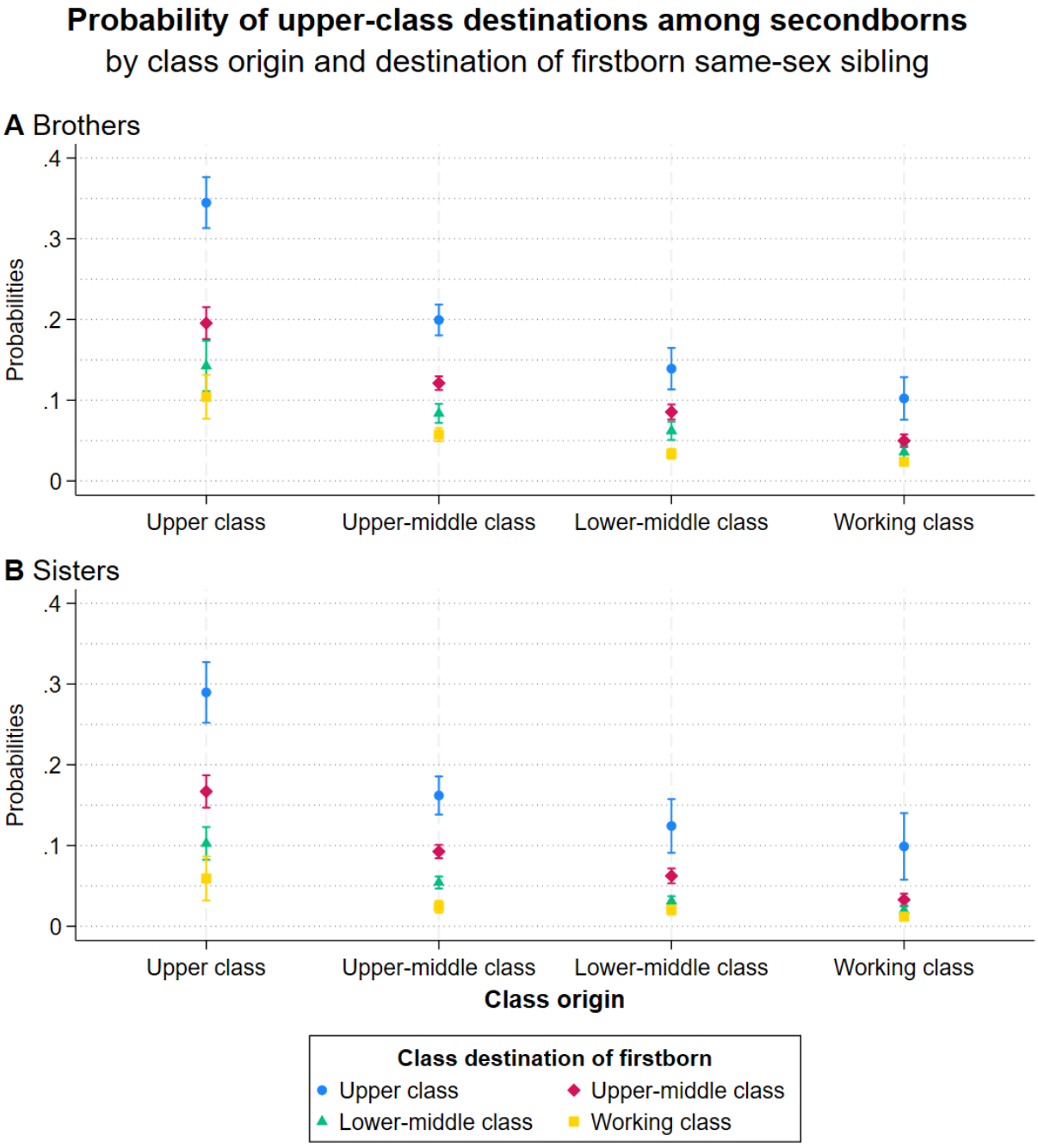
Figures 3a and 3b. Probability of upper-class destinations among secondborns by class origin and the class destination of their firstborn same-sex sibling.



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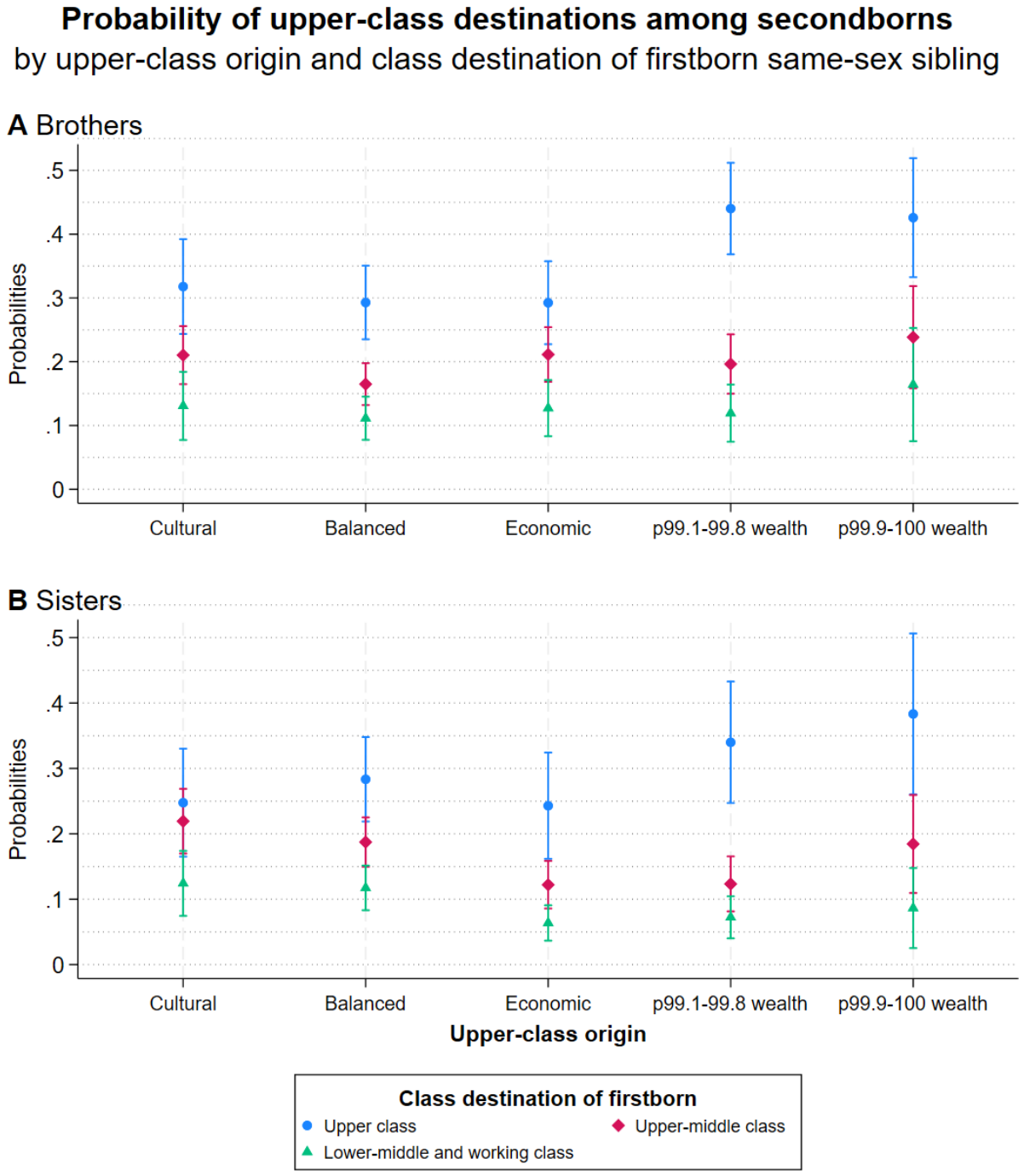
Figures 4a and 4b. Probability of upper-class destinations among secondborns by upper-class origin and the class destination of their firstborn same-sex sibling.



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Figures 5a and 5b. Class of secondborn brothers by firstborns' upper-class fraction.

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Figures 6a and 6b. Class fraction of secondborn brothers by firstborns' upper-class fraction.