

Female Education Expansion in Switzerland and Marriage Market Dynamics: Attrition, Adaptation or Masked Hypergamy?

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Abstract: Concerns that women's rapid educational expansion might destabilize marriage markets have become increasingly salient across advanced economies. Using all waves of the Swiss Household Panel (1999–2024), this study shows no indication of a marriage squeeze for highly educated women. Instead, rising educational homogamy among highly educated men and increased upward partnering among medium-educated men have absorbed the expanding pool of highly educated women, even as traditional hypergamic patterns remain visible in the income dimension.

Keywords: Educational expansion, assortative mating, marriage market, hypergamy, Switzerland

Expansion de la formation des femmes en Suisse et dynamiques du marché matrimonial : attrition, adaptation ou hypergamie masquée ?

Résumé : Lorsque la proportion des femmes diplômées augmente, les modèles traditionnels de partenariat deviennent plus difficiles à réaliser, accroissant le risque d'instabilité du marché matrimonial. Les données du Panel suisse de ménages (1999–2024) montrent toutefois qu'il n'existe en Suisse aucune exclusion des femmes hautement diplômées du marché des partenaires. Au contraire, la propension des hommes moyennement et hautement diplômés à s'unir avec elles augmente, stabilisant le marché matrimonial, tandis que l'hypergamie de revenu persiste.

Mots-clés : Expansion de l'éducation, appariement assortatif, marché matrimonial, hypergamie, Suisse

Weibliche Bildungsexpansion in der Schweiz und Dynamiken des Heiratsmarktes: Verdrängung, Anpassung oder maskierte Hypergamie?

Zusammenfassung: Verschiebt sich die Bildungsverteilung zugunsten von Frauen, wird die Realisierung traditioneller Partnerschaftsmuster schwieriger und steigt somit das Risiko instabiler Heiratsmärkte. Daten des Schweizer Haushalt-Panels (1999–2024) zeigen jedoch, dass in der Schweiz keine Verdrängung hochgebildeter Frauen aus dem Partnermarkt stattfindet. Stattdessen nimmt die Neigung hoch- und mittelgebildeter Männer zu Partnerschaften mit hochgebildeten Frauen zu – während Einkommenshypergamie fortbesteht – wodurch der Partnermarkt stabil bleibt.

Schlüsselwörter: Bildungsexpansion, bildungsbezogene Partnerwahl, Heiratsmarkt, Hypergamie, Schweiz

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1 Introduction¹

Marriage markets have historically tended to follow a consistent pattern across different cohorts, time periods, and cultures: women tend to seek partners of equal or higher socio-economic status (Blossfeld, 2009; Neyt et al., 2019; Schwartz & Mare, 2005). Men, however, are less likely to partner with women of higher socio-economic standing (Lewis, 2016; Van Bavel et al., 2018), with some studies even suggesting male avoidance toward higher status women (Lewis, 2016; Van Bavel et al., 2018). Such patterns in partner choice can be understood through the lens of Becker's (1991) economic theory, which views different-sex marriage as a transaction of sorts, where both parties gain more from marriage than from remaining single. When economic well-being of families depends largely on the income and status of the male partner – in modern economies often as a consequence of institutionalized male-breadwinner models – marriage involves men exchanging paid work for the unpaid care and domestic labor performed by women. Consequently, women prefer to marry men with good labor market prospects. Men, on the other hand, tend to seek wives who are oriented toward family life and capable of assuming primary responsibility for children and household (Kalmijn, 1998).

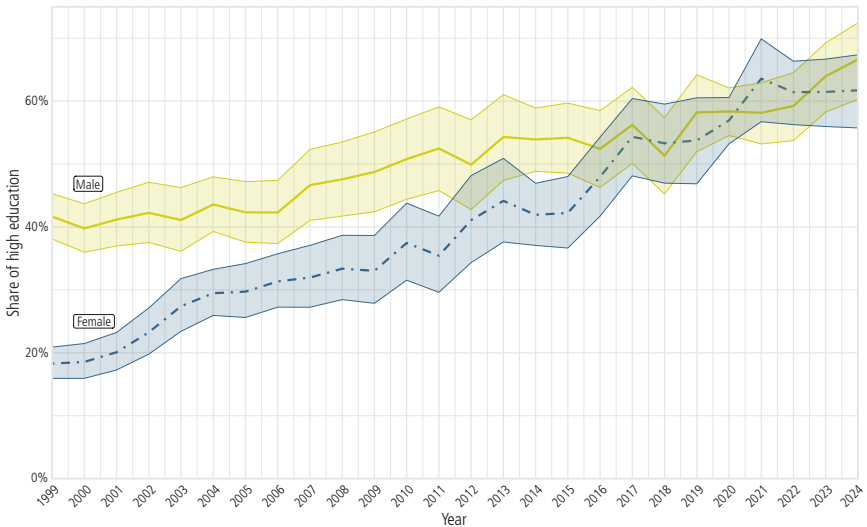
Consistent with such preference patterns, yet equally interpretable as the product of structural opportunity constraints, the traditional male dominance in higher education has historically resulted in couple-level educational assortments largely characterized by *female hypergamy* – unions in which women marry upward in status – and *homogamy* – referring to unions between educational equals (Erát, 2021; Esteve et al., 2012). By contrast, *female hypogamy* – unions in which women partner with less educated men – has been rare.

In Europe, this structural correspondence between gendered preferences and educational opportunities persisted well into the second half of the twentieth century, when the postwar expansion of higher education benefited men disproportionately. Since the 1970s, however, female enrolment rates in tertiary education have generally grown faster than those of men (Buchmann & DiPrete, 2006; Schofer & Meyer, 2005), culminating in the 1990s when women began to outnumber men in higher education across Europe (Schofer & Meyer, 2005). As a result, traditional marriage-market choices among the highly educated are no longer compatible with the gendered distribution of educational attainment (Van Bavel, 2012). A central question, therefore, is how female education expansion has affected marriage market patterns.

Switzerland offers a particularly compelling case for studying this question, as the gendered asymmetry in educational expansion was slower compared with other European countries during the 20th century (Hadjar & Berger, 2010), but

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Figure 1 Expansion of High Education in Switzerland for Individuals Aged 30–40, by Gender



Note: High education is defined as tertiary education. Source: SHP v1–26, own weighted calculations with 95%-CI, $n = 29\,940$.

has been especially pronounced since the early 2000s (Ravazzini et al., 2019; 2017): Between 1999 and 2024, the share of 30- to 40-year-old women holding a higher education degree has risen from below 20 percent to over 60 percent (see Figure 1, based on data from the Swiss Household Panel (SHP Group, 2026; Tillmann et al., 2016)). At the same time, the share of highly educated men increased much more moderately – from about 45 percent to 65 percent. Having started the 2000s with one of the lowest shares of female graduates among European countries – and being the only one that still had a male majority in tertiary education as late as 2009 (De Hauw et al., 2017; Van Bavel, 2012) – Switzerland subsequently experienced the steepest rise in the proportion of female graduates across Europe (Hamplová, 2020).

Against this background, the aim of this study is to examine how the Swiss marriage market, and particularly the marriage patterns of highly educated women, has responded to the ongoing expansion of female education. Findings from other countries point to several possible reactions (González Lopez, 2003). One response is that partnership rates among highly educated women may decline as their relative group size increases (Bellani et al., 2017; Inhorn, 2023). Another response is that partner choice patterns are adjusted (Blossfeld, 2009; Sturm & Van Bavel, 2024; Van Bavel et al., 2018), thereby resulting in partnership rates that do not decline.

Such adaptive shifts, in turn, may reflect a genuine transformation of traditional partnering patterns, or they may represent only a superficial adjustment that leaves underlying hypergamous structures intact in other socio-economic dimensions, most prominently income (Grow & Van Bavel, 2015; Mandel & Semyonov, 2006; Van Bavel, 2012; Van Bavel et al., 2018). To address the question which of these mechanisms – alone or in combination – best characterizes the Swiss case, the present study examines changes in socio-economic partnership patterns in Switzerland over time.

Due to its pronounced expansion of female education, Switzerland serves as a lens through which broader transformations of marriage markets in advanced economies become visible. The results will be discussed against this background: Do gendered shifts in educational attainment threaten to destabilize marriage markets – or might they rather help to stabilize them? Furthermore, Switzerland is not only a particularly pointed prototype of broader developments in affluent economies, but also a compelling case in its own right – especially as human reproduction, which relies on functioning marriage markets, is undergoing a profound crisis in Switzerland (Matthes et al., 2025), with urgent political and social implications (Bloom et al., 2024).

We draw on individual-level data from all available waves of the Swiss Household Panel (SHP Group, 2026; Tillmann et al., 2016), covering the period from 1999 to 2024. To sharpen the focus on the recent transformative effects of asymmetric educational expansion, the sample is restricted to men and women aged 30 to 40. Multiple logistic regression models estimate partnership constellations – hypogamous, hypergamous, homogamous, or single – as a function of education, gender, and time, including their interactions.

2 Marriage Market Responses to Female Education Expansion

Marriage market responses to the expansion of female education have been examined from both theoretical and empirical perspectives. Existing contributions highlight (a) attrition effects (the “marriage squeeze”), (b) adaptive shifts in mate choice, and (c) persisting, albeit obscured, female hypergamy.

2.1 The “Marriage Squeeze” of Highly Educated Women?

Attrition from the marriage market of a certain group is often described as a *marriage squeeze* (Schoen, 1983). It occurs when the size of the desired group is smaller than that of the desiring group, leaving the latter with a shortage of marriageable partners. As a result, a share of the desiring group is *squeezed out* of the marriage market simply due to a lack of available partners. Traditionally, the concept of the marriage squeeze has been applied to imbalances in sex ratios and to gendered, age-related preferences in partner choice (Akers, 1967). Van Bavel (2012) extended this

framework to educational distributions and education-related preferences. Within this logic, an asymmetric educational expansion necessarily produces a marriage squeeze for highly educated women, provided that traditional (hyper- and homogamous) preferences remain stable.

To date, however, there is little quantitative evidence of attrition among highly educated women from marriage markets in advanced economies. By contrast, there is some qualitative evidence. For example, Inhorn's (2023) interview study with single, highly educated, and working women in the metropolitan areas of Washington, D.C., and New York City examines the challenges faced by these women in the areas of partnership and family planning. It becomes clear that many women in their late thirties are unintentionally single because they lack suitable partners. Inhorn's study finds that the women interviewed encounter too few men with comparable levels of education, careers, and values. This result aligns with Lichter et al. (1995) who observes for the US that when men are in short supply, women tend to forgo marriage, rather than to lower their marital preferences and marry a man with low socioeconomic status. It is also consistent with empirical evidence that the number of single households in developed industrialized countries is on the rise (Bundesamt für Statistik, BFS, 2026; Eurostat, 2026; Office for National Statistics, ONS, 2016).

2.2 Adaptative Shifts in Mate Choice?

In light of Becker's (1991) economic theory, the expansion of women's education may also have reshaped the division of labor within couples. Moreover, institutional frameworks in advanced economies increasingly promote dual-earner arrangements, thereby enhancing the economic value of women's labor within families (Kalmijn, 1998) and making women's income potential an increasingly relevant factor for the family's standard of living (Goldin, 2006; Grunow et al., 2006; Sweeney, 2002). As a consequence, men may increasingly prefer women with high socio-economic status as partner (Blossfeld, 2009; Lichter et al., 1992; Qian & Preston, 1993; South & Lloyd, 1992; Sturm & Van Bavel, 2024). Evidence from online dating markets indeed shows a growing male interest in women's earnings and earnings prospects (Van Bavel et al., 2018). In line with this trend, Torr (2011) observed that, in the US, the previously negative association between women's educational attainment and marriage likelihood has reversed: Whereas highly educated women were once among the least likely to marry, today they are among the most likely. Overall, this pattern suggests that changes in the importance of women's educational level for family economic well-being may have led to greater alignment in men's and women's preferences, such that men, too, increasingly seek partners with educational levels equal to or higher than their own.

Complementing this mechanism, the absence of attrition among highly educated females could stem from an adaptive willingness of women to enter hypogamous, female-education-dominant relationships in advanced economies (De Hauw

et al., 2017; Van Bavel et al., 2018). The growing economic resources and financial independence of highly educated women may have reduced the relative importance of a partner's socioeconomic status, bringing other attributes to the forefront. Thus, traditional, economically oriented preference structures lose relevance and partner choices of highly educated females increasingly emphasize non-economic traits such as physical attractiveness (Moore et al., 2010; Moore et al., 2006). This is in line with findings showing that the importance of male physical attractiveness as a criterion in mate selection and partnership formation has generally increased in Western societies (Buss et al., 2001; Zentner & Eagly, 2015). It is also in line with findings that economically oriented partner preferences are negatively correlated with gender equality in education across cultures (Kasser & Sharma, 1999; Osterloh & Rost, 2025).

A third line of reasoning explains shifting mate choices as structural outcomes that arise even when underlying preferences remain unchanged (Becker & Jann, 2017). Increasing homogeneity, in this perspective, can be seen as straightforward consequence of shifting opportunity structures (Kalmijn, 1998), or even of a better alignment of opportunity structures with pre-existing homogamic preferences (Blossfeld, 2009; Blossfeld & Timm, 2003). Moreover, with increasing educational equality, educational institutions have enhanced their relevance as mating markets and have become more central social settings for mate selection (Blossfeld, 2009). Finally, educational expansion has extended the period individuals spend in education, thereby increasing the importance of educational settings relative to other social arenas for partner search (Blossfeld & Timm, 2003) and explaining increasing tendencies towards homogeneity.

Consistent with these lines of reasoning, evidence from Europe shows that gender-asymmetric educational expansion has been accompanied by declining levels of female educational hypergamy and rising levels of educational homogeneity among highly educated women (Becker & Jann, 2017; Esteve et al., 2016; Falcon & Joye, 2017; Oppenheimer, 1988; Schwartz & Mare, 2005; South & Lloyd, 1992; Sweeney, 2002). In Switzerland, specifically marital patterns among highly educated men changed during the initial phase of asymmetric educational expansion: while the likelihood that highly educated men partnered with lower educated women declined between 1970 and 2000, the partnership rates among the growing group of highly educated women remained largely intact, hinting at adaptive processes (Becker & Jann, 2017).

2.3 The Masked Persistence of Female Hypergamy?

Adaptive shifts in educational mating may, as discussed above, reflect a genuine transformation of traditional partnering patterns. Alternatively, they may represent a superficial adjustment that leaves underlying hypergamous socio-economic structures intact. As a consequence of increased vertical income stratification within

educational groups (Hällsten, 2013; Iannelli et al., 2018; Reimer & Thomsen, 2019), there still are significant gender-specific economic differences beyond educational equality in advanced economies: women often choose lower-paid social, medical, or artistic professions and industries that correspond to gender-specific ideas of self-fulfillment and allow for part-time employment, while men often choose well-paid technical and managerial professions and industries that also correspond to their interests and are often classified as “greedy” professions (Beck & Beck-Gernsheim, 2001; Bertrand, 2020; Charles, 2011; Charles & Bradley, 2009; Charles & Grusky, 2004; Goldin, 2024; Osterloh & Rost, 2025; 2024; Vincent-Lancrin, 2008).

Complementing our reasoning on adaptive shifts, the notion of asymmetric socio-economic expansion may thus obscure the persistence of gendered economic inequalities and represent a conceptual artefact rather than an empirical reality. In this perspective, the choice of field of study and employment sector – that is, the horizontal stratification of education – acts as a catalyst that maintains the apparent equilibrium of the partner market by reproducing unequal representation in high-status socioeconomic positions.

This explanation aligns with findings showing that traditional mating patterns have remained largely intact in advanced economies with respect to financial success (Osterloh & Rost, 2025; Van Bavel et al., 2018). It also aligns with the common finding that although women have achieved equal representation in tertiary education, they continue to be underrepresented in the most lucrative segments of the labor market (Bertrand, 2020; Blau & Kahn, 2017; Goldin, 2021; Han et al., 2024; Mandel & Semyonov, 2006; Strittmatter & Wunsch, 2025; Van Bavel, 2012), and with findings on prevailing patterns of a gendered division of labor in modern, educationally gender-balanced societies (Zoch & Heyne, 2023).

Further empirical evidence supports the masked persistence of female hypergamy by highlighting the moderating role of financial resources in the likelihood of forming educationally hypogamous partnerships. Where female higher education is accompanied by a well-paid occupation, the probability of hypogamous relationship is relatively low (Hamplová, 2020). By contrast, where women’s higher education does not translate into equally high earnings, educationally hypogamous pairings tend to occur more often: female educational hypogamy seems to be more acceptable when the underlying income structure remains hypergamous. Findings from online dating studies support this view, showing that female educational hypogamy is often compensated by female hypergamy in income (Van Bavel et al., 2018).

In light of this reasoning, education may assume a different function for men and women in the marriage market. For women, its value may lie more strongly outside the realm of economic convertibility, serving instead as a resource and signal of their ability to raise children, a trait that gains importance in the context of social norms favoring investment in the quality rather than the quantity of children (Becker, 1991). This assumption is consistent with Goldin’s (2021) observations, which show how a new type of division of labor between highly educated women and

men has emerged in the US. Once these couples start a family, the highly educated wives take care of investing in the children, fostering early childhood development by pursuing activities like play, sports, music, tutoring, and cooking., organizing transportation to these leisure activities, and maintaining social relationships with other children from well-off families. These activities are not only time-consuming but also require mothers to have a certain level of education in order to be accepted into these social circles and to provide this type of parental support.

2.4 Migration as Buffer or Amplifier?

Opportunities and partner choice patterns in the marriage market may be shaped by migration processes. Depending on the gendered educational composition of migrants, migration may either alleviate imbalances or exacerbate them, thereby either mitigating or intensifying the potential mechanisms discussed above.

Switzerland has not only experienced a steep educational expansion but is also characterized by a comparatively high level of immigration made up of migrants from mainly neighboring western European countries, Anglo-Saxon countries, but also eastern European and other non-European countries. Migration to Switzerland is increasingly composed of rather high skilled persons, with over 60 percent having tertiary education, and a balanced gender composition (Wanner & Steiner, 2018). Intermarriage is common in Switzerland, especially in more urban and border regions, where the share of the foreign population is higher (Schroedter & Rössel, 2014; Schroedter et al., 2020). Mixed marriages are more likely for migrants from culturally similar neighboring countries (Potarca & Bernardi, 2018; Schroedter et al., 2020).

There is some evidence for a status exchange between higher educated migrants from non-European countries and middle or lower educated Swiss (Potarca & Bernardi, 2017; Schroedter et al., 2020). However, intermarriage based on this form of status exchange has declined over the last decades with an increasing size of the immigrant population and has given way to increasing rates of endogamous marriages among persons from more culturally distant countries. Therefore, although marriages among migrants and intermarriages between migrants and Swiss persons make up a substantial part of the Swiss marriage market, given the skill and gender composition of the immigrant population and its marriage patterns, migration is not expected to change the implications of educational expansion on the marriage market.

2.5 Summary of the Possible Scenarios for Marriage Market Responses

The three scenarios outlined in Sections 2.1–2.3 rely on different assumptions about how the Swiss marriage market may respond to the expansion of women's education. The first scenario suggests a *marriage squeeze*, in which asymmetric educational expansion leads to a relative scarcity of highly educated men, increasing the likelihood that highly educated women remain unmarried. The second scenario emphasizes

adaptive shifts in partnering patterns, which may arise from changes in preferences or from altered opportunity structures. The third scenario, which partially overlaps with the second, interprets such shifts not as adaptations but as outcomes of persistent economic inequalities and stratification processes that operate outside the educational domain. Thus, in this third perspective, traditional hypergamic patterns and preferences continue to exist in masked form.

In the Swiss context, institutional arrangements continue to reflect a modified male-breadwinner model. Short and maternal-oriented parental leave, limited public childcare provision – particularly for families in higher socioeconomic positions –, and persistently high part-time employment rates among mothers may constrain the full economic activation of highly educated women and reinforce a gendered division of labor (Dutu, 2014; Keller, 2015; World Economic Forum, 2024). Under these conditions, the scenario of an adaptation with masked persistence of female hypergamy appears as a particular plausible response towards female educational expansion.

Nevertheless, comprehensive adaptive processes towards homogamy seem also plausible: As women's integration into the labor market has become broadly established and as gender equality is increasingly institutionalized in the Swiss context (Doehne & Rost, 2026), female higher education has gained salience as a marketable economic trait on marriage markets. Accordingly, mating patterns may gradually adjust, reflecting a growing alignment of male with female preferences in Switzerland.

At the same time, the increasing labor-market participation of highly educated women enhances their financial independence, particularly in Switzerland's labor-demand-oriented market, where vacancy rates remain high and the unemployment rate consistently low (for instance approximately 2.8% in April 2025 (Staatssekretariat für Wirtschaft (SECO), 2025)). The strong demand for skilled workers in the highly specialized Swiss economy (Buchmann et al., 2022) further means that women with tertiary education are relatively easily able to convert their educational resources into economic autonomy. As a result, dependence on a male breadwinner weakens, allowing preference-shifts of highly educated women to unfold further beyond economic characteristics.

3 Method

To identify the responses to female educational expansion on mating patterns in Switzerland, we draw on individual-level data from all available waves of the Swiss Household Panel (SHP Group, 2026; Tillmann et al., 2016), covering 1999 to 2024. During this period, the SHP incorporated three substantively large refreshment samples (in the years 2004, 2013, and 2020), which continuously reintroduced newly drawn population segments into the survey and thereby mitigate concerns about panel ageing and selective attrition.

Table 1 Descriptive Statistics

Variable	N	Overall N = 41 166	Male N = 19 557	Female N = 21 609
Age (years)	41 166	35.3 (3.2)	35.3 (3.2)	35.3 (3.2)
Education	40 543			
medium		20 131 (50%)	8 442 (44%)	11 689 (55%)
low		2 231 (5.5%)	882 (4.6%)	1 349 (6.3%)
high		18 181 (45%)	9 897 (51%)	8 284 (39%)
missing		623	336	287
Educational constellation	38 265			
homogamous (F = M)		19 900 (52%)	9 269 (52%)	10 631 (52%)
hypogamous (F > M)		4 260 (11%)	1 969 (11%)	2 291 (11%)
hypergamous (F < M)		9 598 (25%)	4 424 (25%)	5 174 (25%)
no partner		4 507 (12%)	2 178 (12%)	2 329 (11%)
missing		2 901	1 717	1 184
Income tertile	28 563			
high		8 762 (31%)	6 696 (52%)	2 066 (13%)
medium		9 626 (34%)	4 805 (38%)	4 821 (31%)
low		10 175 (36%)	1 302 (10%)	8 873 (56%)
missing		12 603	6 754	5 849
Income constellation	22 269			
homogamous (F = M)		4 147 (19%)	2 010 (19%)	2 137 (18%)
hypogamous (F > M)		1 212 (5.4%)	601 (5.8%)	611 (5.1%)
hypergamous (F < M)		12 403 (56%)	5 565 (54%)	6 838 (57%)
no partner		4 507 (20%)	2 178 (21%)	2 329 (20%)
missing		18 897	9 203	9 694

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Continuation of Table 1.

Variable	N	Overall N = 41 166	Male N = 19 557	Female N = 21 609
Swiss citizenship	41 107			
yes		34 769 (85%)	16 510 (85%)	18 259 (85%)
no		6 338 (15%)	3 013 (15%)	3 325 (15%)
missing		59	34	25
Language region	41 165			
german		27 903 (68%)	13 297 (68%)	14 606 (68%)
french		11 658 (28%)	5 498 (28%)	6 160 (29%)
italian		1 604 (3.9%)	762 (3.9%)	842 (3.9%)
missing		1	0	1
Paid labor	31 050			
yes		27 372 (88%)	13 311 (96%)	14 061 (82%)
no		3 678 (12%)	574 (4.1%)	3 104 (18%)
missing		10 116	5 672	4 444

Note: For metrical variables: Mean (SD); n (%). The high share of missing income data is the result of the inclusion of proxy and grid information, since personal income is only collected in individual interviews (see also footnote 1). Source: SHP v1–26.

Although the present analysis does not exploit the longitudinal structure of the data in a strict sense, the SHP is particularly well suited for our analysis: In contrast to alternative data sources such as the Swiss Labor Force Survey (SLFS/SAKE) (Bundesamt für Statistik, BFS, 2025), the SHP follows a household-based design that collects information directly from both partners, thereby enabling the construction of genuinely linked couple data. This feature is critical for our analysis, as key variables – most notably partners' labor income – cannot validly be captured through proxy reports but require direct information from both partners.

To sharpen the focus on the recent transformative effects, we restrict the sample to men and women aged 30 to 40. This allows us to focus on the core reproductive age group while reducing the confounding trends associated with younger or older cohorts, such as delayed educational attainment or elevated divorce rates. Persons in

same-sex couples and those whose partners live outside the household are excluded, as the SHP does not provide comparable partner information for this constellation. For our analyses, we use data from the individual and, for the analysis of educational partnership constellations, also from the proxy and grid questionnaires.² This sample refinement yields 41 166 observations (person-year measures) in total, with annual sample sizes ranging from a minimum of 1021 in 2012 to a maximum of 2 708 in 2020 (see Table 1).

Our key variables are education and partnership status. Education is categorized as tertiary (“high”, ISCED 1997 categories 5A, 5B and 6), upper secondary (“medium”, ISCED categories 3A, 3B, 3C and 4A), or lower (“low”, ISCED categories 0, 1 and 2).³ Partnership status is derived from indicators identifying cohabitation or marriage with a partner of the opposite sex within the same household. Based on these variables, we distinguish three types of socio-economic partnership constellations: *homogamic* partnerships, where both partners have the same level of education; *hypergamic* partnerships, where men are more highly educated than women; and *hypogamic* partnerships, where women are more highly educated than men. As shown in the sample statistics (Table 1), the majority of 30–40-year-olds in Switzerland between 1999 and 2024 lived in educationally homogamous partnerships (52%). About one quarter were in hypergamous constellations (25%), while only 11 percent lived in hypogamous ones; around 12 percent were single.

While our analyses primarily focus on education and educational assortative patterns, the interpretation of these developments may also depend on marriage market dynamics related to partners’ earnings. Therefore, we additionally account for *income-based partnership constellations*. Our operationalization of these constellations relies on annual gross labor income, categorized into year-specific tertiles.⁴ For example, in 2023, annual incomes below CHF 60 001 fall into the “low” category, incomes between CHF 60 001–93 300 into “medium”, and those above CHF 93 300

2 Note that this sample definition – specifically, the inclusion of individuals without an interview, but with proxy or grid information in educational and basic demographic characteristics – affects the interpretation of missing data. In particular, the reported item nonresponse for personal labor income is mechanically inflated, as neither grid nor proxy information is available for this variable for individuals without an interview.

3 To assess whether results are sensitive to the level of educational aggregation – and to explore whether more differentiated assortative dynamics can be identified – we replicate the analyses using a more fine-grained measure of educational attainment. The results of these analyses, which generally show the robustness of our main findings, are reported and interpreted in the Appendix A1.

4 While gross personal labor income is conceptually most appropriate for our analysis, the SHP does not provide an imputed version of this variable. We therefore present an additional robustness check (see Appendix A2) based on net personal labor income, for which imputed values are available. This increases the analytical sample for the multivariate income analyses by approximately 15% and yields almost identical results: of the 13 statistically significant coefficients of the key variables in the main income analyses, only one loses statistical significance, while the direction and substantive magnitude of all effects remain unchanged.

into “high”. Income-based partnership constellations are then constructed analogously to the educational ones, distinguishing homogamic, hypergamic, and hypogamic unions according to income patterns within couples.

Descriptive results on the evolution of the shares of hypo-, hyper-, and homogamous couples over time are complemented by a series of binary logistic regression models estimating the likelihood of belonging to a specific partnership constellation as a function of education and time, including their interaction. Due to the logic and construction of the partnership constellation variable, certain combinations with education are structurally impossible (for instance, a highly educated woman cannot be in an educationally hypergamous partnership), resulting in quasi-complete separation. This can result in infinite maximum-likelihood estimates for the affected categories and may lead to biased estimates, unstable standard errors of covariates, and unreliable Wald tests, as well as potential convergence issues (Kosmidis & Firth, 2021; Mansournia et al., 2018). By applying mean-bias reducing adjusted score functions, the estimates of the involved categories remain finite, while estimates and standard errors of the other categories and covariates become more reliable (Kosmidis & Firth, 2021). Although bias-reduction is also feasible for multinomial regression models, due to computational demands and convergence issues, we refrain from a multinomial approach and instead estimate separate binary logistic models for each partnership constellation, contrasting individuals in the respective category with all others. Thus, taking the model predicting homogamous partnerships as an example, our estimation can be formally expressed as

$$\text{logit}(P(\text{Homogamic}_i = 1)) = \beta^0 + \beta' \text{Educ}_i^d + \theta \text{Year}_i + \delta'(\text{Educ}_i^d \times \text{Year}_i) + \gamma' X_i + \varepsilon_i, \quad (\text{Eq. 1})$$

Where Educ_i^d is a set of dummies with coefficients β' capturing the effect of education on the logged odds of being in a homogamous partnership relative to the base year 1999; $\text{Educ}_i^d \times \text{Year}_i$ represents the corresponding interaction terms, with coefficients δ' indicating year-to-year changes in the effect of education; and Year_i is a continuous variable with coefficient θ , capturing the average year-to-year change for the reference group of persons with medium education. Finally, X_i represents a vector of covariates with coefficients γ' included to account for compositional changes within educational groups over time. For example, the group of highly educated individuals may increasingly include highly skilled migrants in Switzerland and bring their specific mating profiles into the trends observed for the highly educated population, binational marriages now accounting for more than a third of marriages in Switzerland (Schroedter & Rössel, 2014). Educational expansion may also have progressed unevenly across Swiss regions, each characterized by distinct marriage and mating cultures. Therefore, we include citizenship and language-region dummies

as controls. Because marriage patterns among migrants or within specific regions may have changed systematically over time, we further include interactions between these variables and *Year_p*. The model is estimated separately for women and men.

In the regression output, we report Average Marginal Effects, allowing for interpretation in terms of average changes in predicted probabilities. For the interaction terms with *Year_p*, this facilitates interpretation in terms of absolute, education-specific year-to-year changes rather than relative differences.

The waves of the SHP are treated as repeated cross-sections in all analyses. Thus, standard errors are clustered at the individual level (clustered sandwich estimator, *vcovCL/sandwich* package; Zeileis, 2006) to account for repeated observations across survey waves. For a large number of clusters, as in our case, such cluster robust standard errors have shown to lead to reliable estimates (Cameron & Miller, 2015). All descriptive analyses apply the standard sampling weights provided by the SHP to adjust for disproportion between the sample and the Swiss population (Antal & Rothenbühler, 2015). Statistical analyses were conducted in *R* version 4.5.2 (R Core Team, 2025) using several packages.⁵ The replication code will be made publicly available.

4 Descriptive Findings

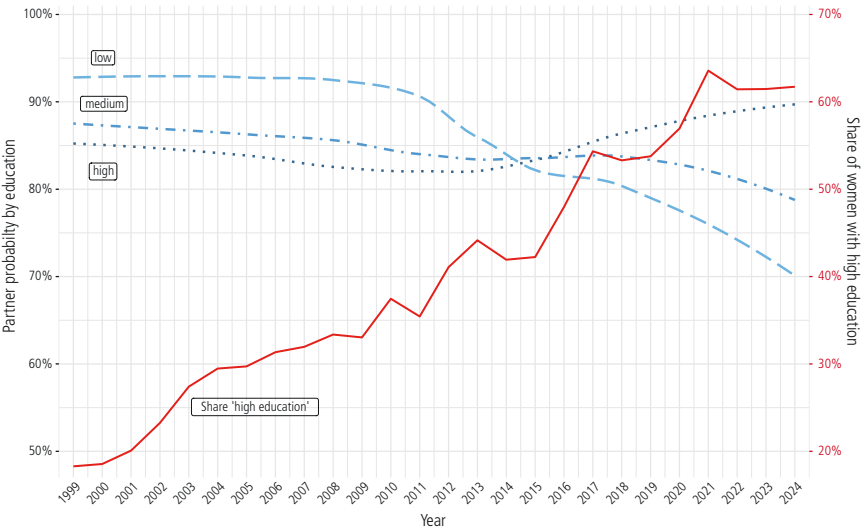
As shown in Figure 2, the growing share of highly educated women aged 30–40 has not been accompanied by a decline in their likelihood of living in a partnership, which has consistently remained above 80 percent between 1999 and 2024.⁶

The absence of a marital squeeze from highly educated women from the Swiss marriage market suggests adaptive mating behavior. However, as shown in Figure 3, the mating patterns of highly educated women with respect to their partners' educational levels have remained remarkably stable during the period under consideration. Despite their growing numerical share and their persistently high likelihood of living with a partner, highly educated women in Switzerland have not been forced

5 Data management: “tidyverse” (Wickham et al., 2019), “haven” (Wickham, Miller & Smith, 2025), “labelled” (Larmarange, 2025); data analysis: “srvyr” (Freedman Ellis & Schneider, 2024), “sandwich” (Zeileis, 2006; Zeileis et al., 2020), “detectseparation” (Kosmidis et al., 2022), “brglm2” (Kosmidis & Firth, 2021), “marginaleffects” (Arel-Bundock et al., 2024), “ggeffects” (Lüdecke, 2018), “performance” (Lüdecke et al., 2021); visualization and tables: “modelsummary” (Arel-Bundock, 2022), “tinytable” (Arel-Bundock, 2025), “gtsummary” (Sjoberg et al., 2021), “cowplot” (Wilke, 2025), “glue” (Hester & Bryan, 2024), “ggnewscale” (Campitelli, 2025), “scales” (Wickham, Pedersen & Seidel, 2025), “writextl” (Ooms, 2025), “patchwork” (Pedersen, 2025).

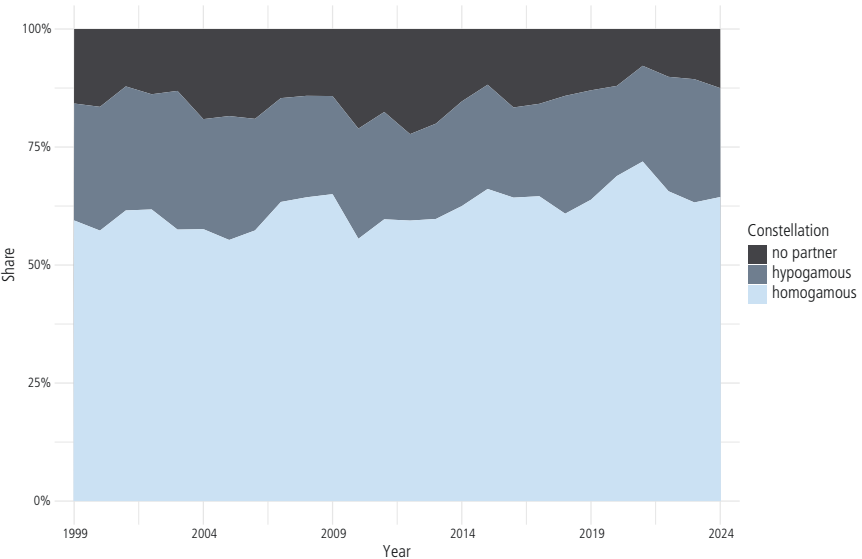
6 The trend for low-educated women outlined in Figure 2 should be interpreted with caution. Due to the substantial decline in the number of observations in this group towards the end of the observation period, their sampling variability increases considerably. The LOESS smoother may therefore exaggerate random fluctuations in this group, particularly at the end of the time series, potentially leading to deviations from the regression-based linear trend estimates shown in Figure 6.

Figure 2 Probability of Having a Partner by Educational Level and Share of High Education for Women Aged 30–40



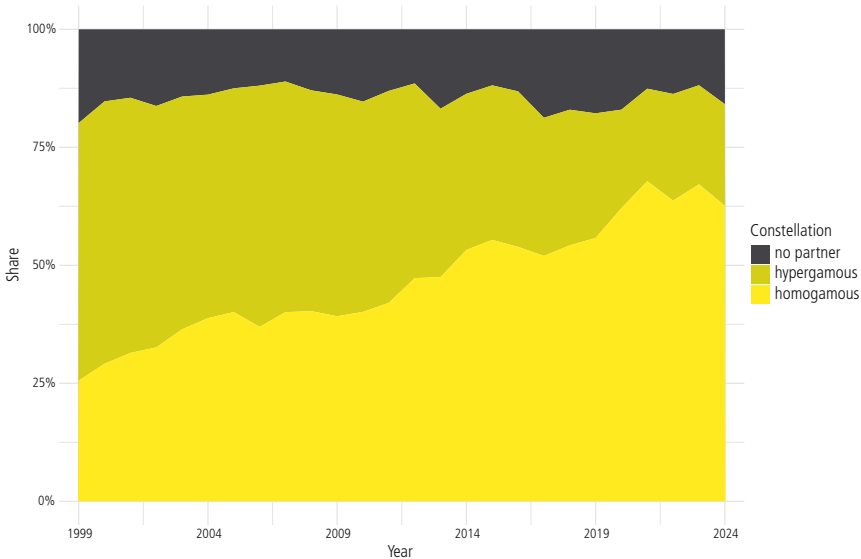
Note: Education: high (tertiary), medium (at least upper secondary) or lower. Source: SHP v1–26, own weighted calculations. Share of high education: n = 16 572. Partner probability: LOESS-smoothed, n = 16 367.

Figure 3 Educational Partnership Constellations in Switzerland for Women Aged 30–40 with Tertiary Education



Source: SHP v1–26, own weighted calculations, n = 6 454.

Figure 4 Educational Partnership Constellations in Switzerland for Men Aged 30–40 With Tertiary Education



Source: SHP v1–26, own weighted calculations, $n = 7\,356$.

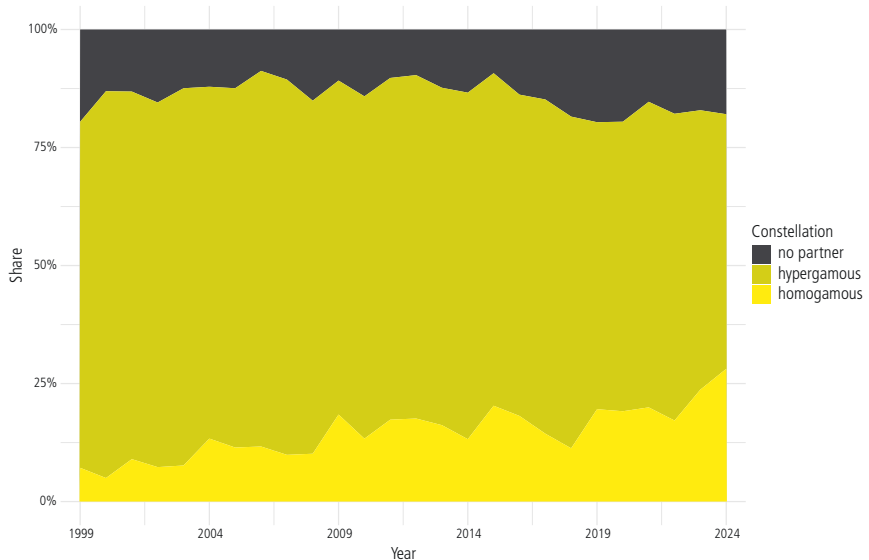
to adjust their mating profiles: neither educational hypogamy nor homogamy has increased for this group over time.

Instead, as shown in Figure 4, the mating patterns of highly educated men have adjusted to the growing share of highly educated women: By 2024, educationally equal, homogamous relationships had become the dominant partnership pattern among highly educated men, whereas only about one quarter of highly educated men were in such relationships in 1999.

Thus, the increasing tendency of highly educated men to form unions with equally highly educated women absorbs the effects of female educational expansion in Switzerland and sustains a balanced marriage market. This development can be interpreted either as an adaptation to changing opportunity structures or, conversely, as a transformation of these opportunity structures in line with pre-existing preference patterns. It can also be interpreted as an adaptive strategy in response to the growing economic demand for female partners with high education and high earning potential in the context of eroding male breadwinner models.

Alternatively, this pattern may reflect a masked persistence of hypergamy – if the increase in economic homogamy has been absent or at least weaker than the rise in educational homogamy among high-status men. As shown in Figure 5, this

Figure 5 Economic Partnership Constellations in Switzerland for Men Aged 30–40 in Highest Income Tertile



Source: SHP v1–26, own weighted calculations, $n = 5\,157$.

is indeed the case. Although a majority of highly educated men are in *educationally* homogamous partnerships, female hypergamy in the *income dimension* remains the dominant mating pattern among men with high socio-economic status. In particular between 2010 and 2022 – the period marked by a sharp rise in educational homogamy – the share of income-homogamous partnerships increased only marginally, if at all.

5 Multivariate Findings

Estimates from the logistic regression models (see Table 2) are largely consistent with the descriptive findings. On average across the observation period, highly educated women are estimated to face a higher, albeit statistically insignificantly, likelihood of being without a partner compared to both medium-educated women and low-educated women. However, this disparity has not increased over time; rather, it has slightly, albeit also statistically insignificantly, decreased: For highly educated women, since 1999, the probability of living without a partner has, on average, declined by 0.2 percentage points per year.

Table 2 Determinants of Educational Pairing Patterns 1999–2024. Average Marginal Effects (AMEs)
From Binary Logistic Regression Models

	Women				Men			
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
Time (year), by education								
high education * time	0.004 * (0.001)	−0.002 (0.001)	NA	−0.002 (0.001)	0.016*** (0.001)	NA	−0.016*** (0.001)	−0.0001 (0.001)
medium education * time	−0.002 (0.001)	−0.001 (0.001)	0.003* (0.001)	0.0001 (0.001)	−0.011*** (0.001)	0.010*** (0.001)	−0.003*** (0.001)	0.004*** (0.001)
low education * time	−0.001 (0.003)	NA	−0.002 (0.003)	0.003 (0.002)	−0.008* (0.003)	0.001 (0.004)	NA	0.007* (0.003)
Time (year)								
	0.0001 (0.001)	−0.001* (0.001)	0.002* (0.001)	−0.0005 (0.001)	0.003*** (0.001)	0.004*** (0.001)	−0.009*** (0.001)	0.002** (0.001)
Education (Ref.: medium)								
high education	0.147*** (0.018)	0.212*** (0.013)	NA	0.019 (0.011)	−0.114*** (0.018)	NA	0.357*** (0.014)	−0.027* (0.011)
low education	−0.284*** (0.026)	NA	0.381*** (0.028)	−0.014 (0.019)	−0.322*** (0.034)	0.336*** (0.044)	NA	0.059 (0.034)

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	Women			Men				
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
Controls								
No Swiss citizenship (Ref.: with)	0.094*** (0.021)	0.034* (0.015)	-0.097*** (0.016)	-0.038*** (0.011)	0.057** (0.022)	-0.010 (0.012)	-0.006 (0.020)	-0.039** (0.012)
Time (year), by citizenship								
With Swiss citizenship * time	-0.0004 (0.001)	-0.0003 (0.001)	0.002* (0.001)	-0.001 (0.001)	0.003*** (0.001)	0.004*** (0.001)	-0.009*** (0.001)	0.002** (0.001)
No Swiss citizenship * time	0.002 (0.002)	-0.006*** (0.002)	0.0003 (0.002)	0.0001 (0.001)	0.003 (0.002)	0.005*** (0.001)	-0.009*** (0.002)	0.001 (0.001)
Language Region (Ref.: German)								
French	0.002 (0.018)	0.010 (0.011)	-0.019 (0.014)	0.003 (0.011)	-0.008 (0.019)	0.023* (0.011)	-0.018 (0.016)	0.003 (0.012)
Italian	0.059 (0.042)	0.030 (0.032)	-0.061* (0.030)	-0.029 (0.020)	0.040 (0.047)	0.021 (0.028)	-0.084* (0.036)	0.018 (0.028)

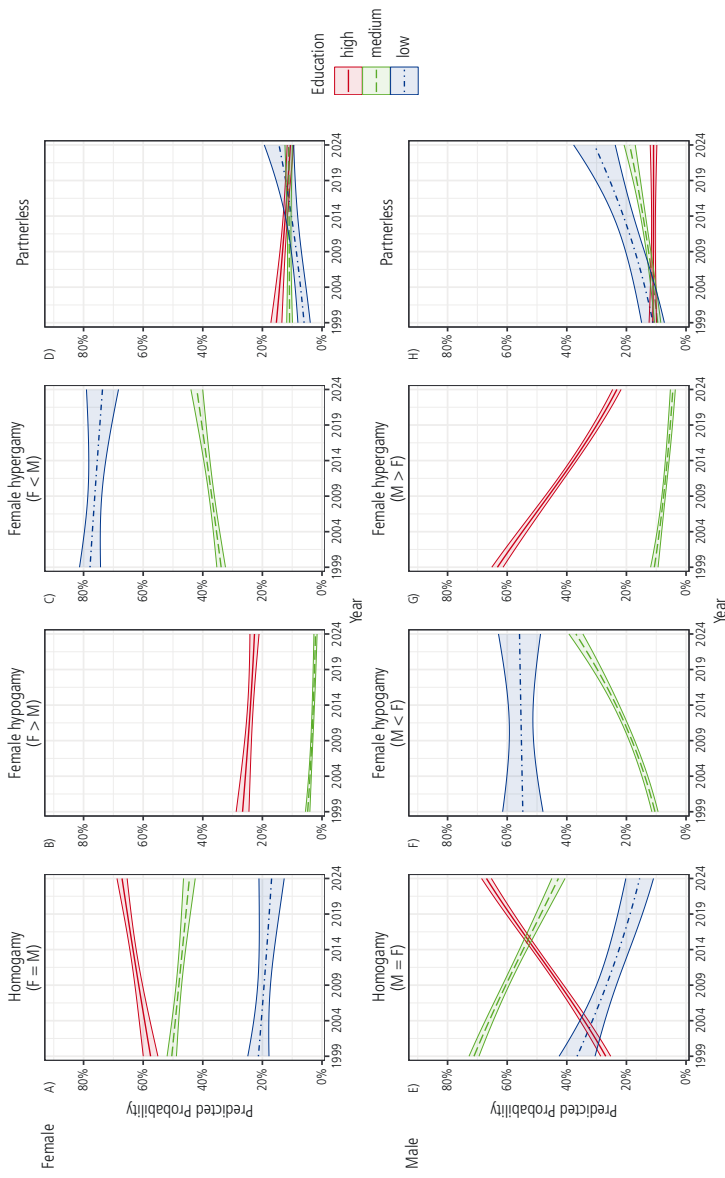
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Time (year), by language region	Women				Men			
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
German * time	0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	0.004*** (0.001)	0.004*** (0.001)	-0.009*** (0.001)	0.001 (0.001)
French * time	-0.002 (0.002)	-0.001 (0.001)	0.003 (0.001)	-0.001 (0.001)	0.002 (0.002)	0.005*** (0.001)	-0.010*** (0.001)	0.003** (0.001)
Italian * time	-0.002 (0.005)	-0.003 (0.004)	0.002 (0.003)	0.001 (0.002)	0.001 (0.004)	0.001 (0.003)	-0.006 (0.004)	0.005 (0.003)
Observations	20413	20413	20413	20413	17832	17832	17832	17832

Note: *p < 0.05, **p < 0.01, ***p < 0.001.
Multiple Binomial Logistic Regressions (Models: ‘one vs. rest’ with bias-reduction) – Average marginal effects (AME). Estimates for interactions represent the average marginal effect of time, conditional on the interacting variable. Clustered standard errors in parentheses.
NA: impossible by construction: Since a woman (man) with high (low) education can’t be in an educationally hypergamous partnership (or the other way around for educationally hypogamous partnership), there are structurally impossible combinations (by construction of the dependent variable). Those estimates are indicated as NA and the models were estimated with bias-reduction to stabilize the other estimations. Estimates < 0.0001 are reported as 0.0001. Source: SHP VI–26.

Figure 6 Average Predicted Probabilities Over Time, Conditional on Education



Note: Education : high (tertiary), medium (at least upper secondary) or lower. Partnership constellations constructed accordingly. SHP v1–26. Average predicted probabilities over time by educational level. Predictors based on models in Table 2. Source: SHP v1–26.

Table 3 Determinants of Income Pairing Patterns 1999–2024. Average Marginal Effects (AMEs)
From Binary Logistic Regression Models

	Women				Men			
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
Time (year), by income								
high income * time	0.007** (0.003)	0.004* (0.002)	NA	−0.012*** (0.002)	0.005*** (0.001)	NA	−0.005*** (0.001)	−0.0001 (0.001)
medium income * time	0.001 (0.001)	0.003*** (0.001)	0.0004 (0.002)	−0.004* (0.002)	−0.002 (0.001)	0.002** (0.001)	−0.001 (0.002)	0.002 (0.002)
low income * time	0.002*** (0.001)	NA	−0.006*** (0.001)	0.004*** (0.001)	−0.001 (0.002)	−0.007** (0.003)	NA	0.009** (0.003)
Time (year)								
Income (Ref.: medium income)	0.002*** (0.001)	0.002*** (0.0004)	−0.003*** (0.001)	−0.001 (0.001)	0.001 (0.001)	0.0001 (0.0001)	−0.003** (0.001)	0.001 (0.001)
high income	0.206*** (0.026)	0.146*** (0.018)	NA	0.020 (0.024)	−0.143*** (0.015)	NA	0.305*** (0.017)	−0.095*** (0.015)
low income	−0.223*** (0.014)	NA	0.454*** (0.016)	−0.164*** (0.015)	−0.022 (0.025)	0.304*** (0.030)	NA	0.134*** (0.029)

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	Women			Men				
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
Controls								
No Swiss citizenship (Ref.: with)	0.051** (0.016)	0.001 (0.009)	-0.026 (0.020)	-0.027 (0.020)	0.044* (0.020)	0.018 (0.010)	-0.025 (0.026)	-0.040 (0.021)
Time (year), by citizenship								
With Swiss citizenship * time	0.002*** (0.001)	0.002*** (0.0004)	-0.003*** (0.001)	-0.001 (0.001)	0.002 (0.001)	0.0002 (0.0005)	-0.003** (0.001)	0.001 (0.001)
No Swiss citizenship * time	0.002 (0.002)	0.0005 (0.001)	-0.003 (0.002)	0.0003 (0.002)	0.001 (0.002)	-0.0003 (0.001)	-0.003 (0.003)	0.002 (0.002)
Not in paid labor (Ref.: in paid labor)	-0.011 (0.020)	-0.007 (0.013)	0.002 (0.017)	0.009 (0.018)	-0.045 (0.024)	-0.020** (0.007)	-0.112* (0.049)	0.132*** (0.035)
Time (year), by labor status								
In paid labor * time	0.002** (0.001)	0.002*** (0.0005)	-0.002* (0.001)	-0.002* (0.001)	0.002* (0.001)	0.0005 (0.0004)	-0.003** (0.001)	0.001 (0.001)
Not in paid labor * time	0.003*** (0.001)	0.0003* (0.0001)	-0.009*** (0.001)	0.006*** (0.001)	-0.001 (0.003)	-0.007* (0.003)	-0.0002 (0.001)	0.009* (0.004)

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	Women				Men			
	Homogamy (F = M)	Female hypogamy (F > M)	Female hypergamy (F < M)	Partnerless (F)	Homogamy (M = F)	Female hypogamy (M < F)	Female hypergamy (M > F)	Partnerless (M)
Language region (Ref.: German)								
French	0.024 (0.012)	0.010 (0.007)	-0.019 (0.015)	-0.016 (0.016)	0.023 (0.015)	-0.001 (0.008)	-0.004 (0.018)	-0.018 (0.017)
Italian	0.008 (0.032)	0.009 (0.016)	0.017 (0.032)	-0.028 (0.037)	-0.032 (0.034)	-0.027 * (0.011)	0.089 * (0.044)	-0.013 (0.039)
Time (year), by language region								
German * time	0.002 ** (0.001)	0.002 *** (0.0004)	-0.003 ** (0.001)	-0.001 (0.001)	0.002 (0.001)	0.0004 (0.0005)	-0.002 (0.001)	0.0002 (0.001)
French * time	0.003 * (0.001)	0.002 * (0.001)	-0.004 ** (0.002)	-0.001 (0.002)	0.001 (0.001)	-0.0003 (0.001)	-0.005 ** (0.002)	0.004 * (0.002)
Italian * time	0.002 (0.003)	0.002 (0.001)	-0.004 (0.004)	0.0001 (0.003)	-0.0005 (0.004)	-0.002 (0.002)	-0.001 (0.005)	0.006 (0.004)
Observations	11 732	11 732	11 732	11 732	10 170	10 170	10 170	10 170

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Multiple Binomial Logistic Regressions (Models: 'one vs. rest' with bias-reduction) – Average marginal effects. Estimates for interactions represent the average marginal effect of time, conditional on the interacting variable. Clustered standard errors in parentheses.
NA: impossible by construction: Since a woman (man) with high (low) income can't be in an income hypergamous partnership (or the other way around for income hypogamous partnership), there are structurally impossible combinations (by construction of the dependent variable). Those estimates are indicated as NA and the models were estimated with bias-reduction to stabilize the other estimations. Estimates < 0.0001 are reported as 0.0001. Source: SHP v1–26.

While revealing no evidence of a marriage squeeze, the multivariate results indicate a slight increase in the likelihood of highly educated women partnering similarly educated men. However, the likelihood that highly educated women live with a less educated partner has not increased. As also revealed by Figure 6, which shows predictions derived from the coefficients in Table 2, the pairing patterns of highly educated women, but also of women in general, have remained remarkably stable over the observation period (Panel A-D).

These stable partnership patterns of women point to strong adaptive processes among men, specifically among highly educated men. Indeed, their likelihood of having a similarly highly educated female partner has increased significantly, by about 1.6 percentage points per year on average (Figure 6, Panel E). This change is substantial: over the 26-year observation period, it amounts to an overall increase in highly educated men's likelihood for educational homogamy of about 42 percentage points. During that period, the group of highly educated men turned from the least likely to the most likely to form homogamic partnerships. At the same time – and consistent with this adaptive trend – the likelihood that highly educated men live with a less educated female partner has declined by about 1.6 percentage points per year on average (Figure 6, Panel G).

The estimates in Table 2 also point to another group of men contributing to the absorption of the growing share of highly educated women: medium-educated men. Traditionally, as outlined in Figure 6 (Panel E), this group displayed by far the highest levels of educational homogamy among men. Since 1999, however, their likelihood of partnering with an equally medium-educated woman has declined by about 1.1 percentage points per year, while the probability of forming a partnership with a high-educated woman has increased by roughly 1 percentage point annually (Figure 6, Panel F). Through this adaptive shift, medium-educated men have experienced only a small increase in the likelihood of singlehood (about 0.4 percentage points per year, see Figure 6, Panel H), even though the pool of similarly educated women has relatively shrunk due to asymmetric female educational expansion.

The main group adversely affected by asymmetric female educational expansion in Switzerland appears to be low-educated men. While their likelihood of being without a partner did not differ substantively from that of medium- or highly educated men in 1999 (Figure 6, Panel H), it has increased about 0.7 percentage points per year on average since then. This result suggests that this group was unable to compensate for female educational expansion through hypogamous adaptation: their trend-coefficient on hypogamic pairings is near zero (Figure 6, Panel F). Similarly, and in line with the lower tendency of low-educated men to form homogamous unions (Figure 6, Panel E), the risk of low-educated women of being without a partner has also increased (Figure 6, Panel D).⁷

7 Test statistics for the trends in singlehood among low-educated women and men depend on the analytical sample used. When a restricted, harmonized sample of (personally interviewed)

Results from the logistic regression models using income as an indicator of partnership constellations (Table 3) show that the trend toward *income homogamy* is much weaker than the corresponding trend toward *educational homogamy* among men with a high socio-economic status⁸: While educational homogamy, as shown above, increased by 1.6 percentage points per year among highly educated men, income homogamy rose by only about 0.5 percentage points annually among high-income men. By contrast, the mating patterns of women in the top income group have changed markedly. Traditionally, this group showed the highest likelihood of being without a partner – the risk of singlehood was about 12 percentage points higher than among medium-income women and 37 percentage points higher than among low-income women in the 1999 baseline (derived from raw estimates). Between 1999 and 2024, however, their likelihood of being without a partner decreased substantially and significantly – by about 1.2 percentage points per year on average – resulting in an overall decline of roughly 31 percentage points in their singlehood risk over the period.

6 Discussion

Switzerland has experienced a markedly asymmetric pattern of educational expansion, showing since the turn of the century the steepest increase in the proportion of female tertiary graduates across Europe (Hamplová, 2020). Although our results confirm that highly educated women have traditionally constituted a vulnerable group on the Swiss marriage market, there is no indication that their growing numerical share has resulted in a *marriage squeeze*. By contrast, our estimates even suggest a slight, albeit statistically insignificant, year-to-year decrease in their risk of singlehood. Considering Switzerland as a prototype of an advanced economy with a highly segmented labor market, our findings thus indicate that gendered shifts in tertiary education do not necessarily destabilize marriage markets in such contexts.

This can be explained by adaptive mating patterns among highly and medium-educated men. In particular, the likelihood of highly educated men forming a homogamous partnership with an equally highly educated women is estimated to have

individuals with information on personal labor income is applied (see Appendix A3), the pattern of statistical significance reverses: the increase becomes statistically significant for low-educated women and statistically insignificant for low-educated men. Apart from these two results, however, no other coefficients change in substantive magnitude or statistical significance when restricting the sample to cases with reported labor earnings available in both analytical settings.

8 Note, however that differences between coefficients in the income and education analyses should be interpreted with caution, as the underlying analytical samples differ – most notably due to the restriction on directly interviewed individuals in income-based analyses. Therefore, in additional analyses (Appendix A3), educational models are estimated on a sample harmonized with the income analyses (showing largely robust results).

increased by nearly 42 percentage points between 1999 and 2024 in our models. The growing share of highly educated women on the partner market has additionally been absorbed by medium-educated men, whose likelihood of partnering with higher-educated women has risen by more than 25 percentage points over the same period. Through these male behavioral adaptations, the overall structure of the Swiss marriage market has remained largely intact, and the likelihood of singlehood has not changed substantially for either of these high- and medium-educated groups. These findings are consistent with the literature highlighting shifts in men's partner choices towards women with attractive economic characteristics in advanced economies (Blossfeld, 2009; Lichter et al., 1992; Qian & Preston, 1993; South & Lloyd, 1992; Sturm & Van Bavel, 2024) and the increasing flexibility of contemporary marriage markets (Blossfeld, 2009; Van Bavel et al., 2018).

According to our results, low-educated men have not been able to adapt to the changing educational composition of the partner market, as indicated by the absence of any increase in their likelihood of forming partnerships with higher-educated women. The shrinking pool of low-educated women relative to low-educated men may thus have produced a marriage squeeze for low-educated men: their singlehood risk is predicted to have increased by roughly 18 percentage points overall between 1999 and 2024. Relatedly, expected adaptations among women – such as a growing openness to less educated partners, as suggested by theories emphasizing women's rising economic independence – are not evident in our results: for neither highly nor medium-educated women has the likelihood of partnering with a lower-educated man increased since 1999.

In contrast to low-educated men, low-educated women experienced only a small – and statistically insignificant – increase in singlehood. This is somewhat unexpected, given that medium-educated men have increasingly oriented themselves toward educationally similar women and less toward those with lower education. A plausible contributing factor, as indicated by Schroedter et al. (2020), may be that some low-educated women form partnerships with non-European migrant men, partially offsetting the reduced availability native-born men with higher education. Another contributing factor may be the substantial decline in the size of the low-educated female population over time, which may either have compensated for or even partly explain the declining tendency of medium-educated men to form partnerships with low-educated women.

While the results suggest that traditional female educational hypergamy in Switzerland has declined through adaptive behavior among men, the corresponding patterns with respect to income reveals a different picture. In the income dimension, the traditional hypergamic standard – men partnering with women of lower socio-economic status – has not eroded substantially. The likelihood of traditional hypergamous arrangements among high-status men has decreased by only about 0.5 percentage points per year when viewed from the income perspective, whereas

the decline is roughly three times stronger in the educational dimension. Similarly, the likelihood of medium-educated men forming partnerships with highly educated women has increased about five times more strongly than the likelihood of medium-income men forming partnerships with women from the highest income tertile. The lower degree of adaptation in income terms is consistent with the *masked hypergamy* hypothesis and may be interpreted as a structural phenomenon rooted in the incomplete economic equalization of women and men: although women have overtaken men in education, the gender pay gap has narrowed only marginally (Strittmatter & Wunsch, 2025). This is reflected in the pronounced gender gradient of the Swiss income distribution: while 52% of men fall into the upper tertile of the monthly income distribution, only 13% of women do (Table 1). This gap, in turn, can be traced back to the different educational paths and career paths of men and women, as well as the higher tendency of women to work part-time, which, in line with the gender equality paradox (Stoet & Geary, 2018), is becoming more pronounced rather than diminishing in affluent societies (Osterloh & Rost, 2025). Relatedly, incomplete homogamy in Switzerland is not only compatible with a purely structural explanation, but also with international evidence showing that female educational hypogamy is typically accepted only when compensated through female income hypergamy (Hamplová, 2020; Van Bavel et al., 2018), and with Goldin's (2021) observation that high female education is a stronger attractor than high female income in contexts oriented toward intensive parenting.

This interpretation, however, is contrasted by an interesting nuance to the largely time-invariant patterns of income-related mating that emerges for women in the top income tertile. Traditionally the most vulnerable economic income group on the Swiss marriage market, high-income women have experienced a pronounced decline in the likelihood of being single. According to our regression estimates, their risk of singlehood decreased by roughly 30% between 1999 and 2024. This group is relatively small, and its dynamics may not substantially affect the overall mating patterns of men. Yet, it represents a noteworthy phenomenon in itself: women with high income appear to have substantially gained mating market value on the partnership market. This pattern is mirrored in findings from other national contexts showing a reversed association between socio-economic status and marriage (Torr, 2011) and is consistent with evidence from online dating markets that demonstrate a growing male interest in women's earnings and earnings prospects (Van Bavel et al., 2018).

Taken together, our findings allow for an evaluation of how asymmetric educational expansion has reshaped Switzerland's marriage market. The specific relief of the marriage squeeze for highly educated women does not seem to result from shifts in female behavioral adaptation, as sometimes suggested in the literature (Inhorn, 2023; Lichter et al., 1995). Rather, it reflects a combination of adaptive changes in male mate choices and a decoupling of educational attainment from the broader socio-economic hierarchy that structures partnership patterns. In this light, two

empirical processes appear to underlie the stable partnership likelihood of highly educated women in Switzerland. First, the enduring gender pay gap maintains hypergamous patterns despite seemingly homogamous educational pairings. Second, adaptive changes in men's mating choices, with men increasingly committing to partnerships with equally or higher educated women, help preserve the overall marriage-market equilibrium. This interpretation is consistent with explanations suggesting that the expansion of female education aligns the marriage market more closely with pre-existing homogamous preferences (Blossfeld, 2009) and increases the relevance of educational institutions as central social arenas for partner search (Blossfeld & Timm, 2003). It also accords with the view that female education is increasingly valued as socio-economic potential and that men are progressively favoring women with high socio-economic resources (Kalmijn, 1998; Oppenheimer, 1988) – a development that seems particularly plausible in a country that has increasingly emphasized dual-earner arrangements both economically and institutionally (Doehne & Rost, 2026). At the same time, it cannot be ruled out that these changing patterns simply reflect adjustments to altered educational distributions, underpinned by time-stable preferences, thereby continuing the process identified by Becker and Jann (2017) for Switzerland between 1970 and 2000.

7 References

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