This paper investigates gender-based segregation across different fields of study at the post-secondary level of schooling, and how that affects subsequent labour market outcomes of men and women. Using a nationally representative longitudinal data-set from India, we provide evidence that there is substantial intra-household gender disparity in the choice of study stream at the higher-secondary level of education. A household fixed effects regression shows that girls are 20 percentage points less likely than boys to study in technical streams, namely science (STEM) and commerce, vis-à-vis arts or humanities. This gender disparity is not driven by gender specific differences in mathematical ability, as the gap remains large and significant even after controlling for individuals’ past test scores. Moreover, the gender gap is not affected by household’s affluence; rather, educational parity between parents and better access to technical education help reduce the gender gap. Our further analysis on working-age individuals suggests that technical stream choice at higher-secondary level significantly affects the gender gap in labour market outcomes in adult life. We find that women have higher chances of participating in the labour force, getting salaried employment, choosing a male-dominated occupation, and having higher earnings when they have studied a technical stream in higher-secondary education. In many cases, women are able to reap larger benefits from studying technical subjects than men. Thus, technical stream choice by women also significantly reduces the intra-household gender gap in adult-life economic outcomes. Our study is the first to credibly quantify the extent of gender gap in post-secondary stream choice in India. Furthermore, it provides evidence that gender segregation in education determines occupational segregation and earnings gap in the labour market. The issue of stream choice becomes increasingly important with rising enrollment rates of girls in secondary and post-secondary education. To achieve greater parity in labour market outcomes, policies need to focus on girls’ access to technical education that can help them build human capital at par with boys.